GROVE GEAR



# GEAR PRODUCTS CATALOG 8050

REGAL

# PROVIDING THE WORLD'S BEST GEARING

GROVE GEAR

- Interchangeability – Replace's all major worldwide brands
- Quality – Superior Design & Precision Manufacturing
- Reliability – Best Lead time in the Industry

Grove Gear manufactures standard and custom gear drives for industrial and specialty applications. The product line is the most extensive line of gear reducers in North America and offers a solution for every power transmission need.

**Grove Gear Iron Man** offers a comprehensive and superior line of gear reducers, available in right angle worm and high efficiency options.

**Electra-Gear** aluminum products are a light weight, yet durable alternative to today's cast iron and steel models, and are available off-the-shelf or customized to your exact specifications.

**Bravo** and **Quadro** reducers are lightweight, sealed for life, aluminum worm reducers designed for small spaces including OEM designs with difficult installations as well as mobile equipment.

**LeCentric** reducers are available as a compact aluminum or Cast Iron in-line reducer also sealed for life with ratings to 15HP (aluminum) 40HP (cast iron).

Grove Gear designs and builds long lasting energy efficient gear reducers and **GEAR + MOTORS** to meet the increasing demands for efficiency.

Beyond our standard and modified standard products, our engineers will work with you to design and build custom solutions in several gearing technologies to fit your needs.



Grove Gear IRONMAN
GR Series
Worm Gear Reducers



Grove Gear IRONMAN
NH Series
Worm Gear Reducers



Electra-Gear
EL Series
Worm Gear Reducers



Grove Gear
Stainless Steel
Worm Gear Reducers



Grove Gear
BRAVO®
Gear Reducers



Grove Gear
LeCENTRIC™
Gear
Reducers

Grove Gear
QUADRO®
Gear Reducers

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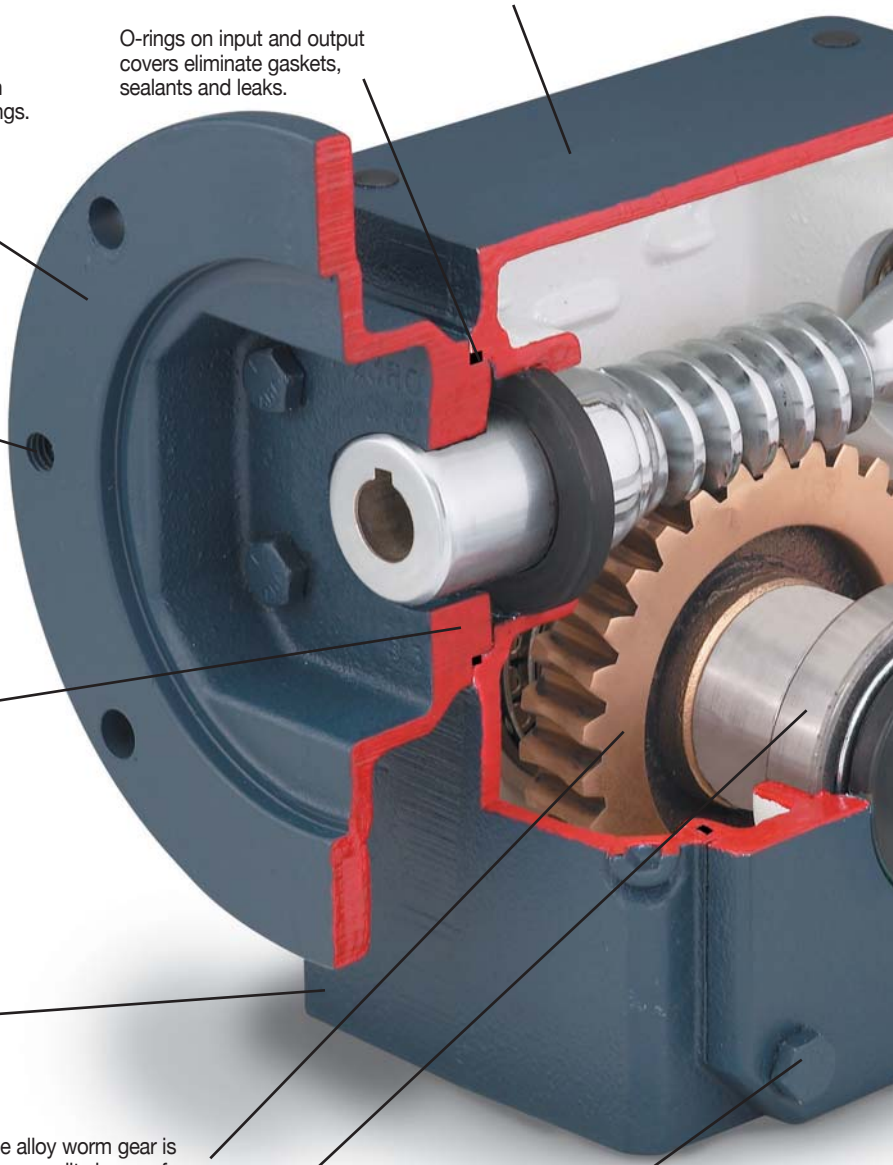

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# Cast Iron Gear Reducers and Gear Plus Motor Built For Industrial Use

Precision mounting surfaces and extra threaded bolt holes on top and bottom for flexibility and to accept a wide range of stock mounting accessories.

O-rings on input and output covers eliminate gaskets, sealants and leaks.

Cast aluminum NEMA C-input with machined fits for precision alignment of motors and bearings.



Push-off holes drilled and tapped into flange for quick motor removal on quill input styles (56 & 140TC frames).

Seal Guard** on quill-input styles protects input seal from damage during motor installation.

** Sizes 813 through 852 only

IronMan™ fine-grained, one-piece cast housing for rigidity and alignment. Machined for precision alignment of worm, worm gear, bearings and mounting surfaces. Superior resistance to environmental contaminants with high heat dissipation and noise reduction.

Bronze alloy worm gear is premium quality bronze for maximum strength, lubricity and superior life.

Tapered roller bearings on output shaft for high overhung and thrust load capacities.

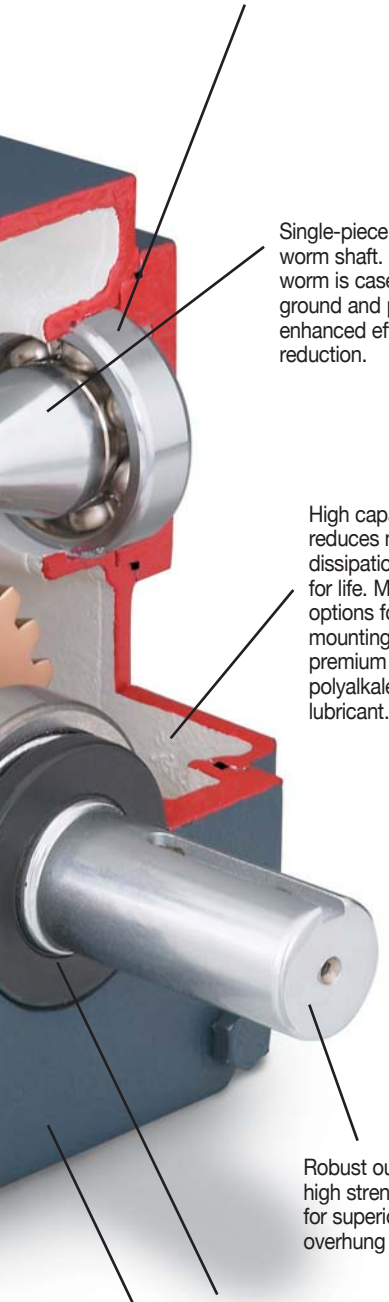
Premium Grade 5 zinc-plated heat-treated bolts used throughout.

Mounting dimensions are interchangeable with Baldor 900 series, Boston Gear, Browning Raider, Falk, Morse Invader and other "industry standard" reducers.

# Series Comparison

CAST IRON GR SERIES

Oversized positively-retained high speed input shaft bearing for higher shock load capacity, shaft alignment and seal life. Ideal for frequent starting and reversing applications.



Single-piece, alloy steel input worm shaft. High lead angle worm is case-hardened, ground and polished for enhanced efficiency and noise reduction.

High capacity oil reservoir reduces noise, aids heat dissipation and lubricates for life. Multiple venting options for multi-position mounting. Factory filled with premium Mobil Glygoyle 460 polyalkalene glycol (PAG) lubricant.

Robust output shaft of high strength steel alloy for superior torque and overhung load capacities.

Viton® premium quality, double lip seals** throughout —on micro-finished surfaces— mean extended life, resistance to high temperature, abrasion and chemicals.

Single output cover design provides precise centering of gear for lower noise levels and higher overall gear efficiencies.

## CAST IRON GR SERIES



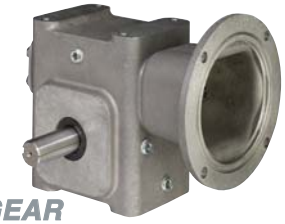
- Grove Gear IRONMAN 800 Series
- Cast Iron Housing Construction
- Mounting dimensions are interchangeable with most industry standard reducers
- Designed with industry leading premium features as standard
- Combines the premium features of the LEESON IRONMAN with the industry's broadest product offering of the Grove Gear Flexaline
- GEAR+MOTOR™ Available

## CAST IRON NH SERIES



- Grove Gear IRONMAN Narrow Housing 800 Series
- Cast Iron Housing Construction
- Designed with industry leading premium features as standard
- Replacement for Grove Gear OE Series and original Alling Lander gear reducers
- Compact housing design to fit where other reducer brands cannot
- GEAR+MOTOR™ Available

## ALUMINUM EL SERIES



ELECTRA-GEAR

- Electra-Gear 800 Series
- Aluminum Housing Construction
- Lightweight design with all the premium features of the GR and NH series as standard
- Replacement to original Electra-Gear reducers
- GEAR+MOTOR™ Available

# ELECTRA-GEAR

## Aluminum Gear Reducers Built For Industrial Use

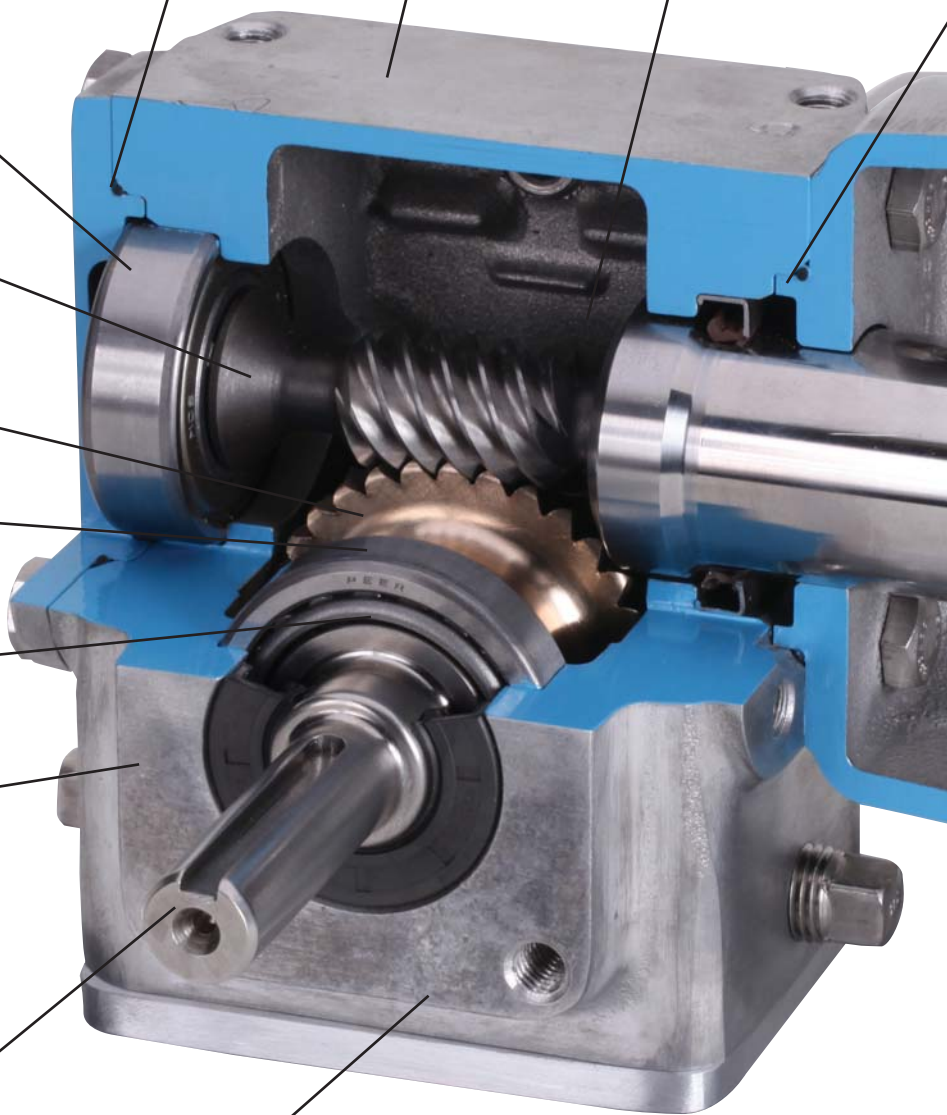
**Precision mounting surfaces** and extra threaded bolt holes on top and bottom for flexibility and to accept a wide range of stock mounting accessories.

**High capacity oil reservoir** reduces noise, aids heat dissipation and lubricates for life. Multiple venting options for multi-position mounting. Factory filled with premium synthetic Mobil Glygoyle 460 polyalkalene glycol (PAG) lubricant.

**O-rings on input and output covers** eliminate gaskets, sealants and leaks.

**Oversized positively-retained high speed input shaft bearing** for higher shock load capacity, shaft alignment and seal life. Ideal for frequent starting and reversing applications.

**Single-piece, alloy steel input worm shaft.** High lead angle worm is case-hardened, ground and polished for enhanced efficiency and noise reduction.



**DIN1705 (CuSn45Ni4) bronze alloy** provides maximum strength, lubricity and superior life.

**Tapered roller bearings** on output shaft for high overhung and thrust load capacities.

**Viton® premium quality, double lip seals** provide extended life and resistance to high temperature, abrasion and chemicals. Only non-rusting rubber O.D. seals used in all exposed locations.

**EL Series One piece 356T cast aluminum housing** to provide strength and rigidity. Polished finish also available.

**Robust output shaft** of high strength steel alloy for superior torque and overhung load capacities.

**Single output cover** design provides precise centering of gear for lower noise levels and higher overall gear efficiencies. Output shaft comes out non-cover side as standard.

**EL Series Mounting dimensions** same as the original Electra-Gear product with an option to match the industry standard dimensions of Grove Gear.

**GR and NH Series Mounting dimensions are interchangeable** with Baldor 900 series, Boston Gear, Browning Raider, Falk, Morse Invader and other "industry standard" reducers.

**ALL FEATURES SHOWN ARE SAME FOR ALL GR, NH AND EL SERIES EXCEPT WHERE NOTED.**

**Seal Guard**** on quill-input styles protects input seal from damage during motor installation.

** Sizes 813 through 852 only

**Cast aluminum NEMA C-input** with machined fits for precision alignment of motors and bearings. (EL Series)



**Push-off holes** drilled and tapped into flange for quick motor removal on quill input styles (56 & 140TC frames).

**Premium Grade 5** zinc-plated bolts used throughout.

# Series Comparison

## CAST IRON GR SERIES



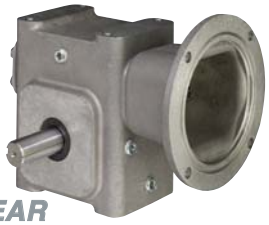
- Grove Gear IRONMAN 800 Series
- Cast Iron Housing Construction
- Mounting dimensions are interchangeable with most industry standard reducers
- Designed with industry leading premium features as standard
- Combines the premium features of the LEESON IRONMAN with the industry's broadest product offering of the Grove Gear Flexaline
- GEAR+MOTOR™ Available

## CAST IRON NH SERIES



- Grove Gear IRONMAN Narrow Housing 800 Series
- Cast Iron Housing Construction
- Designed with industry leading premium features as standard
- Replacement for Grove Gear OE Series and original Alling Lander gear reducers
- Compact housing design to fit where other reducer brands cannot
- GEAR+MOTOR™ Available

## ALUMINUM EL SERIES



ELECTRA-GEAR

- Electra-Gear 800 Series
- Aluminum Housing Construction
- Lightweight design with all the premium features of the GR and NH series as standard
- Replacement to original Electra-Gear reducers
- GEAR+MOTOR™ Available

# Interchange Guide

## Single Reduction


Style BMQ


Style TMQ


Style JMQ


Style FMQ


Style CMQ


Style FEMQ


Style HMQ


Style JHMQ


Style VLHMQ

| CAST IRON GR SERIES / CAST IRON NH SERIES / ALUMINUM EL SERIES<br>Reducer Style | Replaces Original GROVE GEAR<br>OE Series Reducer Style | Replaces Original ELECTRA-GEAR<br>Reducer Style |
|---|---|---|
| **B** | U | M |
| **BM & BMQ** | UFC & UF | MC & MSC |
| **B★** | N/A | ML |
| **BM & BMQ★** | N/A | MLC & MLSC |
| **T & U** | Z & UB | A |
| **TM & TMQ** | ZFC & ZF | AC & ASC |
| **T★** | N/A | AL |
| **TM & TMQ★** | N/A | ALC & ALSC |
| **UM & UMQ** | UBFC & UBF | NEW |
| **J** | J | JB |
| **JM & JMQ** | JFC & JF | JBC & JBSC |
| **VL & VH** | SL & SH | B |
| **VLM & VLMQ** | SLFC & SLF | BC & BSC |
| **VHM** | SHFC | N/A |
| **VHMQ** | SHF | N/A |
| **F** | K & V | N/A |
| **FM & FMQ** | KFC & KF / VFC & VF | N/A |
| **C** | P | N/A |
| **CM & CMQ** | PFC & PF | N/A |
| **FE** | E | N/A |
| **FEM & FEMQ** | EFC & EF | N/A |
| **H** | Y | MH_ & H_ |
| **HM & HMQ** | YFC & YF | MH_C/ MH_SC & H_C/H_SC |
| **JH** | N/A | JBH_ |
| **JHM & JHMQ** | N/A | JBH_C & JBH_SC |
| **FH** | M | RH_ |
| **FHM & FHMQ** | MFC & MF | RH_C & H_C/H_SC & RH_SC |
| **FR** | N/A | New |
| **FRM & FRMQ** | N/A | New |
| **FL** | N/A | RL |
| **FLM & FLMQ** | N/A | RLC & RLSC |
| **BL (Torque Limiter Reducer)** | UL | N/A |
| **BLM & BLMQ (Torque Limiter Reducer)** | ULFC & ULF | N/A |
| **ABC** | N/A | ABC (contact factory) |
| **Accessory** | | |
| **Horizontal Base Kit (T & U)** | Horizontal Base Kit (Z & UB) | Horizontal Base Kit (AK Kit #'s) |
| **Vert. Output Shaft Base Kit (VL & VH)** | Vert. Output Shaft Base Kit (SL & SH) | Vert. Output Shaft Base Kit (BK Kit #'s) |
| **Vertical Input Shaft Base Kit (J)** | Vert. Input Shaft Base Kit (J) | Vert. Input Shaft Base Kit (JBK Kit #'s) |
| **Cast Iron Output Flange (F)** | Cast Iron Output Flange (K & V) | Cast Iron Output Flange (Square) |
| **ABC Base Kit** | N/A | ABC |
| **Cast Iron Output Flange for Solid Output Shaft Styles (FR)** | N/A | Cast Iron Output Flange (Round) |
| **Coupling Input "C" Flange Kit – Single Red.✚** | C-Flange Mounting Kit | N/A |
| **Coupling Input "C" Flange Kit – Double Red.✚** | C-Flange Mounting Kit | N/A |
| **Hollow Shaft Tie Rod Kit** | Hollow Shaft Tie Rod Kit | Hollow Shaft Tie Rod Kit |
| **Hollow Shaft Torque Arm Bracket** | Hollow Shaft Torque Arm Bracket | Hollow Shaft Torque Arm Bracket (TAK Kit #'s) |

★ Confirm required output shaft length
✚ Convert Style B to BM using coupling input kit

SEE PAGE 113 FOR DOUBLE REDUCTION

## 800 Series Gear Reducer Model Number Nomenclature

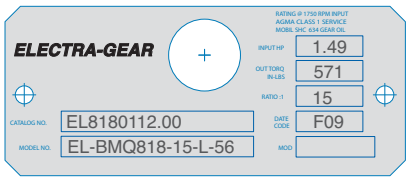
All new stock and custom 800 Series Grove Gear and Electra-Gear worm gear reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional base for example, the modification number T818EL is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 and higher (for example, GR8135000 and EL8135000) are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

### TYPICAL NAMEPLATE
(Electra-Gear shown)




**Series Code**

**GR -** Grove Gear IRONMAN Cast Iron Reducers
**NH -** Grove Gear IRONMAN Narrow Housing Cast Iron Reducers
**EL -** Electra-Gear Aluminum Reducers
**GRG -** Grove Gear Flexaline Interchange (Sizes 821, 826, 832)
**GRL -** Leeson IRONMAN Interchange (Sizes 821, 826, 832)

**Style**

**SOLID OUTPUT SHAFT**
**BMQ** – Motorized, Quill Input
**BM** – Motorized, Flexible Coupling Input
**B** – Non-Flanged

**HOLLOW OUTPUT SHAFT**
**HMQ** – Motorized, Quill Input
**HM** – Motorized, Flexible Coupling Input
**H** – Non-Flanged

**WASHGUARD STYLES**
**W** prefix; i.e. WBMQ denotes WASHDOWN Reducer
**S** prefix; i.e. SHMQ denotes All-Stainless Steel Reducer

**Size**

**800 SERIES CENTER DISTANCES**

| Size | Center Distance (Inches) |
|---|---|
| 813 | 1.33 |
| 815** | 1.54 |
| 818 | 1.75 |
| 821 | 2.06 |
| 824 | 2.38 |
| 826 | 2.62 |
| 830 | 3.00 |
| 832 | 3.25 |
| 842 | 4.25 |
| 852 | 5.25 |
| 860 | 6.00 |
| 870* | 7.00 |
| 880* | 8.00 |
| 8100* | 10.00 |

* GR Series only
** Not available in EL Series

**Ratio**

**See Selection Tables on pages 22-48, for all available ratios.**

**Output Shaft Orientation**

**L** – Left-hand Output Shaft*
**R** – Right-hand Output Shaft*
**D** – Double Output Shaft
**H** – Hollow Output Shaft
* Viewed from drive end of reducer.

**Motor Flange**

| Input Code | | For Input Type | |
|---|---|---|---|
| Single Input | Dual Input | | |
| blank | A | non-motorized | NEMA Input |
| 48** | 48A | 48CZ | |
| 56 | 56A | 56C | |
| 140 | 140A | 143-5TC | |
| 180 | 180A | 182-4TC | |
| 210 | 210A | 213-5TC | |
| 250 | 250A | 254-6TC | |
| 63 | Contact Factory | D63D B5 | IEC Input |
| 71 | | D71D B5 | |
| 80 | | D80D B5 | |
| 90 | | D90D B5 | |
| 110 | | D100LD/D112MD B5 | |
| 132 | | D132D | |

** Not available in EL Series

**Output Bore Code**

**Hollow Shaft Only**
See bottom right hand pages of Max Ratings Tables starting on page 27.

## Sample Model Numbers

### Solid Output Shaft - GR Series

Cast iron, single reduction, 2.38” reducer with 56C motorized quill input, left-hand output shaft, 30:1 ratio.

| GR | - | BMQ | 824 | - | 30 | - | L | - | 56 |
|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type |

### Hollow Output Shaft - EL Series

Aluminum, single reduction, 1.75” reducer with 56C motorized quill input, 1.00” hollow output bore, 10:1 ratio.

| EL | - | HMQ | 818 | - | 10 | - | H | - | 56 | - | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type | | Output Bore Code |

# Cast Iron Solid Shaft Output Styles

CAST IRON GR SERIES | CAST IRON NH SERIES

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles BMQ, BM and B can be field or Factory modified into a wide range of styles. See pages 274-275 for details.

| | Stock Styles | Horizontal Base Worm Over | Horizontal Base Worm Under | Horizontal Base Worm Center | Vertical Input Shaft |
|---|---|---|---|---|---|
| **MOTORIZED C-FLANGE QUILL INPUT** | **Style BMQ** | **Style TMQ** | **Style UMQ*** | **Style RMQ** | **Style JMQ** |
| |  |  |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 52-53<br>NH Series 74-75 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 54-55<br>NH Series 76-77 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 56-57<br>NH Series 78-79 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 62-63 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 58-59<br>NH Series 80-81 |
| **MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT** | **Style BM** | **Style TM** | **Style UM*** | **Style RM** | **Style JM** |
| |  |  |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 52-53<br>NH Series 74-75 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 54-55<br>NH Series 76-77 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 56-57<br>NH Series 78-79 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 62-63 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 58-59<br>NH Series 80-81 |
| **NON-FLANGED INPUT** | **Style B** | **Style T** | **Style U*** | **Style R** | **Style J** |
| |  |  |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 52-53<br>NH Series 74-75 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 54-55<br>NH Series 76-77 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 56-57<br>NH Series 78-79 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 62-63 | Ratings Pages: 22-48<br>Dimension Pages:<br>GR Series 58-59<br>NH Series 80-81 |

* Not a recommended mounting style. Contact Factory for selection assistance.

**Additional accessories, options and assembly services are available, contact Factory for details.**

# Cast Iron
# Solid Shaft Output Styles



## Vertical Output Shaft Low Base

**Style VLMQ****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

**Style VLM****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

**Style VL****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

## Vertical Output Shaft High Base

**Style VHMQ****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

**Style VHM****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

**Style VH****



Ratings Pages: 22-48

Dimension Pages:
GR Series 60-61
NH Series 82-83

## Flange Mounted Output Shaft

**Style FMQ**



Ratings Pages: 22-48

Dimension Pages:
GR Series 64-65
NH Series 84-85

**Style FM**



Ratings Pages: 22-48

Dimension Pages:
GR Series 64-65
NH Series 84-85

**Style F**



Ratings Pages: 22-48

Dimension Pages:
GR Series 64-65
NH Series 84-85

## "C" Flange Mounted Output Shaft

**Style CMQ**



Ratings Pages: 22-48

Dimension Pages:
GR Series 66-67

**Style CM**



Ratings Pages: 22-48

Dimension Pages: GR Series 66-67

**Style C**



Ratings Pages: 22-48

Dimension Pages:
GR Series 66-67

## Extended Flange Mounted Output Shaft

**Style FEMQ**



Ratings Pages: 22-48

Dimension Pages:
GR Series 72-73
NH Series 90-91

**Style FEM**



Ratings Pages: 22-48

Dimension Pages:
GR Series 72-73
NH Series 90-91

**Style FE**



Ratings Pages: 22-48

Dimension Pages:
GR Series 72-73
NH Series 90-91

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

# Cast Iron Hollow Shaft Output Styles

CAST IRON GR SERIES | CAST IRON NH SERIES

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles HMQ, HM and H can be field or Factory modified into a wide range of styles. See pages 274-275 for details.

**MOTORIZED C-FLANGE QUILL INPUT**

### Style HMQ



Ratings Pages: 22-48

Dimension Pages:
GR Series 68-69
NH Series 86-87

Vertical Input Shaft

### Style JHMQ



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT**

### Style HM



Ratings Pages: 22-48

Dimension Pages:
GR Series 68-69
NH Series 86-87

### Style JHM



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**NON-FLANGED INPUT**

### Style H



Ratings Pages: 22-48

Dimension Pages:
GR Series 68-69
NH Series 86-87

### Style JH



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**Additional accessories, options and assembly services are available, Contact Factory for details.**

# Cast Iron Hollow Shaft Output Styles



### Vertical Output Shaft Low Base

## Style VLHMQ



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

### Vertical Output Shaft High Base

## Style VHHMQ



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

### Flange Mounted Output Shaft

## Style FHMQ



Ratings Pages: 22-48

Dimension Pages:
GR Series 70-71
NH Series 88-89

## Style VLHM



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

## Style VHHM



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

## Style FHM



Ratings Pages: 22-48

Dimension Pages:
GR Series 70-71
NH Series 88-89

## Style VLH



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

## Style VHH



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

## Style FH



Ratings Pages: 22-48

Dimension Pages:
GR Series 70-71
NH Series 88-89

# ELECTRA-GEAR
## Aluminum
## Solid Shaft Output Styles

ALUMINUM EL SERIES

### Stock Styles

### Modified Stock Styles

Using off-the-shelf accessories, stock styles BMQ, BM and B can be field or Factory modified into a wide range of styles. See pages 278-279 for details.

| | Stock Styles | Modified Stock Styles | |
|---|---|---|---|
| | | Horizontal Base Worm Over | Horizontal Base Worm Under |
| MOTORIZED C-FLANGE QUILL INPUT | **Style BMQ** | **Style TMQ** | **Style UMQ*** |
| |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages: EL Series 94-95 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 96-97 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 98-99 |
| MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT | **Style BM** | **Style TM** | **Style UM*** |
| |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages: EL Series 94-95 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 96-97 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 98-99 |
| NON-FLANGED INPUT | **Style B** | **Style T** | **Style U*** |
| |  |  |  |
| | Ratings Pages: 22-48<br>Dimension Pages: EL Series 94-95 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 96-97 | Ratings Pages: 22-48<br>Dimension Pages: EL Series 98-99 |

* Not a recommended mounting style. Contact Factory for selection assistance.

**Additional accessories, options and assembly services are available, Contact Factory for details.**

### Vertical Input Shaft

**Style JMQ****



Ratings Pages: 22-48

Dimension Pages:
EL Series 90-91

**Style JM****



Ratings Pages: 22-48

Dimension Pages:
EL Series 90-91

**Style J****



Ratings Pages: 22-48

Dimension Pages:
EL Series 90-91

### Vertical Output Shaft Low Base

**Style VLMQ****



Ratings Pages: 22-48

Dimension Pages:
EL Series 92-93

**Style VLM ****



Ratings Pages: 22-48

Dimension Pages:
EL Series 92-93

**Style VL ****



Ratings Pages: 22-48

Dimension Pages:
EL Series 92-93

### Flange Mounted Output Shaft

**Style FRMQ**



Ratings Pages: 22-48

Dimension Pages:
EL Series 94-95

**Style FRM**



Ratings Pages: 22-48

Dimension Pages:
EL Series 94-95

**Style FR**



Ratings Pages: 22-48

Dimension Pages:
EL Series 94-95

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

# ELECTRA-GEAR
## Aluminum
## Hollow Shaft Output Styles

ALUMINUM EL SERIES

### Stock Styles

### Modified Stock Styles

Using off-the-shelf accessories, stock styles HMQ, HM and H can be field or Factory modified into a wide range of styles. See pages 278-279 for details.

**MOTORIZED C-FLANGE QUILL INPUT**

**Style HMQ**



Ratings Pages: 22-48

Dimension Pages:
EL Series 96-97

Vertical Input Shaft

**Style JHMQ**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT**

**Style HM**



Ratings Pages: 22-48

Dimension Pages:
EL Series 96-97

**Style JHM**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**NON-FLANGE INPUT**

**Style H**



Ratings Pages: 22-48

Dimension Pages:
EL Series 96-97

**Style JH**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**Additional accessories, options and assembly services are available, Contact Factory for details.**

### Vertical Output Shaft Low Base

**Style VLHMQ**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

### Flange Mounted Output Shaft

**Style FHMQ**



Ratings Pages: 22-48

Dimension Pages:
EL Series 98-99

**Style VLHM**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**Style FHM**



Ratings Pages: 22-48

Dimension Pages:
EL Series 98-99

**Style VLH**



Ratings Pages: 22-48

Dimension Pages:
Contact Factory

**Style FH**



Ratings Pages: 22-48

Dimension Pages:
EL Series 98-99

**Additional accessories, options and assembly services are available, Contact Factory for details.**

# Quick Selections

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

## How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Refer to pages 417-418 or Contact Factory with specific application information.

## 1.0 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 |
| 5 | 350 | 813 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830* | 832** | 842 | 852 | 852 | 852 | 860 | 870 | 880 | 8100 | 8100 |
| 7.5 | 233 | 813 | 813 | 813 | 813 | 813 | 813 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 852 | 860 | 870 | 880 | 8100 | 8100 | |
| 10 | 175 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | | |
| 15 | 117 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 870 | 870 | 880 | 8100 | 8100 | | | |
| 20 | 88 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832** | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | | | | |
| 25 | 70 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | | | | |
| 30 | 58 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | |
| 40 | 44 | 813 | 813 | 813 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | | | |
| 50 | 35 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 852 | 870 | 880 | 8100 | | | | | | | | |
| 60 | 29 | 813 | 813 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 880 | 8100 | | | | | | | | | |
| 70 | 25 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 870 | 880 | 8100 | | | | | | | | | |
| 80 | 22 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 860 | | | | | | | | | | | | |
| 100 | 18 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 852 | | | | | | | | | | | | | |

## 1.25 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 |
| 5 | 350 | 813 | 813 | 813 | 813 | 813 | 813 | 815 | 821 | 824 | 826 | 832** | 842 | 852 | 852 | 852 | 870 | 870 | 880 | 8100 | 8100 |
| 7.5 | 233 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830* | 842 | 842 | 852 | 852 | 870 | 870 | 880 | 8100 | 8100 | |
| 10 | 175 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | | |
| 15 | 117 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | | | |
| 20 | 88 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | | | |
| 25 | 70 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832** | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | |
| 30 | 58 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | | |
| 40 | 44 | 813 | 813 | 815 | 821 | 824 | 824 | 830* | 832** | 842 | 852 | 870 | 880 | 8100 | | | | | | | |
| 50 | 35 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 880 | 8100 | | | | | | | | |
| 60 | 29 | 813 | 815 | 818 | 821 | 824 | 830 | 832 | 842 | 852 | 870 | 8100 | 8100 | | | | | | | | |
| 70 | 25 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 870 | 880 | 8100 | | | | | | | | | |
| 80 | 22 | 815 | 821 | 824 | 830 | 832 | 842 | 852 | 852 | | | | | | | | | | | | |
| 100 | 18 | 815 | 824 | 830 | 832 | 842 | 852 | 852 | 860 | | | | | | | | | | | | |

Note: This chart is meant as a guide for reducer selections at specific motor horsepowers.

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 22-48.

♠ Refer to page 20 for exact ratio of single reduction worm gear reducers.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

## 1.50 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 |
| 5 | 350 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830* | 832** | 842 | 852 | 852 | 870 | 870 | 880 | 8100 | 8100 |
| 7.5 | 233 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | |
| 10 | 175 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832** | 842 | 852 | 852 | 870 | 880 | 8100 | 8100 | | |
| 15 | 117 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 852 | 852 | 870 | 880 | 8100 | 8100 | | | |
| 20 | 88 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832** | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | |
| 25 | 70 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | |
| 30 | 58 | 813 | 813 | 815 | 821 | 821 | 824 | 830 | 832 | 842 | 852 | 870 | 880 | 8100 | | | | | | |
| 40 | 44 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 880 | 8100 | | | | | | | |
| 50 | 35 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 852 | 870 | 880 | 8100 | | | | | | | |
| 60 | 29 | 813 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 880 | 8100 | | | | | | | | |
| 70 | 25 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 870 | 880 | 8100 | | | | | | | | |
| 80 | 22 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | | | | | | | | | | | |
| 100 | 18 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | | | | | | | | | | | | |

## 1.75 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 |
| 5 | 350 | 813 | 813 | 813 | 813 | 815 | 815 | 818 | 821 | 824 | 830* | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | 8100 |
| 7.5 | 233 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 852 | 852 | 870 | 880 | 880 | 8100 | | |
| 10 | 175 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 824 | 830 | 842 | 842 | 852 | 870 | 870 | 880 | 8100 | | | |
| 15 | 117 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | |
| 20 | 88 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | |
| 25 | 70 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 832 | 842 | 852 | 870 | 880 | 8100 | | | | | | |
| 30 | 58 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 870 | 880 | 8100 | | | | | | |
| 40 | 44 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 842 | 860 | 880 | 8100 | | | | | | | |
| 50 | 35 | 813 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | | | |
| 60 | 29 | 815 | 818 | 821 | 824 | 830* | 832** | 842 | 842 | 852 | 880 | 8100 | | | | | | | | |
| 70 | 25 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 870 | 8100 | | | | | | | | | |
| 80 | 22 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | | | | | | | | | | | |
| 100 | 18 | 824 | 830 | 830 | 842 | 852 | 852 | | | | | | | | | | | | | |

## 2.00 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 | 50 |
| 5 | 350 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832** | 842 | 852 | 852 | 870 | 870 | 880 | 8100 | 8100 |
| 7.5 | 233 | 813 | 813 | 813 | 813 | 815 | 821 | 824 | 824 | 830 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | |
| 10 | 175 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 852 | 852 | 870 | 880 | 8100 | 8100 | | |
| 15 | 117 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 870 | 880 | 8100 | 8100 | | | |
| 20 | 88 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | |
| 25 | 70 | 813 | 815 | 815 | 821 | 824 | 824 | 830* | 832** | 842 | 852 | 870 | 880 | 8100 | | | | | |
| 30 | 58 | 813 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 880 | 8100 | | | | | | |
| 40 | 44 | 813 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | | |
| 50 | 35 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 880 | 8100 | | | | | | | |
| 60 | 29 | 815 | 821 | 821 | 826 | 830* | 832** | 842 | 852 | 860 | 8100 | | | | | | | | |
| 70 | 25 | N/A | N/A | N/A | N/A | N/A | N/A | 870 | 870 | 880 | 8100 | | | | | | | | |
| 80 | 22 | 824 | 826 | 830 | 832 | 842 | 852 | 860 | | | | | | | | | | | |
| 100 | 18 | 826 | 830 | 832 | 842 | 852 | 852 | | | | | | | | | | | | |

Note: This chart is meant as a guide for reducer selections at specific motor horsepowers.

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 22-48.

♠ Refer to page 20 for exact ratio of single reduction worm gear reducers.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

# Exact Ratios

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

| Unit | 5 | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **813** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **815** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **818** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **821** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **824** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **826** | 5 1/6 | X | X | X | X | X | X | X | X | X | NA | X | X |
| **830** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **832** | 5 1/6 | X | X | X | X | X | X | X | X | X | NA | X | X |
| **842** | 5 1/6 | X | X | X | X | X | X | X | X | X | NA | X | X |
| **852** | 5 1/8 | X | X | X | X | X | X | X | X | X | NA | X | X |
| **860** | X | X | X | X | X | X | X | X | X | X | NA | X | X |
| **870** | 5 1/8 | 7 2/5 | 9 3/4 | 14 2/3 | 20 1/2 | 24 1/2 | 29 1/2 | X | X | X | X | NA | NA |
| **880** | 5 1/8 | 7 2/5 | 9 3/4 | 14 2/3 | 20 1/2 | 24 1/2 | 29 1/2 | X | X | X | X | NA | NA |
| **8100** | 5 1/8 | 7 1/3 | 9 3/4 | 14 2/3 | 20 1/2 | 24 1/2 | 29 1/2 | X | X | X | X | NA | NA |

## HOLLOW SHAFT BORE SIZES (Inches)*

| Fraction Size | Decimal Size | Output Bore Code | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 860 | 870 | 880 | 8100 | Keyway** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 0.625 | 10 | ■ | ■ | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 11/16 | 0.688 | 11 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 3/4 | 0.750 | 12 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 7/8 | 0.875 | 14 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 1 | 1.000 | 16 | | | ■ | ■ | ■ | ■ | | | | | | | | | 1/4 x 1/8 |
| 1-1/8 | 1.125 | 18 | | | | ■ | ■ | ■ | | | | | | | | | 1/4 x 1/8 |
| 1-3/16 | 1.188 | 19 | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | 1/4 x 1/8 |
| 1-1/4 | 1.250 | 20 | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | 1/4 x 1/8 |
| 1-7/16 | 1.438 | 23 | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-1/2 | 1.500 | 24 | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-5/8 | 1.625 | 26 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-11/16 | 1.688 | 27 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-3/4 | 1.750 | 28 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-7/8 | 1.875 | 30 | | | | | | | ■ | ■ | ■ | | | | | | 1/2 x 1/4 |
| 1-15/16 | 1.938 | 31 | | | | | | | ■ | ■ | ■ | | | | | | 1/2 x 1/4 |
| 2 | 2.000 | 32 | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | 1/2 x 1/4 |
| 2- 3/16 | 2.188 | 35 | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | 1/2 x 1/4 |
| 2-1/4 | 2.250 | 36 | | | | | | | | | | ■ | ■ | | | | 1/2 x 1/4 |
| 2-7/16 | 2.438 | 39 | | | | | | | | | | ■ | ■ | ■ | | | 5/8 x 5/16 |
| 2-1/2 | 2.500 | 40 | | | | | | | | | | ■ | ■ | ■ | | | 5/8 x 5/16 |
| 2-11/16 | 2.688 | 43 | | | | | | | | | | ■ | ■ | ■ | | | 5/8 x 5/16 |
| 2-15/16 | 2.938 | 47 | | | | | | | | | | ■ | ■ | ■ | | | 3/4 x 3/8 |
| 3 | 3.000 | 48 | | | | | | | | | | ■ | ■ | ■ | | | 3/4 x 3/8 |
| 3-3/16 | 3.188 | 51 | | | | | | | | | | ■ | ■ | | | | 3/4 x 3/8 |
| 3-7/16 | 3.438 | 55 | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | 7/8 x 7/16 |
| 3-15/16 | 3.938 | 63 | | | | | | | | | | | | ■ | ■ | ■ | 1 x 1/2 |
| 4-3/16 | 4.188 | 67 | | | | | | | | | | | | | ■ | | 1 x 1/2 |
| 4-7/16 | 4.438 | 71 | | | | | | | | | | | | | ■ | ■ | 1 x 1/2 |
| 4-15/16 | 4.938 | 79 | | | | | | | | | | | | | | ■ | 1-1/4 x 5/8 |
| 5-7/16 | 5.438 | 87 | | | | | | | | | | | | | | ■ | 1-1/4 x 5/8 |

■ Stock Bore Sizes.

* Other bore sizes are available. Contact Factory for sizes and availability.

** Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above.

## How To Use Maximum Rating Tables

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages 22-48.

**BEFORE YOU START:**

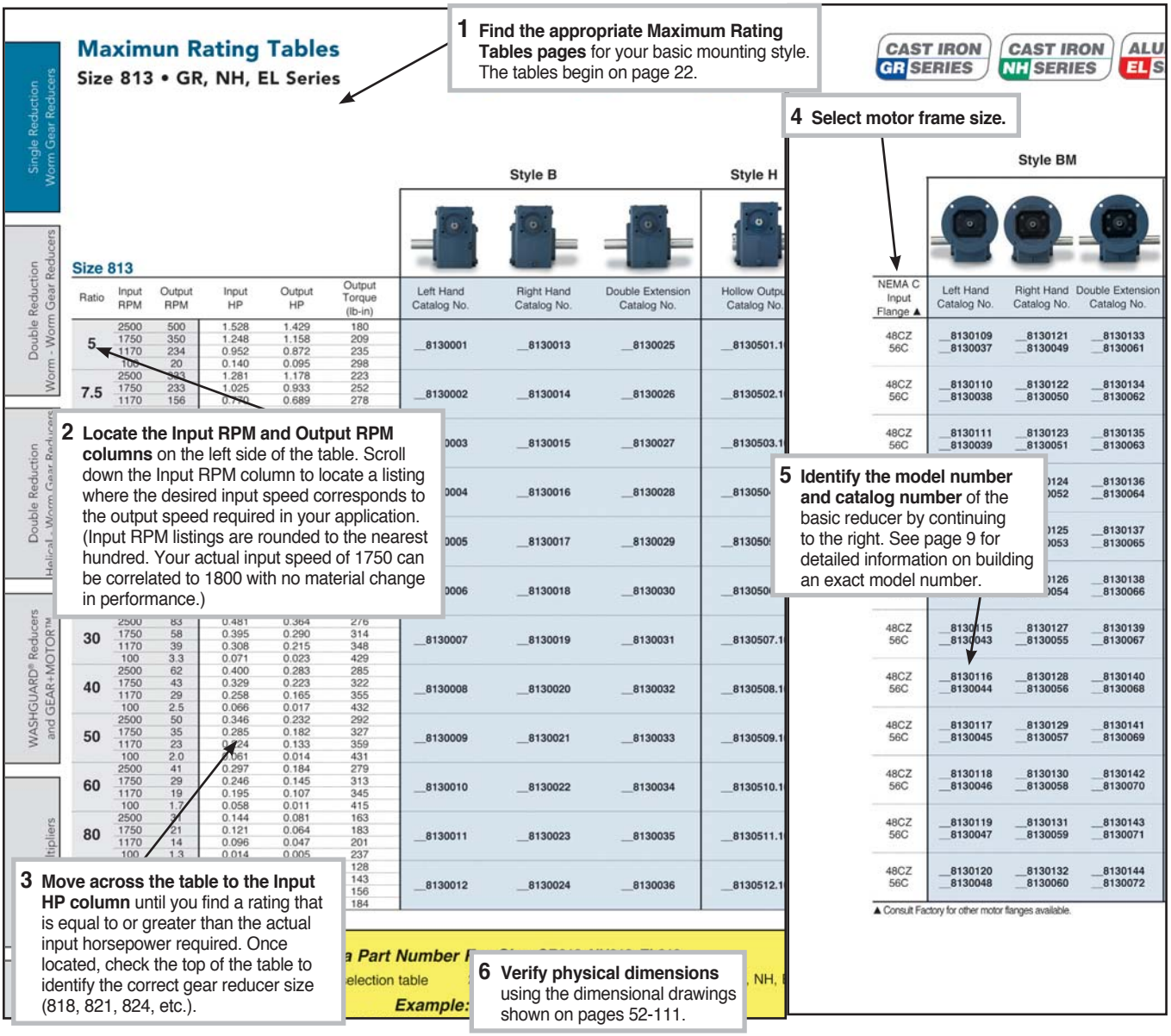
**Identify the Service Factor** of the application (see page 418).

**Determine the actual input horsepower** of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

**Determine the output speed (RPM)** required at output shaft of reducer.

**Identify the mounting style** required by your application from the style charts shown on pages 10-17. Note the basic mounting style (BMQ, BM, etc.).

To select the proper gear reducer size, use the Maximum Rating Tables as shown:



# Maximum Rating Tables

## Size 813 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 813

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 1.528 | 1.429 | 180 | __8130001 | __8130013 | __8130025 | __8130501.10 |
| | 1750 | 350 | 1.248 | 1.158 | 209 | | | | |
| | 1170 | 234 | 0.952 | 0.872 | 235 | | | | |
| | 100 | 20 | 0.140 | 0.095 | 298 | | | | |
| 7.5 | 2500 | 333 | 1.281 | 1.178 | 223 | __8130002 | __8130014 | __8130026 | __8130502.10 |
| | 1750 | 233 | 1.025 | 0.933 | 252 | | | | |
| | 1170 | 156 | 0.770 | 0.689 | 278 | | | | |
| | 100 | 13 | 0.118 | 0.072 | 339 | | | | |
| 10 | 2500 | 250 | 1.016 | 0.912 | 230 | __8130003 | __8130015 | __8130027 | __8130503.10 |
| | 1750 | 175 | 0.823 | 0.729 | 263 | | | | |
| | 1170 | 117 | 0.626 | 0.543 | 293 | | | | |
| | 100 | 10 | 0.103 | 0.058 | 363 | | | | |
| 15 | 2500 | 166 | 0.790 | 0.678 | 257 | __8130004 | __8130016 | __8130028 | __8130504.10 |
| | 1750 | 116 | 0.642 | 0.541 | 292 | | | | |
| | 1170 | 78 | 0.491 | 0.402 | 325 | | | | |
| | 100 | 6.7 | 0.090 | 0.042 | 401 | | | | |
| 20 | 2500 | 125 | 0.681 | 0.562 | 283 | __8130005 | __8130017 | __8130029 | __8130505.10 |
| | 1750 | 87 | 0.551 | 0.445 | 320 | | | | |
| | 1170 | 58 | 0.422 | 0.328 | 354 | | | | |
| | 100 | 5.0 | 0.084 | 0.034 | 431 | | | | |
| 25 | 2500 | 100 | 0.544 | 0.431 | 272 | __8130006 | __8130018 | __8130030 | __8130506.10 |
| | 1750 | 70 | 0.445 | 0.344 | 309 | | | | |
| | 1170 | 46 | 0.344 | 0.255 | 344 | | | | |
| | 100 | 4.0 | 0.074 | 0.027 | 423 | | | | |
| 30 | 2500 | 83 | 0.481 | 0.364 | 276 | __8130007 | __8130019 | __8130031 | __8130507.10 |
| | 1750 | 58 | 0.395 | 0.290 | 314 | | | | |
| | 1170 | 39 | 0.308 | 0.215 | 348 | | | | |
| | 100 | 3.3 | 0.071 | 0.023 | 429 | | | | |
| 40 | 2500 | 62 | 0.400 | 0.283 | 285 | __8130008 | __8130020 | __8130032 | __8130508.10 |
| | 1750 | 43 | 0.329 | 0.223 | 322 | | | | |
| | 1170 | 29 | 0.258 | 0.165 | 355 | | | | |
| | 100 | 2.5 | 0.066 | 0.017 | 432 | | | | |
| 50 | 2500 | 50 | 0.346 | 0.232 | 292 | __8130009 | __8130021 | __8130033 | __8130509.10 |
| | 1750 | 35 | 0.285 | 0.182 | 327 | | | | |
| | 1170 | 23 | 0.224 | 0.133 | 359 | | | | |
| | 100 | 2.0 | 0.061 | 0.014 | 431 | | | | |
| 60 | 2500 | 41 | 0.297 | 0.184 | 279 | __8130010 | __8130022 | __8130034 | __8130510.10 |
| | 1750 | 29 | 0.246 | 0.145 | 313 | | | | |
| | 1170 | 19 | 0.195 | 0.107 | 345 | | | | |
| | 100 | 1.7 | 0.058 | 0.011 | 415 | | | | |
| 80 | 2500 | 31 | 0.144 | 0.081 | 163 | __8130011 | __8130023 | __8130035 | __8130511.10 |
| | 1750 | 21 | 0.121 | 0.064 | 183 | | | | |
| | 1170 | 14 | 0.096 | 0.047 | 201 | | | | |
| | 100 | 1.3 | 0.014 | 0.005 | 237 | | | | |
| 100 | 2500 | 25 | 0.100 | 0.051 | 128 | __8130012 | __8130024 | __8130036 | __8130512.10 |
| | 1750 | 17 | 0.084 | 0.040 | 143 | | | | |
| | 1170 | 11 | 0.067 | 0.029 | 156 | | | | |
| | 100 | 1.0 | 0.010 | 0.003 | 184 | | | | |

### *How To Build a Part Number For Size GR813, NH813, EL813*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH, EL)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GR-B813-5-L

GR8130001

# Maximum Rating Tables

## Size 813 • GR, NH, EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. | Ratio |
| 48CZ<br>56C | __8130109<br>__8130037 | __8130121<br>__8130049 | __8130133<br>__8130061 | __8130537.10<br>__8130513.10 | __8130181<br>__8130073 | __8130193<br>__8130085 | __8130205<br>__8130097 | __8130561.10<br>__8130525.10 | 5 |
| 48CZ<br>56C | __8130110<br>__8130038 | __8130122<br>__8130050 | __8130134<br>__8130062 | __8130538.10<br>__8130514.10 | __8130182<br>__8130074 | __8130194<br>__8130086 | __8130206<br>__8130098 | __8130562.10<br>__8130526.10 | 7.5 |
| 48CZ<br>56C | __8130111<br>__8130039 | __8130123<br>__8130051 | __8130135<br>__8130063 | __8130539.10<br>__8130515.10 | __8130183<br>__8130075 | __8130195<br>__8130087 | __8130207<br>__8130099 | __8130563.10<br>__8130527.10 | 10 |
| 48CZ<br>56C | __8130112<br>__8130040 | __8130124<br>__8130052 | __8130136<br>__8130064 | __8130540.10<br>__8130516.10 | __8130184<br>__8130076 | __8130196<br>__8130088 | __8130208<br>__8130100 | __8130564.10<br>__8130528.10 | 15 |
| 48CZ<br>56C | __8130113<br>__8130041 | __8130125<br>__8130053 | __8130137<br>__8130065 | __8130541.10<br>__8130517.10 | __8130185<br>__8130077 | __8130197<br>__8130089 | __8130209<br>__8130101 | __8130565.10<br>__8130529.10 | 20 |
| 48CZ<br>56C | __8130114<br>__8130042 | __8130126<br>__8130054 | __8130138<br>__8130066 | __8130542.10<br>__8130518.10 | __8130186<br>__8130078 | __8130198<br>__8130090 | __8130210<br>__8130102 | __8130566.10<br>__8130530.10 | 25 |
| 48CZ<br>56C | __8130115<br>__8130043 | __8130127<br>__8130055 | __8130139<br>__8130067 | __8130543.10<br>__8130519.10 | __8130187<br>__8130079 | __8130199<br>__8130091 | __8130211<br>__8130103 | __8130567.10<br>__8130531.10 | 30 |
| 48CZ<br>56C | __8130116<br>__8130044 | __8130128<br>__8130056 | __8130140<br>__8130068 | __8130544.10<br>__8130520.10 | __8130188<br>__8130080 | __8130200<br>__8130092 | __8130212<br>__8130104 | __8130568.10<br>__8130532.10 | 40 |
| 48CZ<br>56C | __8130117<br>__8130045 | __8130129<br>__8130057 | __8130141<br>__8130069 | __8130545.10<br>__8130521.10 | __8130189<br>__8130081 | __8130201<br>__8130093 | __8130213<br>__8130105 | __8130569.10<br>__8130533.10 | 50 |
| 48CZ<br>56C | __8130118<br>__8130046 | __8130130<br>__8130058 | __8130142<br>__8130070 | __8130546.10<br>__8130522.10 | __8130190<br>__8130082 | __8130202<br>__8130094 | __8130214<br>__8130106 | __8130570.10<br>__8130534.10 | 60 |
| 48CZ<br>56C | __8130119<br>__8130047 | __8130131<br>__8130059 | __8130143<br>__8130071 | __8130547.10<br>__8130523.10 | __8130191<br>__8130083 | __8130203<br>__8130095 | __8130215<br>__8130107 | __8130571.10<br>__8130535.10 | 80 |
| 48CZ<br>56C | __8130120<br>__8130048 | __8130132<br>__8130060 | __8130144<br>__8130072 | __8130548.10<br>__8130524.10 | __8130192<br>__8130084 | __8130204<br>__8130096 | __8130216<br>__8130108 | __8130572.10<br>__8130536.10 | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

# Maximum Rating Tables

## Size 815 • GR, NH Series

CAST IRON GR SERIES  CAST IRON NH SERIES

### Size 815

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 2.310 | 2.151 | 271 | __8150001 | __8150013 | __8150025 | __8150501.10 |
| | 1750 | 350 | 1.939 | 1.794 | 323 | | | | |
| | 1170 | 234 | 1.537 | 1.408 | 379 | | | | |
| | 100 | 20 | 0.235 | 0.167 | 526 | | | | |
| 7.5 | 2500 | 333 | 1.785 | 1.619 | 306 | __8150002 | __8150014 | __8150026 | __8150502.10 |
| | 1750 | 233 | 1.522 | 1.368 | 370 | | | | |
| | 1170 | 156 | 1.205 | 1.068 | 431 | | | | |
| | 100 | 13 | 0.196 | 0.125 | 591 | | | | |
| 10 | 2500 | 250 | 1.500 | 1.324 | 334 | __8150003 | __8150015 | __8150027 | __8150503.10 |
| | 1750 | 175 | 1.279 | 1.116 | 402 | | | | |
| | 1170 | 117 | 1.014 | 0.869 | 468 | | | | |
| | 100 | 10 | 0.176 | 0.101 | 639 | | | | |
| 15 | 2500 | 166 | 1.174 | 0.982 | 371 | __8150004 | __8150016 | __8150028 | __8150504.10 |
| | 1750 | 116 | 1.003 | 0.826 | 446 | | | | |
| | 1170 | 78 | 0.800 | 0.643 | 519 | | | | |
| | 100 | 6.7 | 0.155 | 0.075 | 706 | | | | |
| 20 | 2500 | 125 | 1.077 | 0.860 | 434 | __8150005 | __8150017 | __8150029 | __8150505.10 |
| | 1750 | 87 | 0.919 | 0.719 | 518 | | | | |
| | 1170 | 58 | 0.734 | 0.557 | 600 | | | | |
| | 100 | 5.0 | 0.155 | 0.064 | 807 | | | | |
| 25 | 2500 | 100 | 0.881 | 0.670 | 422 | __8150006 | __8150018 | __8150030 | __8150506.10 |
| | 1750 | 70 | 0.752 | 0.559 | 503 | | | | |
| | 1170 | 46 | 0.602 | 0.431 | 580 | | | | |
| | 100 | 4.0 | 0.137 | 0.049 | 775 | | | | |
| 30 | 2500 | 83 | 0.729 | 0.526 | 398 | __8150007 | __8150019 | __8150031 | __8150507.10 |
| | 1750 | 58 | 0.630 | 0.442 | 478 | | | | |
| | 1170 | 39 | 0.510 | 0.344 | 555 | | | | |
| | 100 | 3.3 | 0.124 | 0.040 | 754 | | | | |
| 40 | 2500 | 62 | 0.649 | 0.432 | 435 | __8150008 | __8150020 | __8150032 | __8150508.10 |
| | 1750 | 43 | 0.560 | 0.361 | 520 | | | | |
| | 1170 | 29 | 0.456 | 0.279 | 601 | | | | |
| | 100 | 2.5 | 0.122 | 0.032 | 808 | | | | |
| 50 | 2500 | 50 | 0.536 | 0.329 | 415 | __8150009 | __8150021 | __8150033 | __8150509.10 |
| | 1750 | 35 | 0.464 | 0.274 | 494 | | | | |
| | 1170 | 23 | 0.379 | 0.211 | 569 | | | | |
| | 100 | 2.0 | 0.110 | 0.024 | 760 | | | | |
| 60 | 2500 | 41 | 0.451 | 0.257 | 389 | __8150010 | __8150022 | __8150034 | __8150510.10 |
| | 1750 | 29 | 0.391 | 0.214 | 462 | | | | |
| | 1170 | 19 | 0.321 | 0.165 | 532 | | | | |
| | 100 | 1.7 | 0.099 | 0.019 | 707 | | | | |
| 80 | 2500 | 31 | 0.219 | 0.109 | 220 | __8150011 | __8150023 | __8150035 | __8150511.10 |
| | 1750 | 21 | 0.204 | 0.093 | 269 | | | | |
| | 1170 | 14 | 0.176 | 0.073 | 314 | | | | |
| | 100 | 1.3 | 0.032 | 0.008 | 418 | | | | |
| 100 | 2500 | 25 | 0.155 | 0.069 | 175 | __8150012 | __8150024 | __8150036 | __8150512.10 |
| | 1750 | 17 | 0.145 | 0.059 | 213 | | | | |
| | 1170 | 11 | 0.126 | 0.046 | 248 | | | | |
| | 100 | 1.0 | 0.024 | 0.005 | 328 | | | | |

### *How To Build a Part Number For Size GR815 & NH815*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GR-B815-5-L

GR8150001

# Maximum Rating Tables

## Size 815 • GR, NH Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. | Ratio |
| 56C<br>143-5TC | __8150073<br>__8150109 | __8150085<br>__8150121 | __8150097<br>__8150133 | __8150525.10<br>__8150537.10 | __8150181<br>__8150217 | __8150193<br>__8150229 | __8150205<br>__8150241 | __8150561.10<br>__8150573.10 | 5 |
| 56C<br>143-5TC | __8150074<br>__8150110 | __8150086<br>__8150122 | __8150098<br>__8150134 | __8150526.10<br>__8150538.10 | __8150182<br>__8150218 | __8150194<br>__8150230 | __8150206<br>__8150242 | __8150562.10<br>__8150574.10 | 7.5 |
| 56C<br>143-5TC | __8150075<br>__8150111 | __8150087<br>__8150123 | __8150099<br>__8150135 | __8150527.10<br>__8150539.10 | __8150183<br>__8150219 | __8150195<br>__8150231 | __8150207<br>__8150243 | __8150563.10<br>__8150575.10 | 10 |
| 56C<br>143-5TC | __8150076<br>__8150112 | __8150088<br>__8150124 | __8150100<br>__8150136 | __8150528.10<br>__8150540.10 | __8150184<br>__8150220 | __8150196<br>__8150232 | __8150208<br>__8150244 | __8150564.10<br>__8150576.10 | 15 |
| 56C<br>143-5TC | __8150077<br>__8150113 | __8150089<br>__8150125 | __8150101<br>__8150137 | __8150529.10<br>__8150541.10 | __8150185<br>__8150221 | __8150197<br>__8150233 | __8150209<br>__8150245 | __8150565.10<br>__8150577.10 | 20 |
| 56C | __8150078 | __8150090 | __8150102 | __8150530.10 | __8150186 | __8150198 | __8150210 | __8150566.10 | 25 |
| 48CZ<br>56C | __8150043<br>__8150079 | __8150055<br>__8150091 | __8150067<br>__8150103 | __8150519.10<br>__8150531.10 | __8150151<br>__8150187 | __8150163<br>__8150199 | __8150175<br>__8150211 | __8150555.10<br>__8150567.10 | 30 |
| 48CZ<br>56C | __8150044<br>__8150080 | __8150056<br>__8150092 | __8150068<br>__8150104 | __8150520.10<br>__8150532.10 | __8150152<br>__8150188 | __8150164<br>__8150200 | __8150176<br>__8150212 | __8150556.10<br>__8150568.10 | 40 |
| 48CZ<br>56C | __8150045<br>__8150081 | __8150057<br>__8150093 | __8150069<br>__8150105 | __8150521.10<br>__8150533.10 | __8150153<br>__8150189 | __8150165<br>__8150201 | __8150177<br>__8150213 | __8150557.10<br>__8150569.10 | 50 |
| 48CZ<br>56C | __8150046<br>__8150082 | __8150058<br>__8150094 | __8150070<br>__8150106 | __8150522.10<br>__8150534.10 | __8150154<br>__8150190 | __8150166<br>__8150202 | __8150178<br>__8150214 | __8150558.10<br>__8150570.10 | 60 |
| 48CZ<br>56C | __8150047<br>__8150083 | __8150059<br>__8150095 | __8150071<br>__8150107 | __8150523.10<br>__8150535.10 | __8150155<br>__8150191 | __8150167<br>__8150203 | __8150179<br>__8150215 | __8150559.10<br>__8150571.10 | 80 |
| 48CZ<br>56C | __8150048<br>__8150084 | __8150060<br>__8150096 | __8150072<br>__8150108 | __8150524.10<br>__8150536.10 | __8150156<br>__8150192 | __8150168<br>__8150204 | __8150180<br>__8150216 | __8150560.10<br>__8150572.10 | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

# Maximum Rating Tables

## Size 818 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 818

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | 2500 | 500 | 3.095 | 2.900 | 366 | | | | |
| | 1750 | 350 | 2.600 | 2.422 | 436 | | | | |
| 5 | 1170 | 234 | 2.066 | 1.906 | 513 | __8180001 | __8180013 | __8180025 | __8180501.XX |
| | 100 | 20 | 0.312 | 0.228 | 717 | | | | |
| | 2500 | 333 | 2.307 | 2.127 | 402 | | | | |
| | 1750 | 233 | 1.909 | 1.745 | 471 | | | | |
| 7.5 | 1170 | 156 | 1.473 | 1.328 | 537 | __8180002 | __8180014 | __8180026 | __8180502.XX |
| | 100 | 13 | 0.227 | 0.147 | 697 | | | | |
| | 2500 | 250 | 1.996 | 1.820 | 459 | | | | |
| | 1750 | 175 | 1.625 | 1.466 | 528 | | | | |
| 10 | 1170 | 117 | 1.239 | 1.099 | 592 | __8180003 | __8180015 | __8180027 | __8180503.XX |
| | 100 | 10 | 0.196 | 0.118 | 744 | | | | |
| | 2500 | 166 | 1.485 | 1.301 | 492 | | | | |
| | 1750 | 116 | 1.224 | 1.058 | 571 | | | | |
| 15 | 1170 | 78 | 0.945 | 0.799 | 645 | __8180004 | __8180016 | __8180028 | __8180504.XX |
| | 100 | 6.7 | 0.165 | 0.087 | 823 | | | | |
| | 2500 | 125 | 1.283 | 1.093 | 551 | | | | |
| | 1750 | 87 | 1.046 | 0.875 | 630 | | | | |
| 20 | 1170 | 58 | 0.803 | 0.652 | 702 | __8180005 | __8180017 | __8180029 | __8180505.XX |
| | 100 | 5.0 | 0.150 | 0.069 | 872 | | | | |
| | 2500 | 100 | 1.088 | 0.900 | 567 | | | | |
| | 1750 | 70 | 0.884 | 0.715 | 644 | | | | |
| 25 | 1170 | 46 | 0.678 | 0.530 | 713 | __8180006 | __8180018 | __8180030 | __8180506.XX |
| | 100 | 4.0 | 0.135 | 0.055 | 874 | | | | |
| | 2500 | 83 | 0.892 | 0.702 | 531 | | | | |
| | 1750 | 58 | 0.741 | 0.569 | 614 | | | | |
| 30 | 1170 | 39 | 0.580 | 0.428 | 692 | __8180007 | __8180019 | __8180031 | __8180507.XX |
| | 100 | 3.3 | 0.126 | 0.047 | 880 | | | | |
| | 2500 | 62 | 0.739 | 0.551 | 556 | | | | |
| | 1750 | 43 | 0.609 | 0.440 | 634 | | | | |
| 40 | 1170 | 29 | 0.476 | 0.328 | 706 | __8180008 | __8180020 | __8180032 | __8180508.XX |
| | 100 | 2.5 | 0.113 | 0.035 | 874 | | | | |
| | 2500 | 50 | 0.625 | 0.444 | 559 | | | | |
| | 1750 | 35 | 0.515 | 0.352 | 634 | | | | |
| 50 | 1170 | 23 | 0.404 | 0.260 | 701 | __8180009 | __8180021 | __8180033 | __8180509.XX |
| | 100 | 2.0 | 0.103 | 0.027 | 857 | | | | |
| | 2500 | 41 | 0.542 | 0.363 | 550 | | | | |
| | 1750 | 29 | 0.449 | 0.288 | 623 | | | | |
| 60 | 1170 | 19 | 0.354 | 0.213 | 689 | __8180010 | __8180022 | __8180034 | __8180510.XX |
| | 100 | 1.7 | 0.097 | 0.022 | 842 | | | | |
| | 2500 | 31 | 0.247 | 0.156 | 314 | | | | |
| | 1750 | 21 | 0.208 | 0.124 | 356 | | | | |
| 80 | 1170 | 14 | 0.164 | 0.091 | 392 | __8180011 | __8180023 | __8180035 | __8180511.XX |
| | 100 | 1.3 | 0.023 | 0.009 | 470 | | | | |
| | 2500 | 25 | 0.167 | 0.097 | 245 | | | | |
| | 1750 | 17 | 0.141 | 0.077 | 277 | | | | |
| 100 | 1170 | 11 | 0.111 | 0.057 | 304 | __8180012 | __8180024 | __8180036 | __8180512.XX |
| | 100 | 1.0 | 0.016 | 0.006 | 362 | | | | |

### *How To Build a Part Number For Size GR818, NH818 & EL818*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GR-B818-5-L

GR8180001

# Maximum Rating Tables

## Size 818 • GR, NH, EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 56C<br>143-5TC | __8180037<br>__8180073 | __8180049<br>__8180085 | __8180061<br>__8180097 | __8180513.XX<br>__8180525.XX | __8180109<br>__8180145 | __8180121<br>__8180157 | __8180133<br>__8180169 | __8180537.XX<br>__8180549.XX | 5 |
| 56C<br>143-5TC | __8180038<br>__8180074 | __8180050<br>__8180086 | __8180062<br>__8180098 | __8180514.XX<br>__8180526.XX | __8180110<br>__8180146 | __8180122<br>__8180158 | __8180134<br>__8180170 | __8180538.XX<br>__8180550.XX | 7.5 |
| 56C<br>143-5TC | __8180039<br>__8180075 | __8180051<br>__8180087 | __8180063<br>__8180099 | __8180515.XX<br>__8180527.XX | __8180111<br>__8180147 | __8180123<br>__8180159 | __8180135<br>__8180171 | __8180539.XX<br>__8180551.XX | 10 |
| 56C<br>143-5TC | __8180040<br>__8180076 | __8180052<br>__8180088 | __8180064<br>__8180100 | __8180516.XX<br>__8180528.XX | __8180112<br>__8180148 | __8180124<br>__8180160 | __8180136<br>__8180172 | __8180540.XX<br>__8180552.XX | 15 |
| 56C<br>143-5TC | __8180041<br>__8180077 | __8180053<br>__8180089 | __8180065<br>__8180101 | __8180517.XX<br>__8180529XX | __8180113<br>__8180149 | __8180125<br>__8180161 | __8180137<br>__8180173 | __8180541.XX<br>__8180553.XX | 20 |
| 56C<br>143-5TC | __8180042<br>__8180078 | __8180054<br>__8180090 | __8180066<br>__8180102 | __8180518.XX<br>__8180530.XX | __8180114<br>__8180150 | __8180126<br>__8180162 | __8180138<br>__8180174 | __8180542.XX<br>__8180554.XX | 25 |
| 56C<br>143-5TC | __8180043<br>__8180079 | __8180055<br>__8180091 | __8180067<br>__8180103 | __8180519.XX<br>__8180531.XX | __8180115<br>__8180151 | __8180127<br>__8180163 | __8180139<br>__8180175 | __8180543.XX<br>__8180555.XX | 30 |
| 48CZ<br>56C<br>143-5TC | __8180188<br>__8180044<br>__8180080 | __8180200<br>__8180056<br>__8180092 | __8180212<br>__8180068<br>__8180104 | __8180568.XX<br>__8180520.XX<br>__8180532.XX | __8180224<br>__8180116<br>__8180152 | __8180236<br>__8180128<br>__8180164 | __8180248<br>__8180140<br>__8180176 | __8180580.XX<br>__8180544.XX<br>__8180556.XX | 40 |
| 48CZ<br>56C<br>143-5TC | __8180189<br>__8180045<br>__8180081 | __8180201<br>__8180057<br>__8180093 | __8180213<br>__8180069<br>__8180105 | __8180569.XX<br>__8180521.XX<br>__8180533.XX | __8180225<br>__8180117<br>__8180153 | __8180237<br>__8180129<br>__8180165 | __8180249<br>__8180141<br>__8180177 | __8180581.XX<br>__8180545.XX<br>__8180557.XX | 50 |
| 48CZ<br>56C<br>143-5TC | __8180190<br>__8180046<br>__8180082 | __8180202<br>__8180058<br>__8180094 | __8180214<br>__8180070<br>__8180106 | __8180570.XX<br>__8180522.XX<br>__8180534.XX | __8180226<br>__8180118<br>__8180154 | __8180238<br>__8180130<br>__8180166 | __8180250<br>__8180142<br>__8180178 | __8180582.XX<br>__8180546.XX<br>__8180558.XX | 60 |
| 48CZ<br>56C | __8180191<br>__8180047 | __8180203<br>__8180059 | __8180215<br>__8180071 | __8180571.XX<br>__8180523.XX | __8180227<br>__8180119 | __8180239<br>__8180131 | __8180251<br>__8180143 | __8180583.XX<br>__8180547.XX | 80 |
| 48CZ<br>56C | __8180192<br>__8180048 | __8180204<br>__8180060 | __8180216<br>__8180072 | __8180572.XX<br>__8180524.XX | __8180228<br>__8180120 | __8180240<br>__8180132 | __8180252<br>__8180144 | __8180584.XX<br>__8180548.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 5/8" | 11/16" | 3/4" | 7/8" | 1" |
|---|---|---|---|---|---|
| Decimal Size | 0.625 | 0.688 | 0.750 | 0.875 | 1.000 |
| Output Bore Code | 10 | 11 | 12 | 14 | 16 |

# Maximum Rating Tables

## Size 821 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 821

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500 | 4.305 | 4.043 | 510 | __8210001 | __8210013 | __8210025 | __8210501.XX |
| | 1750 | 350 | 3.653 | 3.410 | 614 | | | | |
| | 1170 | 234 | 2.873 | 2.657 | 716 | | | | |
| | 100 | 20 | 0.433 | 0.310 | 977 | | | | |
| 7.5 | 2500 | 333 | 3.300 | 3.051 | 577 | __8210002 | __8210014 | __8210026 | __8210502.XX |
| | 1750 | 233 | 2.793 | 2.562 | 692 | | | | |
| | 1170 | 156 | 2.194 | 1.989 | 804 | | | | |
| | 100 | 13 | 0.341 | 0.230 | 1089 | | | | |
| 10 | 2500 | 250 | 2.973 | 2.722 | 686 | __8210003 | __8210015 | __8210027 | __8210503.XX |
| | 1750 | 175 | 2.464 | 2.235 | 805 | | | | |
| | 1170 | 117 | 1.905 | 1.702 | 917 | | | | |
| | 100 | 10 | 0.300 | 0.189 | 1192 | | | | |
| 15 | 2500 | 166 | 2.284 | 2.035 | 769 | __8210004 | __8210016 | __8210028 | __8210504.XX |
| | 1750 | 116 | 1.887 | 1.661 | 897 | | | | |
| | 1170 | 78 | 1.459 | 1.259 | 1017 | | | | |
| | 100 | 6.7 | 0.245 | 0.138 | 1309 | | | | |
| 20 | 2500 | 125 | 1.914 | 1.642 | 828 | __8210005 | __8210017 | __8210029 | __8210505.XX |
| | 1750 | 87 | 1.584 | 1.338 | 964 | | | | |
| | 1170 | 58 | 1.229 | 1.012 | 1090 | | | | |
| | 100 | 5.0 | 0.226 | 0.111 | 1397 | | | | |
| 25 | 2500 | 100 | 1.623 | 1.359 | 857 | __8210006 | __8210018 | __8210030 | __8210506.XX |
| | 1750 | 70 | 1.333 | 1.094 | 985 | | | | |
| | 1170 | 46 | 1.030 | 0.820 | 1104 | | | | |
| | 100 | 4.0 | 0.200 | 0.088 | 1386 | | | | |
| 30 | 2500 | 83 | 1.359 | 1.102 | 833 | __8210007 | __8210019 | __8210031 | __8210507.XX |
| | 1750 | 58 | 1.129 | 0.896 | 968 | | | | |
| | 1170 | 39 | 0.882 | 0.677 | 1095 | | | | |
| | 100 | 3.3 | 0.181 | 0.074 | 1399 | | | | |
| 40 | 2500 | 62 | 1.096 | 0.829 | 836 | __8210008 | __8210020 | __8210032 | __8210508.XX |
| | 1750 | 43 | 0.916 | 0.674 | 971 | | | | |
| | 1170 | 29 | 0.722 | 0.509 | 1097 | | | | |
| | 100 | 2.5 | 0.167 | 0.056 | 1401 | | | | |
| 50 | 2500 | 50 | 0.925 | 0.670 | 845 | __8210009 | __8210021 | __8210033 | __8210509.XX |
| | 1750 | 35 | 0.769 | 0.539 | 970 | | | | |
| | 1170 | 23 | 0.606 | 0.403 | 1086 | | | | |
| | 100 | 2.0 | 0.149 | 0.043 | 1359 | | | | |
| 60 | 2500 | 41 | 0.799 | 0.535 | 809 | __8210010 | __8210022 | __8210034 | __8210510.XX |
| | 1750 | 29 | 0.674 | 0.435 | 940 | | | | |
| | 1170 | 19 | 0.539 | 0.328 | 1061 | | | | |
| | 100 | 1.7 | 0.145 | 0.036 | 1354 | | | | |
| 80 | 2500 | 31 | 0.357 | 0.236 | 476 | __8210011 | __8210023 | __8210035 | __8210511.XX |
| | 1750 | 21 | 0.304 | 0.190 | 547 | | | | |
| | 1170 | 14 | 0.241 | 0.141 | 609 | | | | |
| | 100 | 1.3 | 0.034 | 0.015 | 743 | | | | |
| 100 | 2500 | 25 | 0.251 | 0.150 | 379 | __8210012 | __8210024 | __8210036 | __8210512.XX |
| | 1750 | 17 | 0.217 | 0.122 | 439 | | | | |
| | 1170 | 11 | 0.175 | 0.091 | 491 | | | | |
| | 100 | 1.0 | 0.026 | 0.010 | 605 | | | | |

### *How To Build a Part Number For Size GRG821, GRL821, NH821, EL821*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GRG, GRL, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Direct replacement to LEESON IRONMAN, style B, 5:1 ratio, left hand output

GRL-B821-5-L

GRL8210001

GRG = **GROVE GEAR**

- Direct replacement to Grove Gear Flexaline
- Mounting footprint 3.00" x 4.75"
- See pages 52-73 for dimensions

GRL = LEESON IRONMAN BY OHIO GEAR Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Mounting footprint 2.88" x 5.00"
- See pages 52-73 for dimensions

# Maximum Rating Tables

## Size 821 • GR, NH, EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 56C<br>143-5TC | __8210037<br>__8210073 | __8210049<br>__8210085 | __8210061<br>__8210097 | __8210513.XX<br>__8210525.XX | __8210109<br>__8210145 | __8210121<br>__8210157 | __8210133<br>__8210169 | __8210537.XX<br>__8210549.XX | 5 |
| 56C<br>143-5TC | __8210038<br>__8210074 | __8210050<br>__8210086 | __8210062<br>__8210098 | __8210514.XX<br>__8210526.XX | __8210110<br>__8210146 | __8210122<br>__8210158 | __8210134<br>__8210170 | __8210538.XX<br>__8210550.XX | 7.5 |
| 56C<br>143-5TC | __8210039<br>__8210075 | __8210051<br>__8210087 | __8210063<br>__8210099 | __8210515.XX<br>__8210527.XX | __8210111<br>__8210147 | __8210123<br>__8210159 | __8210135<br>__8210171 | __8210539.XX<br>__8210551.XX | 10 |
| 56C<br>143-5TC | __8210040<br>__8210076 | __8210052<br>__8210088 | __8210064<br>__8210100 | __8210516.XX<br>__8210528.XX | __8210112<br>__8210148 | __8210124<br>__8210160 | __8210136<br>__8210172 | __8210540.XX<br>__8210552.XX | 15 |
| 56C<br>143-5TC | __8210041<br>__8210077 | __8210053<br>__8210089 | __8210065<br>__8210101 | __8210517.XX<br>__8210529.XX | __8210113<br>__8210149 | __8210125<br>__8210161 | __8210137<br>__8210173 | __8210541.XX<br>__8210553.XX | 20 |
| 56C<br>143-5TC | __8210042<br>__8210078 | __8210054<br>__8210090 | __8210066<br>__8210102 | __8210518.XX<br>__8210530.XX | __8210114<br>__8210150 | __8210126<br>__8210162 | __8210138<br>__8210174 | __8210542.XX<br>__8210554.XX | 25 |
| 56C<br>143-5TC | __8210043<br>__8210079 | __8210055<br>__8210091 | __8210067<br>__8210103 | __8210519.XX<br>__8210531.XX | __8210115<br>__8210151 | __8210127<br>__8210163 | __8210139<br>__8210175 | __8210543.XX<br>__8210555.XX | 30 |
| 56C<br>143-5TC | __8210044<br>__8210080 | __8210056<br>__8210092 | __8210068<br>__8210104 | __8210520.XX<br>__8210532.XX | __8210116<br>__8210152 | __8210128<br>__8210164 | __8210140<br>__8210176 | __8210544.XX<br>__8210556.XX | 40 |
| 56C<br>143-5TC | __8210045<br>__8210081 | __8210057<br>__8210093 | __8210069<br>__8210105 | __8210521.XX<br>__8210533.XX | __8210117<br>__8210153 | __8210129<br>__8210165 | __8210141<br>__8210177 | __8210545.XX<br>__8210557.XX | 50 |
| 48CZ<br>56C<br>143-5TC | __8210190<br>__8210046<br>__8210082 | __8210202<br>__8210058<br>__8210094 | __8210214<br>__8210070<br>__8210106 | __8210570.XX<br>__8210522.XX<br>__8210534.XX | __8210226<br>__8210118<br>__8210154 | __8210238<br>__8210130<br>__8210166 | __8210250<br>__8210142<br>__8210178 | __8210582.XX<br>__8210546.XX<br>__8210558.XX | 60 |
| 48CZ<br>56C | __8210191<br>__8210047 | __8210203<br>__8210059 | __8210215<br>__8210071 | __8210571.XX<br>__8210523.XX | __8210227<br>__8210119 | __8210239<br>__8210131 | __8210251<br>__8210143 | __8210583.XX<br>__8210547.XX | 80 |
| 48CZ<br>56C | __8210192<br>__8210048 | __8210204<br>__8210060 | __8210216<br>__8210072 | __8210572.XX<br>__8210524.XX | __8210228<br>__8210120 | __8210240<br>__8210132 | __8210252<br>__8210144 | __8210584.XX<br>__8210548.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Maximum Rating Tables

## Size 824 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 824

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500.0 | 6.322 | 5.950 | 750 | __8240001 | __8240013 | __8240025 | __8240501.XX |
| | 1750 | 350.0 | 5.323 | 4.985 | 898 | | | | |
| | 1170 | 234.0 | 4.280 | 3.976 | 1071 | | | | |
| | 100 | 20.0 | 0.655 | 0.489 | 1540 | | | | |
| 7.5 | 2500 | 333.3 | 4.739 | 4.401 | 832 | __8240002 | __8240014 | __8240026 | __8240502.XX |
| | 1750 | 233.3 | 3.992 | 3.685 | 995 | | | | |
| | 1170 | 156.0 | 3.204 | 2.929 | 1183 | | | | |
| | 100 | 13.3 | 0.502 | 0.357 | 1689 | | | | |
| 10 | 2500 | 250.0 | 4.199 | 3.862 | 974 | __8240003 | __8240015 | __8240027 | __8240503.XX |
| | 1750 | 175.0 | 3.564 | 3.253 | 1172 | | | | |
| | 1170 | 117.0 | 2.808 | 2.531 | 1364 | | | | |
| | 100 | 10.0 | 0.442 | 0.295 | 1857 | | | | |
| 15 | 2500 | 166.7 | 3.268 | 2.913 | 1102 | __8240004 | __8240016 | __8240028 | __8240504.XX |
| | 1750 | 116.7 | 2.765 | 2.439 | 1318 | | | | |
| | 1170 | 78.0 | 2.178 | 1.888 | 1526 | | | | |
| | 100 | 6.7 | 0.369 | 0.217 | 2056 | | | | |
| 20 | 2500 | 125.0 | 2.750 | 2.365 | 1192 | __8240005 | __8240017 | __8240029 | __8240505.XX |
| | 1750 | 87.5 | 2.326 | 1.972 | 1421 | | | | |
| | 1170 | 58.5 | 1.835 | 1.522 | 1640 | | | | |
| | 100 | 5.0 | 0.337 | 0.174 | 2193 | | | | |
| 25 | 2500 | 100.0 | 2.335 | 1.949 | 1228 | __8240006 | __8240018 | __8240030 | __8240506.XX |
| | 1750 | 70.0 | 1.967 | 1.615 | 1454 | | | | |
| | 1170 | 46.8 | 1.551 | 1.239 | 1669 | | | | |
| | 100 | 4.0 | 0.302 | 0.140 | 2205 | | | | |
| 30 | 2500 | 83.3 | 1.945 | 1.579 | 1194 | __8240007 | __8240019 | __8240031 | __8240507.XX |
| | 1750 | 58.3 | 1.653 | 1.317 | 1423 | | | | |
| | 1170 | 39.0 | 1.314 | 1.016 | 1642 | | | | |
| | 100 | 3.3 | 0.270 | 0.116 | 2197 | | | | |
| 40 | 2500 | 62.5 | 1.574 | 1.195 | 1205 | __8240008 | __8240020 | __8240032 | __8240508.XX |
| | 1750 | 43.8 | 1.342 | 0.994 | 1433 | | | | |
| | 1170 | 29.3 | 1.074 | 0.766 | 1650 | | | | |
| | 100 | 2.5 | 0.245 | 0.087 | 2198 | | | | |
| 50 | 2500 | 50.0 | 1.335 | 0.961 | 1211 | __8240009 | __8240021 | __8240033 | __8240509.XX |
| | 1750 | 35.0 | 1.137 | 0.795 | 1432 | | | | |
| | 1170 | 23.4 | 0.911 | 0.609 | 1641 | | | | |
| | 100 | 2.0 | 0.224 | 0.069 | 2163 | | | | |
| 60 | 2500 | 41.7 | 1.149 | 0.806 | 1219 | __8240010 | __8240022 | __8240034 | __8240510.XX |
| | 1750 | 29.2 | 0.967 | 0.656 | 1418 | | | | |
| | 1170 | 19.5 | 0.770 | 0.496 | 1604 | | | | |
| | 100 | 1.7 | 0.197 | 0.054 | 2054 | | | | |
| 80 | 2500 | 31.3 | 0.520 | 0.348 | 701 | __8240011 | __8240023 | __8240035 | __8240511.XX |
| | 1750 | 21.9 | 0.455 | 0.288 | 830 | | | | |
| | 1170 | 14.6 | 0.370 | 0.219 | 946 | | | | |
| | 100 | 1.3 | 0.056 | 0.024 | 1202 | | | | |
| 100 | 2500 | 25.0 | 0.351 | 0.219 | 551 | __8240012 | __8240024 | __8240036 | __8240512.XX |
| | 1750 | 17.5 | 0.307 | 0.180 | 648 | | | | |
| | 1170 | 11.7 | 0.251 | 0.136 | 735 | | | | |
| | 100 | 1.0 | 0.039 | 0.015 | 926 | | | | |

### *How To Build a Part Number For Size GR824, NH824, EL824*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
GR-B824-5-L
GR8240001

# Maximum Rating Tables

## Size 824 • GR, NH, EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 143-5TC<br>182-4TC | __8240073<br>__8240109 | __8240085<br>__8240121 | __8240097<br>__8240133 | __8240525.XX<br>__8240537.XX | __8240181<br>__8240217 | __8240193<br>__8240229 | __8240205<br>__8240241 | __8240561.XX<br>__8240573.XX | 5 |
| 143-5TC<br>182-4TC | __8240074<br>__8240110 | __8240086<br>__8240122 | __8240098<br>__8240134 | __8240526.XX<br>__8240538.XX | __8240182<br>__8240218 | __8240194<br>__8240230 | __8240206<br>__8240242 | __8240562.XX<br>__8240574.XX | 7.5 |
| 143-5TC<br>182-4TC | __8240075<br>__8240111 | __8240087<br>__8240123 | __8240099<br>__8240135 | __8240527.XX<br>__8240539.XX | __8240183<br>__8240219 | __8240195<br>__8240231 | __8240207<br>__8240243 | __8240563.XX<br>__8240575.XX | 10 |
| 56C<br>143-5TC | __8240040<br>__8240076 | __8240052<br>__8240088 | __8240064<br>__8240100 | __8240516.XX<br>__8240528.XX | __8240148<br>__8240184 | __8240160<br>__8240196 | __8240172<br>__8240208 | __8240552.XX<br>__8240564.XX | 15 |
| 56C<br>143-5TC | __8240041<br>__8240077 | __8240053<br>__8240089 | __8240065<br>__8240101 | __8240517.XX<br>__8240529.XX | __8240149<br>__8240185 | __8240161<br>__8240197 | __8240173<br>__8240209 | __8240553.XX<br>__8240565.XX | 20 |
| 56C<br>143-5TC | __8240042<br>__8240078 | __8240054<br>__8240090 | __8240066<br>__8240102 | __8240518.XX<br>__8240530.XX | __8240150<br>__8240186 | __8240162<br>__8240198 | __8240174<br>__8240210 | __8240554.XX<br>__8240566.XX | 25 |
| 56C<br>143-5TC | __8240043<br>__8240079 | __8240055<br>__8240091 | __8240067<br>__8240103 | __8240519.XX<br>__8240531.XX | __8240151<br>__8240187 | __8240163<br>__8240199 | __8240175<br>__8240211 | __8240555.XX<br>__8240567.XX | 30 |
| 56C<br>143-5TC | __8240044<br>__8240080 | __8240056<br>__8240092 | __8240068<br>__8240104 | __8240520.XX<br>__8240532.XX | __8240152<br>__8240188 | __8240164<br>__8240200 | __8240176<br>__8240212 | __8240556.XX<br>__8240568.XX | 40 |
| 56C<br>143-5TC | __8240045<br>__8240081 | __8240057<br>__8240093 | __8240069<br>__8240105 | __8240521.XX<br>__8240533.XX | __8240153<br>__8240189 | __8240165<br>__8240201 | __8240177<br>__8240213 | __8240557.XX<br>__8240569.XX | 50 |
| 56C<br>143-5TC | __8240046<br>__8240082 | __8240058<br>__8240094 | __8240070<br>__8240106 | __8240522.XX<br>__8240534.XX | __8240154<br>__8240190 | __8240166<br>__8240202 | __8240178<br>__8240214 | __8240558.XX<br>__8240570.XX | 60 |
| 56C | __8240047 | __8240059 | __8240071 | __8240523.XX | __8240155 | __8240167 | __8240179 | __8240559.XX | 80 |
| 56C | __8240048 | __8240060 | __8240072 | __8240524.XX | __8240156 | __8240168 | __8240180 | __8240560.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.
* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Maximum Rating Tables

## Size 826 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 826

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500 | 7.946 | 7.486 | 944 | __8260001 | __8260013 | __8260025 | __8260501.XX |
| | 1750 | 350 | 6.693 | 6.276 | 1130 | | | | |
| | 1170 | 234 | 5.439 | 5.061 | 1363 | | | | |
| | 100 | 20 | 0.844 | 0.638 | 2010 | | | | |
| 7.5 | 2500 | 333 | 5.877 | 5.453 | 1031 | __8260002 | __8260014 | __8260026 | __8260502.XX |
| | 1750 | 233 | 4.956 | 4.571 | 1235 | | | | |
| | 1170 | 156 | 4.018 | 3.671 | 1483 | | | | |
| | 100 | 13 | 0.640 | 0.458 | 2166 | | | | |
| 10 | 2500 | 250 | 5.338 | 4.904 | 1236 | __8260003 | __8260015 | __8260027 | __8260503.XX |
| | 1750 | 175 | 4.492 | 4.097 | 1475 | | | | |
| | 1170 | 117 | 3.579 | 3.226 | 1738 | | | | |
| | 100 | 10 | 0.572 | 0.386 | 2431 | | | | |
| 15 | 2500 | 166 | 4.316 | 3.881 | 1468 | __8260004 | __8260016 | __8260028 | __8260504.XX |
| | 1750 | 116 | 3.614 | 3.216 | 1737 | | | | |
| | 1170 | 78 | 2.821 | 2.468 | 1994 | | | | |
| | 100 | 6.7 | 0.467 | 0.279 | 2637 | | | | |
| 20 | 2500 | 125 | 3.503 | 3.050 | 1538 | __8260005 | __8260017 | __8260029 | __8260505.XX |
| | 1750 | 87 | 2.965 | 2.549 | 1836 | | | | |
| | 1170 | 58 | 2.339 | 1.970 | 2123 | | | | |
| | 100 | 5.0 | 0.419 | 0.226 | 2849 | | | | |
| 25 | 2500 | 100 | 2.955 | 2.505 | 1579 | __8260006 | __8260018 | __8260030 | __8260506.XX |
| | 1750 | 70 | 2.487 | 2.076 | 1869 | | | | |
| | 1170 | 46 | 1.957 | 1.594 | 2146 | | | | |
| | 100 | 4.0 | 0.370 | 0.180 | 2837 | | | | |
| 30 | 2500 | 83 | 2.556 | 2.115 | 1600 | __8260007 | __8260019 | __8260031 | __8260507.XX |
| | 1750 | 58 | 2.145 | 1.743 | 1883 | | | | |
| | 1170 | 39 | 1.687 | 1.332 | 2152 | | | | |
| | 100 | 3.3 | 0.335 | 0.149 | 2816 | | | | |
| 40 | 2500 | 62 | 1.989 | 1.545 | 1558 | __8260008 | __8260020 | __8260032 | __8260508.XX |
| | 1750 | 43 | 1.695 | 1.287 | 1854 | | | | |
| | 1170 | 29 | 1.354 | 0.993 | 2139 | | | | |
| | 100 | 2.5 | 0.299 | 0.113 | 2857 | | | | |
| 50 | 2500 | 50 | 1.672 | 1.237 | 1560 | __8260009 | __8260021 | __8260033 | __8260509.XX |
| | 1750 | 35 | 1.420 | 1.023 | 1843 | | | | |
| | 1170 | 23 | 1.135 | 0.784 | 2112 | | | | |
| | 100 | 2.0 | 0.269 | 0.088 | 2783 | | | | |
| 60 | 2500 | 41 | 1.433 | 1.015 | 1536 | __8260010 | __8260022 | __8260034 | __8260510.XX |
| | 1750 | 29 | 1.216 | 0.835 | 1805 | | | | |
| | 1170 | 19 | 0.973 | 0.637 | 2060 | | | | |
| | 100 | 1.7 | 0.245 | 0.071 | 2689 | | | | |
| 80 | 2500 | 31 | 0.659 | 0.456 | 919 | __8260011 | __8260023 | __8260035 | __8260511.XX |
| | 1750 | 21 | 0.577 | 0.379 | 1092 | | | | |
| | 1170 | 14 | 0.469 | 0.289 | 1247 | | | | |
| | 100 | 1.3 | 0.070 | 0.032 | 1593 | | | | |
| 100 | 2500 | 25 | 0.441 | 0.286 | 721 | __8260012 | __8260024 | __8260036 | __8260512.XX |
| | 1750 | 17 | 0.386 | 0.236 | 851 | | | | |
| | 1170 | 11 | 0.314 | 0.179 | 966 | | | | |
| | 100 | 1.0 | 0.048 | 0.019 | 1222 | | | | |

### *How To Build a Part Number For Size GR826, GRG826, GRL826, NH826, EL826*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, GRG, GRL, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, hollow output shaft, 5:1 ratio, 180TC coupling input

GR-HMQ826-5-180TC-19

GR8260537.19

GRG = **GROVE GEAR**

- Direct replacement to Grove Gear Flexaline
- 1-1/4" solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = LEESON IRONMAN BY OHIO GEAR Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Hollow shaft option available
- 1-1/8" solid output shaft diameter

# Maximum Rating Tables

## Size 826 • GR, NH, EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 143-5TC<br>182-4TC | __8260073<br>__8260109 | __8260085<br>__8260121 | __8260097<br>__8260133 | __8260525.XX<br>__8260537.XX | __8260181<br>__8260217 | __8260193<br>__8260229 | __8260205<br>__8260241 | __8260561.XX<br>__8260573.XX | 5 |
| 143-5TC<br>182-4TC | __8260074<br>__8260110 | __8260086<br>__8260122 | __8260098<br>__8260134 | __8260526.XX<br>__8260538.XX | __8260182<br>__8260218 | __8260194<br>__8260230 | __8260206<br>__8260242 | __8260562.XX<br>__8260574.XX | 7.5 |
| 143-5TC<br>182-4TC | __8260075<br>__8260111 | __8260087<br>__8260123 | __8260099<br>__8260135 | __8260527.XX<br>__8260539.XX | __8260183<br>__8260219 | __8260195<br>__8260231 | __8260207<br>__8260243 | __8260563.XX<br>__8260575.XX | 10 |
| 143-5TC<br>182-4TC | __8260076<br>__8260112 | __8260088<br>__8260124 | __8260100<br>__8260136 | __8260528.XX<br>__8260540.XX | __8260184<br>__8260220 | __8260196<br>__8260232 | __8260208<br>__8260244 | __8260564.XX<br>__8260576.XX | 15 |
| 56C<br>143-5TC<br>182-4TC | __8260041<br>__8260077<br>__8260113 | __8260053<br>__8260089<br>__8260125 | __8260065<br>__8260101<br>__8260137 | __8260517.XX<br>__8260529.XX<br>__8260541.XX | __8260149<br>__8260185<br>__8260221 | __8260161<br>__8260197<br>__8260233 | __8260173<br>__8260209<br>__8260245 | __8260553.XX<br>__8260565.XX<br>__8260577.XX | 20 |
| 56C<br>143-5TC | __8260042<br>__8260078 | __8260054<br>__8260090 | __8260066<br>__8260102 | __8260518.XX<br>__8260530.XX | __8260150<br>__8260186 | __8260162<br>__8260198 | __8260174<br>__8260210 | __8260554.XX<br>__8260566.XX | 25 |
| 56C<br>143-5TC | __8260043<br>__8260079 | __8260055<br>__8260091 | __8260067<br>__8260103 | __8260519.XX<br>__8260531.XX | __8260151<br>__8260187 | __8260163<br>__8260199 | __8260175<br>__8260211 | __8260555.XX<br>__8260567.XX | 30 |
| 56C<br>143-5TC | __8260044<br>__8260080 | __8260056<br>__8260092 | __8260068<br>__8260104 | __8260520.XX<br>__8260532.XX | __8260152<br>__8260188 | __8260164<br>__8260200 | __8260176<br>__8260212 | __8260556.XX<br>__8260568.XX | 40 |
| 56C<br>143-5TC | __8260045<br>__8260081 | __8260057<br>__8260093 | __8260069<br>__8260105 | __8260521.XX<br>__8260533.XX | __8260153<br>__8260189 | __8260165<br>__8260201 | __8260177<br>__8260213 | __8260557.XX<br>__8260569.XX | 50 |
| 56C<br>143-5TC | __8260046<br>__8260082 | __8260058<br>__8260094 | __8260070<br>__8260106 | __8260522.XX<br>__8260534.XX | __8260154<br>__8260190 | __8260166<br>__8260202 | __8260178<br>__8260214 | __8260558.XX<br>__8260570.XX | 60 |
| 56C<br>143-5TC | __8260047<br>__8260083 | __8260059<br>__8260095 | __8260071<br>__8260107 | __8260523.XX<br>__8260535.XX | __8260155<br>__8260191 | __8260167<br>__8260203 | __8260179<br>__8260215 | __8260559.XX<br>__8260571.XX | 80 |
| 56C | __8260048 | __8260060 | __8260072 | __8260524.XX | __8260156 | __8260168 | __8260180 | __8260560.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.
* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1” | 1-1/8” | 1-3/16” | 1-1/4” | 1-7/16” | 1-1/2” |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Maximum Rating Tables

## Size 830 • GR & EL Series

CAST IRON GR SERIES ALUMINUM EL SERIES

### Size 830

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 10.661 | 10.091 | 1272 | __8300001 | __8300013 | __8300025 | __8300501.XX |
| | 1750 | 350 | 9.093 | 8.573 | 1544 | | | | |
| | 1170 | 234 | 7.434 | 6.966 | 1876 | | | | |
| | 100 | 20 | 1.177 | 0.928 | 2925 | | | | |
| 7.5 | 2500 | 333 | 8.178 | 7.669 | 1450 | __8300002 | __8300014 | __8300026 | __8300502.XX |
| | 1750 | 233 | 6.879 | 6.421 | 1734 | | | | |
| | 1170 | 156 | 5.668 | 5.251 | 2122 | | | | |
| | 100 | 13 | 0.898 | 0.683 | 3228 | | | | |
| 10 | 2500 | 250 | 7.293 | 6.745 | 1701 | __8300003 | __8300015 | __8300027 | __8300503.XX |
| | 1750 | 175 | 6.151 | 5.655 | 2037 | | | | |
| | 1170 | 117 | 4.989 | 4.541 | 2446 | | | | |
| | 100 | 10 | 0.799 | 0.567 | 3573 | | | | |
| 15 | 2500 | 166 | 5.734 | 5.149 | 1947 | __8300004 | __8300016 | __8300028 | __8300504.XX |
| | 1750 | 116 | 4.843 | 4.311 | 2329 | | | | |
| | 1170 | 78 | 3.903 | 3.426 | 2768 | | | | |
| | 100 | 6.7 | 0.663 | 0.418 | 3949 | | | | |
| 20 | 2500 | 125 | 4.662 | 4.067 | 2051 | __8300005 | __8300017 | __8300029 | __8300505.XX |
| | 1750 | 87 | 3.947 | 3.407 | 2454 | | | | |
| | 1170 | 58 | 3.198 | 2.713 | 2923 | | | | |
| | 100 | 5.0 | 0.579 | 0.332 | 4189 | | | | |
| 25 | 2500 | 100 | 3.957 | 3.355 | 2114 | __8300006 | __8300018 | __8300030 | __8300506.XX |
| | 1750 | 70 | 3.355 | 2.807 | 2527 | | | | |
| | 1170 | 46 | 2.713 | 2.223 | 2993 | | | | |
| | 100 | 4.0 | 0.519 | 0.269 | 4238 | | | | |
| 30 | 2500 | 83 | 3.389 | 2.787 | 2108 | __8300007 | __8300019 | __8300031 | __8300507.XX |
| | 1750 | 58 | 2.879 | 2.332 | 2519 | | | | |
| | 1170 | 39 | 2.335 | 1.845 | 2982 | | | | |
| | 100 | 3.3 | 0.472 | 0.223 | 4217 | | | | |
| 40 | 2500 | 62 | 2.639 | 2.054 | 2071 | __8300008 | __8300020 | __8300032 | __8300508.XX |
| | 1750 | 43 | 2.251 | 1.720 | 2477 | | | | |
| | 1170 | 29 | 1.843 | 1.366 | 2944 | | | | |
| | 100 | 2.5 | 0.407 | 0.167 | 4200 | | | | |
| 50 | 2500 | 50 | 2.238 | 1.654 | 2084 | __8300009 | __8300021 | __8300033 | __8300509.XX |
| | 1750 | 35 | 1.915 | 1.383 | 2490 | | | | |
| | 1170 | 23 | 1.569 | 1.094 | 2945 | | | | |
| | 100 | 2.0 | 0.372 | 0.132 | 4156 | | | | |
| 60 | 2500 | 41 | 1.907 | 1.336 | 2020 | __8300010 | __8300022 | __8300034 | __8300510.XX |
| | 1750 | 29 | 1.637 | 1.117 | 2413 | | | | |
| | 1170 | 19 | 1.348 | 0.883 | 2854 | | | | |
| | 100 | 1.7 | 0.341 | 0.106 | 4026 | | | | |
| 80 | 2500 | 31 | 0.972 | 0.671 | 1352 | __8300011 | __8300023 | __8300035 | __8300511.XX |
| | 1750 | 21 | 0.895 | 0.585 | 1684 | | | | |
| | 1170 | 14 | 0.757 | 0.463 | 1996 | | | | |
| | 100 | 1.3 | 0.126 | 0.054 | 2731 | | | | |
| 100 | 2500 | 25 | 0.656 | 0.424 | 1069 | __8300012 | __8300024 | __8300036 | __8300512.XX |
| | 1750 | 17 | 0.603 | 0.367 | 1321 | | | | |
| | 1170 | 11 | 0.511 | 0.289 | 1554 | | | | |
| | 100 | 1.0 | 0.087 | 0.033 | 2100 | | | | |

### *How To Build a Part Number For Size GR830 & EL830*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GR-B830-5-L

GR8300001

# Maximum Rating Tables

## Size 830 • GR & EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 182-4TC<br>213-5TC | __8300109<br>__8300145 | __8300121<br>__8300157 | __8300133<br>__8300169 | __8300537.XX<br>__8300549.XX | __8300253<br>__8300289 | __8300265<br>__8300301 | __8300277<br>__8300313 | __8300585.XX<br>__8300597.XX | 5 |
| 182-4TC | __8300110 | __8300122 | __8300134 | __8300538.XX | __8300254 | __8300266 | __8300278 | __8300586.XX | 7.5 |
| 143-5TC<br>182-4TC | __8300075<br>__8300111 | __8300087<br>__8300123 | __8300099<br>__8300135 | __8300527.XX<br>__8300539.XX | __8300219<br>__8300255 | __8300231<br>__8300267 | __8300243<br>__8300279 | __8300575.XX<br>__8300587.XX | 10 |
| 143-5TC<br>182-4TC | __8300076<br>__8300112 | __8300088<br>__8300124 | __8300100<br>__8300136 | __8300528.XX<br>__8300540.XX | __8300220<br>__8300256 | __8300232<br>__8300268 | __8300244<br>__8300280 | __8300576.XX<br>__8300588.XX | 15 |
| 143-5TC<br>182-4TC | __8300077<br>__8300113 | __8300089<br>__8300125 | __8300101<br>__8300137 | __8300529.XX<br>__8300541.XX | __8300221<br>__8300257 | __8300233<br>__8300269 | __8300245<br>__8300281 | __8300577.XX<br>__8300589.XX | 20 |
| 143-5TC<br>182-4TC | __8300078<br>__8300114 | __8300090<br>__8300126 | __8300102<br>__8300138 | __8300530.XX<br>__8300542.XX | __8300222<br>__8300258 | __8300234<br>__8300270 | __8300246<br>__8300282 | __8300578.XX<br>__8300590.XX | 25 |
| 143-5TC<br>182-4TC | __8300079<br>__8300115 | __8300091<br>__8300127 | __8300103<br>__8300139 | __8300531.XX<br>__8300543.XX | __8300223<br>__8300259 | __8300235<br>__8300271 | __8300247<br>__8300283 | __8300579.XX<br>__8300591.XX | 30 |
| 56C<br>143-5TC | __8300044<br>__8300080 | __8300056<br>__8300092 | __8300068<br>__8300104 | __8300520.XX<br>__8300532.XX | __8300188<br>__8300224 | __8300200<br>__8300236 | __8300212<br>__8300248 | __8300568.XX<br>__8300580.XX | 40 |
| 56C<br>143-5TC | __8300045<br>__8300081 | __8300057<br>__8300093 | __8300069<br>__8300105 | __8300521.XX<br>__8300533.XX | __8300189<br>__8300225 | __8300201<br>__8300237 | __8300213<br>__8300249 | __8300569.XX<br>__8300581.XX | 50 |
| 56C<br>143-5TC | __8300046<br>__8300082 | __8300058<br>__8300094 | __8300070<br>__8300106 | __8300522.XX<br>__8300534.XX | __8300190<br>__8300226 | __8300202<br>__8300238 | __8300214<br>__8300250 | __8300570.XX<br>__8300582.XX | 60 |
| 56C<br>143-5TC | __8300047<br>__8300083 | __8300059<br>__8300095 | __8300071<br>__8300107 | __8300523.XX<br>__8300535.XX | __8300191<br>__8300227 | __8300203<br>__8300239 | __8300215<br>__8300251 | __8300571.XX<br>__8300583.XX | 80 |
| 56C<br>143-5TC | __8300048<br>__8300084 | __8300060<br>__8300096 | __8300072<br>__8300108 | __8300524.XX<br>__8300536.XX | __8300192<br>__8300228 | __8300204<br>__8300240 | __8300216<br>__8300252 | __8300572.XX<br>__8300584.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

# Maximum Rating Tables

## Size 830 • NH Series

CAST IRON NH SERIES

### Size 830

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | 2500 | 500 | 7.726 | 7.325 | 923 | | | | |
| | 1750 | 350 | 6.683 | 6.285 | 1131 | | | | |
| 5 | 1170 | 234 | 5.645 | 5.249 | 1413 | NH8300001 | NH8300013 | NH8300025 | NH8300501.XX |
| | 100 | 20 | 0.918 | 0.779 | 2454 | | | | |
| | 2500 | 333 | 7.145 | 6.713 | 1269 | | | | |
| | 1750 | 233 | 6.049 | 5.624 | 1519 | | | | |
| 7.5 | 1170 | 156 | 5.210 | 4.779 | 1930 | NH8300002 | NH8300014 | NH8300026 | NH8300502.XX |
| | 100 | 13 | 0.765 | 0.636 | 3003 | | | | |
| | 2500 | 250 | 6.344 | 5.897 | 1486 | | | | |
| | 1750 | 175 | 5.450 | 5.005 | 1802 | | | | |
| 10 | 1170 | 117 | 4.586 | 4.144 | 2232 | NH8300003 | NH8300015 | NH8300027 | NH8300503.XX |
| | 100 | 10 | 0.649 | 0.526 | 3312 | | | | |
| | 2500 | 166 | 4.858 | 4.404 | 1665 | | | | |
| | 1750 | 116 | 4.207 | 3.751 | 2026 | | | | |
| 15 | 1170 | 78 | 3.507 | 3.062 | 2473 | NH8300004 | NH8300016 | NH8300028 | NH8300504.XX |
| | 100 | 6.7 | 0.498 | 0.378 | 3573 | | | | |
| | 2500 | 125 | 3.720 | 3.288 | 1657 | | | | |
| | 1750 | 87 | 3.233 | 2.799 | 2015 | | | | |
| 20 | 1170 | 58 | 2.717 | 2.291 | 2467 | NH8300005 | NH8300017 | NH8300029 | NH8300505.XX |
| | 100 | 5.0 | 0.400 | 0.284 | 3584 | | | | |
| | 2500 | 100 | 3.170 | 2.737 | 1724 | | | | |
| | 1750 | 70 | 2.768 | 2.332 | 2099 | | | | |
| 25 | 1170 | 46 | 2.319 | 1.895 | 2551 | NH8300006 | NH8300018 | NH8300030 | NH8300506.XX |
| | 100 | 4.0 | 0.345 | 0.232 | 3653 | | | | |
| | 2500 | 83 | 2.717 | 2.287 | 1729 | | | | |
| | 1750 | 58 | 2.382 | 1.949 | 2105 | | | | |
| 30 | 1170 | 39 | 2.004 | 1.582 | 2556 | NH8300007 | NH8300019 | NH8300031 | NH8300507.XX |
| | 100 | 3.3 | 0.305 | 0.193 | 3656 | | | | |
| | 2500 | 62 | 2.063 | 1.645 | 1659 | | | | |
| | 1750 | 43 | 1.822 | 1.402 | 2018 | | | | |
| 40 | 1170 | 29 | 1.557 | 1.144 | 2464 | NH8300008 | NH8300020 | NH8300032 | NH8300508.XX |
| | 100 | 2.5 | 0.252 | 0.141 | 3559 | | | | |
| | 2500 | 50 | 1.727 | 1.320 | 1663 | | | | |
| | 1750 | 35 | 1.535 | 1.125 | 2026 | | | | |
| 50 | 1170 | 23 | 1.312 | 0.912 | 2456 | NH8300009 | NH8300021 | NH8300033 | NH8300509.XX |
| | 100 | 2.0 | 0.217 | 0.111 | 3505 | | | | |
| | 2500 | 41 | 1.430 | 1.045 | 1580 | | | | |
| | 1750 | 29 | 1.279 | 0.891 | 1924 | | | | |
| 60 | 1170 | 19 | 1.100 | 0.722 | 2332 | NH8300010 | NH8300022 | NH8300034 | NH8300510.XX |
| | 100 | 1.7 | 0.188 | 0.088 | 3327 | | | | |
| | 2500 | 31 | 0.972 | 0.671 | 1352 | | | | |
| | 1750 | 21 | 0.895 | 0.585 | 1684 | | | | |
| 80 | 1170 | 14 | 0.757 | 0.463 | 1996 | NH8300011 | NH8300023 | NH8300035 | NH8300511.XX |
| | 100 | 1.3 | 0.126 | 0.054 | 2731 | | | | |
| | 2500 | 25 | 0.656 | 0.424 | 1069 | | | | |
| | 1750 | 17 | 0.603 | 0.367 | 1321 | | | | |
| 100 | 1170 | 11 | 0.511 | 0.289 | 1554 | NH8300012 | NH8300024 | NH8300036 | NH8300512.XX |
| | 100 | 1.0 | 0.087 | 0.033 | 2100 | | | | |

### *How To Build a Part Number For Size NH830*

1. Select catalog number from the selection table
2. For hollow output, replace “XX” suffix with bore code (see next page for codes)

# Maximum Rating Tables

## Size 830 • NH Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 182-4TC<br>213-5TC | NH8300109<br>NH8300145 | NH8300121<br>NH8300157 | NH8300133<br>NH8300169 | NH8300537.XX<br>NH8300549.XX | NH8300253<br>NH8300289 | NH8300265<br>NH8300301 | NH8300277<br>NH8300313 | NH8300585.XX<br>NH8300597.XX | 5 |
| 182-4TC | NH8300110 | NH8300122 | NH8300134 | NH8300538.XX | NH8300254 | NH8300266 | NH8300278 | NH8300586.XX | 7.5 |
| 143-5TC<br>182-4TC | NH8300075<br>NH8300111 | NH8300087<br>NH8300123 | NH8300099<br>NH8300135 | NH8300527.XX<br>NH8300539.XX | NH8300219<br>NH8300255 | NH8300231<br>NH8300267 | NH8300243<br>NH8300279 | NH8300575.XX<br>NH8300587.XX | 10 |
| 143-5TC<br>182-4TC | NH8300076<br>NH8300112 | NH8300088<br>NH8300124 | NH8300100<br>NH8300136 | NH8300528.XX<br>NH8300540.XX | NH8300220<br>NH8300256 | NH8300232<br>NH8300268 | NH8300244<br>NH8300280 | NH8300576.XX<br>NH8300588.XX | 15 |
| 143-5TC<br>182-4TC | NH8300077<br>NH8300113 | NH8300089<br>NH8300125 | NH8300101<br>NH8300137 | NH8300529.XX<br>NH8300541.XX | NH8300221<br>NH8300257 | NH8300233<br>NH8300269 | NH8300245<br>NH8300281 | NH8300577.XX<br>NH8300589.XX | 20 |
| 143-5TC<br>182-4TC | NH8300078<br>NH8300114 | NH8300090<br>NH8300126 | NH8300102<br>NH8300138 | NH8300530.XX<br>NH8300542.XX | NH8300222<br>NH8300258 | NH8300234<br>NH8300270 | NH8300246<br>NH8300282 | NH8300578.XX<br>NH8300590.XX | 25 |
| 143-5TC<br>182-4TC | NH8300079<br>NH8300115 | NH8300091<br>NH8300127 | NH8300103<br>NH8300139 | NH8300531.XX<br>NH8300543.XX | NH8300223<br>NH8300259 | NH8300235<br>NH8300271 | NH8300247<br>NH8300283 | NH8300579.XX<br>NH8300591.XX | 30 |
| 56C<br>143-5TC | NH8300044<br>NH8300080 | NH8300056<br>NH8300092 | NH8300068<br>NH8300104 | NH8300520.XX<br>NH8300532.XX | NH8300188<br>NH8300224 | NH8300200<br>NH8300236 | NH8300212<br>NH8300248 | NH8300568.XX<br>NH8300580.XX | 40 |
| 56C<br>143-5TC | NH8300045<br>NH8300081 | NH8300057<br>NH8300093 | NH8300069<br>NH8300105 | NH8300521.XX<br>NH8300533.XX | NH8300189<br>NH8300225 | NH8300201<br>NH8300237 | NH8300213<br>NH8300249 | NH8300569.XX<br>NH8300581.XX | 50 |
| 56C<br>143-5TC | NH8300046<br>NH8300082 | NH8300058<br>NH8300094 | NH8300070<br>NH8300106 | NH8300522.XX<br>NH8300534.XX | NH8300190<br>NH8300226 | NH8300202<br>NH8300238 | NH8300214<br>NH8300250 | NH8300570.XX<br>NH8300582.XX | 60 |
| 56C<br>143-5TC | NH8300047<br>NH8300083 | NH8300059<br>NH8300095 | NH8300071<br>NH8300107 | NH8300523.XX<br>NH8300535.XX | NH8300191<br>NH8300227 | NH8300203<br>NH8300239 | NH8300215<br>NH8300251 | NH8300571.XX<br>NH8300583.XX | 80 |
| 56C<br>143-5TC | NH8300048<br>NH8300084 | NH8300060<br>NH8300096 | NH8300072<br>NH8300108 | NH8300524.XX<br>NH8300536.XX | NH8300192<br>NH8300228 | NH8300204<br>NH8300240 | NH8300216<br>NH8300252 | NH8300572.XX<br>NH8300584.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

# Maximum Rating Tables

## Size 832 • GR & EL Series

CAST IRON GR SERIES | ALUMINUM EL SERIES

### Size 832

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500 | 13.94 | 13.24 | 1669 | __8320097 | __8320101 | __8320105 | __8320557.XX |
| | 1750 | 350 | 11.92 | 11.29 | 2033 | | | | |
| | 1170 | 234 | 9.790 | 9.220 | 2483 | | | | |
| | 100 | 20 | 1.567 | 1.267 | 3994 | | | | |
| 7.5 | 2500 | 333 | 10.36 | 9.695 | 1833 | __8320098 | __8320102 | __8320106 | __8320558.XX |
| | 1750 | 233 | 8.863 | 8.264 | 2232 | | | | |
| | 1170 | 156 | 7.286 | 6.747 | 2726 | | | | |
| | 100 | 13 | 1.201 | 0.926 | 4375 | | | | |
| 10 | 2500 | 250 | 9.601 | 8.943 | 2254 | __8320001 | __8320009 | __8320017 | __8320501.XX |
| | 1750 | 175 | 8.092 | 7.497 | 2700 | | | | |
| | 1170 | 117 | 6.604 | 6.066 | 3268 | | | | |
| | 100 | 10 | 1.048 | 0.770 | 4853 | | | | |
| 15 | 2500 | 166 | 7.258 | 6.582 | 2489 | __8320002 | __8320010 | __8320018 | __8320502.XX |
| | 1750 | 116 | 6.127 | 5.516 | 2980 | | | | |
| | 1170 | 78 | 5.031 | 4.478 | 3618 | | | | |
| | 100 | 6.7 | 0.853 | 0.573 | 5413 | | | | |
| 20 | 2500 | 125 | 6.122 | 5.412 | 2729 | __8320003 | __8320011 | __8320019 | __8320503.XX |
| | 1750 | 87 | 5.180 | 4.536 | 3267 | | | | |
| | 1170 | 58 | 4.215 | 3.636 | 3917 | | | | |
| | 100 | 5.0 | 0.746 | 0.452 | 5695 | | | | |
| 25 | 2500 | 100 | 5.162 | 4.457 | 2809 | __8320004 | __8320012 | __8320020 | __8320504.XX |
| | 1750 | 70 | 4.373 | 3.732 | 3360 | | | | |
| | 1170 | 46 | 3.543 | 2.968 | 3996 | | | | |
| | 100 | 4.0 | 0.655 | 0.362 | 5710 | | | | |
| 30 | 2500 | 83 | 4.262 | 3.562 | 2694 | __8320005 | __8320013 | __8320021 | __8320505.XX |
| | 1750 | 58 | 3.619 | 2.986 | 3226 | | | | |
| | 1170 | 39 | 2.987 | 2.415 | 3902 | | | | |
| | 100 | 3.3 | 0.593 | 0.306 | 5787 | | | | |
| 40 | 2500 | 62 | 3.434 | 2.736 | 2759 | __8320006 | __8320014 | __8320022 | __8320506.XX |
| | 1750 | 43 | 2.926 | 2.293 | 3303 | | | | |
| | 1170 | 29 | 2.402 | 1.833 | 3950 | | | | |
| | 100 | 2.5 | 0.513 | 0.227 | 5710 | | | | |
| 50 | 2500 | 50 | 2.883 | 2.199 | 2772 | __8320007 | __8320015 | __8320023 | __8320507.XX |
| | 1750 | 35 | 2.462 | 1.841 | 3315 | | | | |
| | 1170 | 23 | 2.018 | 1.461 | 3935 | | | | |
| | 100 | 2.0 | 0.458 | 0.178 | 5601 | | | | |
| 60 | 2500 | 41 | 2.471 | 1.812 | 2741 | __8320008 | __8320016 | __8320024 | __8320508.XX |
| | 1750 | 29 | 2.114 | 1.515 | 3274 | | | | |
| | 1170 | 19 | 1.733 | 1.197 | 3869 | | | | |
| | 100 | 1.7 | 0.414 | 0.144 | 5448 | | | | |
| 80 | 2500 | 31 | 1.122 | 0.796 | 1605 | __8320099 | __8320103 | __8320107 | __8320559.XX |
| | 1750 | 21 | 1.030 | 0.695 | 2000 | | | | |
| | 1170 | 14 | 0.869 | 0.551 | 2371 | | | | |
| | 100 | 1.3 | 0.143 | 0.064 | 3246 | | | | |
| 100 | 2500 | 25 | 0.754 | 0.503 | 1268 | __8320100 | __8320104 | __8320108 | __8320560.XX |
| | 1750 | 17 | 0.691 | 0.435 | 1567 | | | | |
| | 1170 | 11 | 0.584 | 0.343 | 1846 | | | | |
| | 100 | 1.0 | 0.097 | 0.040 | 2496 | | | | |

### *How To Build a Part Number For Size GR832, GRG832, GRL832, EL832*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, GRG, GRL, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, hollow output shaft, 5:1 ratio, 180TC coupling input
GR-HM832-5-H-180TC-19
GR8320569.19

GRG = **GROVE GEAR**
- Direct replacement to Grove Gear Flexaline
- 1-1/2" solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = LEESON IRONMAN BY OHIO GEAR Interchange
- Direct replacement to LEESON IRONMAN & major brands.
- Hollow shaft option available
- 1-3/8" solid output shaft diameter

# Maximum Rating Tables

## Size 832 • GR & EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 182-4TC<br>213-5TC | __8320205<br>__8320217 | __8320209<br>__8320229 | __8320213<br>__8320241 | __8320569.XX<br>__8320573.XX | __8320277<br>__8320289 | __8320281<br>__8320301 | __8320285<br>__8320313 | __8320593.XX<br>__8320597.XX | 5 |
| 182-4TC<br>213-5TC | __8320206<br>__8320218 | __8320210<br>__8320230 | __8320214<br>__8320242 | __8320570.XX<br>__8320574.XX | __8320278<br>__8320290 | __8320282<br>__8320302 | __8320286<br>__8320314 | __8320594.XX<br>__8320598.XX | 7.5 |
| 143-5TC<br>182-4TC<br>213-5TC | __8320049<br>__8320073<br>__8320219 | __8320057<br>__8320081<br>__8320231 | __8320065<br>__8320089<br>__8320243 | __8320517.XX<br>__8320525.XX<br>__8320575.XX | __8320145<br>__8320169<br>__8320291 | __8320153<br>__8320177<br>__8320303 | __8320161<br>__8320185<br>__8320315 | __8320541.XX<br>__8320549.XX<br>__8320599.XX | 10 |
| 143-5TC<br>182-4TC | __8320050<br>__8320074 | __8320058<br>__8320082 | __8320066<br>__8320090 | __8320518.XX<br>__8320526.XX | __8320146<br>__8320170 | __8320154<br>__8320178 | __8320162<br>__8320186 | __8320542.XX<br>__8320550.XX | 15 |
| 143-5TC<br>182-4TC | __8320051<br>__8320075 | __8320059<br>__8320083 | __8320067<br>__8320091 | __8320519.XX<br>__8320527.XX | __8320147<br>__8320171 | __8320155<br>__8320179 | __8320163<br>__8320187 | __8320543.XX<br>__8320551.XX | 20 |
| 143-5TC<br>182-4TC | __8320052<br>__8320076 | __8320060<br>__8320084 | __8320068<br>__8320092 | __8320520.XX<br>__8320528.XX | __8320148<br>__8320172 | __8320156<br>__8320180 | __8320164<br>__8320188 | __8320544.XX<br>__8320552.XX | 25 |
| 143-5TC<br>182-4TC | __8320053<br>__8320077 | __8320061<br>__8320085 | __8320069<br>__8320093 | __8320521.XX<br>__8320529.XX | __8320149<br>__8320173 | __8320157<br>__8320181 | __8320165<br>__8320189 | __8320545.XX<br>__8320553.XX | 30 |
| 56C<br>143-5TC<br>182-4TC | __8320030<br>__8320054<br>__8320078 | __8320038<br>__8320062<br>__8320086 | __8320046<br>__8320070<br>__8320094 | __8320514.XX<br>__8320522.XX<br>__8320530.XX | __8320126<br>__8320150<br>__8320174 | __8320134<br>__8320158<br>__8320182 | __8320142<br>__8320166<br>__8320190 | __8320538.XX<br>__8320546.XX<br>__8320554.XX | 40 |
| 56C<br>143-5TC<br>182-4TC | __8320031<br>__8320055<br>__8320079 | __8320039<br>__8320063<br>__8320087 | __8320047<br>__8320071<br>__8320095 | __8320515.XX<br>__8320523.XX<br>__8320531.XX | __8320127<br>__8320151<br>__8320175 | __8320135<br>__8320159<br>__8320183 | __8320143<br>__8320167<br>__8320191 | __8320539.XX<br>__8320547.XX<br>__8320555.XX | 50 |
| 56C<br>143-5TC<br>182-4TC | __8320032<br>__8320056<br>__8320080 | __8320040<br>__8320064<br>__8320088 | __8320048<br>__8320072<br>__8320096 | __8320516.XX<br>__8320524.XX<br>__8320532.XX | __8320128<br>__8320152<br>__8320176 | __8320136<br>__8320160<br>__8320184 | __8320144<br>__8320168<br>__8320192 | __8320540.XX<br>__8320548.XX<br>__8320556.XX | 60 |
| 56C<br>143-5TC | __8320111<br>__8320195 | __8320115<br>__8320199 | __8320119<br>__8320203 | __8320563.XX<br>__8320567.XX | __8320255<br>__8320267 | __8320259<br>__8320271 | __8320263<br>__8320275 | __8320587.XX<br>__8320591.XX | 80 |
| 56C | __8320112 | __8320116 | __8320120 | __8320564.XX | __8320256 | __8320260 | __8320264 | __8320588.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

### Available bore codes

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

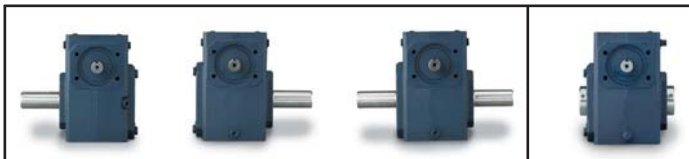
# Maximum Rating Tables

## Size 832 • NH Series

CAST IRON NH SERIES

### Size 832

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500 | 10.56 | 10.03 | 1306 | NH8320097 | NH8320101 | NH8320105 | NH8320557.XX |
| | 1750 | 350 | 9.135 | 8.611 | 1602 | | | | |
| | 1170 | 234 | 7.694 | 7.172 | 1995 | | | | |
| | 100 | 20 | 1.289 | 1.097 | 3571 | | | | |
| 7.5 | 2500 | 333 | 9.053 | 8.527 | 1612 | NH8320098 | NH8320102 | NH8320106 | NH8320558.XX |
| | 1750 | 233 | 7.844 | 7.317 | 1976 | | | | |
| | 1170 | 156 | 6.642 | 6.114 | 2469 | | | | |
| | 100 | 13 | 1.136 | 0.949 | 4075 | | | | |
| 10 | 2500 | 250 | 8.232 | 7.701 | 1941 | NH8320001 | NH8320009 | NH8320017 | NH8320501.XX |
| | 1750 | 175 | 7.034 | 6.507 | 2343 | | | | |
| | 1170 | 117 | 5.974 | 5.446 | 2932 | | | | |
| | 100 | 10 | 0.857 | 0.704 | 4437 | | | | |
| 15 | 2500 | 166 | 6.161 | 5.603 | 2118 | NH8320002 | NH8320010 | NH8320018 | NH8320502.XX |
| | 1750 | 116 | 5.277 | 4.724 | 2551 | | | | |
| | 1170 | 78 | 4.531 | 3.971 | 3207 | | | | |
| | 100 | 6.7 | 0.682 | 0.518 | 4895 | | | | |
| 20 | 2500 | 125 | 4.836 | 4.306 | 2170 | NH8320003 | NH8320011 | NH8320019 | NH8320503.XX |
| | 1750 | 87 | 4.188 | 3.658 | 2633 | | | | |
| | 1170 | 58 | 3.547 | 3.020 | 3253 | | | | |
| | 100 | 5.0 | 0.528 | 0.381 | 4802 | | | | |
| 25 | 2500 | 100 | 3.977 | 3.468 | 2185 | NH8320004 | NH8320012 | NH8320020 | NH8320504.XX |
| | 1750 | 70 | 3.465 | 2.953 | 2658 | | | | |
| | 1170 | 46 | 2.914 | 2.413 | 3248 | | | | |
| | 100 | 4.0 | 0.434 | 0.298 | 4701 | | | | |
| 30 | 2500 | 83 | 3.452 | 2.903 | 2195 | NH8320005 | NH8320013 | NH8320021 | NH8320505.XX |
| | 1750 | 58 | 3.003 | 2.454 | 2651 | | | | |
| | 1170 | 39 | 2.604 | 2.052 | 3315 | | | | |
| | 100 | 3.3 | 0.425 | 0.265 | 5007 | | | | |
| 40 | 2500 | 62 | 2.669 | 2.157 | 2174 | NH8320006 | NH8320014 | NH8320022 | NH8320506.XX |
| | 1750 | 43 | 2.348 | 1.834 | 2641 | | | | |
| | 1170 | 29 | 2.019 | 1.509 | 3251 | | | | |
| | 100 | 2.5 | 0.330 | 0.189 | 4769 | | | | |
| 50 | 2500 | 50 | 2.152 | 1.674 | 2110 | NH8320007 | NH8320015 | NH8320023 | NH8320507.XX |
| | 1750 | 35 | 1.907 | 1.426 | 2568 | | | | |
| | 1170 | 23 | 1.634 | 1.163 | 3130 | | | | |
| | 100 | 2.0 | 0.270 | 0.143 | 4510 | | | | |
| 60 | 2500 | 41 | 1.764 | 1.323 | 2001 | NH8320008 | NH8320016 | NH8320024 | NH8320508.XX |
| | 1750 | 29 | 1.573 | 1.128 | 2437 | | | | |
| | 1170 | 19 | 1.346 | 0.913 | 2951 | | | | |
| | 100 | 1.7 | 0.225 | 0.111 | 4201 | | | | |
| 80 | 2500 | 31 | 1.122 | 0.796 | 1605 | NH8320099 | NH8320103 | NH8320107 | NH8320559.XX |
| | 1750 | 21 | 1.030 | 0.695 | 2000 | | | | |
| | 1170 | 14 | 0.869 | 0.551 | 2371 | | | | |
| | 100 | 1.3 | 0.143 | 0.064 | 3246 | | | | |
| 100 | 2500 | 25 | 0.754 | 0.503 | 1268 | NH8320100 | NH8320104 | NH8320108 | NH8320560.XX |
| | 1750 | 17 | 0.691 | 0.435 | 1567 | | | | |
| | 1170 | 11 | 0.584 | 0.343 | 1846 | | | | |
| | 100 | 1.0 | 0.097 | 0.040 | 2496 | | | | |



### *How To Build a Part Number For Size NH832*

1. Select catalog number from the selection table
2. For hollow output, replace “XX” suffix with bore code (see next page for codes)

# Maximum Rating Tables

## Size 832 • NH Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 182-4TC<br>213-5TC | NH8320205<br>NH8320217 | NH8320209<br>NH8320229 | NH8320213<br>NH8320241 | NH8320569.XX<br>NH8320573.XX | NH8320277<br>NH8320289 | NH8320281<br>NH8320301 | NH8320285<br>NH8320313 | NH8320593.XX<br>NH8320597.XX | 5 |
| 182-4TC<br>213-5TC | NH8320206<br>NH8320218 | NH8320210<br>NH8320230 | NH8320214<br>NH8320242 | NH8320570.XX<br>NH8320574.XX | NH8320278<br>NH8320290 | NH8320282<br>NH8320302 | NH8320286<br>NH8320314 | NH8320594.XX<br>NH8320598.XX | 7.5 |
| 143-5TC<br>182-4TC<br>213-5TC | NH8320049<br>NH8320073<br>NH8320219 | NH8320057<br>NH8320081<br>NH8320231 | NH8320065<br>NH8320089<br>NH8320243 | NH8320517.XX<br>NH8320525.XX<br>NH8320575.XX | NH8320145<br>NH8320169<br>NH8320291 | NH8320153<br>NH8320177<br>NH8320303 | NH8320161<br>NH8320185<br>NH8320315 | NH8320541.XX<br>NH8320549.XX<br>NH8320599.XX | 10 |
| 143-5TC<br>182-4TC | NH8320050<br>NH8320074 | NH8320058<br>NH8320082 | NH8320066<br>NH8320090 | NH8320518.XX<br>NH8320526.XX | NH8320146<br>NH8320170 | NH8320154<br>NH8320178 | NH8320162<br>NH8320186 | NH8320542.XX<br>NH8320550.XX | 15 |
| 143-5TC<br>182-4TC | NH8320051<br>NH8320075 | NH8320059<br>NH8320083 | NH8320067<br>NH8320091 | NH8320519.XX<br>NH8320527.XX | NH8320147<br>NH8320171 | NH8320155<br>NH8320179 | NH8320163<br>NH8320187 | NH8320543.XX<br>NH8320551.XX | 20 |
| 143-5TC<br>182-4TC | NH8320052<br>NH8320076 | NH8320060<br>NH8320084 | NH8320068<br>NH8320092 | NH8320520.XX<br>NH8320528.XX | NH8320148<br>NH8320172 | NH8320156<br>NH8320180 | NH8320164<br>NH8320188 | NH8320544.XX<br>NH8320552.XX | 25 |
| 143-5TC<br>182-4TC | NH8320053<br>NH8320077 | NH8320061<br>NH8320085 | NH8320069<br>NH8320093 | NH8320521.XX<br>NH8320529.XX | NH8320149<br>NH8320173 | NH8320157<br>NH8320181 | NH8320165<br>NH8320189 | NH8320545.XX<br>NH8320553.XX | 30 |
| 56C<br>143-5TC<br>182-4TC | NH8320030<br>NH8320054<br>NH8320078 | NH8320038<br>NH8320062<br>NH8320086 | NH8320046<br>NH8320070<br>NH8320094 | NH8320514.XX<br>NH8320522.XX<br>NH8320530.XX | NH8320126<br>NH8320150<br>NH8320174 | NH8320134<br>NH8320158<br>NH8320182 | NH8320142<br>NH8320166<br>NH8320190 | NH8320538.XX<br>NH8320546.XX<br>NH8320554.XX | 40 |
| 56C<br>143-5TC<br>182-4TC | NH8320031<br>NH8320055<br>NH8320079 | NH8320039<br>NH8320063<br>NH8320087 | NH8320047<br>NH8320071<br>NH8320095 | NH8320515.XX<br>NH8320523.XX<br>NH8320531.XX | NH8320127<br>NH8320151<br>NH8320175 | NH8320135<br>NH8320159<br>NH8320183 | NH8320143<br>NH8320167<br>NH8320191 | NH8320539.XX<br>NH8320547.XX<br>NH8320555.XX | 50 |
| 56C<br>143-5TC<br>182-4TC | NH8320032<br>NH8320056<br>NH8320080 | NH8320040<br>NH8320064<br>NH8320088 | NH8320048<br>NH8320072<br>NH8320096 | NH8320516.XX<br>NH8320524.XX<br>NH8320532.XX | NH8320128<br>NH8320152<br>NH8320176 | NH8320136<br>NH8320160<br>NH8320184 | NH8320144<br>NH8320168<br>NH8320192 | NH8320540.XX<br>NH8320548.XX<br>NH8320556.XX | 60 |
| 56C<br>143-5TC | NH8320111<br>NH8320195 | NH8320115<br>NH8320199 | NH8320119<br>NH8320203 | NH8320563.XX<br>NH8320567.XX | NH8320255<br>NH8320267 | NH8320259<br>NH8320271 | NH8320263<br>NH8320275 | NH8320587.XX<br>NH8320591.XX | 80 |
| 56C | NH8320112 | NH8320116 | NH8320120 | NH8320564.XX | NH8320256 | NH8320260 | NH8320264 | NH8320588.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

# Maximum Rating Tables

## Size 842 • GR, NH & EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 842

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 20.79 | 19.87 | 2589 | __8420001 | __8420013 | __8420025 | __8420501.XX |
| | 1750 | 350 | 18.08 | 17.25 | 3209 | | | | |
| | 1170 | 234 | 15.18 | 14.43 | 4016 | | | | |
| | 100 | 20 | 2.751 | 2.376 | 7738 | | | | |
| 7.5 | 2500 | 333 | 18.84 | 17.83 | 3372 | __8420002 | __8420014 | __8420026 | __8420502.XX |
| | 1750 | 233 | 16.27 | 15.36 | 4148 | | | | |
| | 1170 | 156 | 13.42 | 12.61 | 5094 | | | | |
| | 100 | 13 | 2.342 | 1.931 | 9126 | | | | |
| 10 | 2500 | 250 | 17.39 | 16.37 | 4127 | __8420003 | __8420015 | __8420027 | __8420503.XX |
| | 1750 | 175 | 14.93 | 14.00 | 5042 | | | | |
| | 1170 | 117 | 12.31 | 11.47 | 6180 | | | | |
| | 100 | 10 | 2.051 | 1.629 | 10629 | | | | |
| 15 | 2500 | 166 | 12.94 | 11.92 | 4507 | __8420004 | __8420016 | __8420028 | __8420504.XX |
| | 1750 | 116 | 11.13 | 10.20 | 5508 | | | | |
| | 1170 | 78 | 9.193 | 8.357 | 6752 | | | | |
| | 100 | 6.7 | 1.608 | 1.190 | 11245 | | | | |
| 20 | 2500 | 125 | 11.02 | 9.91 | 4999 | __8420005 | __8420017 | __8420029 | __8420505.XX |
| | 1750 | 87 | 9.462 | 8.458 | 6092 | | | | |
| | 1170 | 58 | 7.816 | 6.913 | 7447 | | | | |
| | 100 | 5.0 | 1.407 | 0.956 | 12056 | | | | |
| 25 | 2500 | 100 | 9.256 | 8.164 | 5145 | __8420006 | __8420018 | __8420030 | __8420506.XX |
| | 1750 | 70 | 7.940 | 6.946 | 6254 | | | | |
| | 1170 | 46 | 6.551 | 5.658 | 7619 | | | | |
| | 100 | 4.0 | 1.210 | 0.764 | 12038 | | | | |
| 30 | 2500 | 83 | 7.517 | 6.455 | 4882 | __8420007 | __8420019 | __8420031 | __8420507.XX |
| | 1750 | 58 | 6.481 | 5.517 | 5960 | | | | |
| | 1170 | 39 | 5.384 | 4.518 | 7300 | | | | |
| | 100 | 3.3 | 1.066 | 0.636 | 12026 | | | | |
| 40 | 2500 | 62 | 6.101 | 5.013 | 5055 | __8420008 | __8420020 | __8420032 | __8420508.XX |
| | 1750 | 43 | 5.262 | 4.274 | 6156 | | | | |
| | 1170 | 29 | 4.379 | 3.490 | 7520 | | | | |
| | 100 | 2.5 | 0.920 | 0.480 | 12090 | | | | |
| 50 | 2500 | 50 | 5.088 | 4.029 | 5078 | __8420009 | __8420021 | __8420033 | __8420509.XX |
| | 1750 | 35 | 4.389 | 3.426 | 6170 | | | | |
| | 1170 | 23 | 3.655 | 2.788 | 7510 | | | | |
| | 100 | 2.0 | 0.804 | 0.375 | 11809 | | | | |
| 60 | 2500 | 41 | 4.333 | 3.317 | 5017 | __8420010 | __8420022 | __8420034 | __8420510.XX |
| | 1750 | 29 | 3.681 | 2.772 | 5989 | | | | |
| | 1170 | 19 | 3.116 | 2.285 | 7386 | | | | |
| | 100 | 1.7 | 0.715 | 0.302 | 11439 | | | | |
| 80 | 2500 | 31 | 2.019 | 1.486 | 2995 | __8420011 | __8420023 | __8420035 | __8420511.XX |
| | 1750 | 21 | 1.760 | 1.257 | 3620 | | | | |
| | 1170 | 14 | 1.585 | 1.049 | 4519 | | | | |
| | 100 | 1.3 | 0.290 | 0.135 | 6804 | | | | |
| 100 | 2500 | 25 | 1.341 | 0.933 | 2351 | __8420012 | __8420024 | __8420036 | __8420512.XX |
| | 1750 | 17 | 1.201 | 0.792 | 2852 | | | | |
| | 1170 | 11 | 1.062 | 0.655 | 3527 | | | | |
| | 100 | 1.0 | 0.197 | 0.083 | 5219 | | | | |

### *How To Build a Part Number For Size GR842, NH842, EL842*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
GR-B842-5-L
GR8420001

# Maximum Rating Tables

## Size 842 • GR, NH & EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 182-4TC<br>213-5TC<br>254-6TC | __8420109<br>__8420145<br>__8420181 | __8420121<br>__8420157<br>__8420193 | __8420133<br>__8420169<br>__8420205 | __8420537.XX<br>__8420549.XX<br>__8420561.XX | __8420289<br>__8420325<br>__8420361 | __8420301<br>__8420337<br>__8420373 | __8420313<br>__8420349<br>__8420385 | __8420597.XX<br>__8420609.XX<br>__8420621.XX | 5 |
| 182-4TC<br>213-5TC<br>254-6TC | __8420110<br>__8420146<br>__8420182 | __8420122<br>__8420158<br>__8420194 | __8420134<br>__8420170<br>__8420206 | __8420538.XX<br>__8420550.XX<br>__8420562.XX | __8420290<br>__8420326<br>__8420362 | __8420302<br>__8420338<br>__8420374 | __8420314<br>__8420350<br>__8420386 | __8420598.XX<br>__8420610.XX<br>__8420622.XX | 7.5 |
| 182-4TC<br>213-5TC<br>254-6TC | __8420111<br>__8420147<br>__8420183 | __8420123<br>__8420159<br>__8420195 | __8420135<br>__8420171<br>__8420207 | __8420539.XX<br>__8420551.XX<br>__8420563.XX | __8420291<br>__8420327<br>__8420363 | __8420303<br>__8420339<br>__8420375 | __8420315<br>__8420351<br>__8420387 | __8420599.XX<br>__8420611.XX<br>__8420623.XX | 10 |
| 182-4TC<br>213-5TC | __8420112<br>__8420148 | __8420124<br>__8420160 | __8420136<br>__8420172 | __8420540.XX<br>__8420552.XX | __8420292<br>__8420328 | __8420304<br>__8420340 | __8420316<br>__8420352 | __8420600.XX<br>__8420612.XX | 15 |
| 182-4TC<br>213-5TC | __8420113<br>__8420149 | __8420125<br>__8420161 | __8420137<br>__8420173 | __8420541.XX<br>__8420553.XX | __8420293<br>__8420329 | __8420305<br>__8420341 | __8420317<br>__8420353 | __8420601.XX<br>__8420613.XX | 20 |
| 143-5TC<br>182-4TC<br>213-5TC | __8420078<br>__8420114<br>__8420150 | __8420090<br>__8420126<br>__8420162 | __8420102<br>__8420138<br>__8420174 | __8420530.XX<br>__8420542.XX<br>__8420554.XX | __8420258<br>__8420294<br>__8420330 | __8420270<br>__8420306<br>__8420342 | __8420282<br>__8420318<br>__8420354 | __8420590.XX<br>__8420602.XX<br>__8420614.XX | 25 |
| 143-5TC<br>182-4TC | __8420079<br>__8420115 | __8420091<br>__8420127 | __8420103<br>__8420139 | __8420531.XX<br>__8420543.XX | __8420259<br>__8420295 | __8420271<br>__8420307 | __8420283<br>__8420319 | __8420591.XX<br>__8420603.XX | 30 |
| 143-5TC<br>182-4TC | __8420080<br>__8420116 | __8420092<br>__8420128 | __8420104<br>__8420140 | __8420532.XX<br>__8420544.XX | __8420260<br>__8420296 | __8420272<br>__8420308 | __8420284<br>__8420320 | __8420592.XX<br>__8420604.XX | 40 |
| 143-5TC<br>182-4TC | __8420081<br>__8420117 | __8420093<br>__8420129 | __8420105<br>__8420141 | __8420533.XX<br>__8420545.XX | __8420261<br>__8420297 | __8420273<br>__8420309 | __8420285<br>__8420321 | __8420593.XX<br>__8420605.XX | 50 |
| 56C<br>143-5TC<br>182-4TC | __8420046<br>__8420082<br>__8420118 | __8420058<br>__8420094<br>__8420130 | __8420070<br>__8420106<br>__8420142 | __8420522.XX<br>__8420534.XX<br>__8420546.XX | __8420226<br>__8420262<br>__8420298 | __8420238<br>__8420274<br>__8420310 | __8420250<br>__8420286<br>__8420322 | __8420582.XX<br>__8420594.XX<br>__8420606.XX | 60 |
| 56C<br>143-5TC | __8420047<br>__8420083 | __8420059<br>__8420095 | __8420071<br>__8420107 | __8420523.XX<br>__8420535.XX | __8420227<br>__8420263 | __8420239<br>__8420275 | __8420251<br>__8420287 | __8420583.XX<br>__8420595.XX | 80 |
| 56C<br>143-5TC | __8420048<br>__8420084 | __8420060<br>__8420096 | __8420072<br>__8420108 | __8420524.XX<br>__8420536.XX | __8420228<br>__8420264 | __8420240<br>__8420276 | __8420252<br>__8420288 | __8420584.XX<br>__8420596.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

# Maximum Rating Tables

## Size 852 • GR, NH & EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 852

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 37.08 | 35.61 | 4601 | __8520085 | __8520090 | __8520095 | __8520501.XX |
| | 1750 | 350 | 32.51 | 31.17 | 5753 | | | | |
| | 1170 | 234 | 27.55 | 26.35 | 7276 | | | | |
| | 100 | 20 | 5.390 | 4.794 | 15484 | | | | |
| 7.5 | 2500 | 333 | 32.21 | 30.68 | 5800 | __8520086 | __8520091 | __8520096 | __8520502.XX |
| | 1750 | 233 | 28.10 | 26.70 | 7213 | | | | |
| | 1170 | 156 | 23.67 | 22.42 | 9058 | | | | |
| | 100 | 13 | 4.442 | 3.821 | 18062 | | | | |
| 10 | 2500 | 250 | 26.55 | 24.99 | 6300 | __8520001 | __8520008 | __8520015 | __8520503.XX |
| | 1750 | 175 | 23.15 | 21.73 | 7827 | | | | |
| | 1170 | 117 | 19.50 | 18.23 | 9818 | | | | |
| | 100 | 10 | 3.701 | 3.073 | 19367 | | | | |
| 15 | 2500 | 166 | 20.77 | 19.05 | 7204 | __8520002 | __8520009 | __8520016 | __8520504.XX |
| | 1750 | 116 | 18.11 | 16.55 | 8941 | | | | |
| | 1170 | 78 | 15.26 | 13.86 | 11201 | | | | |
| | 100 | 6.7 | 2.997 | 2.309 | 21826 | | | | |
| 20 | 2500 | 125 | 16.69 | 14.95 | 7538 | __8520003 | __8520010 | __8520017 | __8520505.XX |
| | 1750 | 87 | 14.56 | 12.98 | 9351 | | | | |
| | 1170 | 58 | 12.29 | 10.87 | 11709 | | | | |
| | 100 | 5.0 | 2.499 | 1.802 | 22716 | | | | |
| 25 | 2500 | 100 | 13.95 | 12.18 | 7674 | __8520087 | __8520092 | __8520097 | __8520506.XX |
| | 1750 | 70 | 12.19 | 10.57 | 9517 | | | | |
| | 1170 | 46 | 10.298 | 8.848 | 11915 | | | | |
| | 100 | 4.0 | 2.176 | 1.464 | 23068 | | | | |
| 30 | 2500 | 83 | 12.056 | 10.264 | 7763 | __8520004 | __8520011 | __8520018 | __8520507.XX |
| | 1750 | 58 | 10.538 | 8.910 | 9627 | | | | |
| | 1170 | 39 | 8.918 | 7.457 | 12051 | | | | |
| | 100 | 3.3 | 1.949 | 1.233 | 23305 | | | | |
| 40 | 2500 | 62 | 9.258 | 7.533 | 7596 | __8520005 | __8520012 | __8520019 | __8520508.XX |
| | 1750 | 43 | 8.105 | 6.538 | 9419 | | | | |
| | 1170 | 29 | 6.878 | 5.471 | 11789 | | | | |
| | 100 | 2.5 | 1.592 | 0.903 | 22772 | | | | |
| 50 | 2500 | 50 | 7.727 | 5.990 | 7550 | __8520006 | __8520013 | __8520020 | __8520509.XX |
| | 1750 | 35 | 6.777 | 5.199 | 9362 | | | | |
| | 1170 | 23 | 5.766 | 4.350 | 11717 | | | | |
| | 100 | 2.0 | 1.411 | 0.718 | 22622 | | | | |
| 60 | 2500 | 41 | 6.621 | 4.912 | 7429 | __8520007 | __8520014 | __8520021 | __8520510.XX |
| | 1750 | 29 | 5.816 | 4.263 | 9212 | | | | |
| | 1170 | 19 | 4.961 | 3.567 | 11528 | | | | |
| | 100 | 1.7 | 1.270 | 0.588 | 22251 | | | | |
| 80 | 2500 | 31 | 3.226 | 2.217 | 4469 | __8520088 | __8520093 | __8520098 | __8520511.XX |
| | 1750 | 21 | 2.906 | 1.902 | 5478 | | | | |
| | 1170 | 14 | 2.618 | 1.600 | 6894 | | | | |
| | 100 | 1.3 | 0.744 | 0.280 | 14089 | | | | |
| 100 | 2500 | 25 | 2.285 | 1.504 | 3790 | __8520089 | __8520094 | __8520099 | __8520512.XX |
| | 1750 | 17 | 2.072 | 1.291 | 4646 | | | | |
| | 1170 | 11 | 1.820 | 1.052 | 5663 | | | | |
| | 100 | 1.0 | 0.515 | 0.180 | 11331 | | | | |

### *How To Build a Part Number For Size GR852, NH852, EL852*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
GR-B852-5-L
GR8520085

# Maximum Rating Tables

## Size 852 • GR, NH & EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | |  |  | | |  | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 213-5TC<br>254-6TC | __8520187<br>__8520202 | __8520192<br>__8520207 | __8520197<br>__8520212 | __8520549.XX<br>__8520561.XX | __8520325<br>__8520361 | __8520337<br>__8520373 | __8520349<br>__8520385 | __8520609.XX<br>__8520621.XX | 5 |
| 213-5TC<br>254-6TC | __8520188<br>__8520203 | __8520193<br>__8520208 | __8520198<br>__8520213 | __8520550.XX<br>__8520562.XX | __8520326<br>__8520362 | __8520338<br>__8520374 | __8520350<br>__8520386 | __8520610.XX<br>__8520622.XX | 7.5 |
| 213-5TC<br>254-6TC | __8520043<br>__8520064 | __8520050<br>__8520071 | __8520057<br>__8520078 | __8520551.XX<br>__8520563.XX | __8520327<br>__8520363 | __8520339<br>__8520375 | __8520351<br>__8520387 | __8520611.XX<br>__8520623.XX | 10 |
| 213-5TC<br>254-6TC | __8520044<br>__8520065 | __8520051<br>__8520072 | __8520058<br>__8520079 | __8520552.XX<br>__8520564.XX | __8520328<br>__8520364 | __8520340<br>__8520376 | __8520352<br>__8520388 | __8520612.XX<br>__8520624.XX | 15 |
| 182-4TC<br>213-5TC<br>254-6TC | __8520024<br>__8520045<br>__8520066 | __8520031<br>__8520052<br>__8520073 | __8520038<br>__8520059<br>__8520080 | __8520541.XX<br>__8520553.XX<br>__8520565.XX | __8520293<br>__8520329<br>__8520365 | __8520305<br>__8520341<br>__8520377 | __8520317<br>__8520353<br>__8520389 | __8520601.XX<br>__8520613.XX<br>__8520625.XX | 20 |
| 182-4TC<br>213-5TC | __8520174<br>__8520189 | __8520179<br>__8520194 | __8520184<br>__8520199 | __8520542.XX<br>__8520554.XX | __8520294<br>__8520330 | __8520306<br>__8520342 | __8520318<br>__8520354 | __8520602.XX<br>__8520614.XX | 25 |
| 182-4TC<br>213-5TC | __8520025<br>__8520046 | __8520032<br>__8520053 | __8520039<br>__8520060 | __8520543.XX<br>__8520555.XX | __8520295<br>__8520331 | __8520307<br>__8520343 | __8520319<br>__8520355 | __8520603.XX<br>__8520615.XX | 30 |
| 143-5TC<br>182-4TC<br>213-5TC | __8520143<br>__8520026<br>__8520047 | __8520155<br>__8520033<br>__8520054 | __8520167<br>__8520040<br>__8520061 | __8520532.XX<br>__8520544.XX<br>__8520556.XX | __8520260<br>__8520296<br>__8520332 | __8520272<br>__8520308<br>__8520344 | __8520284<br>__8520320<br>__8520356 | __8520592.XX<br>__8520604.XX<br>__8520616.XX | 40 |
| 143-5TC<br>182-4TC | __8520144<br>__8520027 | __8520156<br>__8520034 | __8520168<br>__8520041 | __8520533.XX<br>__8520545.XX | __8520261<br>__8520297 | __8520273<br>__8520309 | __8520285<br>__8520321 | __8520593.XX<br>__8520605.XX | 50 |
| 143-5TC<br>182-4TC | __8520145<br>__8520028 | __8520157<br>__8520035 | __8520169<br>__8520042 | __8520534.XX<br>__8520546.XX | __8520262<br>__8520298 | __8520274<br>__8520310 | __8520286<br>__8520322 | __8520594.XX<br>__8520606.XX | 60 |
| 143-5TC<br>182-4TC | __8520146<br>__8520175 | __8520158<br>__8520180 | __8520170<br>__8520185 | __8520535.XX<br>__8520547.XX | __8520263<br>__8520299 | __8520275<br>__8520311 | __8520287<br>__8520323 | __8520595.XX<br>__8520607.XX | 80 |
| 143-5TC | __8520147 | __8520159 | __8520171 | __8520536.XX | __8520264 | __8520276 | __8520288 | __8520596.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

### Available bore codes

| Fraction Size | 2” | 2-3/16” | 2-1/4” | 2-7/16” | 2-1/2” | 2-11/16” | 2-15/16” | 3” | 3-3/16” | 3-7/16” |
|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 2.000 | 2.188 | 2.250 | 2.438 | 2.500 | 2.688 | 2.938 | 3.000 | 3.188 | 3.438 |
| Output Bore Code | 32 | 35 | 36 | 39 | 40 | 43 | 47 | 48 | 51 | 55 |

# Maximum Rating Tables

## Size 860 • GR & EL Series

CAST IRON GR SERIES | ALUMINUM EL SERIES

### Size 860

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500 | 39.83 | 38.29 | 4827 | __8600085 | __8600090 | __8600095 | __8600501.XX |
| | 1750 | 350 | 35.10 | 33.70 | 6068 | | | | |
| | 1170 | 234 | 29.94 | 28.69 | 7726 | | | | |
| | 100 | 20 | 6.203 | 5.581 | 17587 | | | | |
| 7.5 | 2500 | 333 | 34.20 | 32.60 | 6163 | *__8600086* | *__8600091* | *__8600096* | *__8600502.XX* |
| | 1750 | 233 | 29.98 | 28.52 | 7704 | | | | |
| | 1170 | 156 | 25.41 | 24.11 | 9740 | | | | |
| | 100 | 13 | 5.018 | 4.371 | 20662 | | | | |
| 10 | 2500 | 250 | 28.53 | 26.90 | 6782 | __8600001 | __8600008 | __8600015 | __8600503.XX |
| | 1750 | 175 | 24.99 | 23.51 | 8467 | | | | |
| | 1170 | 117 | 21.17 | 19.84 | 10687 | | | | |
| | 100 | 10 | 4.198 | 3.542 | 22324 | | | | |
| 15 | 2500 | 166 | 21.95 | 20.17 | 7628 | __8600002 | __8600009 | __8600016 | __8600504.XX |
| | 1750 | 116 | 19.23 | 17.61 | 9515 | | | | |
| | 1170 | 78 | 16.30 | 14.85 | 11996 | | | | |
| | 100 | 6.7 | 3.337 | 2.623 | 24797 | | | | |
| 20 | 2500 | 125 | 17.93 | 16.11 | 8123 | __8600003 | __8600010 | __8600017 | __8600505.XX |
| | 1750 | 87 | 15.71 | 14.06 | 10127 | | | | |
| | 1170 | 58 | 13.32 | 11.84 | 12758 | | | | |
| | 100 | 5.0 | 2.805 | 2.078 | 26194 | | | | |
| 25 | 2500 | 100 | 14.89 | 13.04 | 8219 | __8600087 | __8600092 | __8600097 | __8600506.XX |
| | 1750 | 70 | 13.06 | 11.378 | 10245 | | | | |
| | 1170 | 46 | 11.094 | 9.582 | 12903 | | | | |
| | 100 | 4.0 | 2.418 | 1.678 | 26436 | | | | |
| 30 | 2500 | 83 | 12.73 | 10.87 | 8222 | __8600004 | __8600011 | __8600018 | __8600507.XX |
| | 1750 | 58 | 11.177 | 9.486 | 10249 | | | | |
| | 1170 | 39 | 9.507 | 7.989 | 12911 | | | | |
| | 100 | 3.3 | 2.143 | 1.400 | 26480 | | | | |
| 40 | 2500 | 62 | 9.922 | 8.119 | 8187 | __8600005 | __8600012 | __8600019 | __8600508.XX |
| | 1750 | 43 | 8.722 | 7.083 | 10203 | | | | |
| | 1170 | 29 | 7.433 | 5.963 | 12848 | | | | |
| | 100 | 2.5 | 1.761 | 1.042 | 26260 | | | | |
| 50 | 2500 | 50 | 8.226 | 6.417 | 8088 | __8600006 | __8600013 | __8600020 | __8600509.XX |
| | 1750 | 35 | 7.242 | 5.597 | 10079 | | | | |
| | 1170 | 23 | 6.188 | 4.712 | 12691 | | | | |
| | 100 | 2.0 | 1.544 | 0.823 | 25925 | | | | |
| 60 | 2500 | 41 | 6.977 | 5.202 | 7869 | __8600007 | __8600014 | __8600021 | __8600510.XX |
| | 1750 | 29 | 6.152 | 4.539 | 9808 | | | | |
| | 1170 | 19 | 5.269 | 3.822 | 12352 | | | | |
| | 100 | 1.7 | 1.376 | 0.669 | 25283 | | | | |
| 80 | 2500 | 31 | 4.130 | 2.939 | 5962 | __8600088 | __8600093 | __8600098 | __8600511.XX |
| | 1750 | 21 | 3.702 | 2.522 | 7264 | | | | |
| | 1170 | 14 | 3.315 | 2.122 | 9142 | | | | |
| | 100 | 1.3 | 0.950 | 0.382 | 19249 | | | | |
| 100 | 2500 | 25 | 2.849 | 1.905 | 4802 | __8600089 | __8600094 | __8600099 | __8600512.XX |
| | 1750 | 17 | 2.571 | 1.635 | 5886 | | | | |
| | 1170 | 11 | 2.323 | 1.376 | 7408 | | | | |
| | 100 | 1.0 | 0.686 | 0.244 | 15389 | | | | |

### *How To Build a Part Number For Size GR860, EL860*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

***Example:***

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GR-B860-5-L

GR8600085

# Maximum Rating Tables

## Size 860 • GR & EL Series



| | Style BM | | | Style HM | Style BMQ | | | Style HMQ | |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | |
| NEMA C Input Flange ▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* | Ratio |
| 254-6TC | __8600130 | __8600135 | __8600140 | __8600537.XX | __8600289 | __8600301 | __8600313 | __8600597.XX | 5 |
| 254-6TC | __8600131 | __8600136 | __8600141 | __8600538.XX | __8600290 | __8600302 | __8600314 | __8600598.XX | 7.5 |
| 213-5TC<br>254-6TC | __8600043<br>__8600064 | __8600050<br>__8600071 | __8600057<br>__8600078 | __8600527.XX<br>__8600539.XX | __8600255<br>__8600291 | __8600267<br>__8600303 | __8600279<br>__8600315 | __8600587.XX<br>__8600599.XX | 10 |
| 213-5TC<br>254-6TC | __8600044<br>__8600065 | __8600051<br>__8600072 | __8600058<br>__8600079 | __8600528.XX<br>__8600540.XX | __8600256<br>__8600292 | __8600268<br>__8600304 | __8600280<br>__8600316 | __8600588.XX<br>__8600600.XX | 15 |
| 182-4TC<br>213-5TC | __8600024<br>__8600045 | __8600031<br>__8600052 | __8600038<br>__8600059 | __8600517.XX<br>__8600529.XX | __8600221<br>__8600257 | __8600233<br>__8600269 | __8600245<br>__8600281 | __8600577.XX<br>__8600589.XX | 20 |
| 182-4TC<br>213-5TC | __8600102<br>__8600117 | __8600107<br>__8600122 | __8600112<br>__8600127 | __8600518.XX<br>__8600530.XX | __8600222<br>__8600258 | __8600234<br>__8600270 | __8600246<br>__8600282 | __8600578.XX<br>__8600590.XX | 25 |
| 182-4TC<br>213-5TC | __8600025<br>__8600046 | __8600032<br>__8600053 | __8600039<br>__8600060 | __8600519.XX<br>__8600531.XX | __8600223<br>__8600259 | __8600235<br>__8600271 | __8600247<br>__8600283 | __8600579.XX<br>__8600591.XX | 30 |
| 182-4TC<br>213-5TC | __8600026<br>__8600047 | __8600033<br>__8600054 | __8600040<br>__8600061 | __8600520.XX<br>__8600532.XX | __8600224<br>__8600260 | __8600236<br>__8600272 | __8600248<br>__8600284 | __8600580.XX<br>__8600592.XX | 40 |
| 182-4TC | __8600027 | __8600034 | __8600041 | __8600521.XX | __8600225 | __8600237 | __8600249 | __8600581.XX | 50 |
| 143-5TC<br>182-4TC | __8600028 | __8600035 | __8600042 | __8600522.XX | __8600190<br>__8600226 | __8600202<br>__8600238 | __8600214<br>__8600250 | __8600570.XX<br>__8600582.XX | 60 |
| 143-5TC<br>182-4TC | __8600103 | __8600108 | __8600113 | __8600523.XX | __8600191<br>__8600227 | __8600203<br>__8600239 | __8600215<br>__8600251 | __8600571.XX<br>__8600583.XX | 80 |
| 143-5TC<br>182-4TC | __8600104 | __8600109 | __8600114 | __8600524.XX | __8600192<br>__8600228 | __8600204<br>__8600240 | __8600216<br>__8600252 | __8600572.XX<br>__8600584.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

### Available bore codes

| Fraction Size | 2” | 2-3/16” | 2-1/4” | 2-7/16” | 2-1/2” | 2-11/16” | 2-15/16” | 3” | 3-3/16” | 3-7/16” |
|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 2.000 | 2.188 | 2.250 | 2.438 | 2.500 | 2.688 | 2.938 | 3.000 | 3.188 | 3.438 |
| Output Bore Code | 32 | 35 | 36 | 39 | 40 | 43 | 47 | 48 | 51 | 55 |

# Maximum Rating Tables

## Size 870, 880, 8100 • GR Series

CAST IRON GR SERIES

### Size 870, 880, 8100

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Input HP | Output HP | Output Torque (lb-in) | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1750 | 350 | 51.1 | 49.1 | 9062 | 66.8 | 64.3 | 11866 | 104.6 | 100.9 | 18619 |
| 5 | 1170 | 234 | 43.3 | 41.3 | 11404 | 56.6 | 54.1 | 14932 | 88.5 | 84.9 | 23431 |
| (5.13 actual) | 100 | 20 | 9.2 | 8.18 | 26416 | 13.9 | 12.4 | 36447 | 22.1 | 19.8 | 63935 |
| | 1750 | 233 | 41.5 | 39.6 | 10572 | 54.3 | 52.0 | 13867 | 84.4 | 81.1 | 21413 |
| 7.5 | 1170 | 156 | 35.2 | 33.3 | 13304 | 46.0 | 43.8 | 17451 | 71.4 | 68.2 | 26947 |
| (7.33 actual) | 100 | 13 | 6.97 | 6.09 | 28388 | 9.72 | 8.54 | 39793 | 16.5 | 14.6 | 67727 |
| | 1750 | 175 | 36.16 | 34.28 | 12033 | 43.3 | 41.1 | 14447 | 67.1 | 64.0 | 22466 |
| 10 | 1170 | 117 | 30.72 | 28.8 | 15143 | 36.7 | 34.6 | 18181 | 56.8 | 53.8 | 28273 |
| (9.75 actual) | 100 | 10 | 6.22 | 5.32 | 32661 | 7.96 | 6.83 | 41958 | 13.6 | 11.8 | 72712 |
| | 1750 | 116 | 25.9 | 24.2 | 12827 | 33.8 | 31.7 | 16766 | 52.7 | 49.8 | 26308 |
| 15 | 1170 | 78 | 22.1 | 20.4 | 16143 | 28.7 | 26.7 | 21099 | 44.8 | 41.9 | 33107 |
| (14.67 actual) | 100 | 607 | 4.16 | 3.44 | 31744 | 5.75 | 6.82 | 44195 | 9.95 | 8.37 | 77295 |
| | 1750 | 887 | 19.9 | 18.2 | 13431 | 25.9 | 23.8 | 17575 | 40.4 | 37.3 | 27597 |
| 20 | 1170 | 58 | 17.0 | 15.3 | 16903 | 22.1 | 20.0 | 22118 | 34.4 | 31.4 | 34730 |
| (20.50 actual) | 100 | 5.0 | 3.35 | 2.60 | 33520 | 4.63 | 3.62 | 46792 | 8.01 | 6.35 | 82011 |
| | 1750 | 70 | 16.9 | 15.2 | 13462 | 21.9 | 19.9 | 17578 | 34.2 | 31.3 | 27618 |
| 25 | 1170 | 46 | 14.0 | 12.4 | 16417 | 18.7 | 16.7 | 22122 | 29.2 | 26.3 | 34756 |
| (24.50 actual) | 100 | 4.0 | 2.82 | 2.12 | 32790 | 3.86 | 2.94 | 45421 | 6.70 | 5.18 | 79871 |
| | 1750 | 58 | 14.1 | 12.5 | 13356 | 17.9 | 16.1 | 17166 | 28.5 | 25.8 | 27433 |
| 30 | 1170 | 39 | 11.9 | 10.3 | 16491 | 14.9 | 13.2 | 21058 | 24.4 | 21.7 | 34523 |
| (29.50 actual) | 100 | 3.3 | 2.30 | 1.68 | 31233 | 2.94 | 2.21 | 41088 | 5.49 | 4.12 | 76598 |
| | 1750 | 43 | 10.8 | 9.31 | 13399 | 14.0 | 12.1 | 17507 | 21.8 | 19.0 | 27471 |
| 40 | 1170 | 29 | 9.18 | 7.62 | 16416 | 12.1 | 10.2 | 22032 | 18.8 | 16.0 | 34571 |
| | 100 | 2.5 | 1.94 | 1.28 | 32194 | 2.64 | 1.77 | 44687 | 4.54 | 3.11 | 78246 |
| | 1750 | 35 | 8.74 | 7.23 | 13011 | 11.3 | 9.46 | 17028 | 17.4 | 14.8 | 26703 |
| 50 | 1170 | 23 | 7.43 | 5.93 | 15966 | 9.84 | 7.96 | 21429 | 15.1 | 12.4 | 33605 |
| | 100 | 2.0 | 1.62 | 0.99 | 31109 | 2.22 | 1.38 | 43469 | 3.79 | 2.41 | 75935 |
| | 1750 | 29 | 7.00 | 5.66 | 12220 | 9.05 | 7.40 | 15982 | 13.9 | 11.6 | 25107 |
| 60 | 1170 | 19 | 6.03 | 4.69 | 15143 | 7.63 | 6.01 | 19430 | 12.1 | 9.78 | 31597 |
| | 100 | 1.7 | 1.27 | 0.74 | 28131 | 1.75 | 1.04 | 39244 | 3.01 | 1.83 | 69119 |
| | 1750 | 21 | 5.74 | 4.48 | 11300 | 7.37 | 5.85 | 14743 | 11.4 | 9.22 | 23235 |
| 70 | 1170 | 14 | 4.96 | 3.71 | 13979 | 6.24 | 4.76 | 17921 | 9.98 | 7.76 | 29240 |
| | 100 | 1.3 | 1.09 | 0.60 | 26222 | 1.48 | 0.82 | 36215 | 2.59 | 1.46 | 64584 |

Specify model number when ordering reducer size 870, 880 or 8100. Refer to page 19 for how to build a model number.

**Available bore codes - Size 870**

| Fraction Size | 2-7/16" | 2-1/2" | 2-11/16" | 2-15/16" | 3" | 3-7/16" | 3-15/16" |
|---|---|---|---|---|---|---|---|
| Decimal Size | 2.438 | 2.500 | 2.688 | 2.938 | 3.000 | 3.438 | 3.938 |
| Output Bore Code | 39 | 40 | 43 | 47 | 48 | 55 | 63 |

**Available bore codes - Size 880**

| Fraction Size | 3-7/16" | 3-15/16" | 4-3/16" | 4-7/16" |
|---|---|---|---|---|
| Decimal Size | 3.438 | 3.938 | 4.188 | 4.438 |
| Output Bore Code | 55 | 63 | 67 | 71 |

**Available bore codes - Size 8100**

| Fraction Size | 3-7/16" | 3-15/16" | 4-7/16" | 4-15/16" | 5-7/16" |
|---|---|---|---|---|---|
| Decimal Size | 3.438 | 3.938 | 4.438 | 4.938 | 5.438 |
| Output Bore Code | 55 | 63 | 71 | 79 | 87 |

# GR Series Weights



## GR SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| **Solid Output Shaft** | | | | | | | | | | | | | | |
| BMQ | 17 | 21 | 24 | 29 | 45 | 56 | 68 | 75 | 146 | 247 | 331 | --- | --- | --- |
| BM | 22 | 23 | 26 | 30 | 47 | 57 | 69 | 76 | 154 | 254 | 336 | 429 | 612 | --- |
| B | 17 | 18 | 20 | 25 | 40 | 52 | 64 | 71 | 136 | 232 | 321 | 399 | 582 | 904 |
| TMQ & UMQ | 19 | 24 | 27 | 33 | 49 | 62 | 74 | 84 | 160 | 267 | 362 | --- | --- | --- |
| TM & UM | 24 | 26 | 29 | 34 | 51 | 63 | 75 | 85 | 168 | 274 | 367 | 470 | 660 | --- |
| T & U | 19 | 21 | 23 | 29 | 44 | 58 | 70 | 80 | 150 | 252 | 352 | 440 | 630 | 980 |
| RMQ | --- | 28 | 31 | 38 | 54 | 68 | 83 | 106 | 170 | 262 | --- | --- | --- | --- |
| RM | --- | 30 | 33 | 39 | 56 | 69 | 84 | 107 | 178 | 269 | --- | --- | --- | --- |
| R | --- | 25 | 27 | 34 | 49 | 64 | 79 | 102 | 160 | 247 | --- | --- | --- | --- |
| JMQ | 18 | 22 | 26 | 32 | 48 | 61 | 74 | 81 | 156 | 262 | --- | --- | --- | --- |
| JM | 23 | 24 | 28 | 33 | 50 | 62 | 75 | 82 | 164 | 269 | --- | --- | --- | --- |
| J | 18 | 19 | 22 | 28 | 43 | 57 | 70 | 77 | 146 | 247 | --- | --- | --- | --- |
| VHMQ & VLMQ | 19 | 24 | 27 | 36 | 52 | 65 | 78 | 88 | 166 | 272 | 367 | --- | --- | --- |
| VHM & VLM | 24 | 26 | 29 | 37 | 54 | 66 | 79 | 89 | 174 | 279 | 372 | 500 | 690 | --- |
| VH & VL | 19 | 21 | 23 | 32 | 47 | 61 | 74 | 84 | 156 | 257 | 357 | 470 | 660 | 1060 |
| FMQ | 18 | 22 | 25 | 32 | 48 | 60 | 78 | 85 | 161 | 277 | 369 | --- | --- | --- |
| FM | 23 | 24 | 27 | 33 | 50 | 61 | 79 | 86 | 169 | 284 | 374 | 489 | 630 | |
| F | 18 | 19 | 21 | 28 | 43 | 56 | 74 | 81 | 151 | 262 | 359 | 459 | 600 | 925 |
| BFMQ | 19 | --- | 26 | 32 | 49 | 62 | --- | --- | --- | --- | --- | --- | --- | --- |
| BFM | 24 | --- | 28 | 33 | 51 | 63 | --- | --- | --- | --- | --- | --- | --- | --- |
| BF | 19 | --- | 22 | 28 | 44 | 58 | --- | --- | --- | --- | --- | --- | --- | --- |
| CMQ | 19 | --- | 26 | --- | 51 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CM | 24 | --- | 28 | --- | 53 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C | 19 | --- | 22 | --- | 48 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FEMQ | --- | --- | --- | --- | --- | --- | 78 | 85 | 176 | 278 | 373 | --- | --- | --- |
| FEM | --- | --- | --- | --- | --- | --- | 79 | 86 | 184 | 285 | 378 | 590 | 810 | |
| FE | --- | --- | --- | --- | --- | --- | 74 | 71 | 166 | 263 | 363 | 560 | 780 | 1180 |
| **Hollow Output Shaft** | | | | | | | | | | | | | | |
| HMQ | 18 | 21 | 25 | 30 | 47 | 55 | 69 | 77 | 149 | 247 | 331 | --- | --- | --- |
| HM | 22 | 23 | 27 | 31 | 49 | 56 | 70 | 78 | 157 | 254 | 336 | 429 | 612 | |
| H | 18 | 19 | 21 | 26 | 42 | 51 | 65 | 73 | 139 | 232 | 321 | 399 | 582 | 904 |
| FHMQ | 19 | 22 | 27 | 33 | 50 | 59 | 79 | 87 | 164 | 277 | 369 | --- | --- | --- |
| FHM | 23 | 24 | 29 | 34 | 51 | 60 | 80 | 88 | 172 | 284 | 374 | 444 | 630 | --- |
| FH | 19 | 20 | 23 | 29 | 45 | 55 | 75 | 83 | 154 | 262 | 359 | 414 | 600 | 925 |
| BFHMQ | 20 | --- | 27 | 33 | 51 | 61 | --- | --- | --- | --- | --- | --- | --- | --- |
| BFHM | 24 | --- | 29 | 34 | 53 | 62 | --- | --- | --- | --- | --- | --- | --- | --- |
| BFH | 20 | --- | 23 | 29 | 46 | 57 | --- | --- | --- | --- | --- | --- | --- | --- |

Δ Weights include oil. 870, 880, 8100 shipped without oil.

## GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 | 31 | 41 | 48 | 76 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 | --- | --- | --- | --- |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 | 36 | ** | ** | ** |
| F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 | 38 | ** | ** | ** |
| BF-Flange (Steel) | 2 | --- | 2 | 3 | 4 | 6 | --- | --- | --- | --- | --- | --- | --- | --- |
| R-Riser Block | --- | 7 | 7 | 9 | 9 | 12 | 15 | 31 | 24 | 15 | --- | --- | --- | --- |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 | --- | --- | --- |
| **Coupling Input C-Flange Kits** | | | | | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 | --- | --- | --- | --- |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 | 22 | 30 | 30 | --- |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 | 32 | 34 | 36 | --- |

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.

# NH Series Weights

CAST IRON NH SERIES

## NH SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| **Solid Output Shaft** | | | | | | | | | | |
| BMQ | 14 | 18 | 20 | 25 | 38 | 48 | 58 | 64 | 124 | 210 |
| BM | 19 | 20 | 22 | 26 | 40 | 48 | 59 | 65 | 131 | 216 |
| B | 14 | 15 | 17 | 21 | 34 | 44 | 54 | 60 | 116 | 197 |
| TMQ & UMQ | 16 | 21 | 23 | 29 | 42 | 54 | 64 | 73 | 138 | 230 |
| TM & UM | 21 | 23 | 25 | 30 | 44 | 54 | 65 | 74 | 145 | 236 |
| T & U | 16 | 18 | 20 | 25 | 38 | 50 | 60 | 69 | 130 | 217 |
| JMQ | 15 | 19 | 22 | 28 | 41 | 53 | 64 | 70 | 134 | 225 |
| JM | 20 | 21 | 24 | 29 | 43 | 53 | 65 | 71 | 141 | 231 |
| J | 15 | 16 | 19 | 24 | 37 | 49 | 60 | 66 | 126 | 212 |
| VHMQ & VLMQ | 16 | 21 | 23 | 32 | 45 | 57 | 68 | 77 | 144 | 235 |
| VHM & VLM | 21 | 23 | 25 | 33 | 47 | 57 | 69 | 78 | 151 | 241 |
| VH & VL | 16 | 18 | 20 | 28 | 41 | 53 | 64 | 73 | 136 | 222 |
| FMQ | 15 | 19 | 22 | 28 | 41 | 52 | 68 | 74 | 139 | 240 |
| FM | 20 | 21 | 24 | 29 | 43 | 52 | 69 | 75 | 146 | 246 |
| F | 15 | 16 | 19 | 24 | 37 | 48 | 64 | 70 | 131 | 227 |
| FEMQ | --- | --- | --- | --- | --- | --- | 66 | 72 | 150 | 236 |
| FEM | --- | --- | --- | --- | --- | --- | 67 | 73 | 156 | 242 |
| FE | --- | --- | --- | --- | --- | --- | 63 | 60 | 141 | 224 |
| BLMQ | --- | --- | 20 | --- | 38 | --- | --- | --- | --- | --- |
| BLM | --- | --- | 22 | --- | 40 | --- | --- | --- | --- | --- |
| BL | --- | --- | 17 | --- | 34 | --- | --- | --- | --- | --- |
| **Hollow Output Shaft** | | | | | | | | | | |
| HMQ | 15 | 18 | 21 | 26 | 40 | 47 | 59 | 65 | 127 | 210 |
| HM | 19 | 20 | 23 | 26 | 42 | 48 | 60 | 66 | 133 | 216 |
| H | 15 | 16 | 18 | 22 | 36 | 43 | 55 | 62 | 118 | 197 |
| FHMQ | 16 | 19 | 23 | 29 | 43 | 51 | 69 | 75 | 142 | 240 |
| FHM | 20 | 21 | 25 | 29 | 45 | 52 | 70 | 76 | 148 | 246 |
| FH | 16 | 17 | 20 | 25 | 39 | 47 | 65 | 72 | 133 | 227 |

Δ Weights include oil.

## NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 |
| F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 |

## EL SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| **Solid Output Shaft** | | | | | | | | | | |
| BMQ | 11 | 16 | 19 | 30 | 37 | 45 | 50 | 96 | 163 | 218 |
| BM | 15 | 17 | 20 | 31 | 38 | 46 | 50 | 102 | 168 | 222 |
| B | 11 | 13 | 17 | 26 | 34 | 42 | 47 | 90 | 153 | 212 |
| TMQ & UMQ | 12 | 18 | 22 | 33 | 41 | 51 | 58 | 103 | 171 | 228 |
| TM & UM | 16 | 19 | 23 | 34 | 42 | 52 | 58 | 109 | 176 | 232 |
| T & U | 12 | 15 | 20 | 29 | 38 | 48 | 55 | 97 | 161 | 222 |
| JMQ | 12 | 18 | 22 | 33 | 41 | 50 | 55 | 102 | 171 | 228 |
| JM | 16 | 19 | 23 | 34 | 42 | 51 | 55 | 108 | 176 | 232 |
| J | 12 | 15 | 20 | 29 | 38 | 47 | 52 | 96 | 161 | 222 |
| VLMQ | 13 | 19 | 22 | 33 | 41 | 50 | 55 | 102 | 171 | 228 |
| VLM | 17 | 20 | 23 | 34 | 42 | 51 | 55 | 108 | 176 | 232 |
| VL | 13 | 16 | 20 | 29 | 38 | 47 | 52 | 96 | 161 | 222 |
| FMQ | --- | 18 | 22 | 33 | 40 | 51 | 57 | 104 | 171 | 239 |
| FM | --- | 19 | 23 | 34 | 41 | 52 | 57 | 110 | 176 | 243 |
| F | --- | 15 | 20 | 29 | 37 | 48 | 54 | 98 | 161 | 233 |
| **Hollow Output Shaft** | | | | | | | | | | |
| HMQ | 12 | 17 | 20 | 31 | 36 | 46 | 51 | 98 | 163 | 218 |
| HM | 15 | 18 | 20 | 32 | 37 | 46 | 51 | 104 | 168 | 222 |
| H | 12 | 14 | 17 | 28 | 34 | 43 | 48 | 92 | 153 | 212 |
| FHMQ | --- | 19 | 23 | 34 | 39 | 52 | 58 | 106 | 171 | 239 |
| FHM | --- | 20 | 23 | 35 | 40 | 52 | 58 | 112 | 176 | 243 |
| FH | --- | 16 | 20 | 31 | 37 | 49 | 55 | 100 | 161 | 233 |

Δ Weights include oil.

## EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

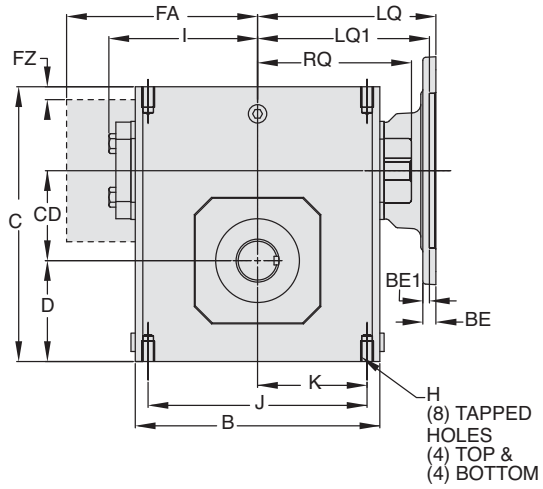
| Accessory | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| ABC-Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| T/U-Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| J-Base | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| VL Base | 2 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| FR & F-Flange | --- | 2 | 3 | 3 | 3 | 6 | 7 | 8 | 8 | 21 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 7 | 7 | --- |
| 180TC-210TC | --- | --- | --- | 5 | 5 | 5 | 5 | 8 | 8 | 8 |
| 250TC | --- | --- | --- | --- | --- | --- | 8 | 8 | 8 | 8 |

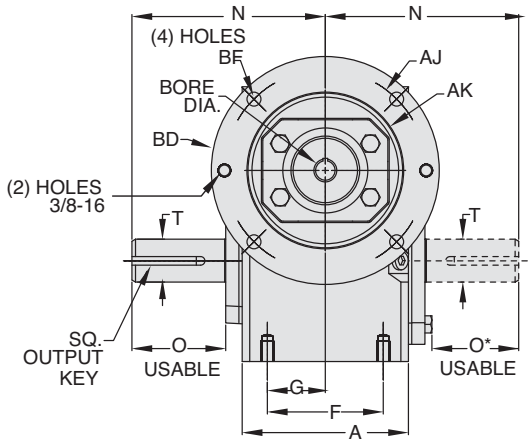
# GR Series Dimensions

### Styles: BMQ, BM, B

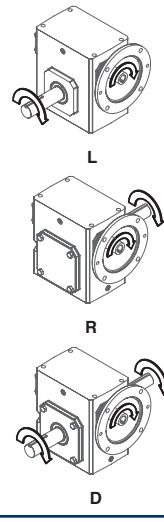
CAST IRON GR SERIES

## Style BMQ

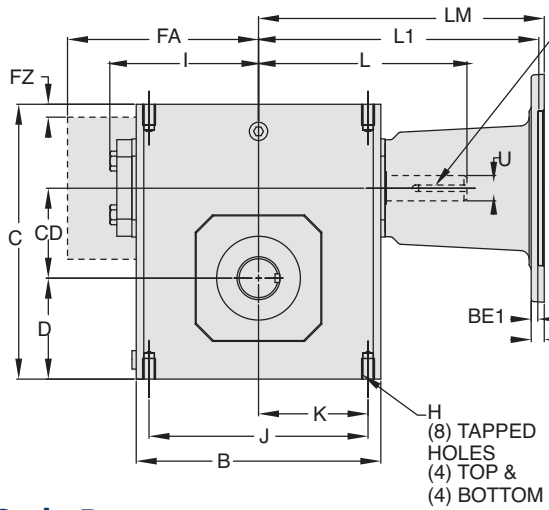


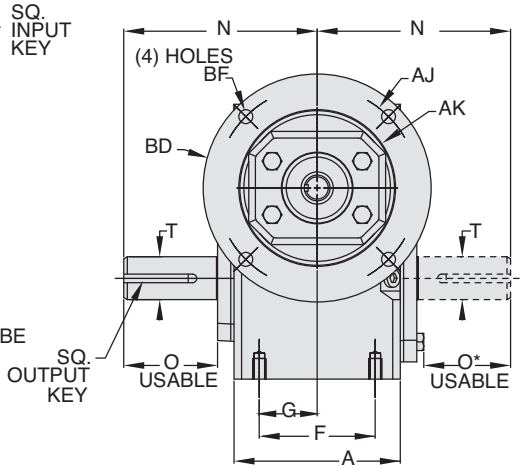




**ASSEMBLIES**

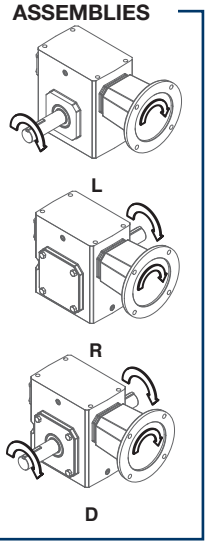



## Style BM

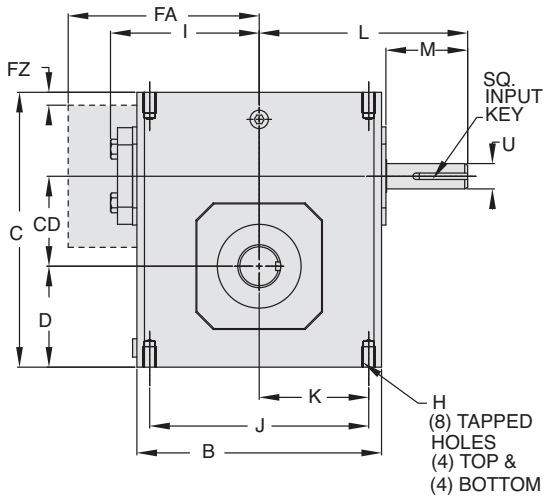


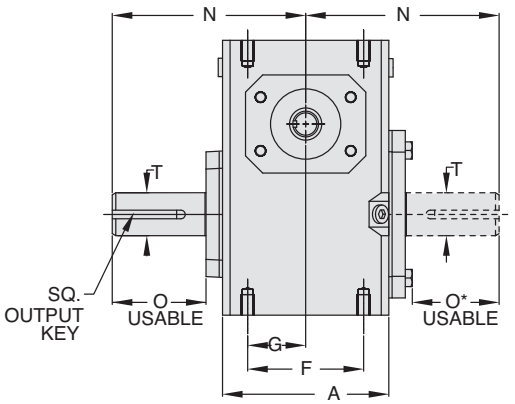




**ASSEMBLIES**

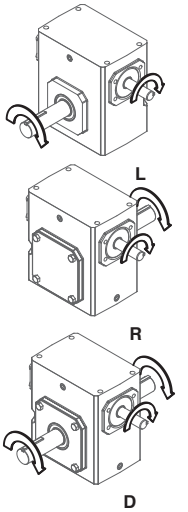



## Style B




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# GR Series Dimensions

## Styles: BMQ, BM, B





### STYLE BMQ, BM, B DIMENSIONS (Inches)

| Size | A | B | C | D | CD | F | FA ▼ | FZ ▼ | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 4.66 | 1.72 | 1.33 | 2.00 | N/A | N/A | 1.00 | 5/16-18 UNC | .50 | 2.61 | 3.25 | 1.63 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | .625 | .500 | 1/8 X 1.00 | 3/16 X 1.50 |
| GR815 | 3.44 | 4.88 | 5.38 | 1.91 | 1.54 | 2.75 | N/A | N/A | 1.38 | 5/16-18 UNC | .63 | 3.14 | 4.19 | 2.09 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | .750 | .625 | 3/16 X 1.38 | 3/16 X 1.50 |
| GR818 | 3.56 | 5.06 | 5.75 | 2.06 | 1.75 | 2.75 | N/A | N/A | 1.38 | 5/16-18 UNC | .63 | 3.24 | 4.19 | 2.09 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR821 | 3.81 | 5.80 | 6.38 | 2.28 | 2.06 | ▲ | N/A | N/A | 1.44 | 5/16-18 UNC | .63 | 3.61 | ▲ | 2.50 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 1.000 | .625 | 3/16 X 1.38 | 1/4 X 1.44 |
| GR824 | 4.06 | 6.12 | 6.94 | 2.50 | 2.38 | 2.88 | N/A | N/A | 1.44 | 3/8-16 UNC | .69 | 3.77 | 5.00 | 2.50 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR826 | 4.84 | 7.12 | 8.00 | 2.94 | 2.63 | 3.38 | N/A | N/A | 1.69 | 3/8-16 UNC | .69 | 4.34 | 6.38 | 3.19 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | ▲ | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR830 | 5.25 | 8.12 | 8.88 | 3.25 | 3.00 | 4.00 | N/A | N/A | 2.00 | 7/16-14 UNC | .88 | 4.84 | 7.00 | 3.50 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 1.250 | .875 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR832 | 5.75 | 8.50 | 9.38 | 3.50 | 3.25 | 4.00 | N/A | N/A | 2.00 | 7/16-14 UNC | .88 | 5.02 | 7.50 | 3.75 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | ▲ | .875 | 3/16 X 1.63 | ▲ |
| GR842 | 6.13 | 10.25 | 11.38 | 4.44 | 4.25 | 5.00 | N/A | N/A | 2.50 | 5/8-11 UNC | 1.00 | 6.10 | 8.50 | 4.25 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 1.875 | 1.250 | 1/4 X 2.50 | 1/2 X 3.06 |
| GR852 | 7.19 | 13.00 | 14.00 | 5.12 | 5.25 | 5.81 | N/A | N/A | 2.91 | 5/8-11 UNC | 1.25 | 7.50 | 11.00 | 5.50 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 3.50 |
| GR860 | 8.13 | 14.25 | 16.50 | 6.50 | 6.00 | 6.38 | 11.13 | 0.33 | 3.19 | 5/8-11 UNC | 1.00 | N/A | 12.75 | 6.38 | 11.78 | 3.41 | 10.00 | 4.65 | 4.65 | 2.500 | 1.500 | 3/8 X 3.00 | 5/8 X 4.00 |
| GR870 | 7.63 | 14.88 | 18.91 | 7.59 | 7.00 | 5.50 | 11.37 | 0.35 | 2.75 | 1-8 UNC | 1.56 | N/A | 12.50 | 6.25 | 11.50 | 2.97 | 11.76 | 5.65 | 5.65 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 8.63 | 17.00 | 20.96 | 8.86 | 8.00 | 6.50 | 12.52 | 0.57 | 3.25 | 1-8 UNC | 1.66 | N/A | 14.25 | 7.13 | 12.50 | 2.84 | 12.25 | 5.98 | 5.98 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100 | 9.53 | 20.88 | 25.47 | 10.36 | 10.00 | 6.88 | 14.69 | 0.51 | 3.44 | 1-1/4 -7 UNC | 2.04 | N/A | 17.75 | 8.88 | 15.50 | 3.76 | 14.75 | 6.76 | 6.76 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 x 5.00** |

▲ See feature comparison chart.

### FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | Identical | ✓ | | GRG |
| | | (F)2.88" x (J)5.00" | | | | ✓ | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

### NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style BM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style B and BM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

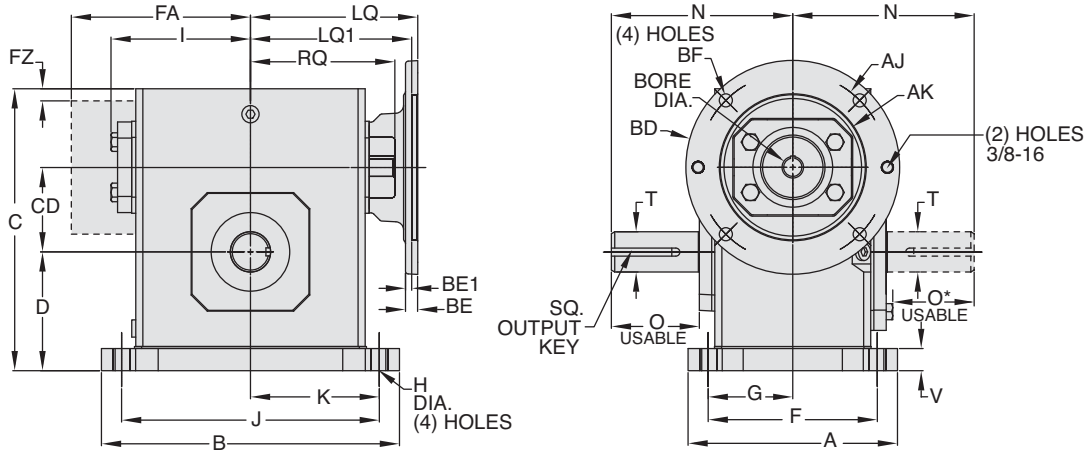
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

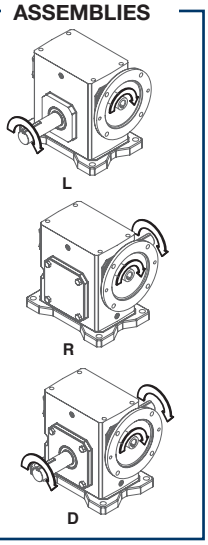
## Styles: TMQ, TM, T

CAST IRON GR SERIES

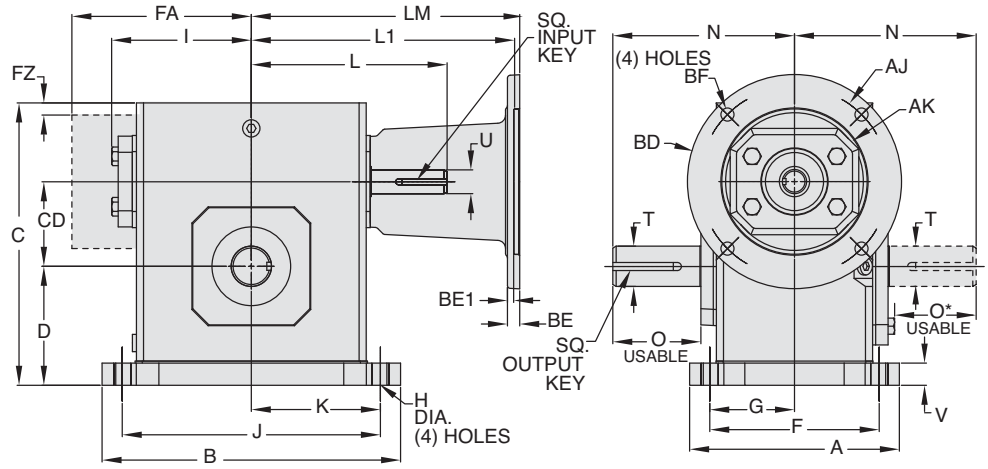
## Style TMQ



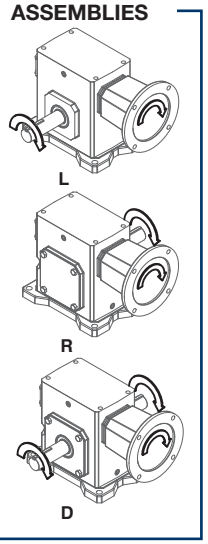

ASSEMBLIES



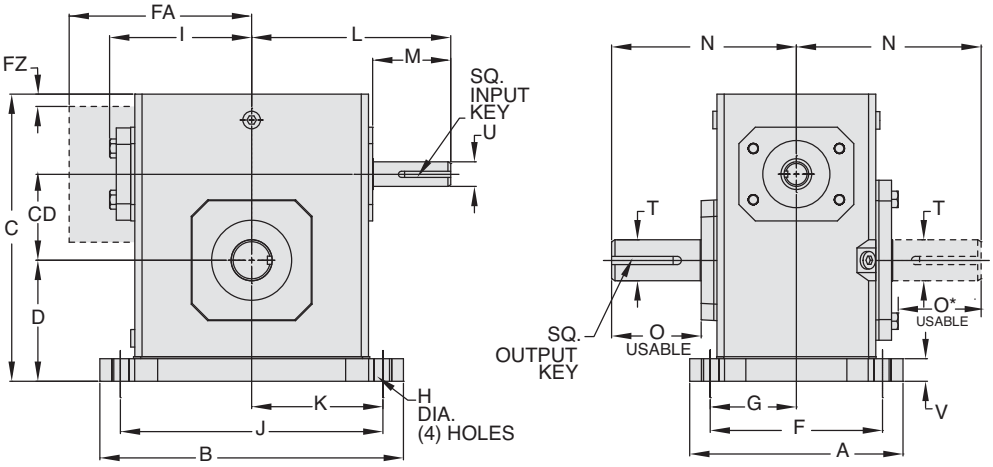

## Style TM



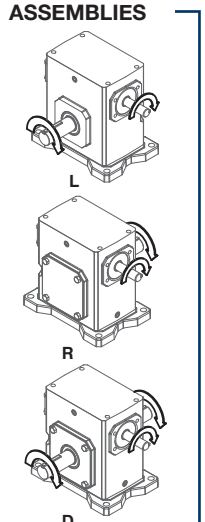

ASSEMBLIES




## Style T




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE TMQ, TM, T DIMENSIONS (Inches)

| Size | A | B | C | D | CD | F | FA ▼ | FZ ▼ | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.38 | 5.37 | 5.19 | 2.25 | 1.33 | 3.31 | N/A | N/A | 1.66 | .34 | 2.61 | 4.37 | 2.19 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 0.53 | .625 | .500 | 1/8 X 1.00 | 3/16 X 1.50 |
| GR815 | 5.56 | 6.50 | 5.97 | 2.50 | 1.54 | 4.31 | N/A | N/A | 2.16 | .41 | 3.14 | 5.25 | 2.63 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | 0.59 | .750 | .625 | 3/16 X 1.38 | 3/16 X 1.50 |
| GR818 | 5.75 | 6.99 | 6.44 | 2.75 | 1.75 | 4.50 | N/A | N/A | 2.25 | .41 | 3.24 | 5.75 | 2.88 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | 0.69 | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR821 | 6.00 | 7.69 | 7.09 | 3.00 | 2.06 | 4.69 | N/A | N/A | 2.34 | .47 | 3.61 | 6.38 | 3.19 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 0.72 | 1.000 | .625 | 3/16 X 1.38 | 1/4 X 1.44 |
| GR824 | 6.19 | 8.37 | 7.69 | 3.25 | 2.38 | 4.88 | N/A | N/A | 2.44 | .49 | 3.77 | 7.06 | 3.53 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 0.75 | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR826 | 6.50 | 9.25 | 8.75 | 3.69 | 2.63 | 5.25 | N/A | N/A | 2.63 | .53 | 4.34 | 8.00 | 4.00 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | 0.75 | ▲ | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR830 | 7.50 | 10.00 | 9.63 | 4.00 | 3.00 | 5.88 | N/A | N/A | 2.94 | .53 | 4.84 | 8.44 | 4.22 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 0.75 | 1.250 | .875 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR832 | 7.75 | 11.12 | 10.25 | 4.38 | 3.25 | 6.13 | N/A | N/A | 3.06 | .53 | 5.02 | 9.50 | 4.75 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | 0.81 | ▲ | .875 | 3/16 X 1.63 | 3/8 X 2.25 |
| GR842 | 9.75 | 13.24 | 12.38 | 5.44 | 4.25 | 7.63 | N/A | N/A | 3.81 | .66 | 6.10 | 11.12 | 5.56 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 1.00 | 1.875 | 1.250 | 1/4 X 2.50 | 1/2 X 3.06 |
| GR852 | 10.50 | 16.24 | 15.13 | 6.25 | 5.25 | 8.38 | N/A | N/A | 4.19 | .78 | 7.50 | 14.12 | 7.06 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 1.13 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 3.50 |
| GR860 | 12.00 | 18.99 | 17.75 | 7.75 | 6.00 | 9.50 | 11.13 | 0.33 | 4.75 | .91 | N/A | 16.49 | 8.25 | 11.78 | 3.41 | 10.00 | 4.65 | 4.65 | 1.25 | 2.500 | 1.500 | 3/8 X 3.00 | 5/8 X 4.00 |
| GR870 | 13.38 | 15.38 | 20.33 | 9.00 | 7.00 | 11.25 | 11.37 | 0.35 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 11.50 | 2.97 | 11.76 | 5.65 | 5.65 | 1.42 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 13.50 | 17.37 | 22.61 | 10.50 | 8.00 | 11.50 | 12.52 | 0.57 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 12.50 | 2.84 | 12.25 | 5.98 | 5.98 | 1.65 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100 | 16.88 | 21.14 | 27.12 | 12.00 | 10.00 | 14.00 | 14.69 | 0.51 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 15.50 | 3.76 | 14.75 | 6.76 | 6.76 | 1.65 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical | Identical | Identical◊ | ✓ | ✓ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style TM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style T and TM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

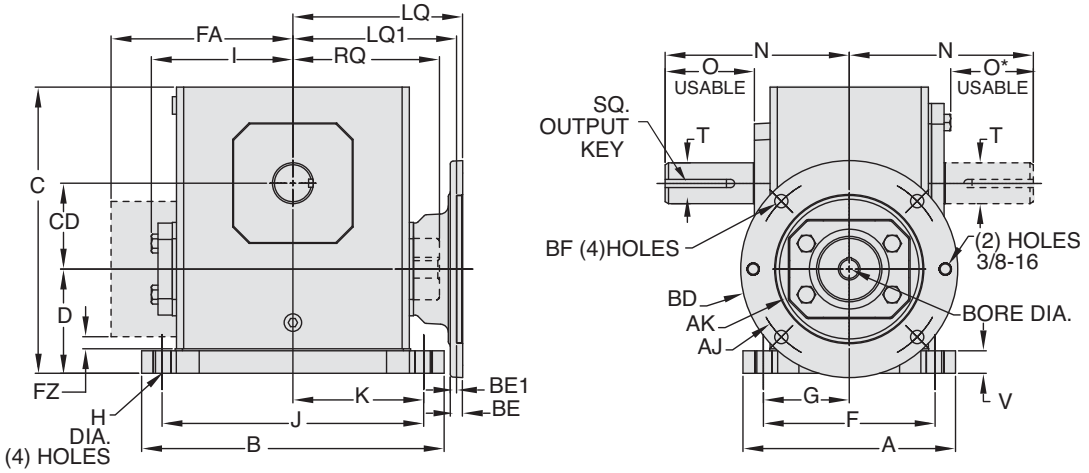
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

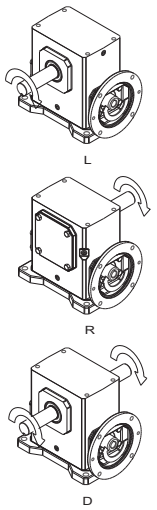
**Styles: UMQ, UM, U**

CAST IRON GR SERIES

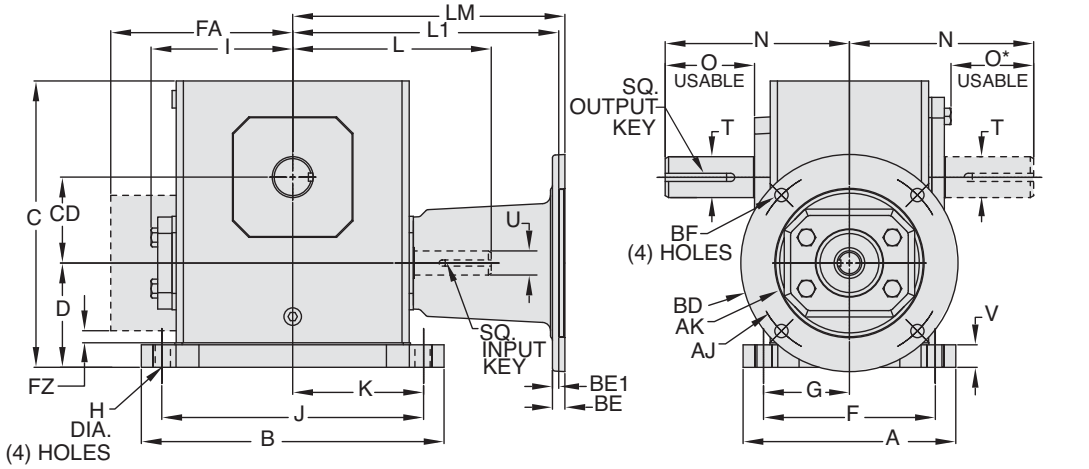
## Style UMQ



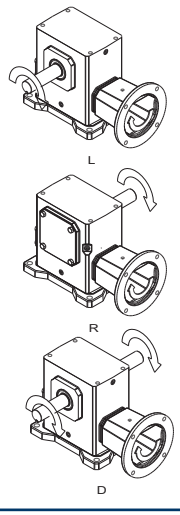

**ASSEMBLIES**



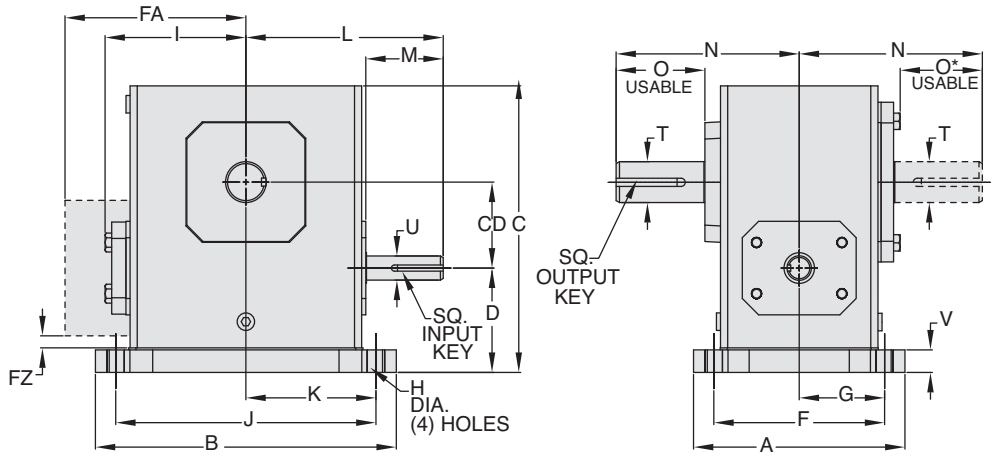

## Style UM



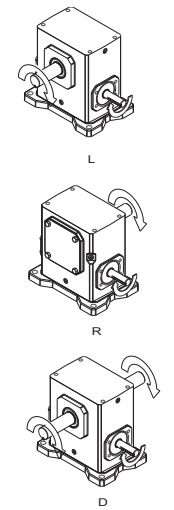

**ASSEMBLIES**




## Style U




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE UMQ, UM, U DIMENSIONS (Inches)

| Size | A | B | C | D | CD | F | FA▼ | FZ▼ | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.24 | 5.37 | 5.19 | 2.14 | 1.33 | 3.31 | N/A | N/A | 1.66 | .34 | 2.61 | 4.37 | 2.19 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 0.53 | .625 | .500 | 1/8 X 1.00 | 3/16 X 1.50 |
| GR815 | 5.56 | 6.50 | 5.97 | 2.52 | 1.54 | 4.31 | N/A | N/A | 2.16 | .41 | 3.14 | 5.25 | 2.63 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | 0.59 | .750 | .625 | 3/16 X 1.38 | 3/16 X 1.50 |
| GR818 | 5.75 | 6.99 | 6.44 | 2.63 | 1.75 | 4.50 | N/A | N/A | 2.25 | .41 | 3.24 | 5.75 | 2.88 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | 0.69 | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR821 | 6.00 | 7.69 | 7.09 | 2.75 | 2.06 | 4.69 | N/A | N/A | 2.34 | .47 | 3.61 | 6.38 | 3.19 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 0.72 | 1.000 | .625 | 3/16 X 1.38 | 1/4 X 1.44 |
| GR824 | 6.19 | 8.37 | 7.69 | 2.81 | 2.38 | 4.88 | N/A | N/A | 2.44 | .49 | 3.77 | 7.06 | 3.53 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 0.75 | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR826 | 6.50 | 9.25 | 8.75 | 3.19 | 2.63 | 5.25 | N/A | N/A | 2.63 | .53 | 4.34 | 8.00 | 4.00 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | 0.75 | ▲ | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR830 | 7.50 | 10.00 | 9.63 | 3.38 | 3.00 | 5.88 | N/A | N/A | 2.94 | .53 | 4.84 | 8.44 | 4.22 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 0.75 | 1.250 | .875 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR832 | 7.75 | 11.12 | 10.25 | 3.50 | 3.25 | 6.13 | N/A | N/A | 3.06 | .53 | 5.02 | 9.50 | 4.75 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | 0.81 | ▲ | .875 | 3/16 X 1.63 | 3/8 X 2.25 |
| GR842 | 9.75 | 13.24 | 12.38 | 3.69 | 4.25 | 7.63 | N/A | N/A | 3.81 | .66 | 6.10 | 11.12 | 5.56 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 1.00 | 1.875 | 1.250 | 1/4 X 2.50 | 1/2 X 3.06 |
| GR852 | 10.50 | 16.24 | 15.13 | 4.76 | 5.25 | 8.38 | N/A | N/A | 4.19 | .78 | 7.50 | 14.12 | 7.06 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 1.13 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 3.50 |
| GR860 | 12.00 | 18.99 | 17.75 | 5.25 | 6.00 | 9.50 | 11.13 | 0.33 | 4.75 | .91 | N/A | 16.49 | 8.25 | 11.78 | 3.41 | 10.00 | 4.65 | 4.65 | 1.25 | 2.500 | 1.500 | 3/8 X 3.00 | 5/8 X 4.00 |
| GR870 | 13.38 | 15.38 | 20.33 | 5.74 | 7.00 | 11.25 | 11.37 | 0.35 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 11.50 | 2.97 | 11.76 | 5.65 | 5.65 | 1.42 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 13.50 | 17.37 | 22.61 | 5.75 | 8.00 | 11.50 | 12.52 | 0.57 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 12.50 | 2.84 | 12.25 | 5.98 | 5.98 | 1.65 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100 | 16.88 | 21.14 | 27.12 | 6.76 | 10.00 | 14.00 | 14.69 | 0.51 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 15.50 | 3.76 | 14.75 | 6.76 | 6.76 | 1.65 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✓ | ✓ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style UM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style U and UM only.

▼Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Note: Styles UMQ, UM and U are worm under mounting assemblies and not recommended due to increase potential for high speed shaft seal leakage and potential mounting interference. Motor flange may extend below base. Riser blocks are available upon request (see page 274). Contact Factory for selection assistance.

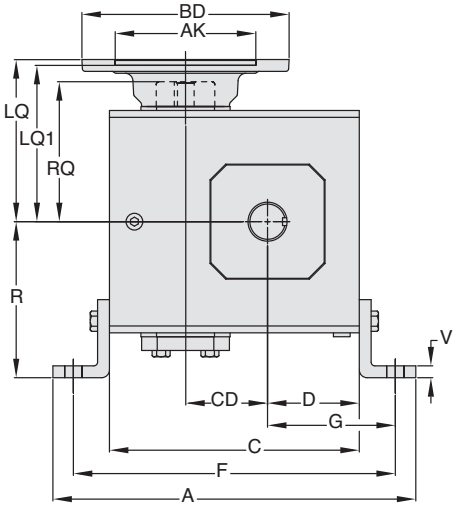
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

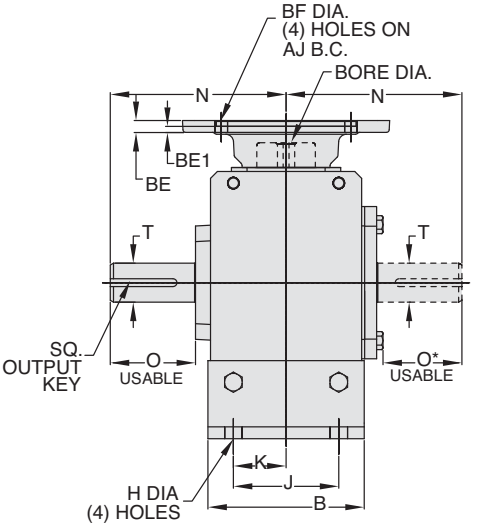
# GR Series Dimensions

## Styles: JMQ, JM, J

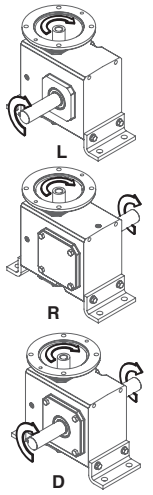
CAST IRON GR SERIES

## Style JMQ

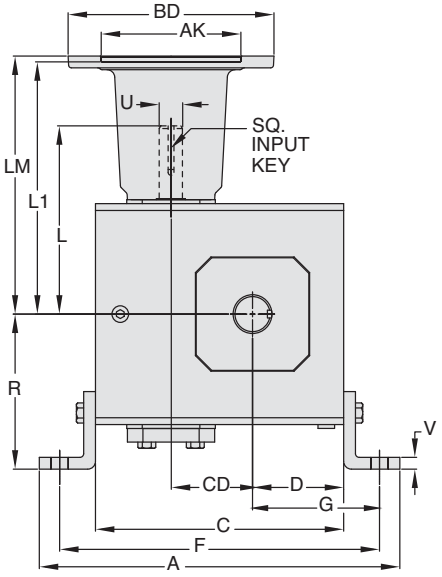


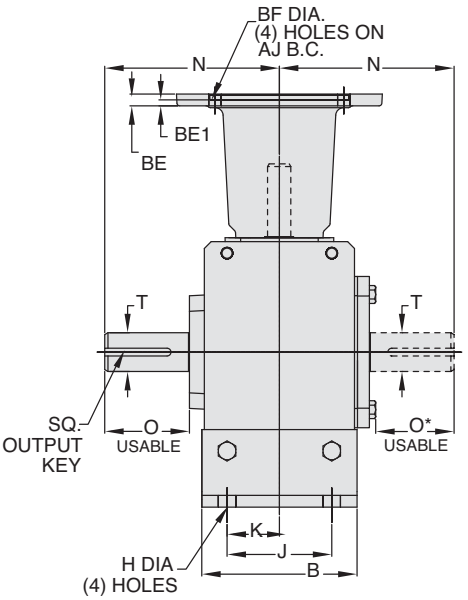




**ASSEMBLIES**

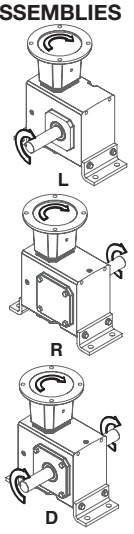



## Style JM

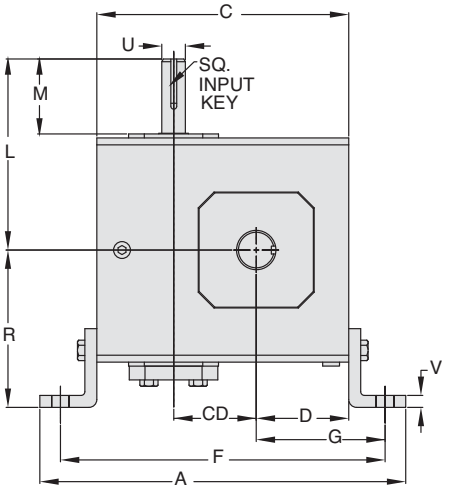


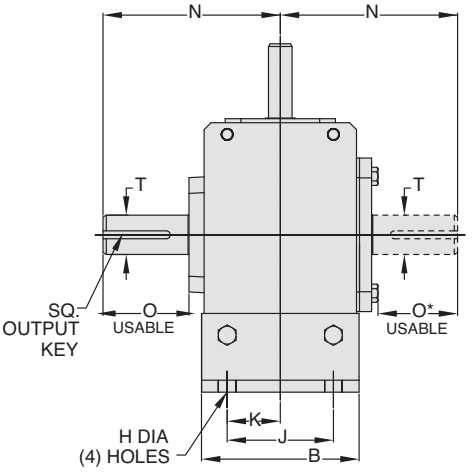




**ASSEMBLIES**

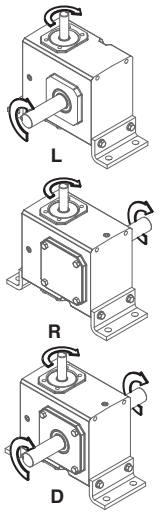



## Style J




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE JMQ, JM, J DIMENSIONS (Inches)

| Size | A | B | C | D | CD | F | G | H | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.42 | 2.75 | 4.66 | 1.72 | 1.33 | 6.42 | 2.60 | .38 | 2.00 | 1.00 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 2.94 | 0.25 | .625 | .500 | 1/8 X 1.00 | 3/16 X 1.50 |
| GR815 | 8.14 | 3.50 | 5.38 | 1.91 | 1.54 | 7.08 | 2.76 | .44 | 2.75 | 1.38 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | 3.50 | 0.25 | .750 | .625 | 3/16 X 1.38 | 3/16 X 1.50 |
| GR818 | 8.51 | 3.50 | 5.75 | 2.06 | 1.75 | 7.45 - 7.63 | 3.00 | .44 slot | 2.50 - 2.75 | 1.25 - 1.38 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | 3.50 | 0.25 | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR821 | 9.76 | 4.00 | 6.38 | 2.28 | 2.06 | 8.63 | 3.40 | .56 slot | 2.63 - 2.75 | 1.31-1.38 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 4.01 | 0.38 | 1.000 | .625 | 3/16 X 1.38 | 1/4 X 1.44 |
| GR824 | 10.31 | 4.00 | 6.94 | 2.50 | 2.38 | 9.19 | 3.63 | .69 | 2.88 | 1.44 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 4.06 | 0.38 | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR826 | 11.62 | 5.00 | 8.00 | 2.94 | 2.63 | 10.38 | 4.13 | .56 | 3.38 | 1.69 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | 5.00 | 0.38 | ▲ | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR830 | 12.64 | 6.00 | 8.88 | 3.25 | 3.00 | 11.38 | 4.50 | .56 | 3.88 | 1.94 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 5.62 | 0.38 | 1.250 | .875 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR832 | 13.14 | 6.00 | 9.38 | 3.50 | 3.25 | 11.88 | 4.75 | .56 | 3.88 | 1.94 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | 5.63 | 0.38 | ▲ | .875 | 3/16 X 1.63 | 3/8 X 2.25 |
| GR842 | 16.38 | 7.00 | 11.38 | 4.44 | 4.25 | 14.88 | 6.19 | .69 | 5.00 | 2.50 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 6.50 | 0.50 | 1.875 | 1.250 | 1/4 X 2.50 | 1/2 X 3.06 |
| GR852 | 19.00 | 7.00 | 14.00 | 5.12 | 5.25 | 17.50 | 6.87 | .69 | 5.81 | 2.91 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 7.75 | 0.50 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 3.50 |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✓ | ✓ | GRG<br>GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09 | 4.56 |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D |
|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style JM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style J and JM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

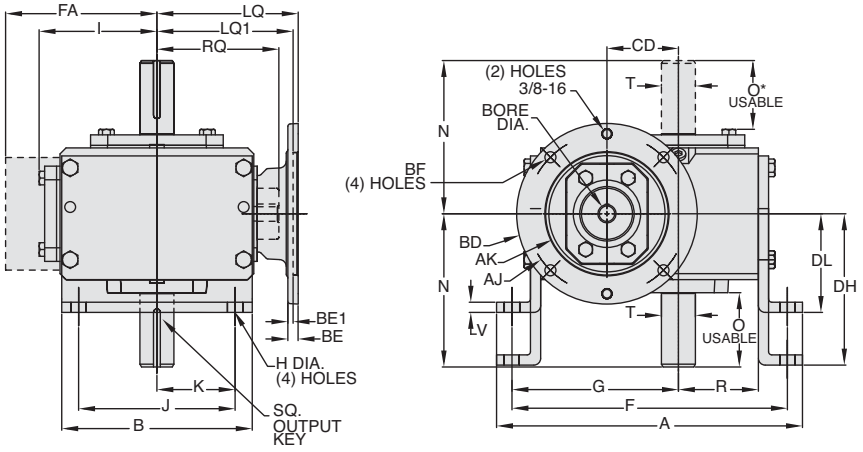
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

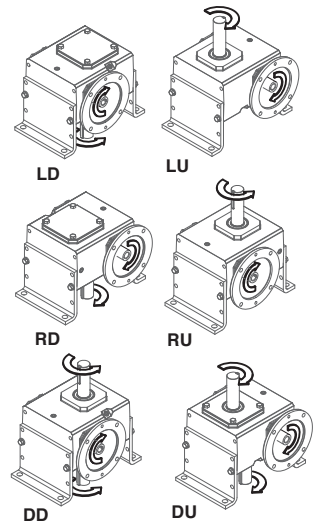
## Styles: V_MQ, V_M, V_

CAST IRON GR SERIES

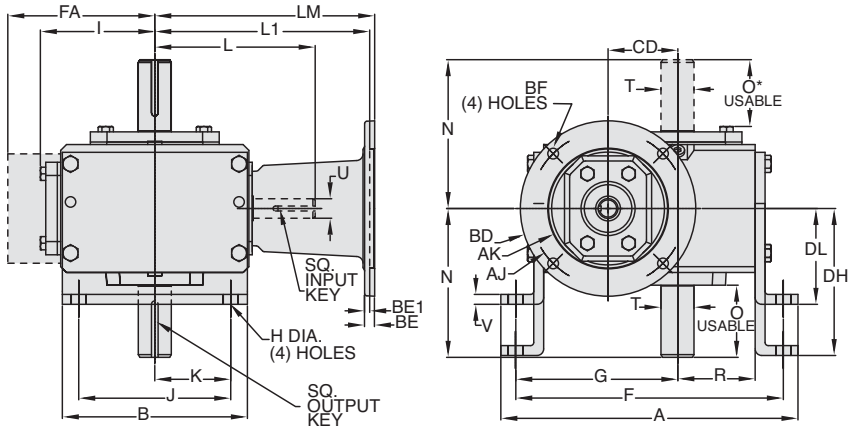
## Style V(L or H)MQ



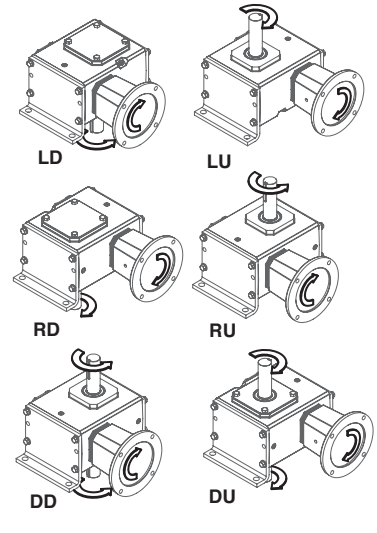

ASSEMBLIES



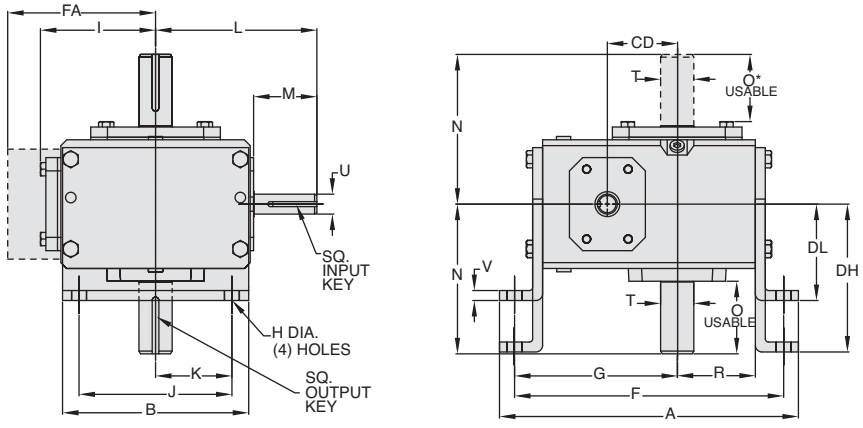

## Style V(L or H)M



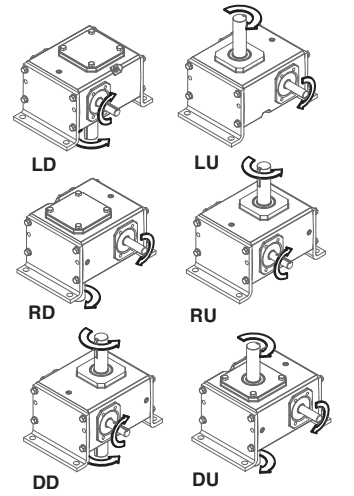

ASSEMBLIES




## Style V(L or H)




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE V_MQ, V_M, V_ DIMENSIONS (Inches)

| Size | A | B | CD | Model VLMQ DL | Model VHMQ DH | F | FA▼ | FZ▼ | G | H | I | J | K | L | M | N | O | O* | R | V | T MAX +0.000 -0.0015 | U +0.000 -0.0015 | Input Key* | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.26 | 4.00 | 1.33 | 2.63 | 3.56 | 6.50 | N/A | N/A | 3.86 | 0.38 | 2.61 | 3.00 | 1.50 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.72 | 0.25 | 0.625 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 7.88 | 5.00 | 1.54 | 3.00 | 4.38 | 7.00 | N/A | N/A | 4.28 | 0.44 | 3.14 | 4.00 | 2.00 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | 1.91 | 0.25 | 0.750 | 0.625 | 3/16 x 1.38 | 3/16 x 1.50 |
| GR818 | 8.25 | 5.00 | 1.75 | 3.00 | 4.38 | 7.37 | N/A | N/A | 4.50 | 0.44 | 3.24 | 4.00 | 2.00 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | 2.06 | 0.25 | 0.875 | 0.625 | 3/16 x 1.38 | 3/16 x 1.38 |
| GR821 | 9.38 | 6.00 | 2.06 | 3.13 | 4.88 | 8.38 | N/A | N/A | 5.09 | 0.50 | 3.61 | 4.88 | 2.44 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.28 | 0.38 | 1.000 | 0.625 | 3/16 x 1.38 | 1/4 x 1.44 |
| GR824 | 9.94 | 6.00 | 2.38 | 3.38 | 5.25 | 8.81 | N/A | N/A | 5.44 | 0.50 | 3.77 | 4.88 | 2.44 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 2.50 | 0.38 | 1.125 | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR826 | 11.24 | 7.00 | 2.63 | 3.63 | 5.56 | 10.12 | N/A | N/A | 6.12 | 0.56 | 4.34 | 5.75 | 2.88 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | 2.94 | 0.38 | ▲ | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR830 | 12.50 | 8.00 | 3.00 | 3.94 | 5.88 | 11.13 | N/A | N/A | 6.75 | 0.56 | 4.84 | 6.00 | 3.00 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 3.25 | 0.38 | 1.250 | 0.875 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR832 | 13.00 | 8.50 | 3.25 | 4.69 | 6.25 | 11.88 | N/A | N/A | 7.13 | 0.56 | 5.02 | 6.13 | 3.06 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | 3.50 | 0.38 | ▲ | 0.875 | 3/16 x 1.63 | 3/8 x 2.25 |
| GR842 | 16.26 | 10.00 | 4.25 | 5.00 | 7.50 | 14.88 | N/A | N/A | 8.69 | 0.69 | 6.10 | 7.88 | 3.94 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 4.44 | 0.50 | 1.875 | 1.250 | 1/4 x 2.50 | 1/2 x 3.06 |
| GR852 | 19.62 | 13.00 | 5.25 | 5.16 | 9.16 | 18.00 | N/A | N/A | 10.88 | 0.78 | 7.50 | 10.00 | 5.00 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 5.12 | 0.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/2 x 3.50 |
| GR860 | 23.26 | 14.75 | 6.00 | 7.31 | 9.63 | 20.88 | 11.13 | 0.33 | 12.19 | 0.91 | N/A | 11.76 | 5.88 | 11.78 | 3.41 | 10.00 | 4.65 | 4.65 | 6.50 | 0.50 | 2.500 | 1.500 | 3/8 x 3.00 | 5/8 x 4.00 |
| GR870 | 26.91 | 14.88 | 7.00 | 7.00 | N/A | 23.99 | 11.37 | 0.35 | 13.87 | 1.13 | N/A | 12.50 | 6.25 | 11.50 | 2.97 | 11.76 | 5.65 | 5.65 | 7.59 | 0.75 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 28.96 | 17.00 | 8.00 | 8.00 | N/A | 25.50 | 12.52 | 0.57 | 14.38 | 1.13 | N/A | 14.00 | 7.00 | 12.50 | 2.84 | 12.25 | 5.98 | 5.98 | 8.86 | 0.75 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100 | 37.47 | 20.88 | 10.00 | 9.00 | N/A | 30.75 | 14.69 | 0.51 | 17.76 | 1.44 | N/A | 17.75 | 8.88 | 15.50 | 3.76 | 14.75 | 6.76 | 6.76 | 10.36 | 1.00 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✓ | ✓ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A |
| GR821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | RQ D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| GR821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style V_M with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style V_ and V_M only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

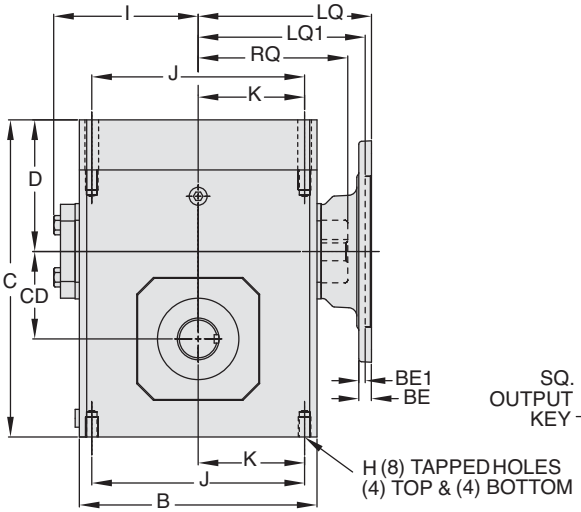
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

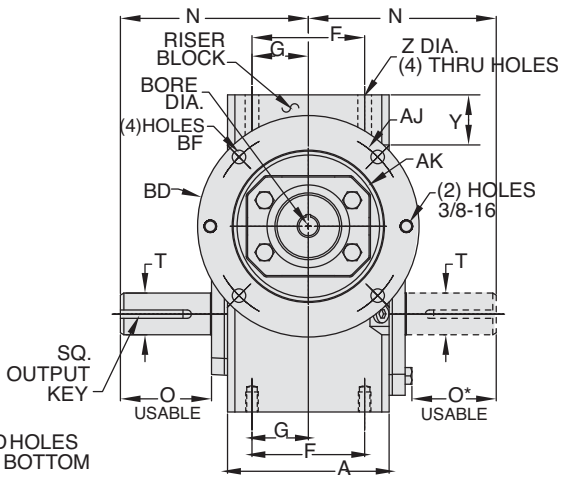
# GR Series Dimensions

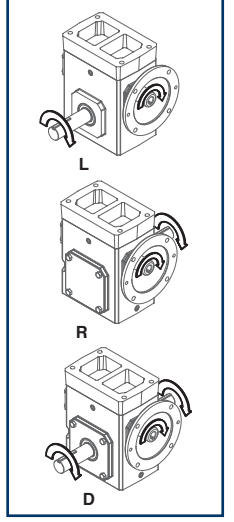
**Styles: RMQ, RM, R**

CAST IRON GR SERIES

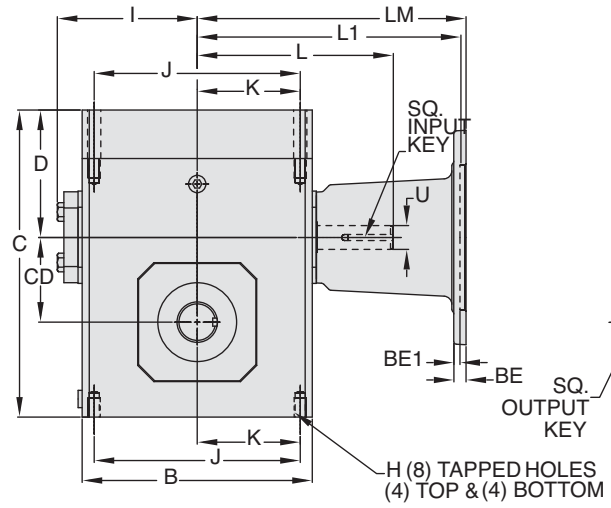
## Style RMQ

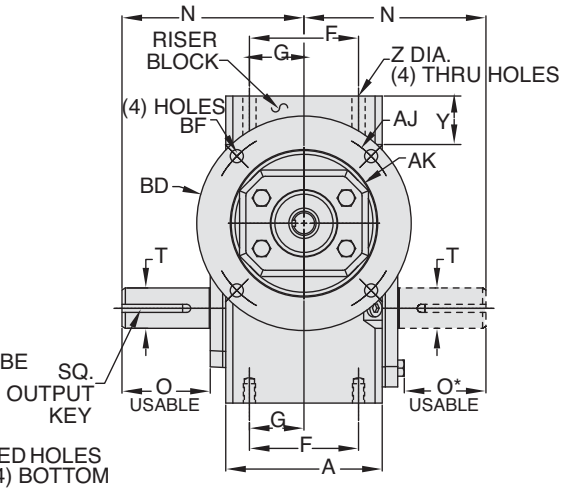


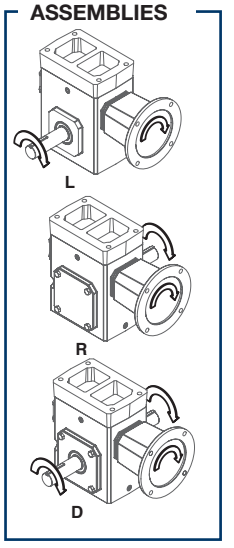



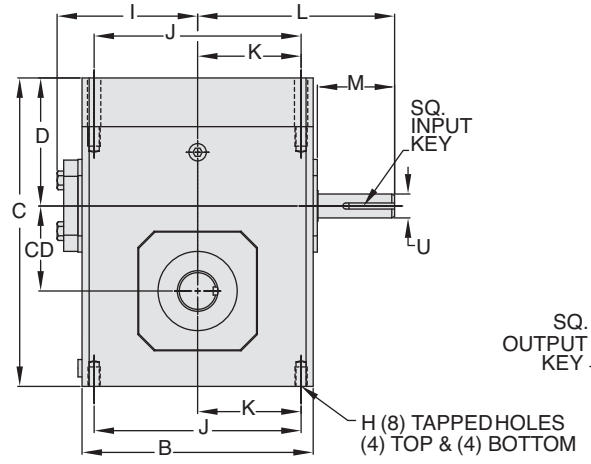

## Style RM

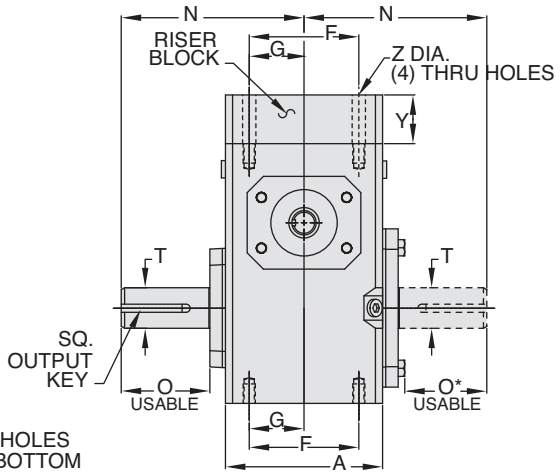


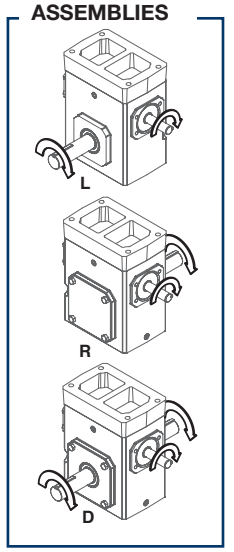




## Style R




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE RMQ, RM, R DIMENSIONS (Inches)

| Size | A | B | C | D | CD | F | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | Y | Z | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR815 | 3.44 | 4.88 | 7.38 | 3.93 | 1.54 | 2.75 | 1.38 | 5/16-18 UNC | .63 | 3.14 | 4.19 | 2.09 | 4.35 | 1.76 | 4.31 | 2.11 | 1.90 | 2.00 | 0.34 | .750 | .625 | 3/16 X 1.38 | 3/16 X 1.50 |
| GR818 | 3.56 | 5.06 | 7.75 | 3.94 | 1.75 | 2.75 | 1.38 | 5/16-18 UNC | .63 | 3.24 | 4.19 | 2.09 | 4.45 | 1.76 | 4.31 | 2.05 | 1.84 | 2.00 | 0.34 | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR821 | 3.81 | 5.80 | 8.38 | 4.03 | 2.06 | ▲ | 1.44 | 3/8-16 UNC | .63 | 3.61 | ▲ | 2.50 | 4.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.00 | 0.41 | 1.000 | .625 | 3/16 X 1.38 | 1/4 X 1.44 |
| GR824 | 4.06 | 6.12 | 8.94 | 4.06 | 2.38 | 2.88 | 1.44 | 3/8-16 UNC | .69 | 3.77 | 5.00 | 2.50 | 5.51 | 2.38 | 5.14 | 2.66 | 2.44 | 2.00 | 0.41 | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR826 | 4.84 | 7.12 | 9.50 | 3.94 | 2.63 | 3.38 | 1.69 | 3/8-16 UNC | .69 | 4.34 | 6.38 | 3.19 | 6.07 | 2.38 | 5.63 | 2.73 | 2.52 | 1.50 | 0.41 | ▲ | .750 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR830 | 5.25 | 8.12 | 11.01 | 4.76 | 3.00 | 4.00 | 2.00 | 7/16-14 UNC | .88 | 4.84 | 7.00 | 3.50 | 6.57 | 2.38 | 6.75 | 3.60 | 3.36 | 2.13 | 0.47 | 1.250 | .875 | 3/16 X 1.63 | 1/4 X 1.75 |
| GR832 | 5.75 | 8.50 | 11.50 | 4.75 | 3.25 | 4.00 | 2.00 | 7/16-14 UNC | .88 | 5.02 | 7.50 | 3.75 | 6.76 | 2.38 | 7.06 | 3.66 | 3.42 | 2.13 | 0.47 | ▲ | .875 | 3/16 X 1.63 | 3/8 X 2.25 |
| GR842 | 6.13 | 10.25 | 13.51 | 4.82 | 4.25 | 5.00 | 2.50 | 5/8-11 UNC | 1.00 | 6.10 | 8.50 | 4.25 | 9.57 | 3.47 | 8.12 | 4.50 | 4.21 | 2.13 | 0.66 | 1.875 | 1.250 | 1/4 X 2.50 | 1/2 X 3.06 |
| GR852 | 7.19 | 13.00 | 15.25 | 4.88 | 5.25 | 5.81 | 2.91 | 5/8-11 UNC | 1.25 | 7.50 | 11.00 | 5.50 | 10.88 | 3.38 | 9.06 | 4.78 | 4.53 | 1.25 | 0.66 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 3.50* |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | Identical | ✓ | | GRG |
| | | (F)2.88" x (J)5.00" | | | | ✓ | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style R and RM only.

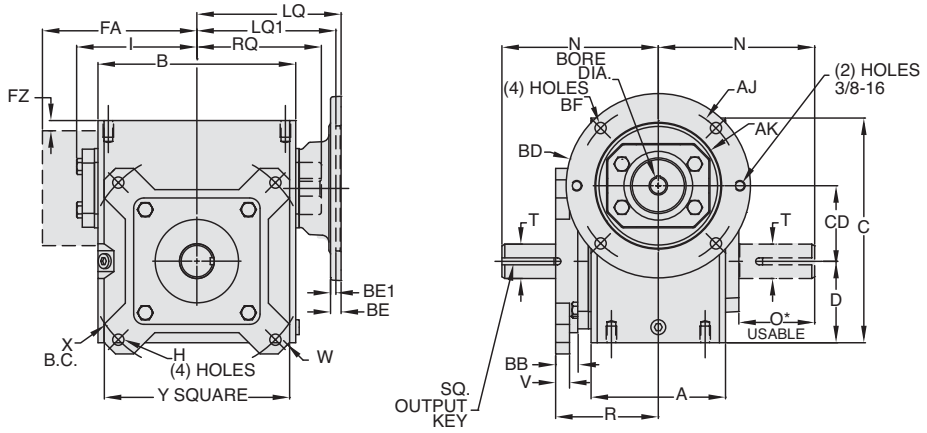
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

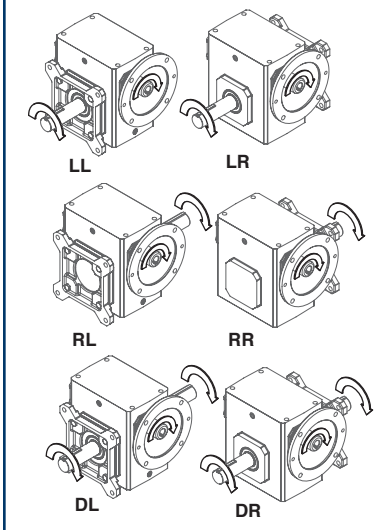
## Styles: FMQ, FM, F

CAST IRON GR SERIES

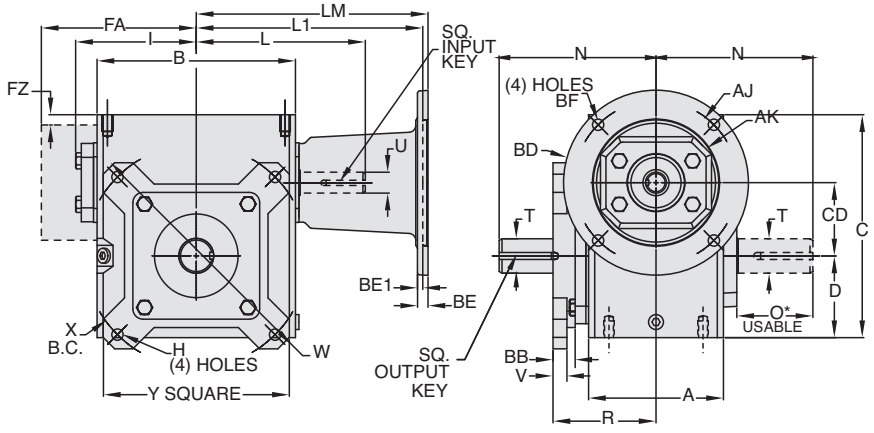
## Style FMQ



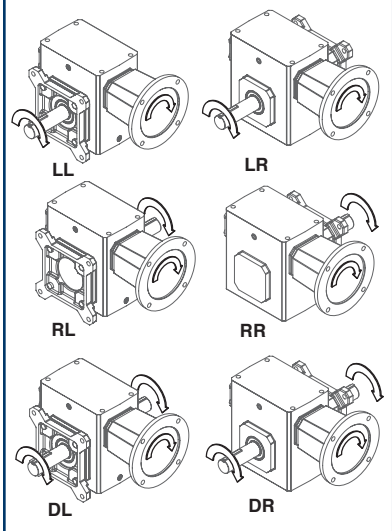

ASSEMBLIES



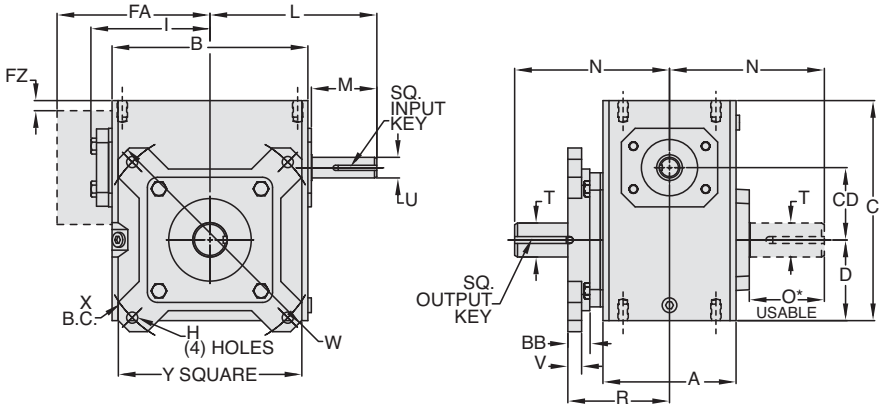

## Style FM



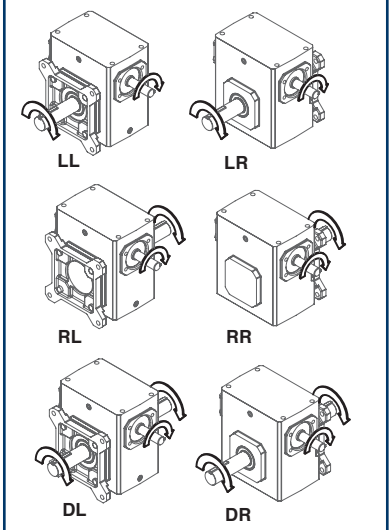

ASSEMBLIES




## Style F




ASSEMBLIES




**Sizes 813-8100 output flange must be mounted at Factory on styles FMQ, FM, F.**

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE FMQ, FM, F DIMENSIONS (Inches)

| Series | A | B | BB | C | D | CD | FA▼ | FZ▼ | H | I | L | M | N | O | R | V | W | X | Y | T MAX+ -0.000 +0.0025 | U +0.000 -0.0015 | Input Key* | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 0.675 | 4.66 | 1.72 | 1.33 | N/A | N/A | 0.03 | 2.61 | 3.82 | 1.76 | 4.00 | 1.94 | 2.52 | 0.38 | 5.92 | 5.00 | 4.50 | 0.625 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 3.44 | 4.88 | 0.675 | 5.38 | 1.91 | 1.54 | N/A | N/A | 0.03 | 3.14 | 4.35 | 1.76 | 4.31 | 1.90 | 2.87 | 0.38 | 5.88 | 5.00 | 4.50 | 0.750 | 0.625 | 3/16 x 1.38 | 3/16 x 1.50 |
| GR818 | 3.56 | 5.06 | 0.925 | 5.75 | 2.06 | 1.75 | N/A | N/A | 0.03 | 3.24 | 4.45 | 1.76 | 4.31 | 1.84 | 3.18 | 0.38 | 6.64 | 5.88 | 5.00 | 0.875 | 0.625 | 3/16 x 1.38 | 3/16 x 1.38 |
| GR821 | 3.81 | 5.80 | 1.24 | 6.38 | 2.28 | 2.06 | N/A | N/A | 0.41 | 3.61 | 4.82 | 1.76 | 4.68 | 2.08 | 3.69 | 0.44 | 7.88 | 7.00 | 5.99 | 1.000 | 0.625 | 3/16 x 1.38 | 1/4 x 1.44 |
| GR824 | 4.06 | 6.12 | 1.560 | 6.94 | 2.50 | 2.38 | N/A | N/A | 0.41 | 3.77 | 5.51 | 2.38 | 5.14 | 2.44 | 3.73 | 0.44 | 8.39 | 7.50 | 6.27 | 1.125 | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR826 | 4.84 | 7.12 | 0.796 | 8.00 | 2.94 | 2.63 | N/A | N/A | 0.41 | 4.34 | 6.07 | 2.38 | 5.63 | 2.52 | 3.70 | 0.50 | 8.88 | 8.00 | 6.67 | ▲ | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR830 | 5.25 | 8.12 | 0.636 | 8.88 | 3.25 | 3.00 | N/A | N/A | 0.41 | 4.84 | 6.57 | 2.38 | 6.75 | 3.36 | 3.78 | 0.50 | 9.89 | 9.00 | 7.37 | 1.250 | 0.875 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR832 | 5.75 | 8.50 | 0.636 | 9.38 | 3.50 | 3.25 | N/A | N/A | 0.41 | 5.02 | 6.76 | 2.38 | 7.06 | 3.42 | 4.03 | 0.50 | 9.89 | 9.00 | 7.37 | ▲ | 0.875 | 3/16 x 1.63 | 3/8 x 2.25 |
| GR842 | 6.13 | 10.25 | 0.940 | 11.38 | 4.44 | 4.25 | N/A | N/A | 0.56 | 6.10 | 9.57 | 3.47 | 8.12 | 4.21 | 4.56 | 0.62 | 12.95 | 11.50 | 9.65 | 1.875 | 1.250 | 1/4 x 2.50 | 1/2 x 3.06 |
| GR852 | 7.19 | 13.00 | 1.340 | 14.00 | 5.12 | 5.25 | N/A | N/A | 0.69 | 7.50 | 10.88 | 3.38 | 9.16 | 4.53 | 5.62 | 0.75 | 15.50 | 14.00 | 11.75 | 2.000 | 1.250 | 1/4 x3.00 | 1/2 x 3.50 |
| GR860 | 8.13 | 14.25 | 2.603 | 16.50 | 6.50 | 6.00 | 11.13 | 0.33 | 0.69 | N/A | 11.78 | 3.41 | 10.00 | 4.65 | 7.26 | 0.75 | 18.00 | 15.63 | 14.00 | 2.500 | 1.500 | 3/8 x 3.00 | 5/8 x 4.00 |
| GR870 | 7.63 | 14.88 | 2.770 | 18.91 | 7.59 | 7.00 | 11.37 | 0.35 | 0.78 | N/A | 11.50 | 2.97 | 11.76 | 5.65 | 7.45 | 0.75 | 21.00 | 18.38 | 15.63 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 8.63 | 17.00 | 3.090 | 20.96 | 8.86 | 8.00 | 12.52 | 0.57 | 1.03 | N/A | 12.50 | 2.84 | 12.25 | 5.98 | 8.34 | 0.75 | 24.00 | 21.00 | 17.88 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 X 4.50** |
| GR8100 | 9.53 | 20.88 | 3.298 | 25.47 | 10.36 | 10.00 | 14.69 | 0.51 | 1.03 | N/A | 15.50 | 3.76 | 14.75 | 6.76 | 9.07 | 1.00 | 29.00 | 25.00 | 21.19 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 X 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✓ | ✓ | GRG<br>GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✓ | | GRG |
| | 1.125" | | | | | ✓ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✓ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Series | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58 ● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Series | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | RQ D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style F and FM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

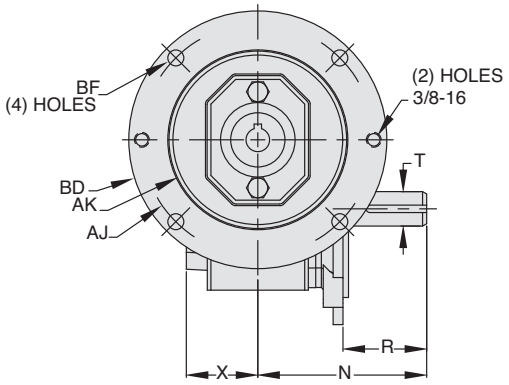
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

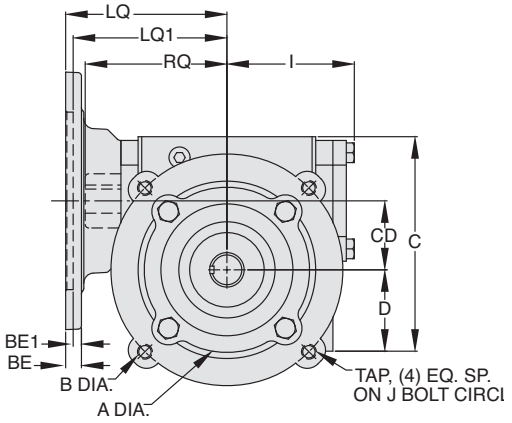
# GR Series Dimensions

## Styles: CMQ, CM, C

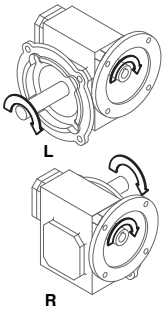
CAST IRON GR SERIES

## Style CMQ

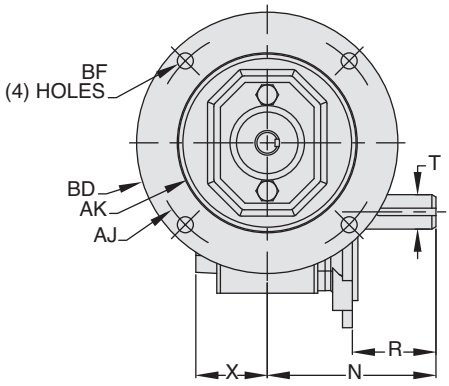


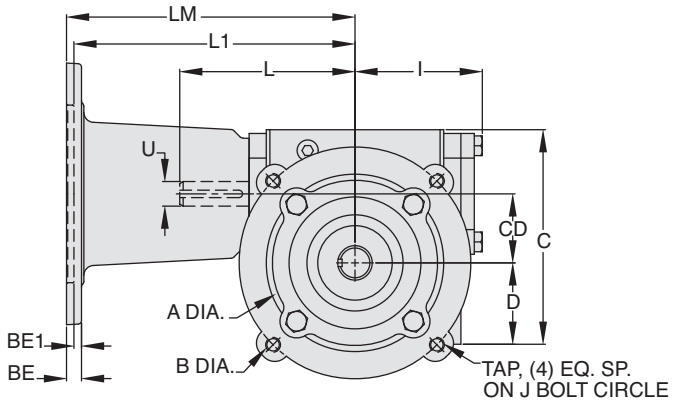




**ASSEMBLIES**

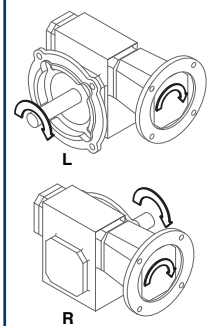



## Style CM

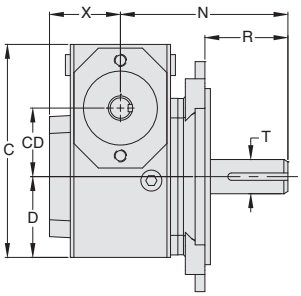


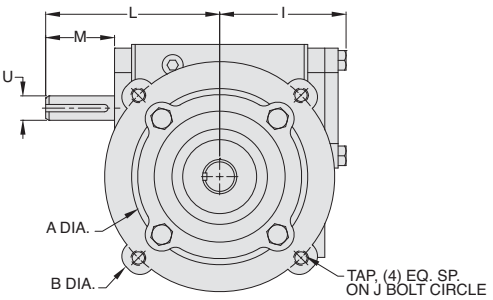




**ASSEMBLIES**

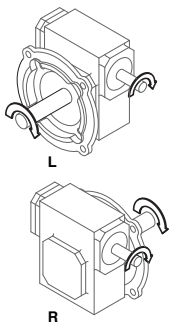



## Style C




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE CMQ, CM, C DIMENSIONS (Inches)

| Series | Output C-Face Frame | A | B | C | D | CD | I | J | L | M | N | R | X | Tap Size | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 56C | 4.50 | 6.64 | 4.66 | 1.72 | 1.33 | 2.61 | 5.88 | 3.82 | 1.76 | 5.00 | 2.06 | 1.84 | 3/8-16 UNC | .625 | .500 | 1/8 X 1.00 | 3/16 X 1.50 |
| GR818 | 140TC | 4.50 | 6.64 | 5.44 | 2.06 | 1.75 | 3.24 | 5.88 | 4.45 | 1.76 | 4.28 | 2.13 | 1.81 | 3/8-16 UNC | .875 | .625 | 3/16 X 1.38 | 3/16 X 1.38 |
| GR824 | 180TC | 8.50 | 9.00 | 6.88 | 2.69 | 2.38 | 3.77 | 7.25 | 5.51 | 2.38 | 6.59 | 2.37 | 1.97 | 1/2-13 UNC | 1.125 | .750 | 3/16 X 1.63 | 1/4 X 1.75 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Series | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❋ Style C and CM only.

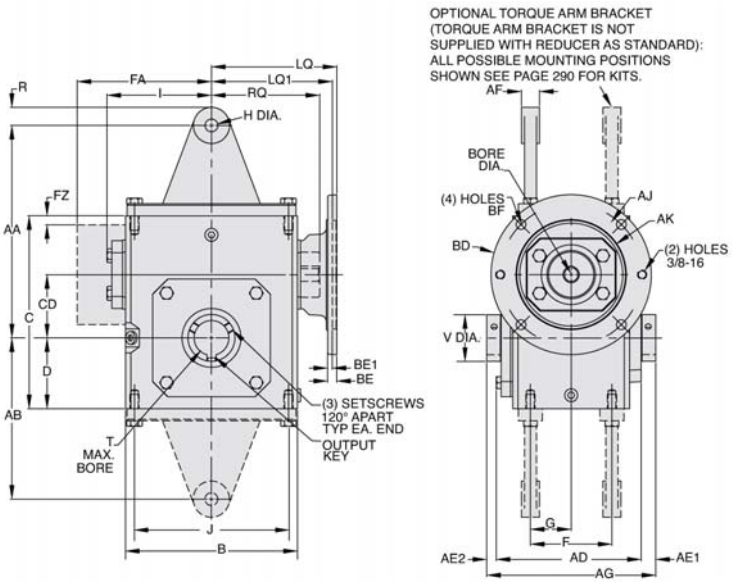
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# GR Series Dimensions

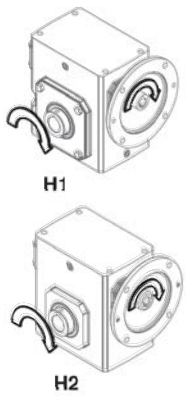
## Styles: HMQ, HM, H

CAST IRON GR SERIES

## Style HMQ

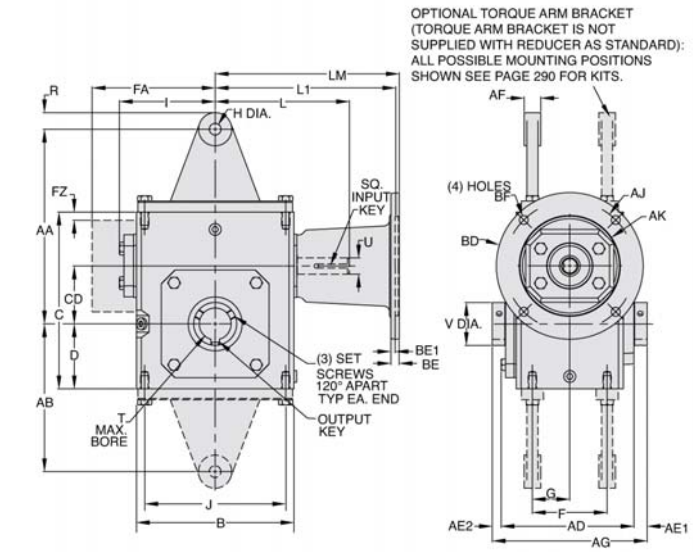



**ASSEMBLIES**

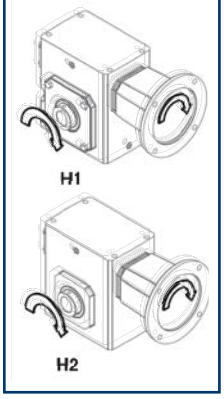



H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.

## Style HM

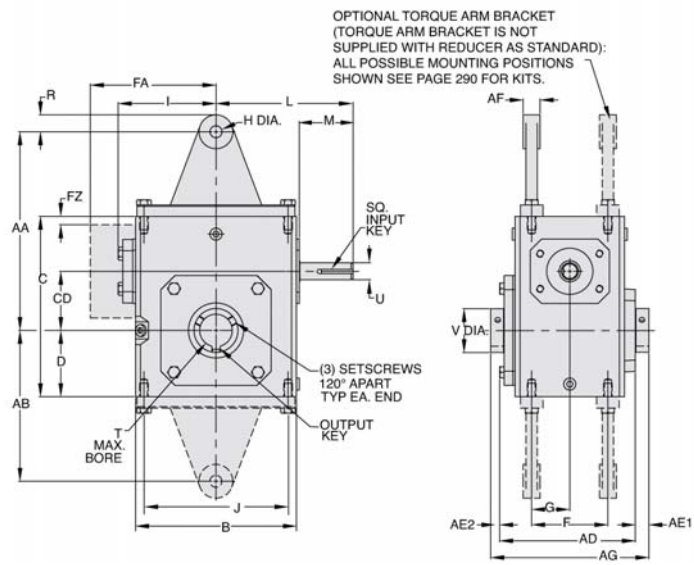



**ASSEMBLIES**

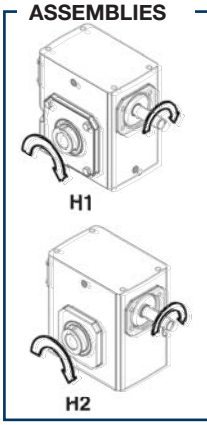



H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.

## Style H




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.






## STYLE HMQ, HM, H DIMENSIONS (Inches)

| Series | AD | AE1 | AE2 | AG | B | C | D | CD | F | FA▼ | FZ▼ | G | I | J | L | M | V | T MAX -0.000 +0.0025 | U +0.000 -0.0015 | Input Key* | Output Key + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 3.90 | 0.53 | 0.32 | 4.75 | 3.80 | 4.66 | 1.72 | 1.33 | 2.00 | N/A | N/A | 1.00 | 2.61 | 3.25 | 3.82 | 1.76 | 1.000 | 0.625 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 4.61 | 0.51 | 0.30 | 5.42 | 5.19 | 5.38 | 1.91 | 1.54 | 2.75 | N/A | N/A | 1.38 | 3.14 | 4.19 | 4.35 | 1.76 | 1.000 | 0.625 | 0.625 | 3/16 x 1.38 | 3/16 x 1.50 |
| GR818 | 4.73 | 0.49 | 0.28 | 5.50 | 5.19 | 5.75 | 2.06 | 1.75 | 2.75 | N/A | N/A | 1.38 | 3.24 | 4.19 | 4.45 | 1.76 | 1.440 | 1.000 | 0.625 | 3/16 x 1.38 | 1/4 x 3.00 |
| GR821 | 4.99 | 0.61 | 0.40 | 6.00 | 5.80 | 6.38 | 2.28 | 2.06 | ▲ | N/A | N/A | 1.44 | 3.61 | ▲ | 4.82 | 1.76 | 1.940 | 1.500 | 0.625 | 3/16 x 1.38 | 3/8 x 3.00 |
| GR824 | 5.18 | 0.51 | 0.31 | 6.00 | 6.12 | 6.94 | 2.50 | 2.38 | 2.88 | N/A | N/A | 1.44 | 3.77 | 5.00 | 5.51 | 2.38 | 1.940 | 1.500 | 0.750 | 3/16 x 1.63 | 3/8 x 3.00 |
| GR826x | 6.01 | 0.60 | 0.39 | 7.00 | 7.38 | 8.00 | 2.94 | 2.63 | 3.38 | N/A | N/A | 1.69 | 4.34 | 6.38 | 6.07 | 2.38 | 1.940 | 1.500 | 0.750 | 3/16 x 1.63 | 3/8 x 3.00 |
| GR830 | 6.53 | 0.60 | 0.36 | 7.50 | 8.12 | 8.88 | 3.25 | 3.00 | 4.00 | N/A | N/A | 2.00 | 4.84 | 7.00 | 6.57 | 2.38 | 2.756 | 2.188 | 0.875 | 3/16 x 1.63 | 1/2 x 3.00 |
| GR832x | 7.04 | 0.54 | 0.29 | 7.88 | 8.75 | 9.38 | 3.50 | 3.25 | 4.00 | N/A | N/A | 2.00 | 5.02 | 7.50 | 6.76 | 2.38 | 2.756 | 2.188 | 0.875 | 3/16 x 1.63 | 1/2 x 3.00 |
| GR842 | 7.53 | 0.63 | 0.34 | 8.50 | 10.25 | 11.38 | 4.44 | 4.25 | 5.00 | N/A | N/A | 2.50 | 6.10 | 8.50 | 9.57 | 3.47 | 2.756 | 2.188 | 1.250 | 1/4 x 2.50 | 1/2 x 3.00 |
| GR852 | 8.85 | 0.97 | 0.68 | 10.50 | 13.00 | 14.00 | 5.12 | 5.25 | 5.81 | N/A | N/A | 2.91 | 7.50 | 11.00 | 10.88 | 3.38 | 4.260 | 3.438 | 1.250 | 1/4 x3.00 | 7/8 x3.44 |
| GR860 | 10.52 | 0.52 | 0.52 | 11.50 | 14.50 | 16.50 | 6.50 | 6.00 | 6.38 | 11.13 | 0.33 | 3.19 | N/A | 12.75 | 11.78 | 3.41 | 4.256 | 3.438 | 1.500 | 3/8 x 3.00 | 7/8 x 3.44 |
| GR870 | 11.36 | 1.09 | 1.09 | 13.50 | 14.88 | 18.91 | 7.59 | 7.00 | 5.50 | 11.37 | 0.35 | 2.75 | N/A | 12.50 | 11.50 | 2.97 | 4.928 | 3.938 | 1.625 | 3/8 x 2.87** | 1 x 1/2** |
| GR880 | 12.48 | 1.03 | 1.03 | 14.50 | 17.00 | 20.96 | 8.86 | 8.00 | 6.50 | 12.52 | 0.57 | 3.25 | N/A | 14.25 | 12.50 | 2.84 | 5.553 | 4.438 | 1.875 | 1/2 x 2.81** | 1 x 1/2** |
| GR8100 | 15.78 | 1.39 | 1.39 | 18.50 | 20.88 | 25.47 | 10.36 | 10.00 | 6.88 | 14.69 | 0.51 | 3.44 | N/A | 14.75 | 15.50 | 3.76 | 4.256 | 5.438 | 2.250 | 1/2 x 3.69** | 1-1/4 x 5/8** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| GR821 | Identical | (F)3.00" x (J)4.75" | Identical | Identical | ✓ | | GRG |
| | | (F)2.88" x (J)5.00" | | | | ✓ | GRL |

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)✣

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

✣ Max bore dimensions shown. For additional bores available, refer to page 20.

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style HM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style H and HM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Note: Torque arm bracket available separately. Refer to page 274 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

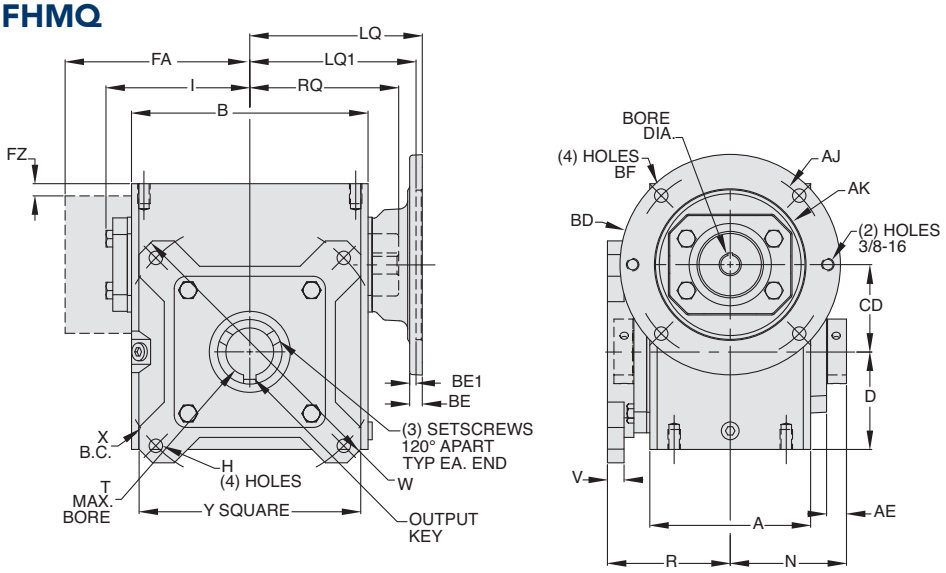
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

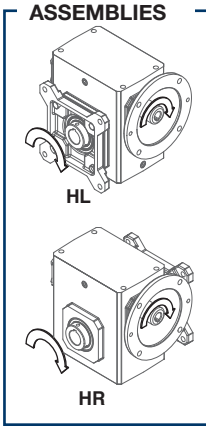
**Styles: FHMQ, FHM, FH**

CAST IRON GR SERIES

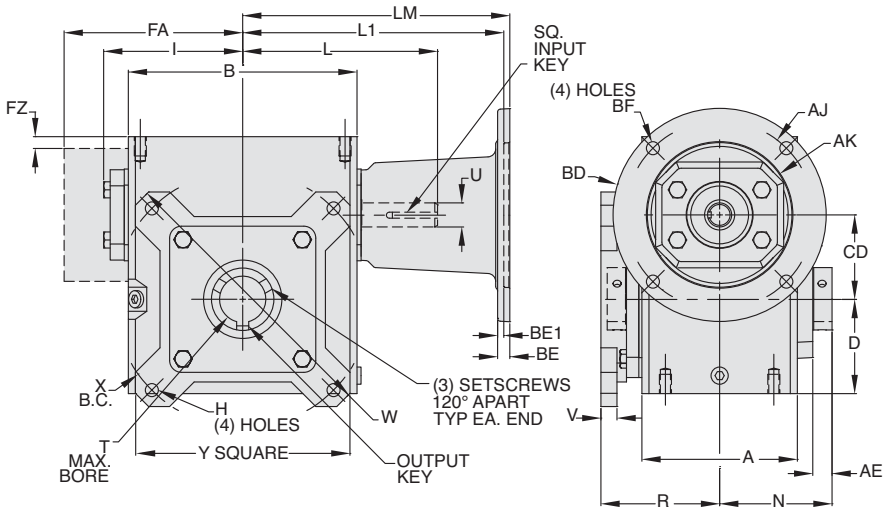
## Style FHMQ



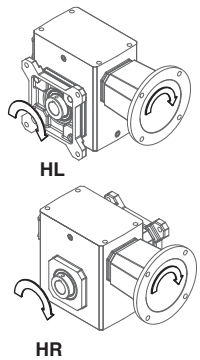

**ASSEMBLIES**



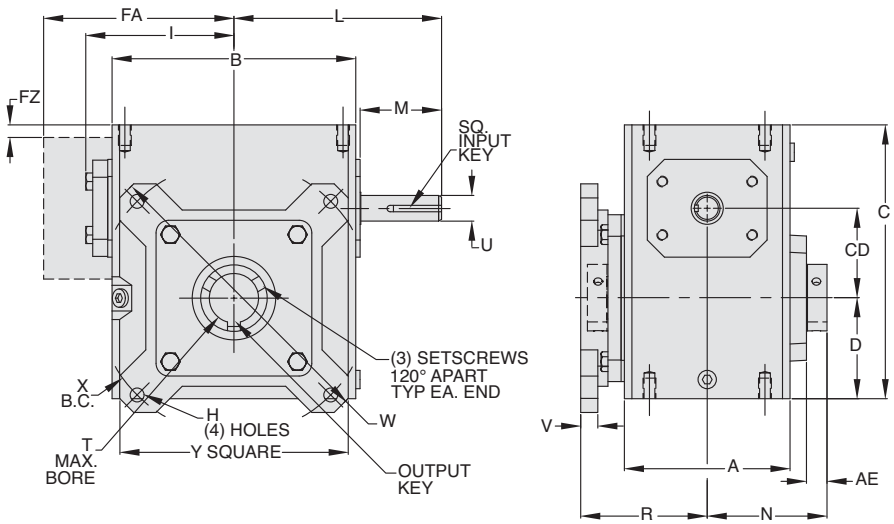

## Style FHM



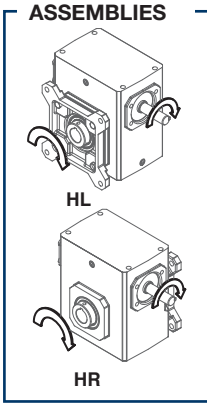

**ASSEMBLIES**




## Style FH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE FHMQ, FHM, FH DIMENSIONS (Inches)

| Series | A | B | BB | C | D | CD | FA t | FZ t | H | I | L | M | N | O | R | V | W | X | Y | T MAX+ -0.000 +0.0025 | U +0.000 -0.0015 | Input Key* | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 0.675 | 4.66 | 1.72 | 1.33 | N/A | N/A | 0.03 | 2.61 | 3.82 | 1.76 | 4.00 | 1.94 | 2.52 | 0.38 | 5.92 | 5.00 | 4.50 | 0.625 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 3.44 | 4.88 | 0.675 | 5.38 | 1.91 | 1.54 | N/A | N/A | 0.03 | 3.14 | 4.35 | 1.76 | 4.31 | 1.90 | 2.87 | 0.38 | 5.88 | 5.00 | 4.50 | 0.750 | 0.625 | 3/16 x 1.38 | 3/16 x 1.50 |
| GR818 | 3.56 | 5.06 | 0.925 | 5.75 | 2.06 | 1.75 | N/A | N/A | 0.03 | 3.24 | 4.45 | 1.76 | 4.31 | 1.84 | 3.18 | 0.38 | 6.64 | 5.88 | 5.00 | 0.875 | 0.625 | 3/16 x 1.38 | 3/16 x 1.38 |
| GR821 | 3.81 | 5.80 | 1.240 | 6.38 | 2.28 | 2.06 | N/A | N/A | 0.41 | 3.61 | 4.82 | 1.76 | 4.68 | 2.08 | 3.69 | 0.44 | 7.88 | 7.00 | 5.99 | 1.000 | 0.625 | 3/16 x 1.38 | 1/4 x 1.44 |
| GR824 | 4.06 | 6.12 | 1.560 | 6.94 | 2.50 | 2.38 | N/A | N/A | 0.41 | 3.77 | 5.51 | 2.38 | 5.14 | 2.44 | 3.73 | 0.44 | 8.39 | 7.50 | 6.27 | 1.125 | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR826x | 4.84 | 7.12 | 0.796 | 8.00 | 2.94 | 2.63 | N/A | N/A | 0.41 | 4.34 | 6.07 | 2.38 | 5.63 | 2.52 | 3.70 | 0.50 | 8.88 | 8.00 | 6.67 | 1.125 | 0.750 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR830 | 5.25 | 8.12 | 0.636 | 8.88 | 3.25 | 3.00 | N/A | N/A | 0.41 | 4.84 | 6.57 | 2.38 | 6.75 | 3.36 | 3.78 | 0.50 | 9.89 | 9.00 | 7.37 | 1.250 | 0.875 | 3/16 x 1.63 | 1/4 x 1.75 |
| GR832x | 5.75 | 8.50 | 0.636 | 9.38 | 3.50 | 3.25 | N/A | N/A | 0.41 | 5.02 | 6.76 | 2.38 | 7.06 | 3.42 | 4.03 | 0.50 | 9.89 | 9.00 | 7.37 | 1.688 | 0.875 | 3/16 x 1.63 | 3/8 x 2.25 |
| GR842 | 6.13 | 10.25 | 0.940 | 11.38 | 4.44 | 4.25 | N/A | N/A | 0.56 | 6.10 | 9.57 | 3.47 | 8.12 | 4.21 | 4.56 | 0.62 | 12.95 | 11.50 | 9.65 | 1.875 | 1.250 | 1/4 x 2.50 | 1/2 x 3.06 |
| GR852 | 7.19 | 13.00 | 1.340 | 14.00 | 5.12 | 5.25 | N/A | N/A | 0.69 | 7.50 | 10.88 | 3.38 | 9.16 | 4.53 | 5.62 | 0.75 | 15.50 | 14.00 | 11.75 | 2.000 | 1.250 | 1/4 x3.00 | 1/2 x 3.50 |
| GR860 | 8.13 | 14.25 | 2.603 | 16.50 | 6.50 | 6.00 | 11.13 | 0.33 | 0.69 | N/A | 11.78 | 3.41 | 10.00 | 4.65 | 7.26 | 0.75 | 18.00 | 15.63 | 14.00 | 2.500 | 1.500 | 3/8 x 3.00 | 5/8 x 4.00 |
| GR870 | 7.63 | 14.88 | 2.770 | 18.91 | 7.59 | 7.00 | 11.37 | 0.35 | 0.78 | N/A | 11.50 | 2.97 | 11.76 | 5.65 | 7.45 | 0.75 | 21.00 | 18.38 | 15.63 | 2.750 | 1.625 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880 | 8.63 | 17.00 | 3.090 | 20.96 | 8.86 | 8.00 | 12.52 | 0.57 | 1.03 | N/A | 12.50 | 2.84 | 12.25 | 5.98 | 8.34 | 0.75 | 24.00 | 21.00 | 17.88 | 3.000 | 1.875 | 1/2 x 2.81** | 3/4 X 4.50** |
| GR8100 | 9.53 | 20.88 | 3.298 | 25.47 | 10.36 | 10.00 | 14.69 | 0.51 | 1.03 | N/A | 15.50 | 3.76 | 14.75 | 6.76 | 9.07 | 1.00 | 29.00 | 25.00 | 21.19 | 3.750 | 2.250 | 1/2 x 3.69** | 7/8 X 5.00** |

## FEATURE COMPARISON (821)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | ✓ | ✓ | GRL |

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | 180TC | LQ1 | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| GR818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR821✖ | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| GR826✖ | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR830 | N/A | 8.82 | 9.82 | N/A | 5.95■ | 6.15 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| GR832✖ | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |
| GR860 | N/A | N/A | 15.88 | 16.50 | 10.45■ | 9.33 | 9.33 | 9.94 | 10.01■ | 8.69 | 8.69 | 8.69 |
| GR870 | N/A | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | .500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)✣

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| GR818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR821✖ | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| GR826✖ | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR830 | N/A | 4.78 | 5.41 | 5.41 | 5.88 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832✖ | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

✣ Max bore dimensions shown. For additional bores available, refer to page 20.

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FHM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

❋ Style FH and FHM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

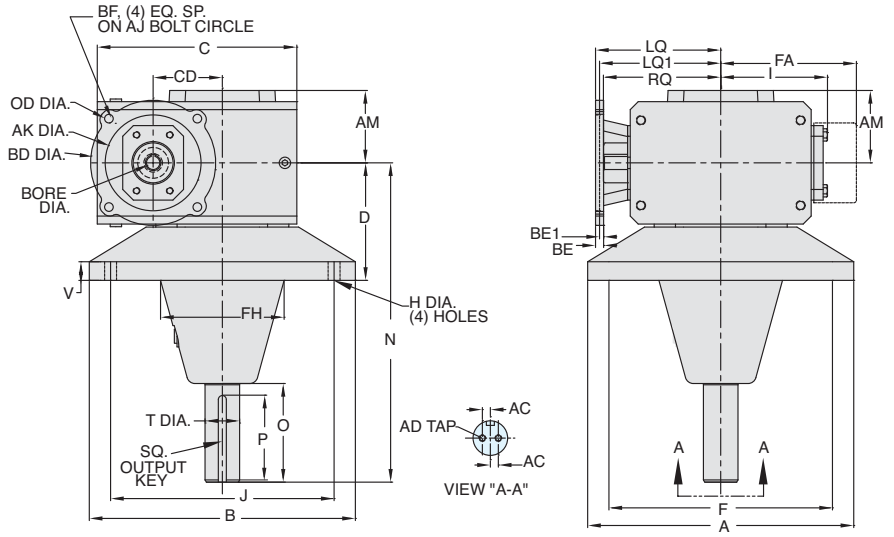
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

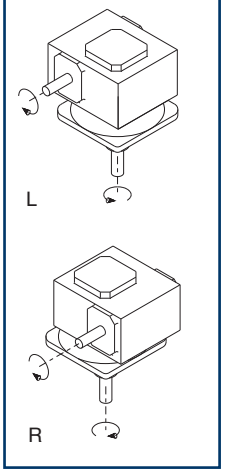
# GR Series Dimensions

## Styles: FEMQ, FEM, FE

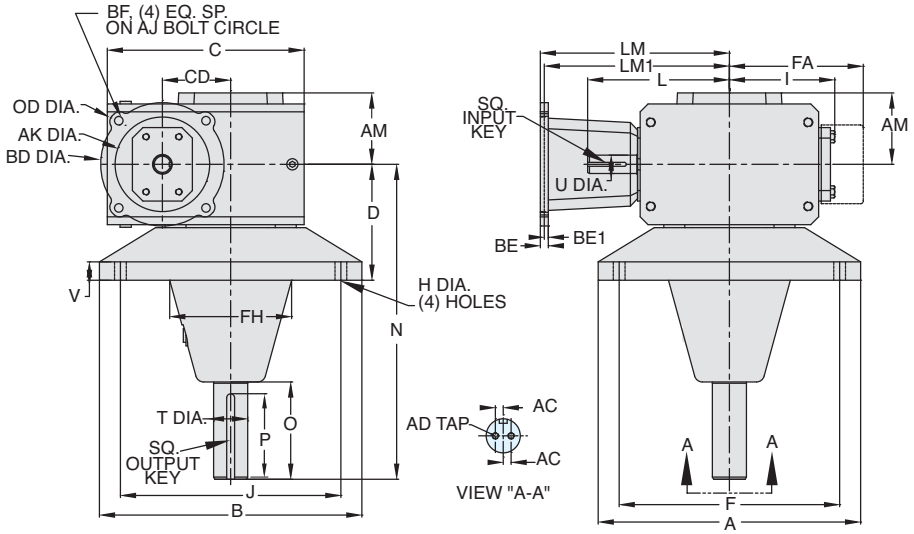
CAST IRON GR SERIES

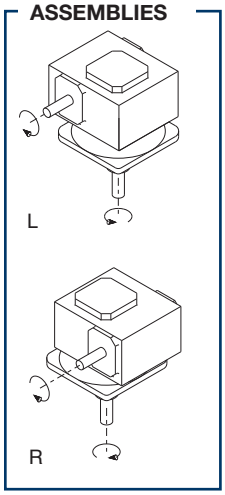
## Style FEMQ



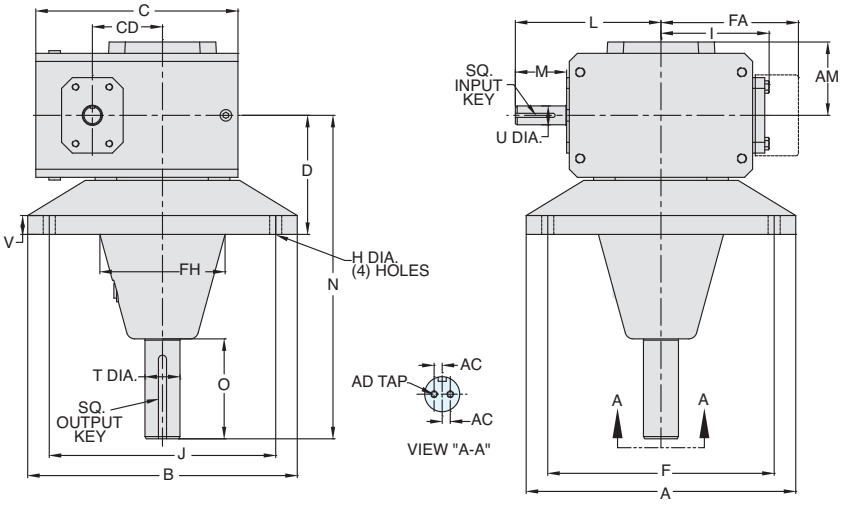



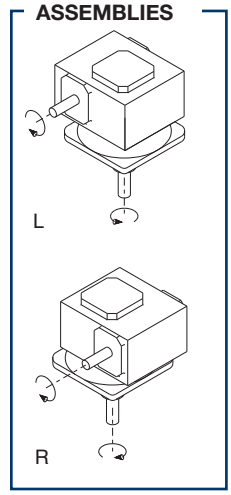

## Style FEM




## Style FE




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FEMQ, FEM, FE DIMENSIONS (Inches)

| Series | A | AC | AD | AM | B | D | CD | F | FA ▼ | FH | H | I | J | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 3.15 | 11.00 | 4.60 | 3.00 | 9.00 | N/A | 5.12 | .56 | 4.84 | 9.00 | 6.57 | 2.38 |
| GR832 | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 3.40 | 12.50 | 5.52 | 3.25 | 10.50 | N/A | 5.75 | .56 | 5.02 | 10.50 | 6.76 | 2.38 |
| GR842 | 14.00 | 0.500 | .38-16 UNC X 1.00 DP | 3.62 | 14.00 | 5.74 | 4.25 | 12.00 | N/A | 6.75 | .69 | 6.10 | 12.00 | 9.57 | 3.47 |
| GR852 | 16.00 | 0.750 | .38-16 UNC X 1.00 DP | 4.28 | 16.00 | 6.00 | 5.25 | 14.00 | N/A | 8.00 | .81 | 7.50 | 14.00 | 10.88 | 3.38 |
| GR860 | 19.50 | 0.750 | .38-16 UNC X 1.00 DP | 5.28 | 19.50 | 7.00 | 6.00 | 17.00 | 11.13 | 9.50 | .88 | N/A | 17.00 | 11.78 | 3.41 |
| GR870 | 22.00 | 1.000 | .38-16 UNC X 1.00 DP | 6.06 | 22.00 | 8.50 | 7.00 | 19.00 | 11.37 | 10.75 | 1.13 | N/A | 19.00 | 11.50 | 2.97 |
| GR880 | 28.00 | 1.062 | .62-11 UNC X 1.50 DP | 6.22 | 28.00 | 10.00 | 8.00 | 24.00 | 12.52 | 13.75 | 1.31 | N/A | 24.00 | 12.50 | 2.84 |
| GR8100 | 32.00 | 1.118 | .62-11 UNC X 1.50 DP | 7.94 | 32.00 | 12.50 | 10.00 | 28.00 | 14.69 | 17.00 | 1.31 | N/A | 28.00 | 15.50 | 3.76 |

| Series | N | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❋ | P❖ |
|---|---|---|---|---|---|---|---|
| GR830 | 14.38 | 4.96 | 0.78 | 1.438 | .875 | 3/16 x 1.63 | 3/8 x 3.88 |
| GR832 | 15.00 | 4.63 | 0.88 | 1.625 | .875 | 3/16 x 1.63 | 3/8 x 3.69 |
| GR842 | 16.50 | 5.91 | 1.00 | 1.688 | 1.250 | 1/4 X 2.50 | 3/8 x 4.68 |
| GR852 | 16.50 | 5.62 | 1.25 | 2.188 | 1.250 | 1/4 X 3.00 | 1/2 x 4.63 |
| GR860 | 22.50 | 7.63 | 1.50 | 2.438 | 1.500 | 3/8 X 3.00 | 5/8 x 6.50 |
| GR870 | 24.00 | 7.63 | 1.75 | 2.937 | 1.625 | 3/8 x 2.87** | 3/4 x 6.44 |
| GR880 | 27.06 | 9.25 | 2.00 | 3.438 | 1.875 | 1/2 x 2.81** | 7/8 x 8.00 |
| GR8100 | 29.50 | 9.43 | 2.25 | 3.938 | 2.250 | 1/2 x 3.69** | 1 x 7.75 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 56C/140TC | 180TC | 210TC | 250TC | 56C/140TC | 180TC | 210TC | 250TC |
| GR830 | 8.82 | 9.82 | N/A | 5.95 | 6.15 | 6.56 | N/A | 5.32 | 5.63 | 6.06 | N/A |
| GR832 | 9.01 | 10.01 | N/A | 6.14 | 6.34 | 6.75 | N/A | 5.51 | 5.81 | 6.25 | N/A |
| GR842 | 11.81 | 12.90 | 13.46 | 6.45 | 7.21 | 7.21 | 7.77 | 6.04 | 6.68 | 6.68 | 7.24 |
| GR852 | 13.21 | 14.30 | 14.86 | 7.85 | 8.61 | 8.61 | 9.17 | 7.35 | 7.98 | 7.98 | 8.54 |
| GR860 | N/A | 15.88 | 16.50 | 10.45 | 9.33 | 9.33 | 9.94 | 10.01 | 8.69 | 8.69 | 8.69 |
| GR870 | N/A | 15.50 | 15.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GR880 | N/A | 16.58● | 16.58 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

### NEMA DIMENSIONS (Inches)

| Frame | AJb | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BFb |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ | | | | | RQ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | D71D | D80D | D90D | D100LD/ D112MD | D132D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| GR830 | 4.78 | 5.41 | 5.41 | 5.88 | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| GR832 | 4.97 | 5.59 | 5.59 | 6.07 | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR842 | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR852 | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

❋ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FEM with frame sizes 180TC-250TC.

■ 180TC not available

● Metric IEC B5 input flange options are available only on quill input styles.

❋ Style FE and FEM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

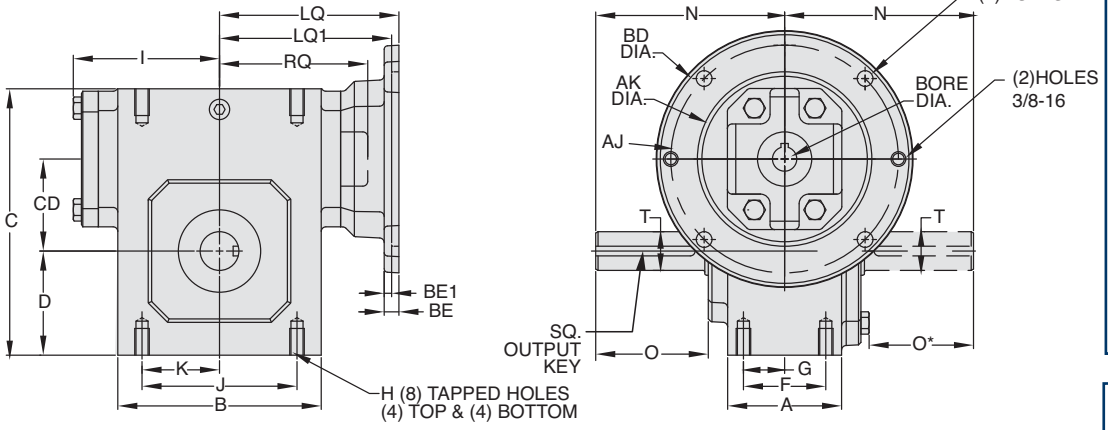
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# NH Series Dimensions

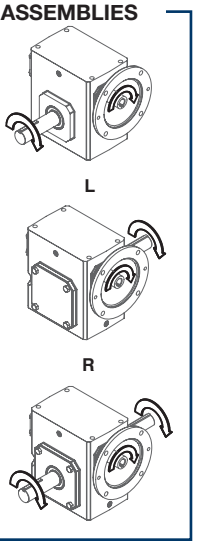
## Styles: BMQ, BM, B

CAST IRON NH SERIES

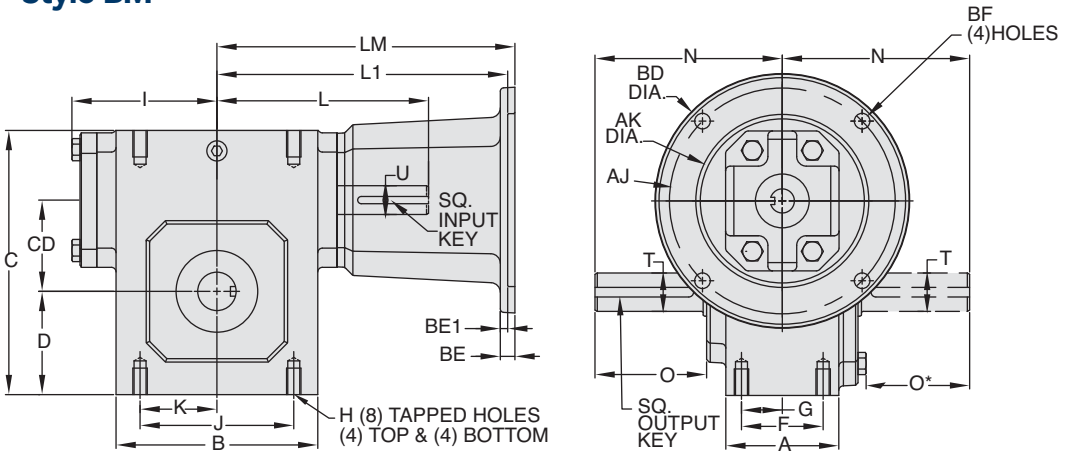
## Style BMQ



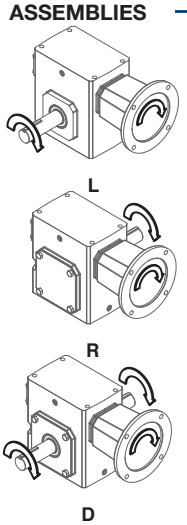

ASSEMBLIES



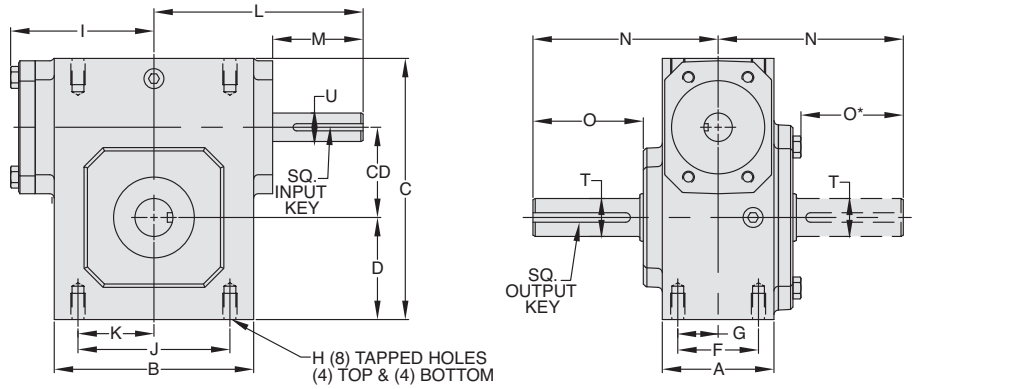

## Style BM



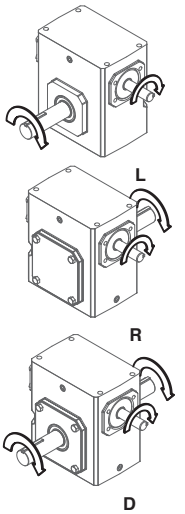

ASSEMBLIES




## Style B




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# NH Series Dimensions

## Styles: BMQ, BM, B



### STYLE BMQ, BM, B DIMENSIONS (Inches)

| Size | A | B | C | CD | D | F | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 3.80 | 4.66 | 1.33 | 1.72 | 2.00 | 1.00 | 5/16-18 UNC | .50 | 2.61 | 3.25 | 1.63 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 2.57 | 4.06 | 5.00 | 1.54 | 1.88 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.14 | 3.25 | 1.63 | 4.35 | 1.76 | 4.25 | 2.56 | 2.35 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 2.56 | 4.50 | 5.44 | 1.75 | 2.06 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.24 | 3.75 | 1.88 | 4.45 | 1.76 | 4.75 | 2.94 | 2.73 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 2.50 | 4.50 | 6.00 | 2.06 | 2.31 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.61 | 3.25 | 1.63 | 4.82 | 1.76 | 4.34 | 2.66 | 2.45 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 2.94 | 5.25 | 6.88 | 2.38 | 2.69 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 3.77 | 4.00 | 2.00 | 5.51 | 2.38 | 4.88 | 2.91 | 2.69 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 2.88 | 5.75 | 7.38 | 2.63 | 2.94 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 4.34 | 4.00 | 2.00 | 6.07 | 2.38 | 5.25 | 3.28 | 3.07 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 3.12 | 6.62 | 8.25 | 3.00 | 3.38 | 2.38 | 1.19 | 3/8-16 UNC | .75 | 4.84 | 4.63 | 2.31 | 6.57 | 2.38 | 5.77 | 3.56 | 3.31 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 4.44 | 8.00 | 10.06 | 3.25 | 4.19 | 3.50 | 1.75 | 1/2-13 UNC | 1.00 | 5.02 | 7.00 | 3.50 | 6.76 | 2.38 | 7.03 | 4.24 | 3.99 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 4.75 | 9.75 | 11.50 | 4.25 | 4.50 | 3.75 | 1.88 | 1/2-13 UNC | 1.00 | 6.10 | 7.50 | 3.75 | 9.57 | 3.47 | 7.50 | 3.88 | 3.59 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 6.19 | 11.00 | 12.69 | 5.25 | 4.88 | 4.50 | 2.25 | 5/8-11 UNC | 1.25 | 7.50 | 9.00 | 4.50 | 10.88 | 3.38 | 9.00 | 4.72 | 4.47 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.77■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style B and BM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| UF | BMQ |
| UFC | BM |
| U | B |

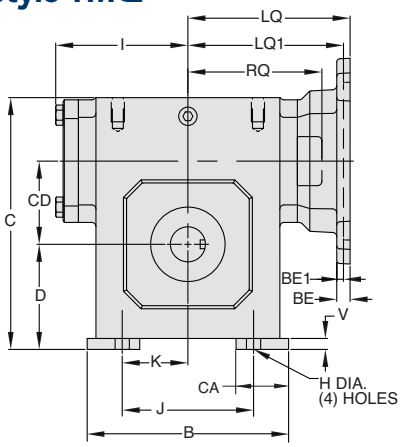
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

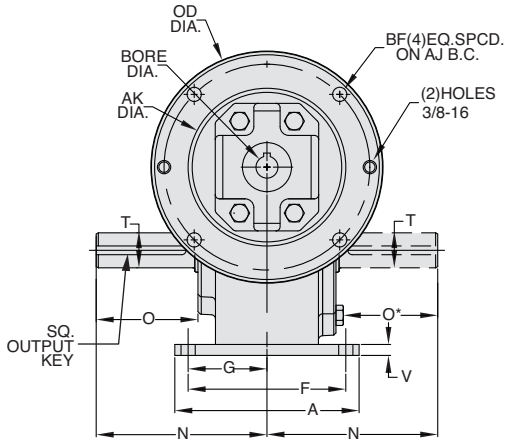
# NH Series Dimensions

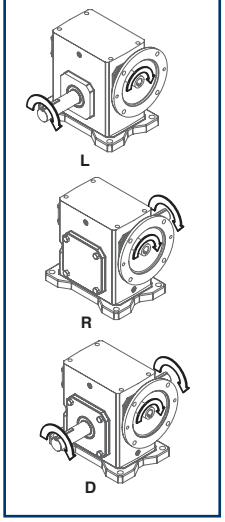
## Styles: TMQ, TM, T

CAST IRON NH SERIES

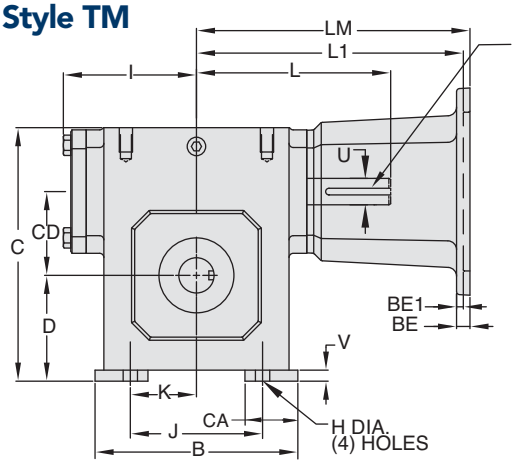
## Style TMQ

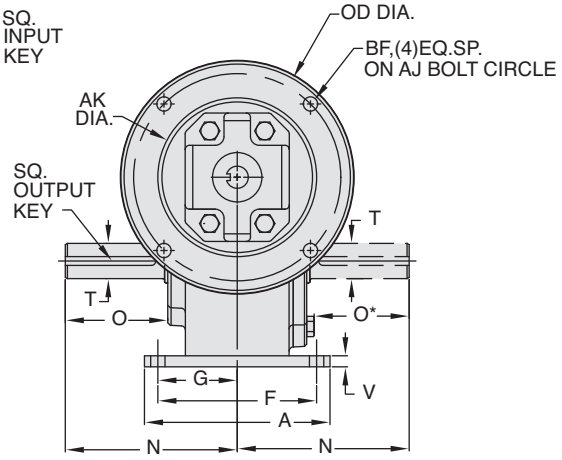


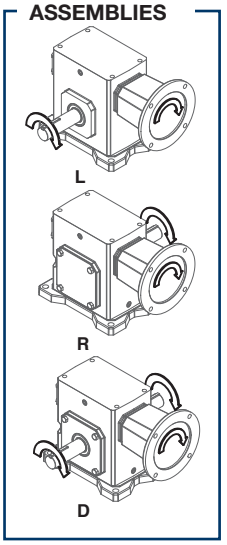



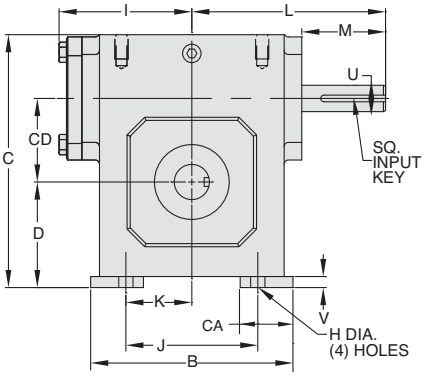

## Style TM

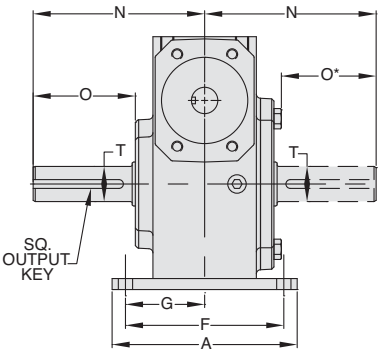


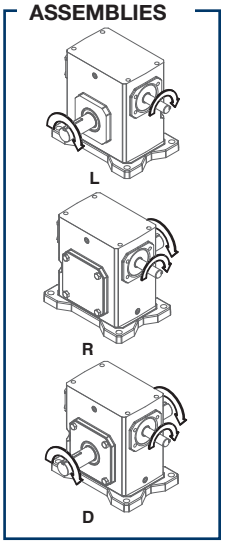




## StyleT




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE TMQ, TM, T DIMENSIONS (Inches)

| Size | A | B | C | CA | CD | D | F | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 4.00 | 5.01 | 4.97 | 1.50 | 1.33 | 2.03 | 3.25 | 1.63 | 0.28 | 2.61 | 4.25 | 2.13 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 5.25 | 5.19 | 5.31 | 1.50 | 1.54 | 2.19 | 4.50 | 2.25 | 0.34 | 3.14 | 4.19 | 2.09 | 4.35 | 1.76 | 4.25 | 2.56 | 2.35 | 0.31 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 4.62 | 5.89 | 5.82 | 1.88 | 1.75 | 2.44 | 3.50 | 1.75 | 0.41 | 3.24 | 4.63 | 2.31 | 4.45 | 1.76 | 4.75 | 2.94 | 2.73 | 0.38 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 5.25 | 5.19 | 6.31 | 1.50 | 2.06 | 2.63 | 4.50 | 2.25 | 0.34 | 3.61 | 4.19 | 2.09 | 4.82 | 1.76 | 4.34 | 2.66 | 2.45 | 0.31 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 5.25 | 5.75 | 7.19 | 1.50 | 2.38 | 3.00 | 4.50 | 2.25 | 0.41 | 3.77 | 3.75 | 1.88 | 5.51 | 2.38 | 4.88 | 2.91 | 2.69 | 0.31 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 6.13 | 6.51 | 7.69 | 2.00 | 2.63 | 3.25 | 4.13 | 2.06 | 0.41 | 4.34 | 4.75 | 2.38 | 6.07 | 2.38 | 5.25 | 3.28 | 3.07 | 0.31 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 6.13 | 7.74 | 8.56 | 2.25 | 3.00 | 3.69 | 4.13 | 2.06 | 0.41 | 4.84 | 6.00 | 3.00 | 6.57 | 2.38 | 5.77 | 3.56 | 3.31 | 0.31 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 7.50 | 9.25 | 10.44 | 2.50 | 3.25 | 4.56 | 6.50 | 3.25 | 0.41 | 5.02 | 7.75 | 3.88 | 6.76 | 2.38 | 7.03 | 4.24 | 3.99 | 0.38 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 6.75 | 10.99 | 12.00 | 2.50 | 4.25 | 5.00 | 5.75 | 2.88 | 0.56 | 6.10 | 9.75 | 4.88 | 9.57 | 3.47 | 7.50 | 3.88 | 3.59 | 0.50 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 8.25 | 13.24 | 13.82 | 3.00 | 5.25 | 6.00 | 7.00 | 3.50 | 0.69 | 7.50 | 12.00 | 6.00 | 10.88 | 3.38 | 9.00 | 4.72 | 4.47 | 1.13 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style T and TM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| ZF | TMQ |
| ZFC | TM |
| Z | T |

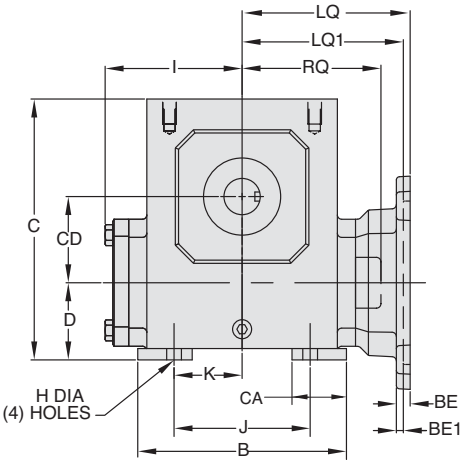
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

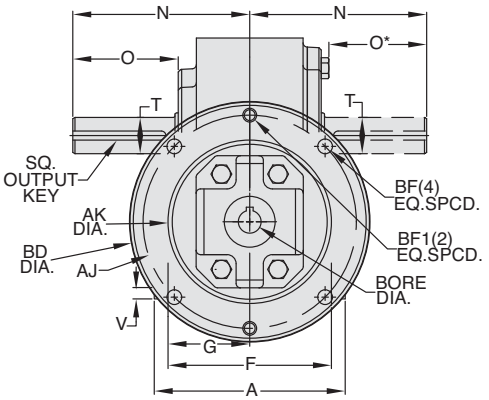
# NH Series Dimensions

## Styles: UMQ, UM, U

CAST IRON NH SERIES

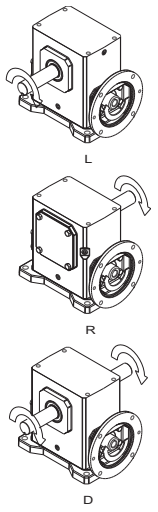
## Style UMQ



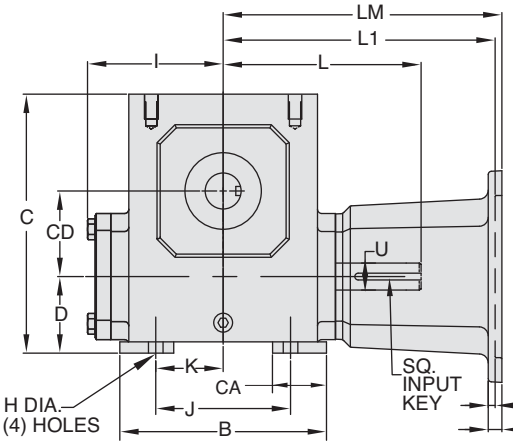



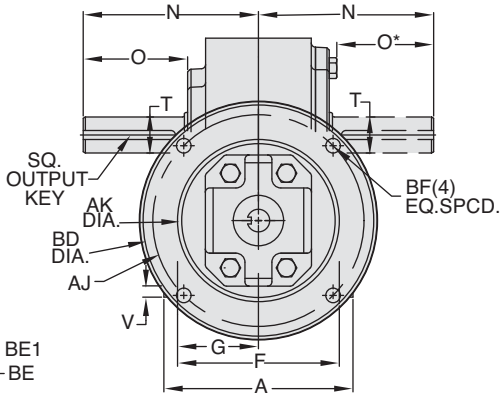

WARNING: "FLANGE MAY EXTEND BELOW BASE."

**ASSEMBLIES**



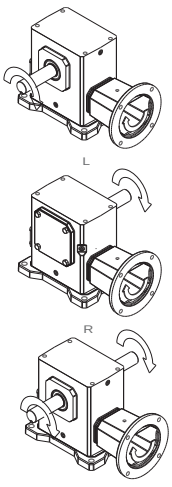

## Style UM



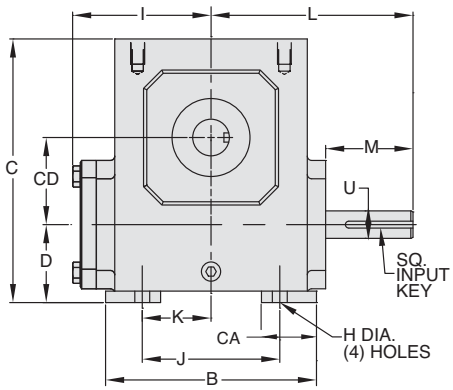



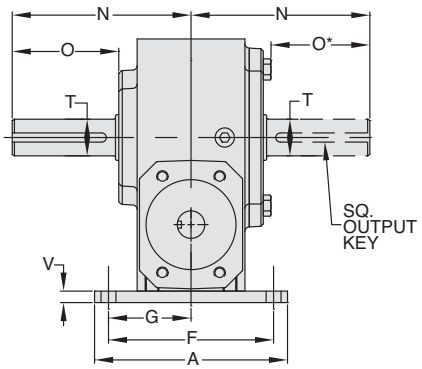

WARNING: "FLANGE MAY EXTEND BELOW BASE."

**ASSEMBLIES**

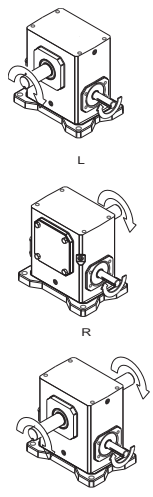



## Style U




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE UMQ, UM, U DIMENSIONS (Inches)

| Size | A | B | C | CA | CD | D | F | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 4.00 | 5.01 | 4.97 | 1.50 | 1.33 | 1.92 | 3.25 | 1.63 | 0.28 | 2.61 | 4.25 | 2.13 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 5.25 | 5.19 | 5.31 | 1.50 | 1.54 | 1.90 | 4.50 | 2.25 | 0.34 | 3.14 | 4.19 | 2.09 | 4.35 | 1.76 | 4.25 | 2.56 | 2.35 | 0.31 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 4.62 | 5.89 | 5.82 | 1.88 | 1.75 | 2.00 | 3.50 | 1.75 | 0.41 | 3.24 | 4.63 | 2.31 | 4.45 | 1.76 | 4.75 | 2.94 | 2.73 | 0.38 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 5.25 | 5.19 | 6.31 | 1.50 | 2.06 | 1.94 | 4.50 | 2.25 | 0.34 | 3.61 | 4.19 | 2.09 | 4.82 | 1.76 | 4.34 | 2.66 | 2.45 | 0.31 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 5.25 | 5.75 | 7.19 | 1.50 | 2.38 | 2.13 | 4.50 | 2.25 | 0.41 | 3.77 | 3.75 | 1.88 | 5.51 | 2.38 | 4.88 | 2.91 | 2.69 | 0.31 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 6.13 | 6.51 | 7.69 | 2.00 | 2.63 | 2.13 | 4.13 | 2.06 | 0.41 | 4.34 | 4.75 | 2.38 | 6.07 | 2.38 | 5.25 | 3.28 | 3.07 | 0.31 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 6.13 | 7.74 | 8.56 | 2.25 | 3.00 | 2.19 | 4.13 | 2.06 | 0.41 | 4.84 | 6.00 | 3.00 | 6.57 | 2.38 | 5.77 | 3.56 | 3.31 | 0.31 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 7.50 | 9.25 | 10.44 | 2.50 | 3.25 | 3.00 | 6.50 | 3.25 | 0.41 | 5.02 | 7.75 | 3.88 | 6.76 | 2.38 | 7.03 | 4.24 | 3.99 | 0.38 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 6.75 | 10.99 | 12.00 | 2.50 | 4.25 | 3.25 | 5.75 | 2.88 | 0.56 | 6.10 | 9.75 | 4.88 | 9.57 | 3.47 | 7.50 | 3.88 | 3.59 | 0.50 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 8.25 | 13.24 | 13.82 | 3.00 | 5.25 | 3.69 | 7.00 | 3.50 | 0.69 | 7.50 | 12.00 | 6.00 | 10.88 | 3.38 | 9.00 | 4.72 | 4.47 | 1.13 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style U and UM only.

Note: Styles UMQ, UM and U are worm under mounting assemblies and not recommended due to increase potential for high speed shaft seal leakage and potential mounting interference. Motor flange may extend below base. Contact Factory for selection assistance.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| UBF | UMQ |
| UBFC | UM |
| UB | U |

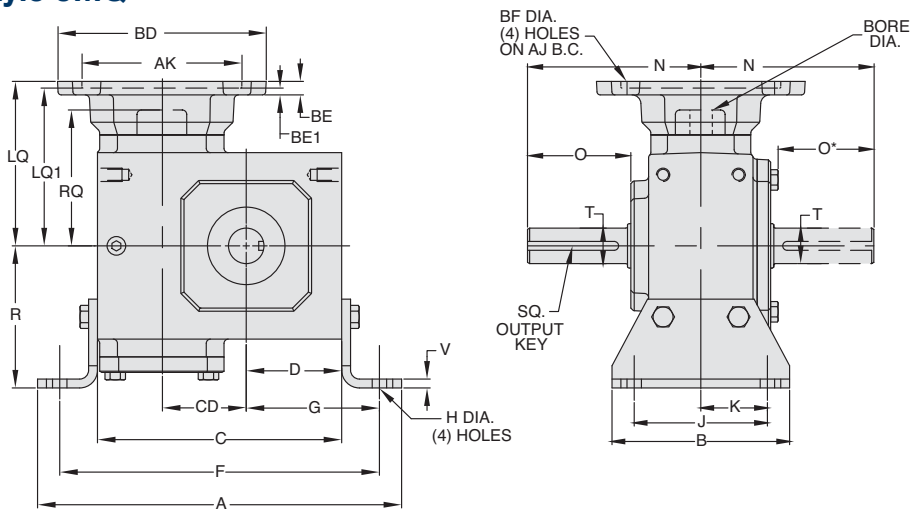
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

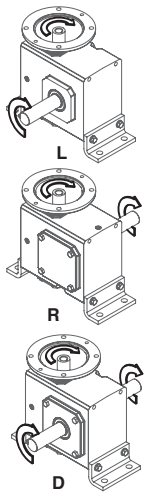
### Styles: JMQ, JM, J

CAST IRON NH SERIES

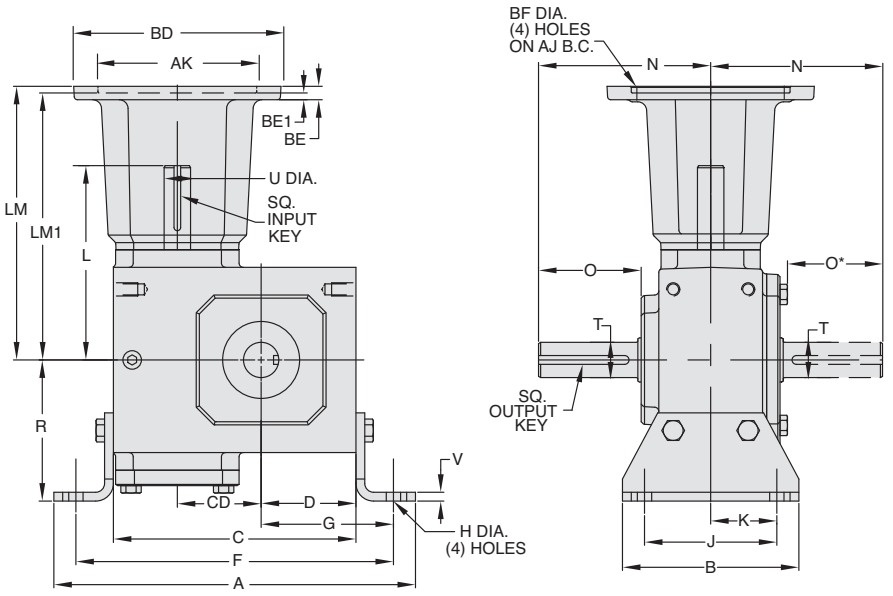
## Style JMQ



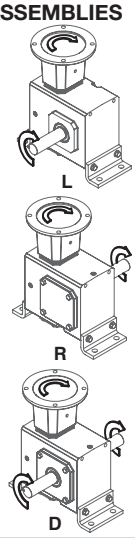

**ASSEMBLIES**



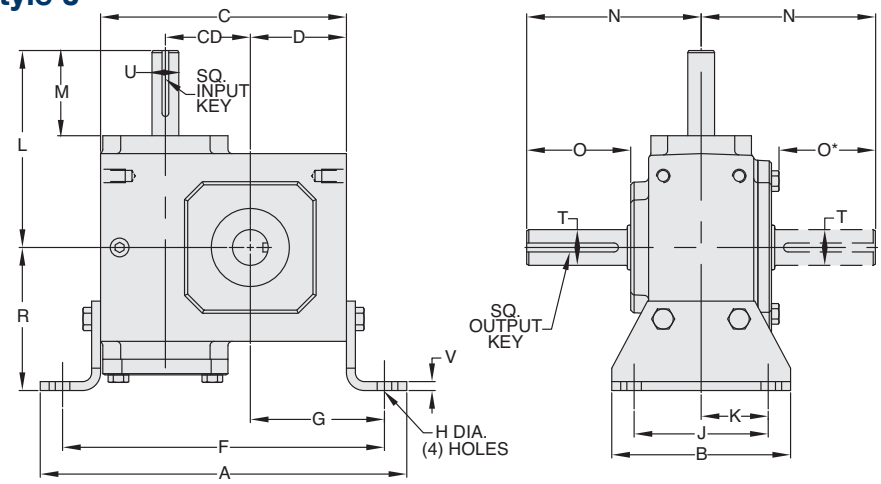

## Style JM



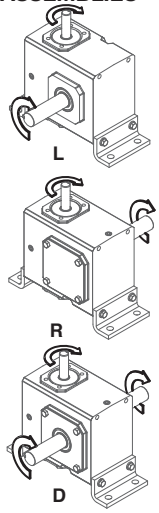

**ASSEMBLIES**




## Style J




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE JMQ, JM, J DIMENSIONS (Inches)

| Size | A | B | C | CD | D | F | G | H | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 7.42 | 2.75 | 4.66 | 1.33 | 1.72 | 6.42 | 2.60 | 0.38 | 2.00 | 1.00 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 2.94 | 0.25 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 8.06 | 3.75 | 5.00 | 1.54 | 1.88 | 7.06 | 2.91 | 0.34 | 2.75 | 1.38 | 4.35 | 1.76 | 4.25 | 2.56 | 2.35 | 3.75 | 0.25 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 8.50 | 3.75 | 5.44 | 1.75 | 2.06 | 7.50 | 3.09 | 0.34 | 2.75 | 1.38 | 4.45 | 1.76 | 4.75 | 2.94 | 2.73 | 4.00 | 0.25 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 9.06 | 3.75 | 6.00 | 2.06 | 2.31 | 8.06 | 3.34 | 0.34 | 2.75 | 1.38 | 4.82 | 1.76 | 4.34 | 2.66 | 2.45 | 3.75 | 0.25 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 9.96 | 5.00 | 6.88 | 2.38 | 2.69 | 8.70 | 3.60 | 0.41 | 3.75 | 1.88 | 5.51 | 2.38 | 4.88 | 2.91 | 2.69 | 4.44 | 0.25 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 10.46 | 5.00 | 7.38 | 2.63 | 2.94 | 9.20 | 3.85 | 0.41 | 3.75 | 1.88 | 6.07 | 2.38 | 5.25 | 3.28 | 3.07 | 4.44 | 0.25 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 12.01 | 5.25 | 8.25 | 3.00 | 3.38 | 10.75 | 4.63 | 0.41 | 4.00 | 2.00 | 6.57 | 2.38 | 5.77 | 3.56 | 3.31 | 4.94 | 0.31 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 14.00 | 6.25 | 10.06 | 3.25 | 4.19 | 12.50 | 5.41 | 0.53 | 5.00 | 2.50 | 6.76 | 2.38 | 7.03 | 4.24 | 3.99 | 5.25 | 0.31 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 16.50 | 6.75 | 11.50 | 4.25 | 4.50 | 15.00 | 6.25 | 0.69 | 5.00 | 2.50 | 9.57 | 3.47 | 7.50 | 3.88 | 3.59 | 6.50 | 0.50 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 17.69 | 7.20 | 12.69 | 5.25 | 4.88 | 16.31 | 6.69 | 0.69 | 5.81 | 2.91 | 10.88 | 3.38 | 9.00 | 4.72 | 4.47 | 7.75 | 0.50 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style J and JM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| JF | JMQ |
| JFC | JM |
| J | J |

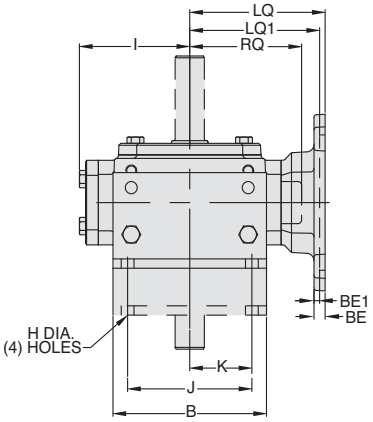
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

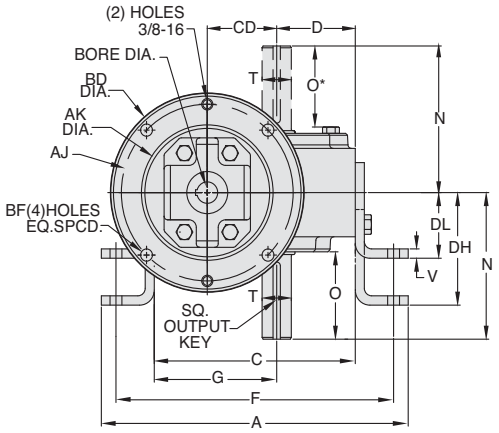
# NH Series Dimensions

**Styles: V_MQ, V_M, V_**

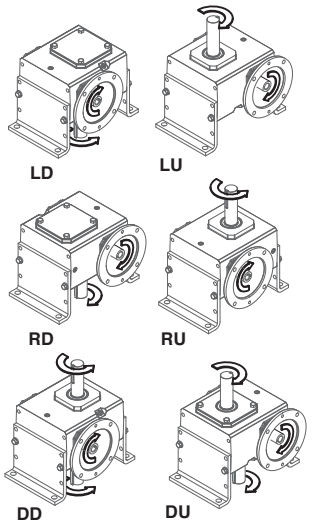
CAST IRON NH SERIES

## Style V(L OR H)MQ

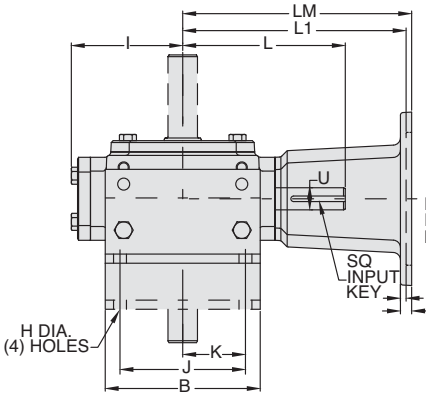


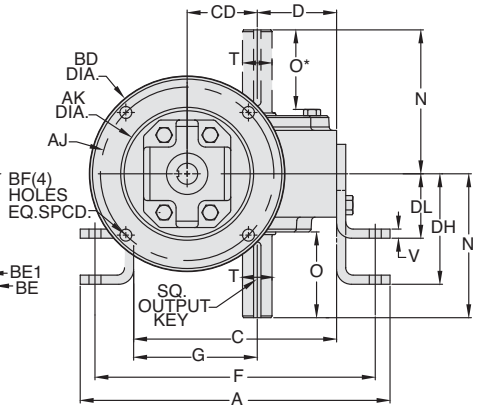




ASSEMBLIES

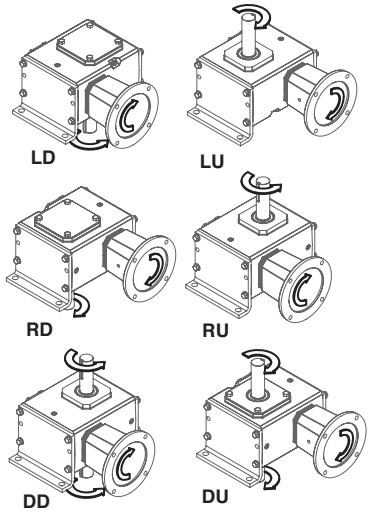



## Style V(L OR H)M

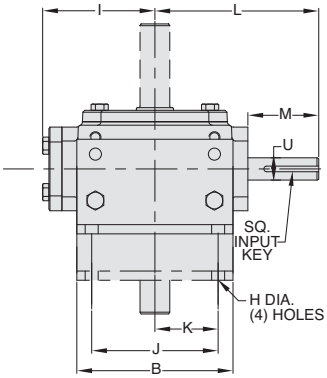


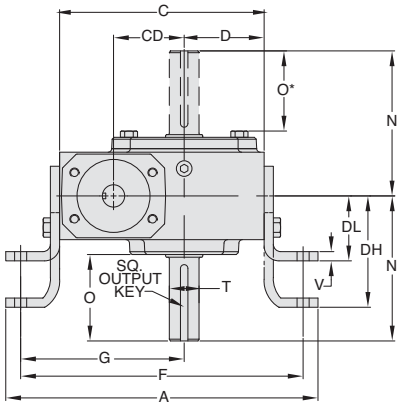




ASSEMBLIES

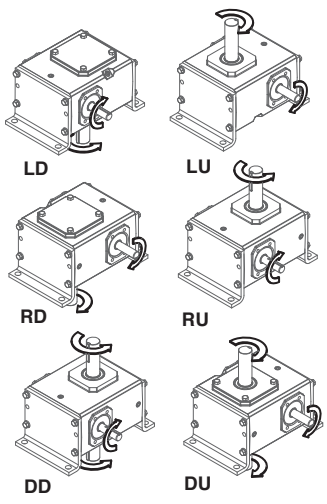



## Style V(L OR H)




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE V_MQ, V_M, V_ DIMENSIONS (Inches)

| Size | A | B | CD | DL | DH | F | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 7.78 | 4.00 | 1.33 | 2.00 | 3.88 | 6.78 | 4.00 | 0.44 | 2.61 | 3.00 | 1.50 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.72 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 8.12 | 4.00 | 1.54 | 1.94 | 3.82 | 7.12 | 4.18 | 0.44 | 3.14 | 3.00 | 1.50 | 4.35 | 1.76 | 4.25 | 2.56 | 2.35 | 1.88 | 0.31 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 8.56 | 4.75 | 1.75 | 1.94 | 3.82 | 7.56 | 4.44 | 0.44 | 3.24 | 3.00 | 1.50 | 4.45 | 1.76 | 4.75 | 2.94 | 2.73 | 2.06 | 0.31 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 9.12 | 4.00 | 2.06 | 1.94 | 3.82 | 8.12 | 4.75 | 0.44 | 3.61 | 3.00 | 1.50 | 4.82 | 1.76 | 4.34 | 2.66 | 2.45 | 2.31 | 0.31 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 10.50 | 5.25 | 2.38 | 2.18 | 3.74 | 9.50 | 5.50 | 0.44 | 3.77 | 4.25 | 2.13 | 5.51 | 2.38 | 4.88 | 2.91 | 2.69 | 2.69 | 0.31 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 11.00 | 5.25 | 2.63 | 2.18 | 3.74 | 10.00 | 5.75 | 0.44 | 4.34 | 4.25 | 2.13 | 6.07 | 2.38 | 5.25 | 3.28 | 3.07 | 2.94 | 0.31 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 11.87 | 6.00 | 3.00 | 2.31 | 3.69 | 10.87 | 6.18 | 0.44 | 4.84 | 4.75 | 2.38 | 6.57 | 2.38 | 5.77 | 3.56 | 3.31 | 3.38 | 0.31 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 13.86 | 8.00 | 3.25 | 3.50 | 4.81 | 12.82 | 7.25 | 0.47 | 5.02 | 7.00 | 3.50 | 6.76 | 2.38 | 7.03 | 4.24 | 3.99 | 4.19 | 0.31 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 16.38 | 9.50 | 4.25 | 5.00 | 7.50 | 15.00 | 8.75 | 0.69 | 6.10 | 7.88 | 3.94 | 9.57 | 3.47 | 7.50 | 3.88 | 3.59 | 4.50 | 0.50 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 18.29 | 11.50 | 5.25 | 5.16 | 9.16 | 16.69 | 9.81 | 0.78 | 7.50 | 10.00 | 5.00 | 10.88 | 3.38 | 9.00 | 4.72 | 4.47 | 4.88 | 0.50 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style V_ and V_M only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| SLF | VLMQ |
| SLFC | VLM |
| SL | VL |
| SHF | VHMQ |
| SHFC | VHM |
| SH | VH |

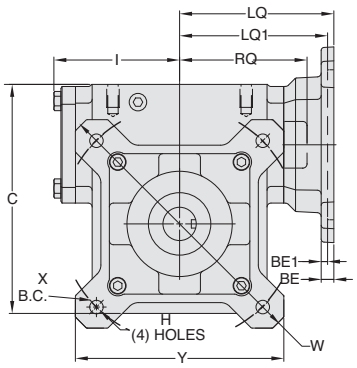
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

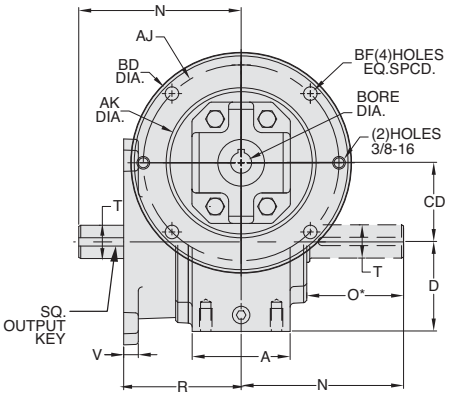
# NH Series Dimensions

## Styles: FMQ, FM, F

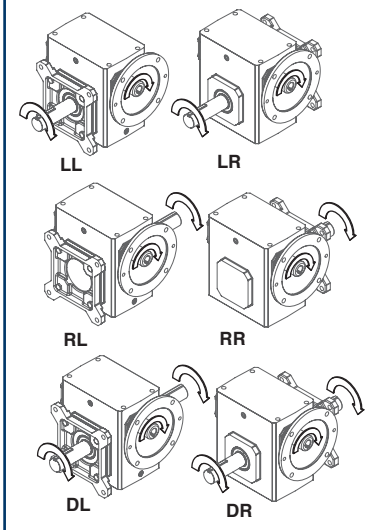
CAST IRON NH SERIES

## Style FMQ

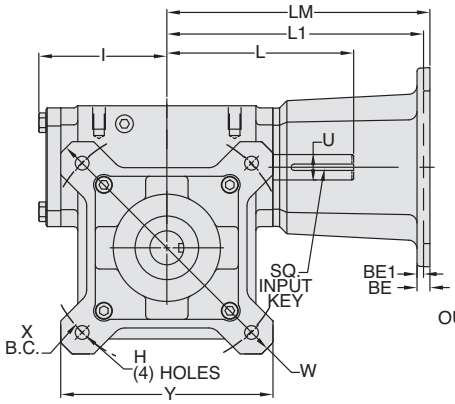


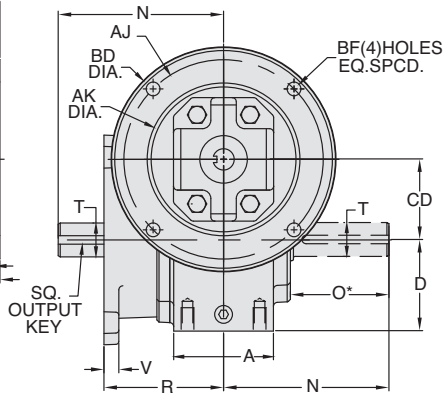




### ASSEMBLIES

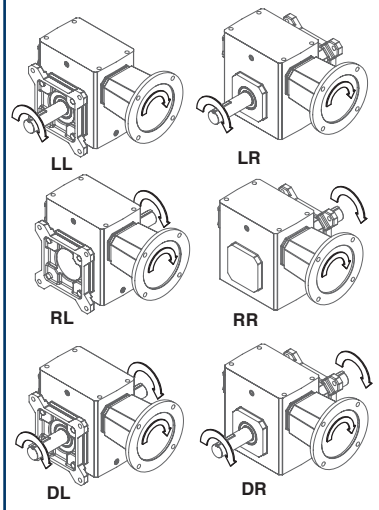



## Style FM

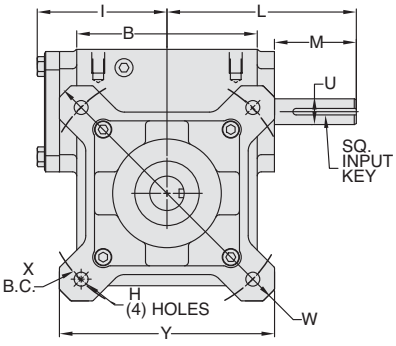


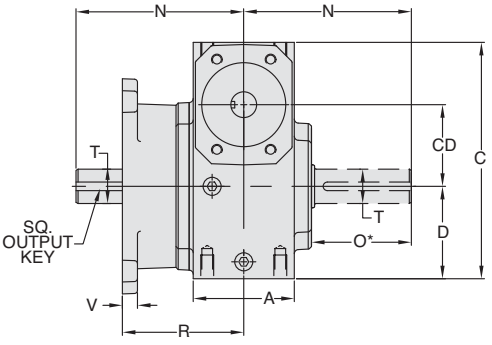




### ASSEMBLIES

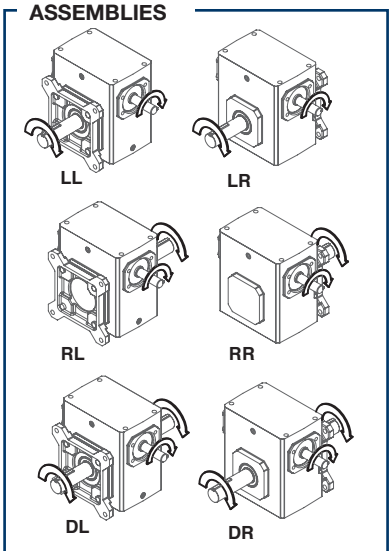



## Style F




### ASSEMBLIES




**Sizes 813-852 output flange must be mounted at Factory on styles FMQ, FM, F.**

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE FMQ, FM, F DIMENSIONS (Inches)

| Size | A | B | BL | C | CD | D | H | I | L | M | N | O* | R | W | X | Y | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 3.80 | 0.38 | 4.66 | 1.33 | 1.72 | 0.34 | 2.61 | 3.82 | 1.76 | 4.00 | 1.94 | 2.52 | 5.92 | 5.00 | 4.50 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 2.57 | 4.06 | 0.38 | 5.00 | 1.54 | 1.88 | 0.34 | 3.14 | 4.35 | 1.76 | 4.25 | 2.35 | 3.50 | 6.79 | 5.88 | 5.12 | 0.750 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH818 | 2.56 | 4.50 | 0.38 | 5.44 | 1.75 | 2.06 | 0.34 | 3.24 | 4.45 | 1.76 | 4.75 | 2.73 | 2.73 | 6.64 | 5.88 | 5.00 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH821 | 2.50 | 4.50 | 0.38 | 6.00 | 2.06 | 2.31 | 0.34 | 3.61 | 4.82 | 1.76 | 4.34 | 2.45 | 3.51 | 7.37 | 6.25 | 5.56 | 0.875 | 0.625 | 3/16 X 1.38 | 3/16 X 1.50 |
| NH824 | 2.94 | 5.25 | 0.44 | 6.88 | 2.38 | 2.69 | 0.34 | 3.77 | 5.51 | 2.38 | 4.88 | 2.69 | 3.47 | 8.29 | 7.06 | 6.24 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH826 | 2.88 | 5.75 | 0.50 | 7.38 | 2.63 | 2.94 | 0.34 | 4.34 | 6.07 | 2.38 | 5.25 | 3.07 | 3.56 | 8.90 | 7.63 | 6.68 | 1.125 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH830 | 3.12 | 6.62 | 0.50 | 8.25 | 3.00 | 3.38 | 0.41 | 4.84 | 6.57 | 2.38 | 5.77 | 3.31 | 3.69 | 9.50 | 8.63 | 7.34 | 1.250 | 0.875 | 3/16 X 1.63 | 1/4 X 1.75 |
| NH832 | 4.44 | 8.00 | 0.56 | 10.06 | 3.25 | 4.19 | 0.53 | 5.02 | 6.76 | 2.38 | 7.03 | 3.99 | 5.00 | 11.84 | 10.63 | 9.00 | 1.500 | 0.875 | 3/16 X 1.63 | 3/8 X 2.25 |
| NH842 | 4.75 | 9.75 | 0.62 | 11.50 | 4.25 | 4.50 | 0.56 | 6.10 | 9.57 | 3.47 | 7.50 | 3.59 | 4.50 | 12.95 | 11.50 | 9.66 | 1.750 | 1.250 | 1/4 X 2.50 | 3/8 X 2.25 |
| NH852 | 6.19 | 11.00 | 0.75 | 12.69 | 5.25 | 4.88 | 0.69 | 7.50 | 10.88 | 3.38 | 9.00 | 4.47 | 5.56 | 15.50 | 14.00 | 11.76 | 2.000 | 1.250 | 1/4 X 3.00 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style F and FM only.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| KF & VF | FMQ |
| KFC & VFC | FM |
| K & V | F |

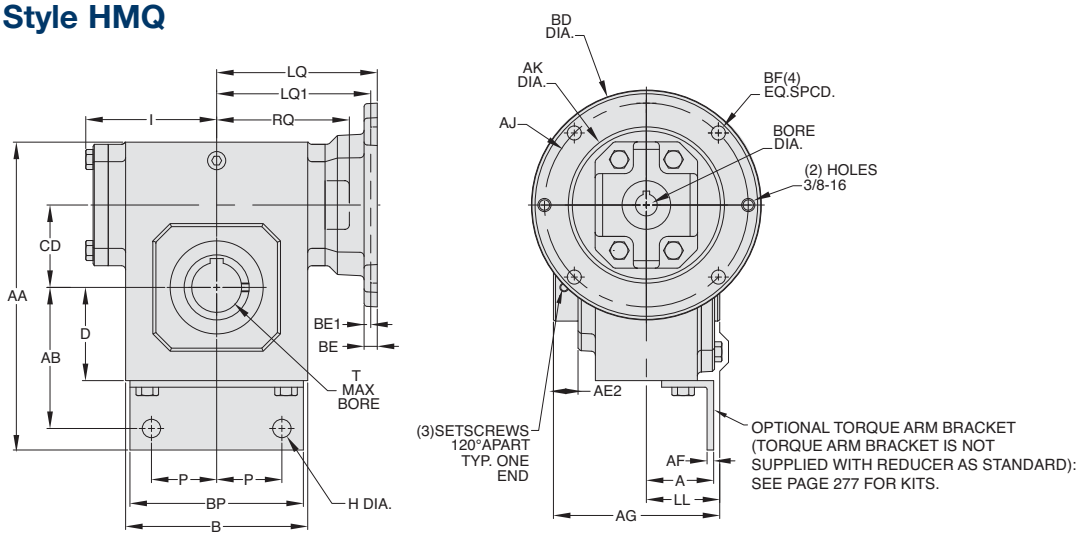
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

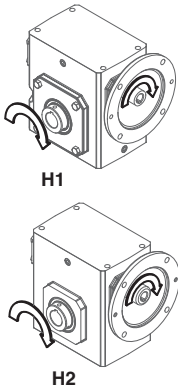
### Styles: HMQ, HM, H

CAST IRON NH SERIES

## Style HMQ

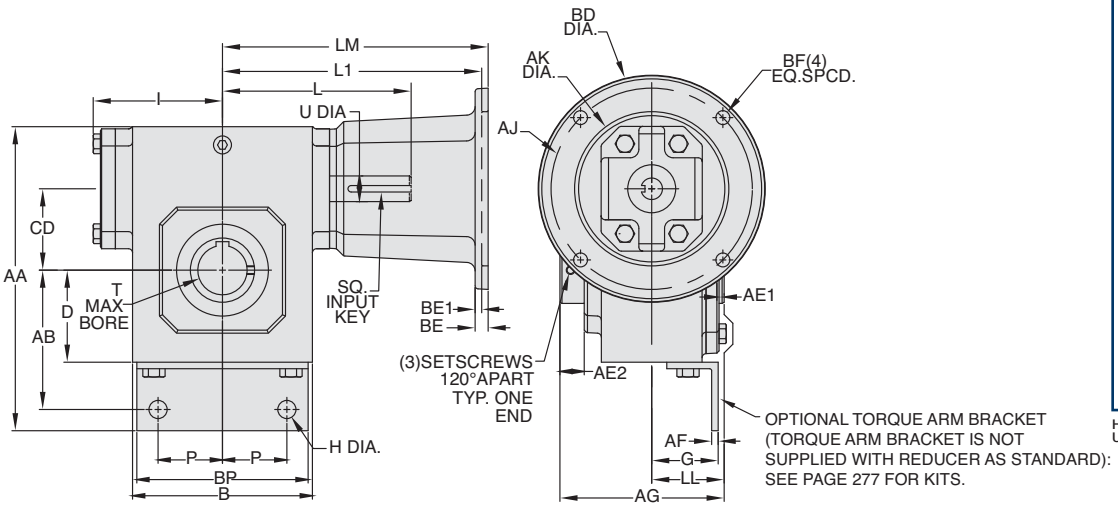



**ASSEMBLIES**

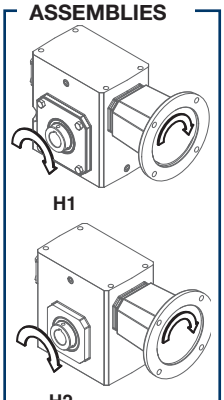



H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style HM

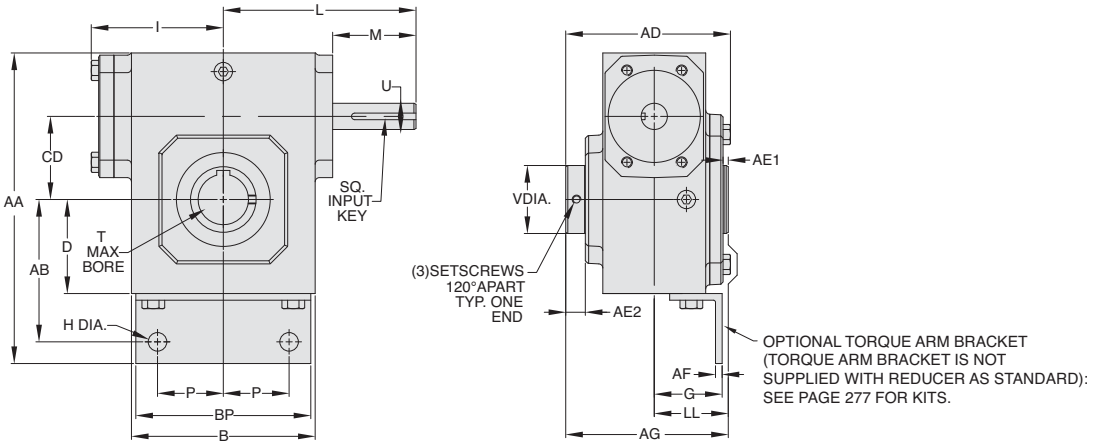



**ASSEMBLIES**

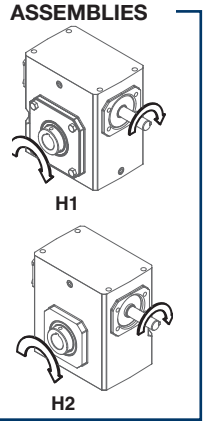



H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style H




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## STYLE HMQ, HM, H DIMENSIONS (Inches)

| Size | AA | AB | AD | AE1 | AE2 | AF | AG | B | C | CD | D | G | H | I | L | LL | M | P | V | T MAX +0.000 +0.0025 | U +0.000 -0.0015 | Input Key* | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 6.660 | 3.100 | 3.900 | 0.500 | 0.530 | 0.190 | 4.750 | 3.800 | 4.660 | 1.330 | 1.720 | 1.880 | 0.530 | 2.610 | 3.820 | 2.380 | 1.760 | 1.380 | 1.000 | 0.625 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| NH815 | 7.000 | 3.260 | 3.590 | 0.376 | 0.510 | 0.190 | 4.080 | 4.060 | 5.000 | 1.540 | 1.880 | 1.820 | 0.530 | 3.140 | 4.350 | 1.880 | 1.760 | 1.380 | 1.000 | 0.625 | 0.625 | 3/16 x 1.38 | 3/16 x 1.50 |
| NH818 | 7.440 | 3.440 | 3.830 | 0.551 | 0.560 | 0.190 | 4.290 | 4.500 | 5.440 | 1.750 | 2.060 | 1.820 | 0.530 | 3.240 | 4.450 | 1.980 | 1.760 | 1.380 | 1.440 | 1.000 | 0.625 | 3/16 x 1.38 | 1/4 x 3.00 |
| NH821 | 8.000 | 3.690 | 3.570 | 0.300 | 0.850 | 0.190 | 4.650 | 4.500 | 6.000 | 2.060 | 2.310 | 1.820 | 0.530 | 3.610 | 4.820 | 2.120 | 1.760 | 1.380 | 1.940 | 1.500 | 0.625 | 3/16 x 1.38 | 3/8 x 3.00 |
| NH824 | 8.880 | 4.070 | 4.160 | 0.180 | 0.560 | 0.190 | 4.650 | 5.250 | 6.880 | 2.380 | 2.690 | 1.940 | 0.530 | 3.770 | 5.510 | 2.120 | 2.380 | 1.880 | 1.940 | 1.500 | 0.750 | 3/16 x 1.38 | 3/8 x 3.00 |
| NH826 | 9.380 | 4.320 | 4.150 | 0.595 | 0.560 | 0.190 | 4.650 | 5.750 | 7.380 | 2.630 | 2.940 | 1.940 | 0.530 | 4.340 | 6.070 | 2.120 | 2.380 | 1.880 | 1.940 | 1.500 | 0.750 | 3/16 x 1.63 | 3/8 x 3.00 |
| NH830 | 10.250 | 4.760 | 4.670 | 0.460 | 0.560 | 0.250 | 5.160 | 6.620 | 8.250 | 3.000 | 3.380 | 2.320 | 0.530 | 4.840 | 6.570 | 2.380 | 2.380 | 2.380 | 2.510 | 1.938 | 0.875 | 3/16 x 1.63 | 1/2 x 3.00 |
| NH832 | 12.060 | 5.570 | 5.830 | 0.490 | 0.570 | 0.250 | 6.310 | 8.000 | 10.060 | 3.250 | 4.190 | 2.870 | 0.530 | 5.020 | 6.760 | 2.950 | 2.380 | 3.510 | 2.510 | 1.938 | 0.875 | 3/16 x 1.63 | 1/2 x 3.00 |
| NH842 | 14.000 | 6.380 | 7.530 | 1.000 | 0.630 | 0.380 | 8.500 | 9.750 | 11.500 | 4.250 | 4.500 | 3.260 | 0.530 | 6.100 | 9.570 | 4.250 | 3.470 | 3.690 | 2.750 | 2.188 | 1.250 | 1/4 x 2.50 | 1/2 x 3.00 |
| NH852 | 15.190 | 6.760 | 8.810 | 1.620 | 0.970 | 0.380 | 10.500 | 11.000 | 12.690 | 5.250 | 4.880 | 3.630 | 0.530 | 7.500 | 10.880 | 5.250 | 3.380 | 4.620 | 4.260 | 3.438 | 1.250 | 1/4 x3.00 | 7/8 x3.44 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

- Max bore dimensions shown. For additional bores available, refer to page 20.

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style H and HM only.

Note: Torque arm bracket available separately. Refer to page 277 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| YF | HMQ |
| YFC | HM |
| Y | H |

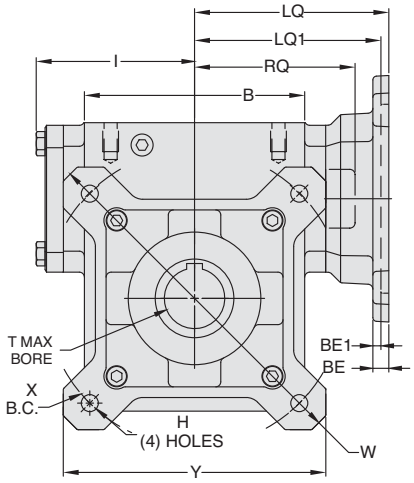
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

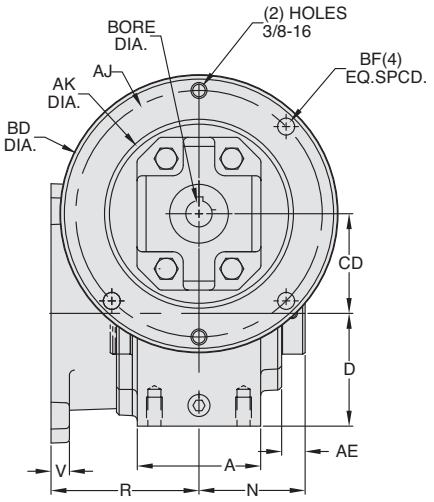
# NH Series Dimensions

**Styles: FHMQ, FHM, FH**

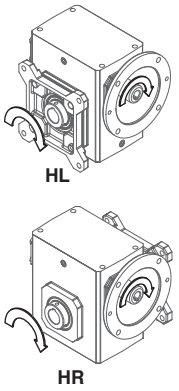
CAST IRON NH SERIES

## Style FHMQ

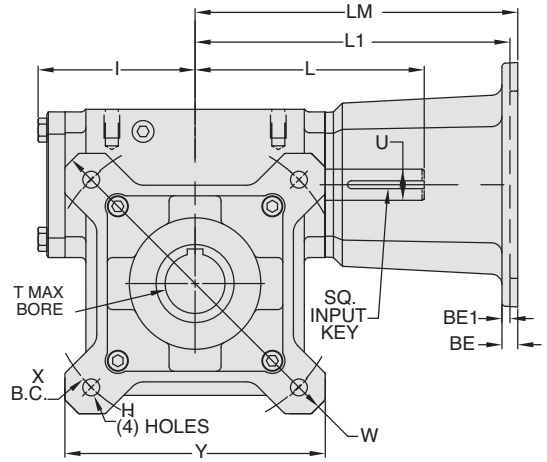


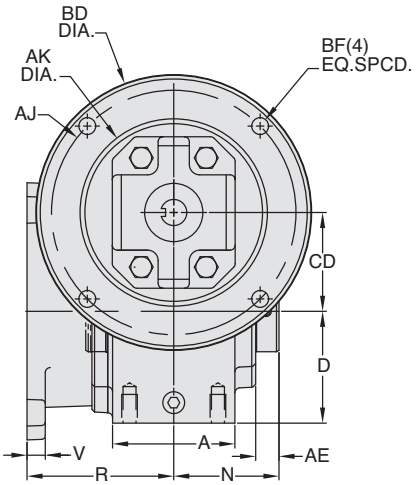




**ASSEMBLIES**

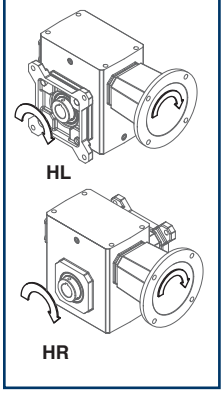



## Style FHM

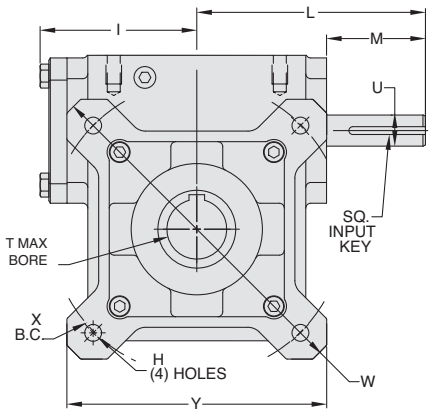


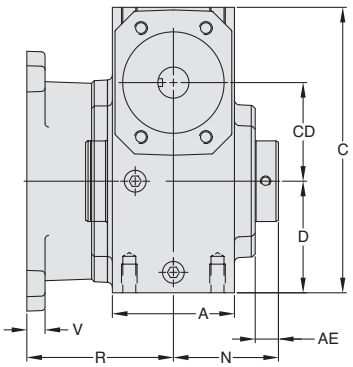




**ASSEMBLIES**

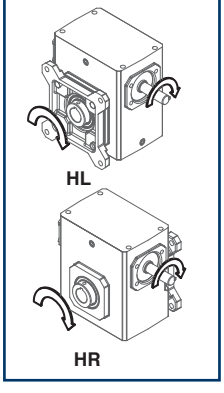



## Style FH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FHMQ, FHM, FH DIMENSIONS (Inches)

| Size | A | AE | B | BL | C | CD | D | H | I | L | LL | M | N | R | V | W | X | Y | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key❊ | Output Key • |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 0.53 | 3.80 | 0.38 | 4.66 | 1.33 | 1.72 | 0.34 | 2.61 | 3.82 | 2.38 | 1.76 | 2.37 | 2.52 | 1.00 | 5.92 | 5.00 | 4.50 | 0.625 | 0.500 | 1/8 X 1.00 | 3/16 x 1.50 |
| NH815 | 2.57 | 0.51 | 4.06 | 0.38 | 5.00 | 1.54 | 1.88 | 0.34 | 3.14 | 4.35 | 1.88 | 1.76 | 2.20 | 3.50 | 1.00 | 6.79 | 5.88 | 5.12 | 0.625 | 0.625 | 3/16 X 1.38 | 3/16 x 1.50 |
| NH818 | 2.56 | 0.56 | 4.50 | 0.38 | 5.44 | 1.75 | 2.06 | 0.34 | 3.24 | 4.45 | 1.92 | 1.76 | 2.37 | 2.74 | 1.44 | 6.64 | 5.88 | 5.00 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 x 3.00 |
| NH821 | 2.50 | 0.85 | 4.50 | 0.38 | 6.00 | 2.06 | 2.31 | 0.34 | 3.61 | 4.82 | 2.12 | 1.76 | 2.53 | 3.50 | 1.94 | 7.37 | 6.25 | 5.56 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 x 3.00 |
| NH824 | 2.94 | 0.56 | 5.25 | 0.44 | 6.88 | 2.38 | 2.69 | 0.34 | 3.77 | 5.51 | 2.12 | 2.38 | 2.53 | 3.53 | 1.94 | 8.29 | 7.06 | 6.24 | 1.500 | 0.750 | 3/16 X 1.63 | 3/8 x 3.00 |
| NH826 | 2.88 | 0.56 | 5.75 | 0.50 | 7.38 | 2.63 | 2.94 | 0.34 | 4.34 | 6.07 | 2.12 | 2.38 | 2.53 | 3.62 | 1.94 | 8.90 | 7.63 | 6.68 | 1.500 | 0.750 | 3/16 X 1.63 | 3/8 x 3.00 |
| NH830 | 3.12 | 0.56 | 6.62 | 0.50 | 8.25 | 3.00 | 3.38 | 0.41 | 4.84 | 6.57 | 2.38 | 2.38 | 2.78 | 3.75 | 2.51 | 9.50 | 8.63 | 7.34 | 2.188 | 0.875 | 3/16 X 1.63 | 1/2 x 3.00 |
| NH832 | 4.44 | 0.57 | 8.00 | 0.56 | 10.06 | 3.25 | 4.19 | 0.53 | 5.02 | 6.76 | 2.95 | 2.38 | 3.36 | 5.06 | 2.51 | 11.84 | 10.63 | 9.00 | 2.188 | 0.875 | 3/16 X 1.63 | 1/2 x 3.00 |
| NH842 | 4.75 | 0.63 | 9.75 | 0.62 | 11.50 | 4.25 | 4.50 | 0.56 | 6.10 | 9.57 | 4.25 | 3.47 | 4.25 | 4.56 | 2.75 | 12.95 | 11.50 | 9.66 | 2.188 | 1.250 | 1/4 X 2.50 | 1/2 x 3.00 |
| NH852 | 6.19 | 0.97 | 11.00 | 0.75 | 12.69 | 5.25 | 4.88 | 0.69 | 7.50 | 10.88 | 5.25 | 3.38 | 5.25 | 5.62 | 4.26 | 15.50 | 14.00 | 11.76 | 3.438 | 1.250 | 1/4 X 3.00 | 7/8 x 3.44 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| NH815 | 6.16 | 6.60 | N/A | N/A | 3.99 | N/A | N/A | N/A | 3.62 | N/A | N/A | N/A |
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH821 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |
| NH826 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| NH815 | 3.15 | 3.18 | 3.42 | N/A | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A | N/A |
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH821 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |
| NH826 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| NH830 | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| NH832 | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| NH842 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| NH852 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

- • Max bore dimensions shown. For additional bores available, refer to page 20.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❖ Metric IEC B5 input flange options are available only on quill input styles.
- ❊ Style FH and FHM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| MF | FHMQ |
| MFC | FHM |
| M | FH |

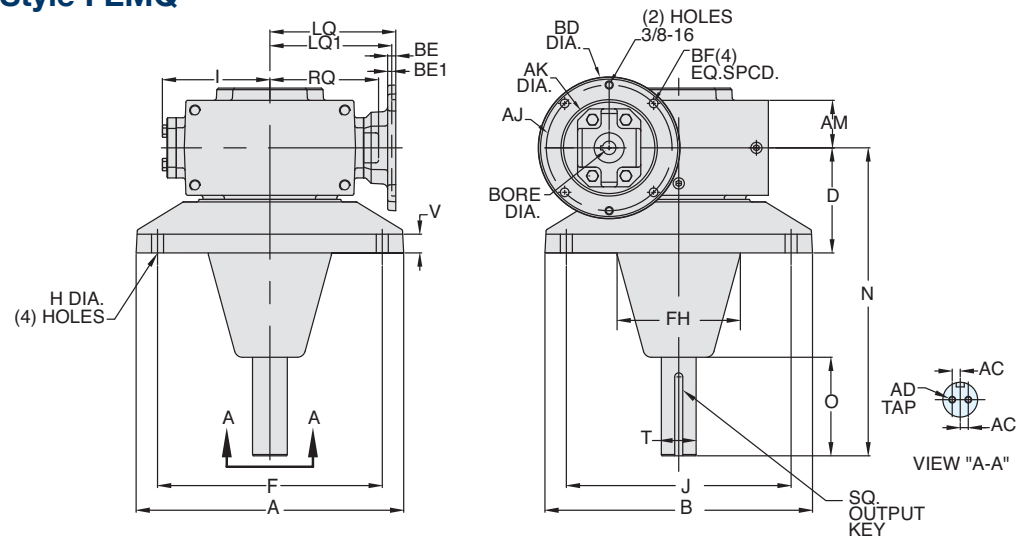
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

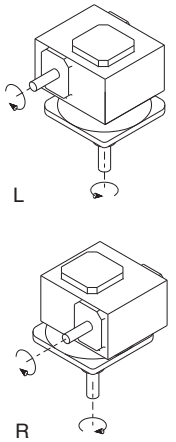
## Styles: FEMQ, FEM, FE

CAST IRON NH SERIES

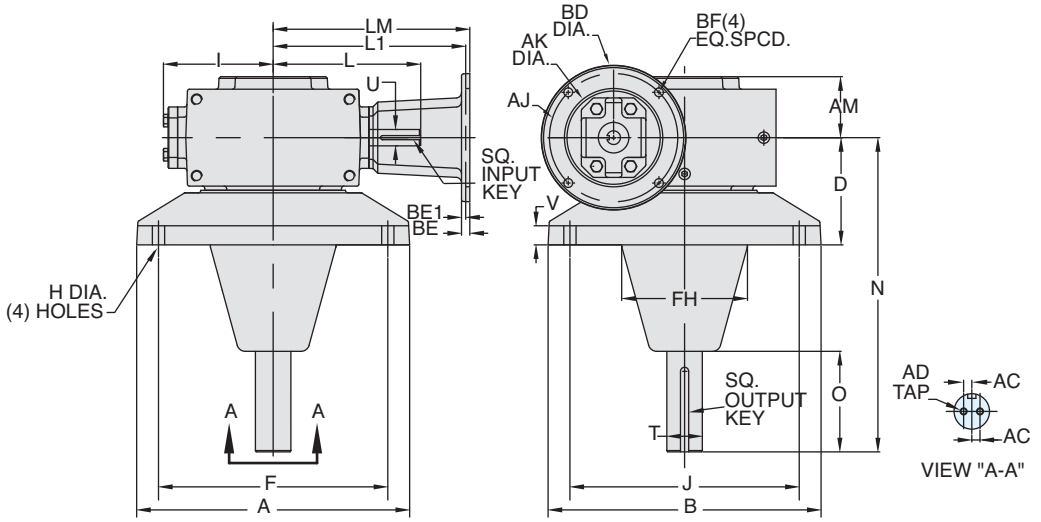
## Style FEMQ



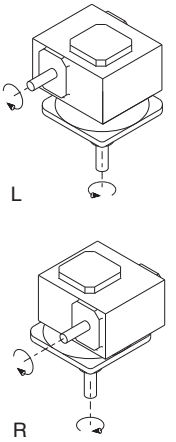

**ASSEMBLIES**



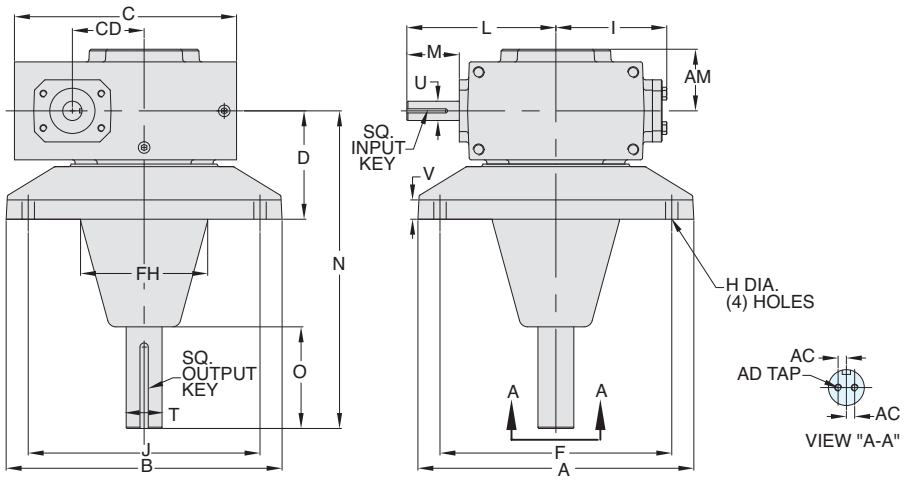

## Style FEM



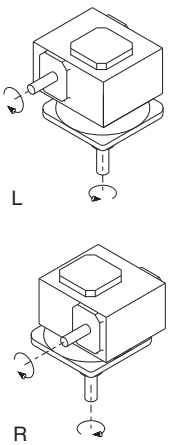

**ASSEMBLIES**




## Style FE




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FEMQ, FEM, FE DIMENSIONS (Inches)

| Size | A | AC | AD | AM | B | C | CD | D | F | FH | H | I | J | L | M | N | O | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | P** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH830 | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 2.22 | 11.00 | 8.25 | 3.00 | 3.67 | 9.00 | 5.12 | .56 | 4.84 | 9.00 | 6.57 | 2.38 | 13.15 | 4.66 | 0.78 | 1.438 | .875 | 3/16 X 1.63 | 3/8 x 3.88 |
| NH832 | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 2.79 | 12.50 | 10.06 | 3.25 | 4.91 | 10.50 | 5.75 | .56 | 5.02 | 10.50 | 6.76 | 2.38 | 14.39 | 4.63 | 0.88 | 1.625 | .875 | 3/16 X 1.63 | 3/8 x 3.69 |
| NH842 | 14.00 | 0.500 | .38-16 UNC X 1.00 DP | 3.62 | 14.00 | 11.50 | 4.25 | 5.74 | 12.00 | 6.75 | .69 | 6.10 | 12.00 | 9.57 | 3.47 | 16.25 | 5.66 | 1.00 | 1.688 | 1.25 | 1/4 X 2.50 | 3/8 x 4.68 |
| NH852 | 16.00 | 0.750 | .38-16 UNC X 1.00 DP | 4.28 | 16.00 | 12.69 | 5.25 | 6.00 | 14.00 | 8.00 | .81 | 7.50 | 14.00 | 10.88 | 3.38 | 16.50 | 5.62 | 1.25 | 2.188 | 1.25 | 1/4 X 3.00 | 1/2 x 4.63 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| NH830 | N/A | 8.82 | 9.82 | N/A | 5.69■ | 6.12 | 6.56 | N/A | 5.32■ | 5.63 | 6.06 | N/A |
| NH832 | N/A | 9.01 | 10.01 | N/A | 5.88■ | 6.31 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| NH842 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| NH852 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| | N/A | 4.78 | 5.41 | 5.41 | 5.80 | N/A | N/A | 4.59 | 5.22 | 5.22 | 5.57 | N/A |
| | N/A | 4.97 | 5.59 | 5.59 | 5.99 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style FE and FEM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| EF | FEMQ |
| EFC | FEM |
| E | FE |

Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

**Styles: BLMQ, BLM, BL**

CAST IRON NH SERIES

## TORQUE LIMITING DESIGN



### Features

- ★ No external parts to align, assemble, or adjust for easy installation.
- ★ Pre-set to your torque limit for reduced installation time.
- ★ Clutch slips automatically to reduce costly downtime and shock damage.
- ★ When overload is removed the reducer returns to normal operation without having to reset the clutch.
- ★ Internal slip clutch runs in oil bath for longer life, rust prevention and less maintenance.
- ★ Lifetime torque setting eliminates the need for frequent adjustments.
- ★ Easily adjusted in the field, eliminating the need for factory re-calibration.

### STYLE BLMQ, BLM, BL DIMENSIONS (Inches)

| Size | A | B | C | CD | D | F | G | H Tap Size | H Depth | I | J | K | L | LL | M | N | O | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH818 | 2.56 | 4.50 | 5.44 | 1.75 | 2.06 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.24 | 3.75 | 1.88 | 4.45 | 3.60 | 1.76 | 4.75 | 2.94 | 1.000 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH824 | 2.94 | 5.25 | 6.88 | 2.38 | 2.69 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 3.77 | 4.00 | 2.00 | 5.51 | 3.78 | 2.38 | 4.88 | 2.91 | 1.000 | 0.750 | 3/16 X 1.63 | 1/4 X 1.75 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH818 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| NH824 | N/A | 7.76 | 8.76 | N/A | 4.63■ | 5.06 | N/A | N/A | 4.09■ | 4.56 | N/A | N/A |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH818 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| NH824 | N/A | 3.72 | 4.34 | N/A | N/A | N/A | N/A | 3.46 | 3.71 | N/A | N/A | N/A |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style BL and BLM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| ULF | BLMQ |
| ULFC | BLM |
| UL | BL |

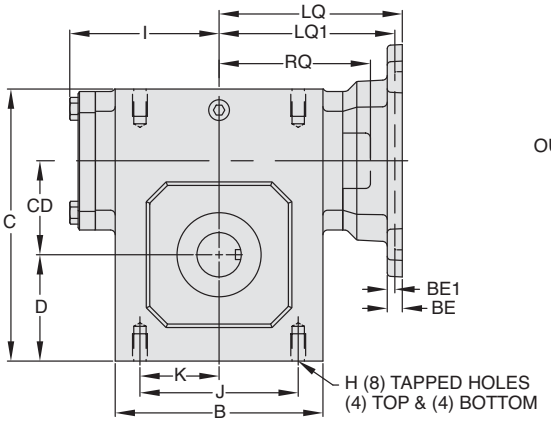
Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.

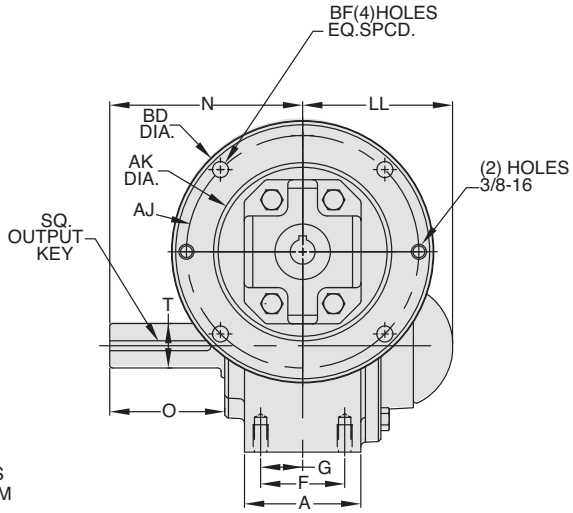
### CAPACITY RATINGS

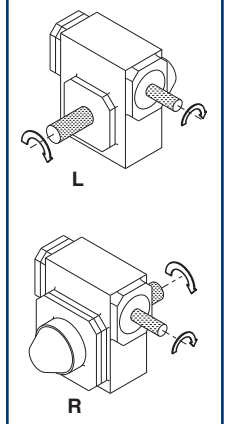
| Ratings | NH818 Output RPM | NH818 Max. Input H.P. | NH818 Output H.P. | NH818 Output Torque | NH824 Max. Input H.P. | NH824 Output H.P. | NH824 Output Torque |
|---|---|---|---|---|---|---|---|
| 5 | 350 | 1.70 | 1.56 | 281 | 3.89 | 3.63 | 653 |
| 7 1/2 | 233 | 1.67 | 1.52 | 407 | 3.47 | 3.20 | 863 |
| 10 | 175 | 1.37 | 1.23 | 442 | 3.08 | 2.81 | 1011 |
| 15 | 117 | 1.03 | .876 | 473 | 2.30 | 2.03 | 1095 |
| 20 | 87.5 | .814 | .677 | 487 | 1.83 | 1.56 | 1121 |
| 25 | 70.0 | .665 | .537 | 483 | 1.51 | 1.25 | 1124 |
| 30 | 58.3 | .597 | .451 | 487 | 1.32 | 1.05 | 1133 |
| 40 | 43.8 | .469 | .338 | 486 | 1.04 | .778 | 1121 |
| 50 | 35.0 | .377 | .258 | 465 | .847 | .602 | 1084 |
| 60 | 29.2 | .317 | .204 | 442 | .674 | .466 | 1007 |
| 80 | 21.9 | .208 | .124 | 356 | .455 | .288 | 830 |
| 100 | 17.5 | .141 | .077 | 277 | .307 | .180 | 468 |

NOTE: All ratings based on 1750 RPM input speed with service factor of 1.0.

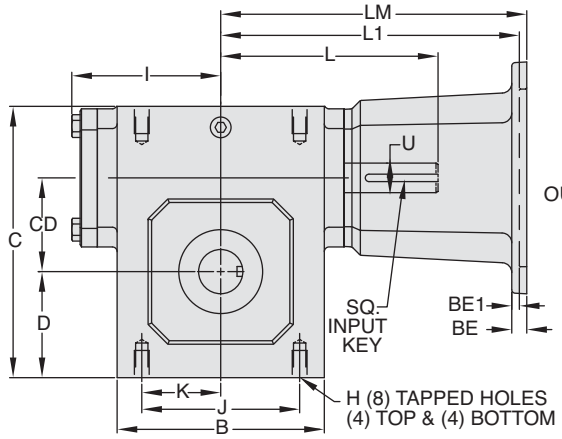
## Style BLMQ

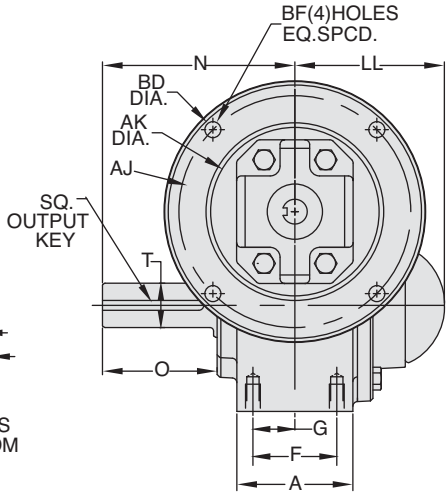


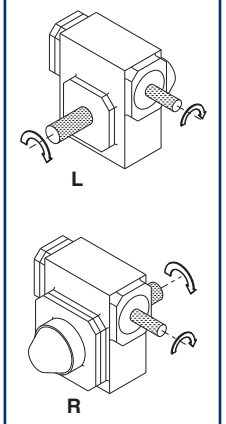



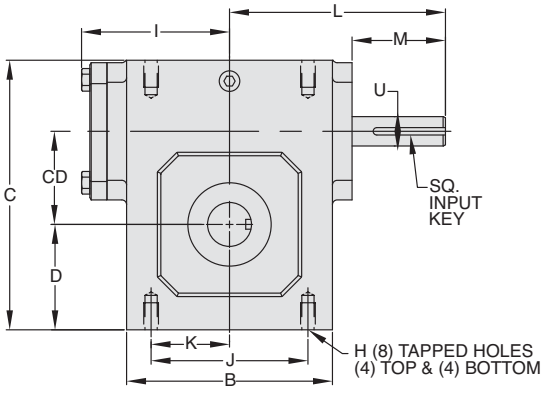

## Style BLM

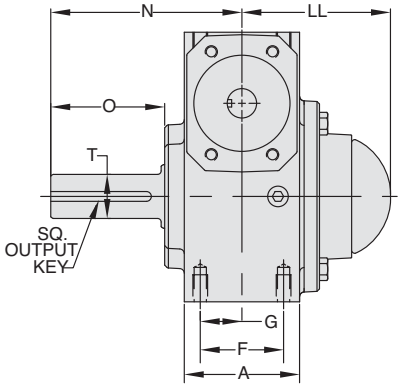


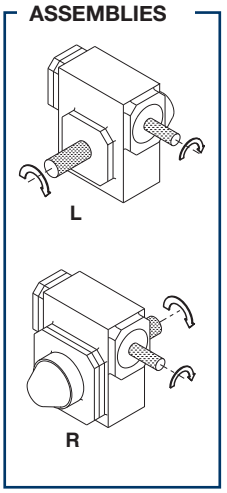




## Style BL




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

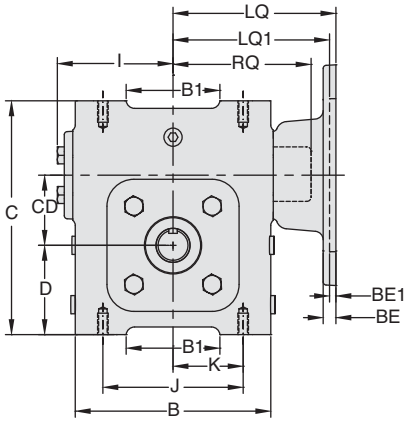
# ELECTRA-GEAR

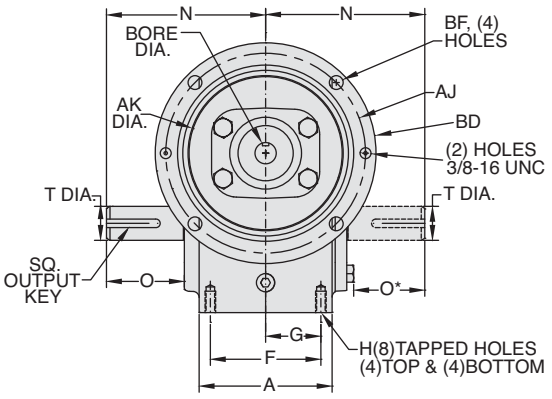
## EL Series Dimensions

### Styles: BMQ, BM, B

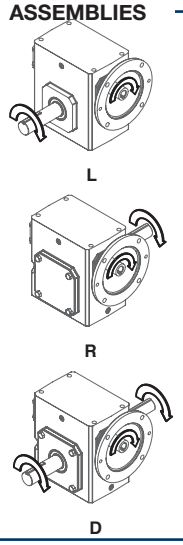
ALUMINUM EL SERIES

### Style BMQ

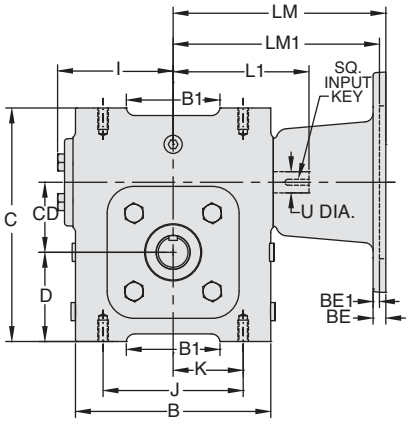


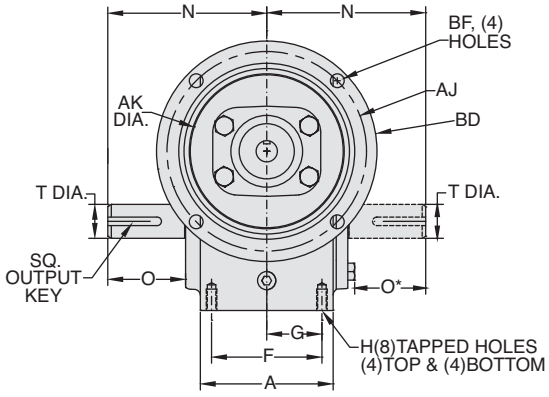




ASSEMBLIES

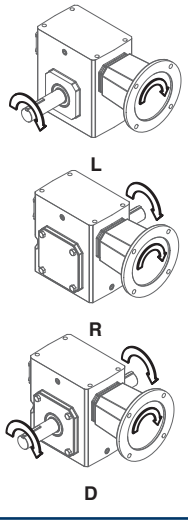



### Style BM

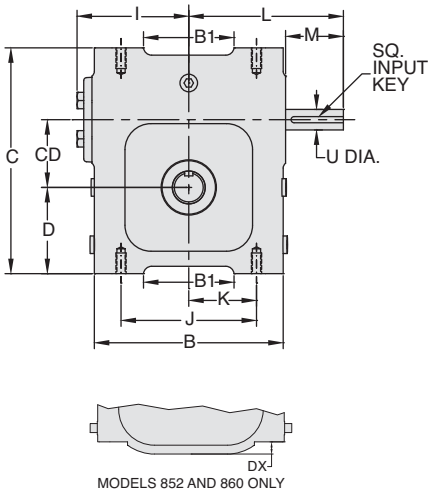



ASSEMBLIES

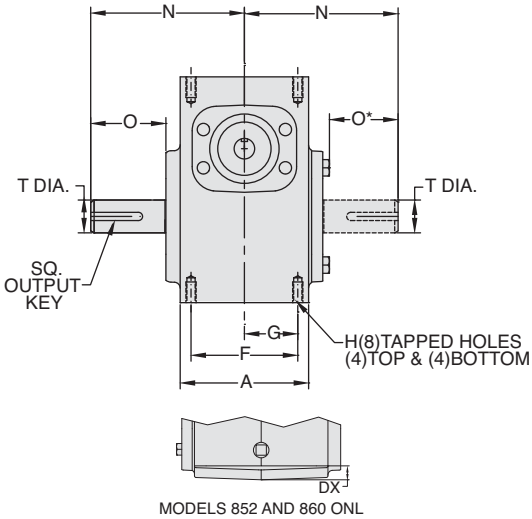



### Style B




MODELS 852 AND 860 ONLY

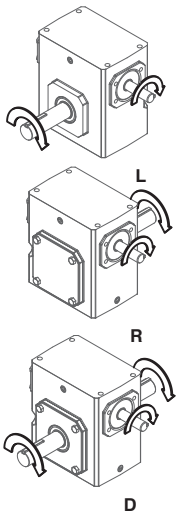
**SIDE VIEW**




MODELS 852 AND 860 ONL

**END VIEW**

ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE BMQ, BM, B DIMENSIONS (Inches)

| Size | A | B | B1 | C | CD | D | DX | F | G | H | | I | J | K | L | M | N | O | O* | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style B Only) | Input Key (Style BM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tap Size | Depth | | | | | | | | | | | | | |
| EL813 | 2.82 | 3.80 | -- | 4.66 | 1.33 | 1.72 | -- | 2.00 | 1.00 | 5/16-18 | 0.50 | 2.40 | 3.25 | 1.63 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 3.50 | 4.83 | 2.48 | 5.86 | 1.75 | 2.31 | -- | 2.94 | 1.47 | 5/16-18 | 0.63 | 3.03 | 3.69 | 1.84 | 4.45 | 1.78 | 4.39 | 2.05 | 1.85 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| EL821 | 3.91 | 5.75 | 2.76 | 6.88 | 2.06 | 2.63 | -- | 3.25 | 1.63 | 3/8-16 | 0.87 | 3.40 | 4.13 | 2.06 | 4.82 | 1.76 | 4.68 | 2.29 | 2.09 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| EL824 | 4.06 | 5.86 | -- | 6.94 | 2.38 | 2.50 | -- | 2.88 | 1.44 | 3/8-16 | 0.69 | 3.61 | 5.00 | 2.50 | 5.51 | 2.45 | 5.14 | 2.66 | 2.46 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL826 | 4.84 | 7.17 | 4.21 | 8.00 | 2.63 | 3.25 | -- | 3.38 | 1.69 | 3/8-16 | 0.69 | 4.17 | 5.00 | 2.50 | 6.07 | 2.45 | 5.63 | 2.73 | 2.53 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL830 | 5.25 | 8.11 | 4.50 | 8.94 | 3.00 | 3.50 | -- | 4.13 | 2.06 | 1/2-13 | 1.00 | 4.81 | 5.75 | 2.88 | 6.56 | 2.31 | 6.62 | 3.60 | 3.37 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL832 | 5.25 | 8.11 | 4.53 | 10.50 | 3.25 | 4.00 | -- | 4.13 | 2.06 | 1/2-13 | 1.00 | 5.00 | 6.63 | 3.31 | 6.75 | 2.31 | 6.62 | 3.60 | 3.37 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL842 | 6.13 | 9.63 | 5.71 | 11.69 | 4.25 | 4.50 | -- | 3.75 | 1.88 | 5/8-11 | 1.19 | 6.15 | 7.00 | 3.50 | 9.57 | 3.47 | 8.12 | 4.50 | 4.22 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| EL852 | 7.19 | 11.50 | 7.82 | 12.25 | 5.25 | 4.25 | 0.75 | 5.25 | 2.63 | 3/4-10 | 1.44 | 7.55 | 9.62 | 4.81 | 10.88 | 3.38 | 9.06 | 4.78 | 4.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| EL860 | 7.00 | 13.50 | -- | 14.25 | 6.00 | 5.00 | 1.63 | 5.38 | 2.69 | 7/8-9 | 1.63 | 7.88 | 11.00 | 5.50 | 10.99 | 3.00 | 10.75 | 5.25 | 5.25 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL821 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL824 | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| EL826 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL830 | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| EL832 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| EL842 | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| EL852 | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| EL860 | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

– Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

– EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

– See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| MSC or MLSC | BMQ |
| MC or MLC | BM |
| M or ML | B |
| M + "KV" Kit | B + "KV" Kit |

Convert Style B to motorized coupling input using kits shown on page 278.

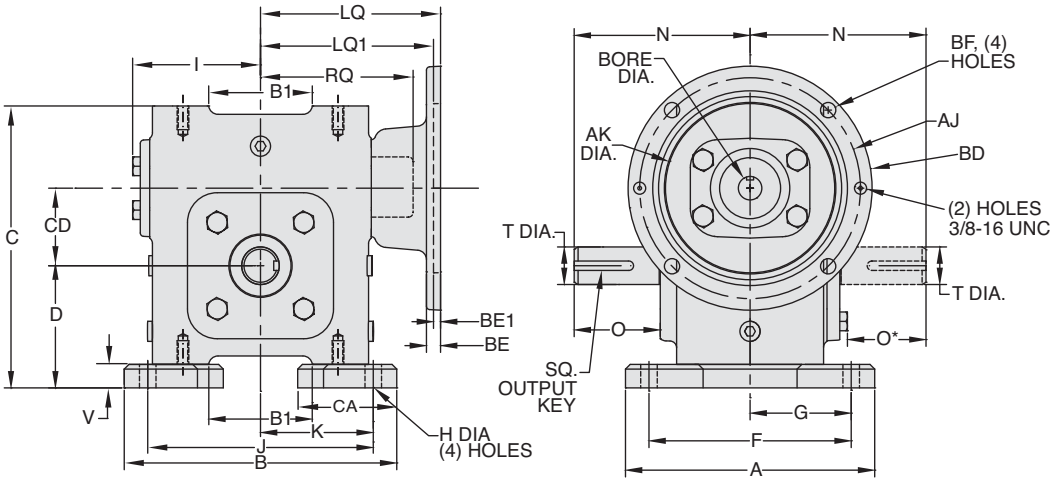
# ELECTRA-GEAR

## EL Series Dimensions

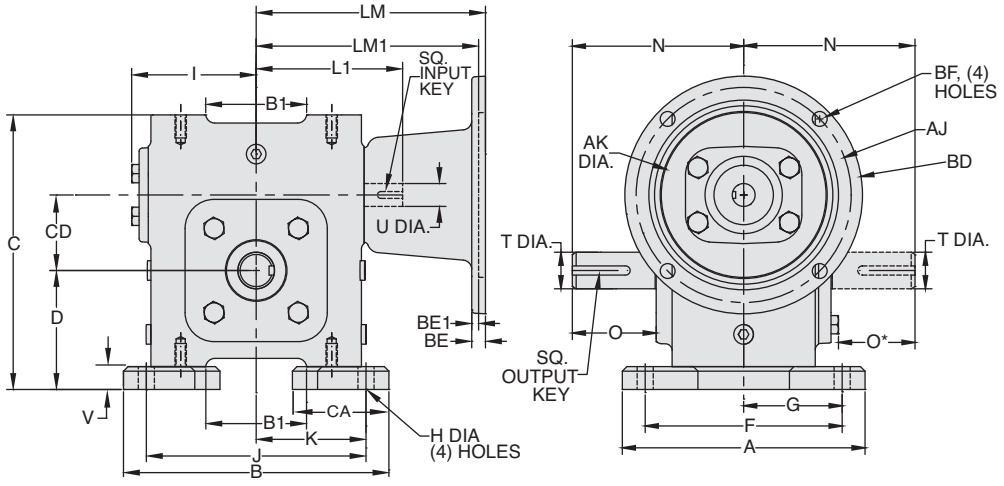
### Styles: TMQ, TM, T

ALUMINUM EL SERIES

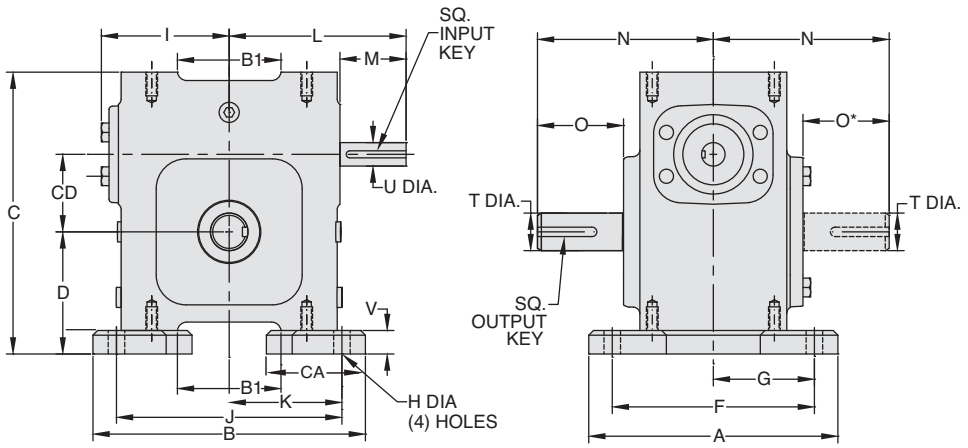
### Style TMQ



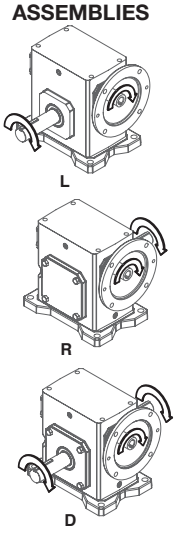

### Style TM



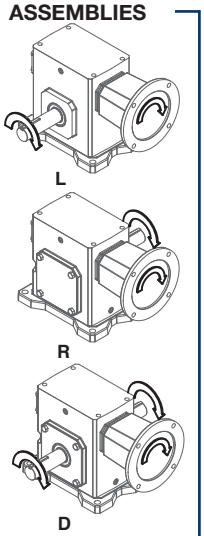

### Style T



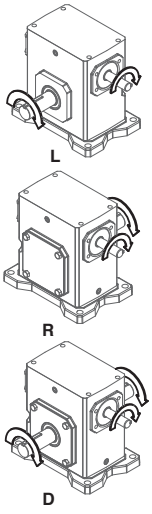

**ASSEMBLIES**




**ASSEMBLIES**




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE TMQ, TM, T DIMENSIONS (Inches)

| Size | A | B | B1 | C | CA | CD | D | F | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style T Only) | Input Key (Style TM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 4.06 | 5.13 | -- | 5.19 | 1.56 | 1.33 | 2.25 | 3.31 | 1.66 | 0.34 | 2.40 | 4.38 | 2.19 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 0.53 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 5.19 | 6.06 | 2.48 | 6.42 | 2.15 | 1.75 | 2.84 | 4.38 | 2.19 | 0.38 | 3.03 | 5.25 | 2.63 | 4.35 | 1.78 | 4.39 | 2.05 | 1.85 | 0.56 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| EL821 | 6.63 | 7.25 | 2.76 | 7.51 | 2.66 | 2.06 | 3.25 | 5.38 | 2.69 | 0.44 | 3.40 | 6.00 | 3.00 | 4.71 | 1.76 | 4.68 | 2.29 | 2.09 | 0.63 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| EL824 | 6.38 | 7.69 | -- | 7.63 | 2.59 | 2.38 | 3.25 | 4.88 | 2.44 | 0.47 | 3.61 | 6.19 | 3.09 | 5.51 | 2.45 | 5.14 | 2.66 | 2.46 | 0.75 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL826 | 6.63 | 8.13 | 4.21 | 8.69 | 2.81 | 2.63 | 3.94 | 5.38 | 2.69 | 0.50 | 4.17 | 6.88 | 3.44 | 6.07 | 2.45 | 5.63 | 2.73 | 2.53 | 0.69 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL830 | 9.00 | 9.88 | 4.50 | 9.69 | 3.69 | 3.00 | 4.25 | 7.50 | 3.75 | 0.56 | 4.81 | 8.38 | 4.19 | 6.56 | 2.31 | 6.62 | 3.60 | 3.37 | 0.75 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL832 | 9.13 | 10.88 | 4.53 | 11.25 | 3.69 | 3.25 | 4.75 | 7.63 | 3.82 | 0.56 | 5.00 | 9.38 | 4.69 | 6.75 | 2.31 | 6.62 | 3.60 | 3.37 | 0.75 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL842 | 10.00 | 10.50 | 5.71 | 12.94 | 3.38 | 4.25 | 5.75 | 8.00 | 4.00 | 0.81 | 6.15 | 8.50 | 4.25 | 9.57 | 3.47 | 8.12 | 4.50 | 4.22 | 1.25 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| EL852 | 10.75 | 12.13 | 7.82 | 13.75 | 2.50 | 5.25 | 5.75 | 8.75 | 4.38 | 0.81 | 7.55 | 9.75 | 4.88 | 10.88 | 3.38 | 9.06 | 4.78 | 4.50 | 1.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| EL860 | 11.75 | 13.50 | -- | 16.00 | 4.35 | 6.00 | 6.75 | 9.50 | 4.75 | 0.94 | 7.88 | 10.50 | 5.25 | 10.99 | 3.00 | 10.75 | 5.25 | 5.25 | 1.75 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL821 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL824 | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| EL826 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL830 | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| EL832 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| EL842 | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| EL852 | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| EL860 | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| ASC or ALSC | TMQ |
| AC or ALC | TM |
| A or AL | T |
| A + "KV" Kit | T + "KV" Kit |

Convert Style T to motorized coupling input using kits shown on page 278.

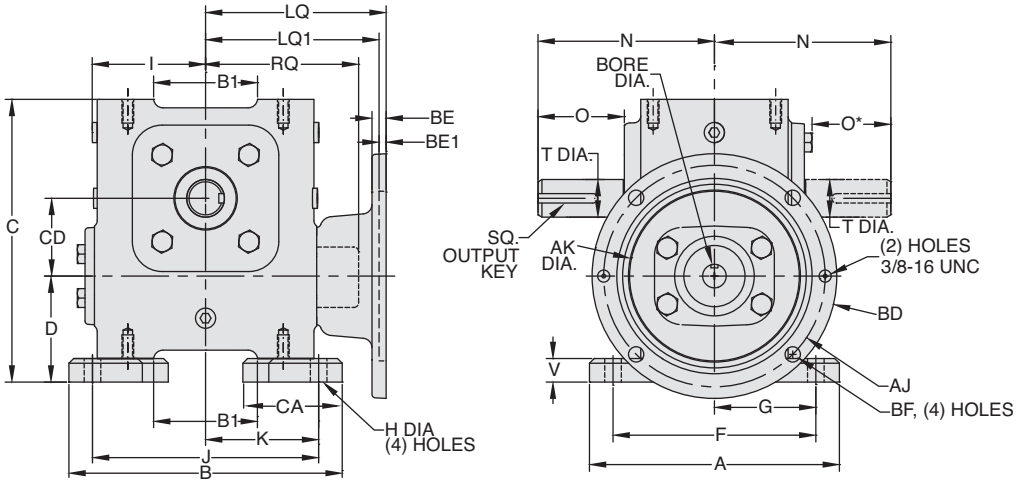
# ELECTRA-GEAR

## EL Series Dimensions

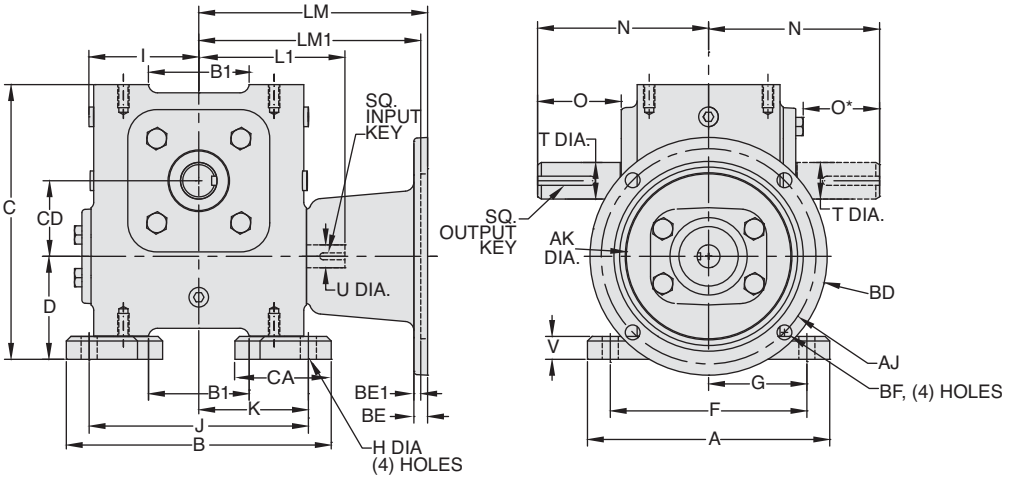
### Styles: UMQ, UM, U

ALUMINUM EL SERIES

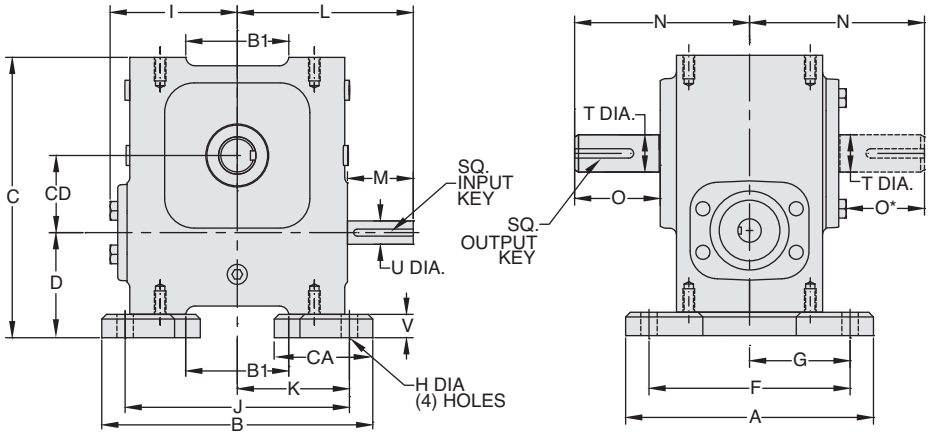
### Style UMQ



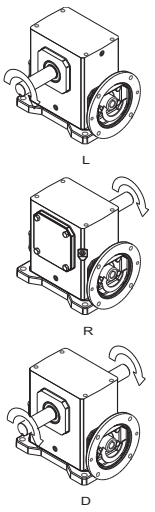

### Style UM



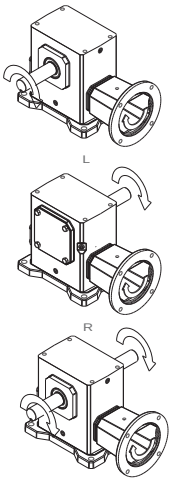

### Style U



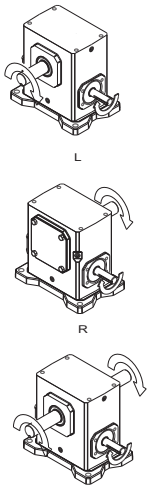

**ASSEMBLIES**




**ASSEMBLIES**




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE UMQ, UM, U DIMENSIONS (Inches)

| Size | A | B | B1 | C | CA | CD | D | F | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style U Only) | Input Key (Style UM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.06 | 5.13 | -- | 5.19 | 1.56 | 1.33 | 2.13 | 3.31 | 1.66 | 0.34 | 2.40 | 4.38 | 2.19 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 0.53 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| **EL818** | 5.19 | 6.06 | 2.48 | 6.42 | 2.15 | 1.75 | 2.37 | 4.38 | 2.19 | 0.38 | 3.03 | 5.25 | 2.63 | 4.35 | 1.78 | 4.39 | 2.05 | 1.85 | 0.56 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| **EL821** | 6.63 | 7.25 | 2.76 | 7.51 | 2.66 | 2.06 | 2.82 | 5.38 | 2.69 | 0.44 | 3.40 | 6.00 | 3.00 | 4.71 | 1.76 | 4.68 | 2.29 | 2.09 | 0.63 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| **EL824** | 6.38 | 7.69 | -- | 7.63 | 2.59 | 2.38 | 2.81 | 4.88 | 2.44 | 0.47 | 3.61 | 6.19 | 3.09 | 5.51 | 2.45 | 5.14 | 2.66 | 2.46 | 0.75 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| **EL826** | 6.63 | 8.13 | 4.21 | 8.69 | 2.81 | 2.63 | 2.81 | 5.38 | 2.69 | 0.50 | 4.17 | 6.88 | 3.44 | 6.07 | 2.45 | 5.63 | 2.73 | 2.53 | 0.69 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| **EL830** | 9.00 | 9.88 | 4.50 | 9.69 | 3.69 | 3.00 | 3.19 | 7.50 | 3.75 | 0.56 | 4.81 | 8.38 | 4.19 | 6.56 | 2.31 | 6.62 | 3.60 | 3.37 | 0.75 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| **EL832** | 9.13 | 10.88 | 4.53 | 11.25 | 3.69 | 3.25 | 4.00 | 7.63 | 3.82 | 0.56 | 5.00 | 9.38 | 4.69 | 6.75 | 2.31 | 6.62 | 3.60 | 3.37 | 0.75 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| **EL842** | 10.00 | 10.50 | 5.71 | 12.94 | 3.38 | 4.25 | 4.19 | 8.00 | 4.00 | 0.81 | 6.15 | 8.50 | 4.25 | 9.57 | 3.47 | 8.12 | 4.50 | 4.22 | 1.25 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| **EL852** | 10.75 | 12.13 | 7.82 | 13.75 | 2.50 | 5.25 | 4.25 | 8.75 | 4.38 | 0.81 | 7.55 | 9.75 | 4.88 | 10.88 | 3.38 | 9.06 | 4.78 | 4.50 | 1.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| **EL860** | 11.75 | 13.50 | -- | 16.00 | 4.35 | 6.00 | 5.00 | 9.50 | 4.75 | 0.94 | 7.88 | 10.50 | 5.25 | 10.99 | 3.00 | 10.75 | 5.25 | 5.25 | 1.75 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| **EL813** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL818** | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL821** | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| **EL824** | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| **EL826** | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| **EL830** | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| **EL832** | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| **EL842** | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| **EL852** | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| **EL860** | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | UMQ |
| STANDARD CATALOGED | UM |
| OPTION | U |

Convert Style U to motorized coupling input using kits shown on page 278.

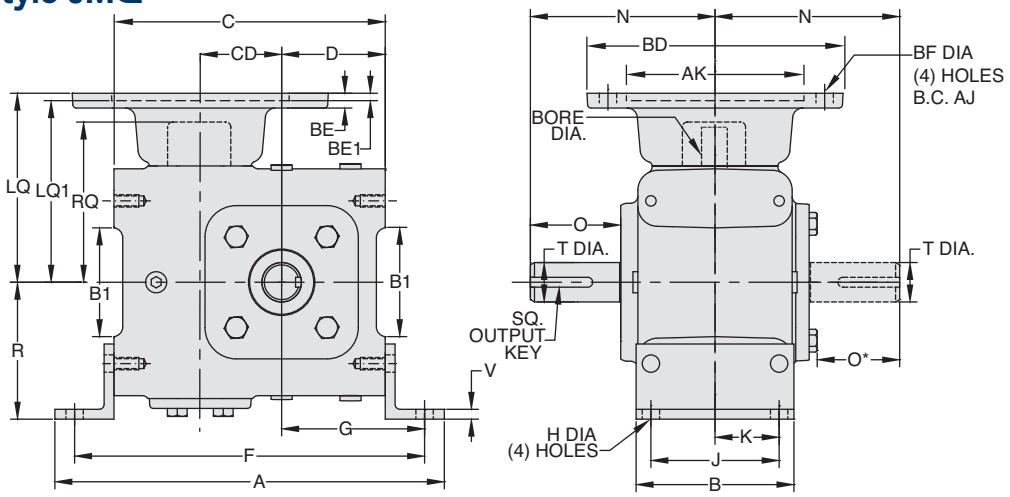
# ELECTRA-GEAR

## EL Series Dimensions

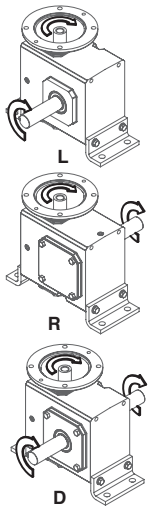
### Styles: JMQ, JM, J

ALUMINUM EL SERIES

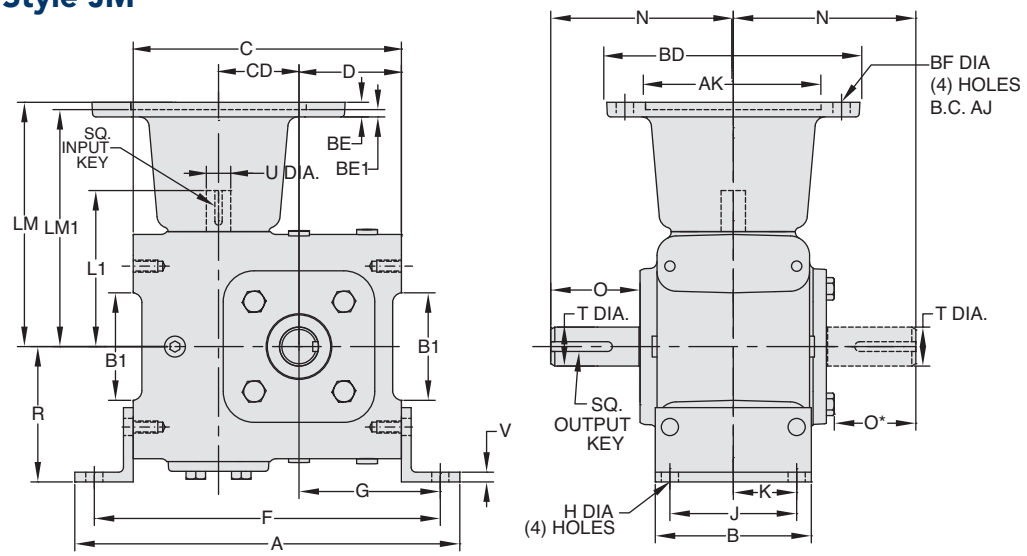
### Style JMQ



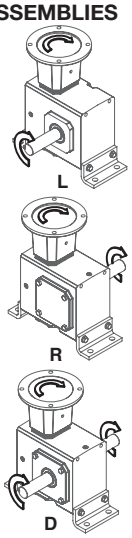

ASSEMBLIES



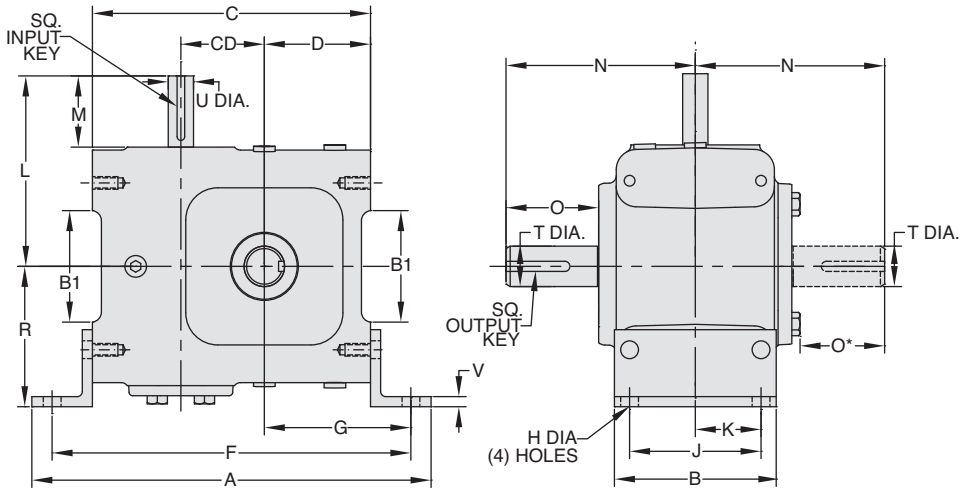

### Style JM



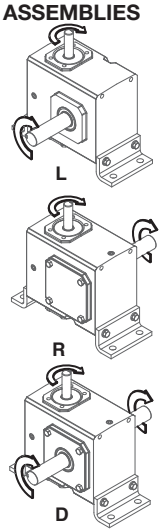

ASSEMBLIES




### Style J




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE JMQ, JM, J DIMENSIONS (Inches)

| Size | A | B | B1 | C | CD | D | F | G | H | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style J Only) | Input Key (Style JM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 7.16 | 2.91 | -- | 4.66 | 1.33 | 1.72 | 6.41 | 2.60 | 0.34 | 2.00 | 1.00 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 2.94 | 0.19 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 8.88 | 3.56 | 2.48 | 5.86 | 1.75 | 2.31 | 7.88 | 3.32 | 0.38 | 2.94 | 1.47 | 4.35 | 1.78 | 4.39 | 2.05 | 1.85 | 2.97 | 0.38 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| EL821 | 987.00 | 4.00 | 2.76 | 6.88 | 2.06 | 2.63 | 8.87 | 3.62 | 0.44 | 3.25 | 1.63 | 4.71 | 1.76 | 4.68 | 2.29 | 2.09 | 3.47 | 0.25 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| EL824 | 10.31 | 4.00 | -- | 6.94 | 2.38 | 2.50 | 9.19 | 3.63 | 0.47 | 2.88 | 1.44 | 5.51 | 2.45 | 5.14 | 2.66 | 2.46 | 4.06 | 0.38 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL826 | 12.00 | 4.38 | 4.21 | 8.00 | 2.63 | 3.25 | 10.50 | 4.50 | 0.50 | 3.38 | 1.69 | 6.07 | 2.45 | 5.63 | 2.73 | 2.53 | 4.03 | 0.31 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL830 | 12.94 | 5.13 | 4.50 | 8.94 | 3.00 | 3.50 | 11.44 | 4.75 | 0.56 | 4.13 | 2.06 | 6.56 | 2.31 | 6.62 | 3.60 | 3.37 | 4.81 | 0.80 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL832 | 14.50 | 5.13 | 4.53 | 10.50 | 3.25 | 4.00 | 13.00 | 5.25 | 0.56 | 4.13 | 2.06 | 6.75 | 2.31 | 6.62 | 3.60 | 3.37 | 5.25 | 0.38 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL842 | 17.50 | 5.13 | 5.71 | 11.69 | 4.25 | 4.50 | 14.50 | 5.91 | 0.81 | 3.75 | 1.88 | 9.57 | 3.47 | 8.12 | 4.50 | 4.22 | 5.63 | 0.50 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| EL852 | 20.25 | 6.50 | 7.82 | 12.25 | 5.25 | 4.25 | 16.75 | 6.50 | 0.81 | 5.25 | 2.63 | 10.88 | 3.38 | 9.06 | 4.78 | 4.50 | 7.63 | 0.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| EL860 | 22.25 | 7.00 | -- | 14.25 | 6.00 | 5.00 | 18.75 | 7.63 | 0.94 | 5.38 | 2.69 | 10.99 | 3.00 | 10.75 | 5.25 | 5.25 | 8.38 | 0.50 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL821 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL824 | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| EL826 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL830 | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| EL832 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| EL842 | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| EL852 | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| EL860 | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

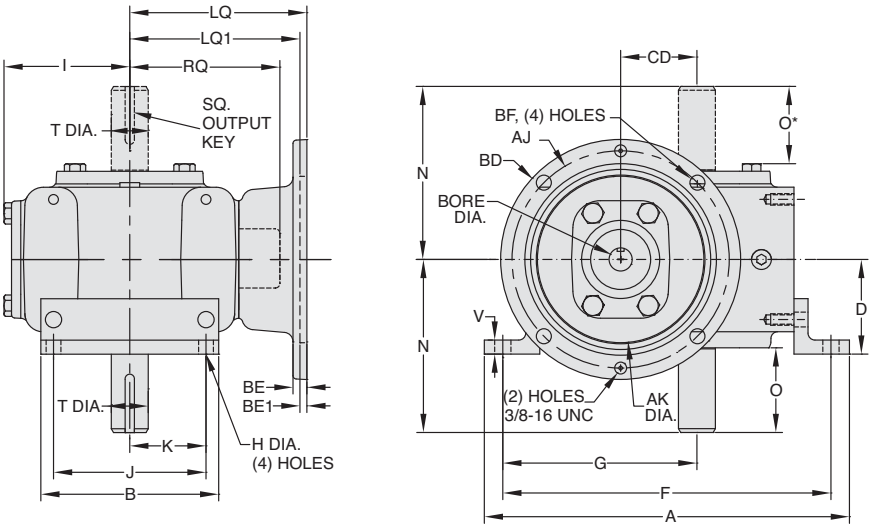
| Original Style | New Style |
|---|---|
| JBSC or JBLSC | JMQ |
| JBC or JBLC | JM |
| JB or JBL | J |
| JB + "KV" Kit | J + "KV" Kit |

Convert Style J to motorized coupling input using kits shown on page 278.

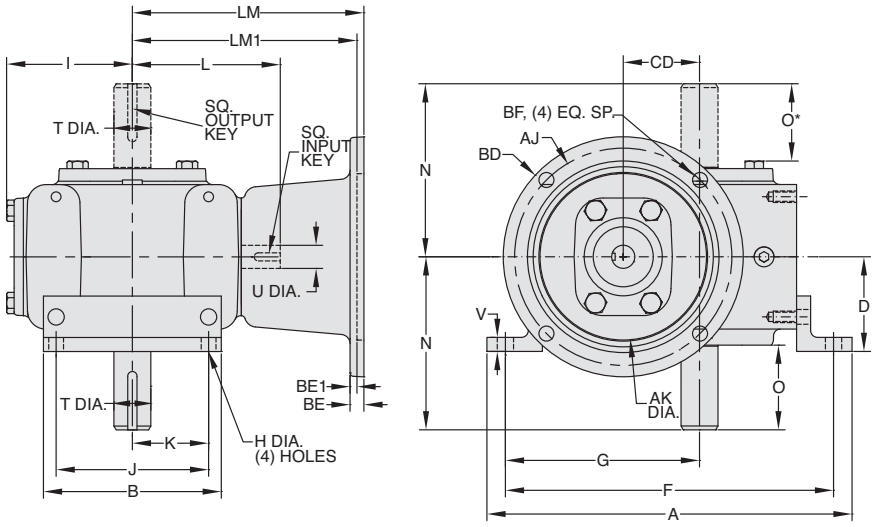
# ELECTRA-GEAR
## EL Series Dimensions
### Styles: VLMQ, VLM, VL

ALUMINUM EL SERIES

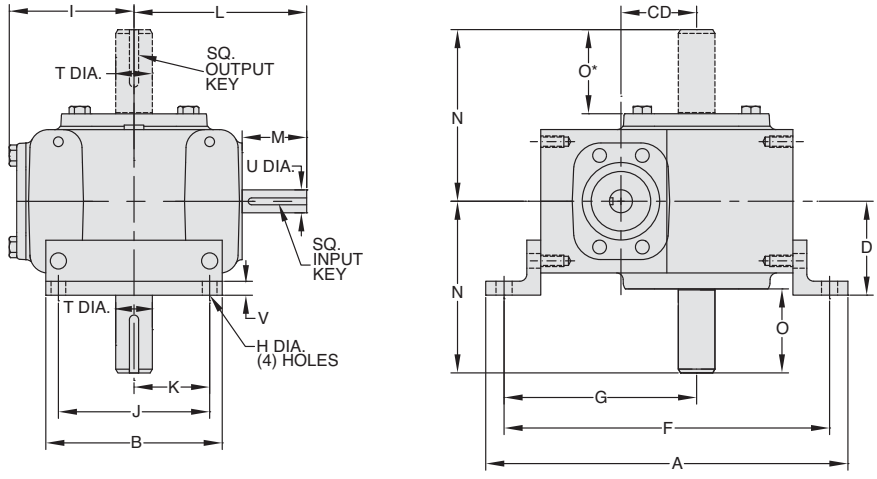
### Style VLMQ



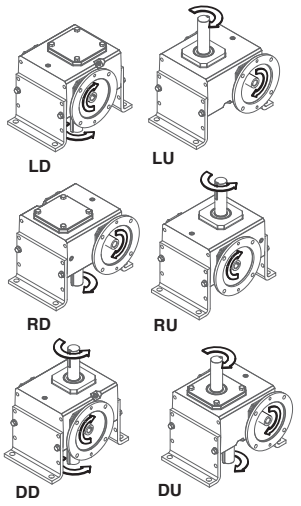

### Style VLM



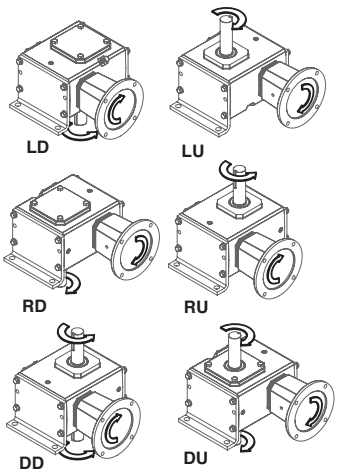

### Style VL



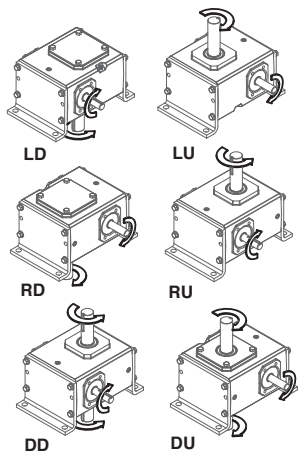

### ASSEMBLIES




### ASSEMBLIES




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE VLMQ, VLM, VL DIMENSIONS (Inches)

| Size | A | B | CD | D | F | G | H | I | J | K | L | M | N | O | O* | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style VL Only) | Input Key (Style VLM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 7.16 | 4.13 | 1.33 | 2.31 | 6.16 | 3.69 | 0.34 | 2.40 | 3.25 | 1.63 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 0.19 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 8.88 | 4.25 | 1.75 | 2.28 | 7.88 | 4.57 | 0.38 | 3.03 | 3.69 | 1.84 | 4.35 | 1.78 | 4.39 | 2.05 | 1.85 | 0.38 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| EL821 | 9.87 | 4.81 | 2.06 | 2.56 | 8.87 | 5.25 | 0.44 | 3.40 | 4.13 | 2.06 | 4.71 | 1.76 | 4.68 | 2.29 | 2.09 | 0.38 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| EL824 | 10.88 | 5.88 | 2.38 | 2.75 | 9.38 | 5.66 | 0.47 | 3.61 | 5.00 | 2.50 | 5.51 | 2.45 | 5.14 | 2.66 | 2.46 | 0.31 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL826 | 12.00 | 5.88 | 2.63 | 2.81 | 10.50 | 6.00 | 0.50 | 4.17 | 5.00 | 2.50 | 6.07 | 2.45 | 5.63 | 2.73 | 2.53 | 0.31 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| EL830 | 12.94 | 6.75 | 3.00 | 3.75 | 11.44 | 6.69 | 0.56 | 4.81 | 5.75 | 2.88 | 6.56 | 2.31 | 6.62 | 3.60 | 3.37 | 0.25 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL832 | 14.50 | 7.63 | 3.25 | 3.75 | 13.00 | 7.75 | 0.56 | 5.00 | 6.63 | 3.31 | 6.75 | 2.31 | 6.62 | 3.60 | 3.37 | 0.38 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| EL842 | 17.50 | 8.38 | 4.25 | 4.59 | 14.69 | 8.69 | 0.81 | 6.15 | 7.00 | 3.50 | 9.57 | 3.47 | 8.12 | 4.50 | 4.22 | 0.50 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| EL852 | 19.25 | 11.50 | 5.25 | 5.88 | 16.88 | 10.35 | 0.81 | 7.55 | 9.63 | 4.82 | 10.88 | 3.38 | 9.06 | 4.78 | 4.50 | 0.50 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| EL860 | 21.25 | 13.50 | 6.00 | 6.38 | 18.63 | 11.44 | 0.94 | 7.88 | 11.00 | 5.50 | 10.99 | 3.00 | 10.75 | 5.25 | 5.25 | 0.63 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL821 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL824 | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| EL826 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL830 | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| EL832 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| EL842 | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| EL852 | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| EL860 | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

– Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

– EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

– See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| BSC or BLSC | VLMQ |
| BC or BLC | VLM |
| B or BL | VL |
| B + "KV" Kit | VL + "KV" Kit |

Convert Style VL to motorized coupling input using kits shown on page 278.

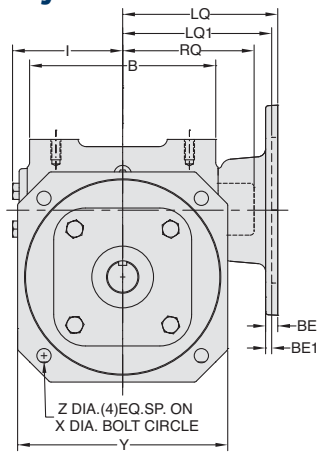
# ELECTRA-GEAR

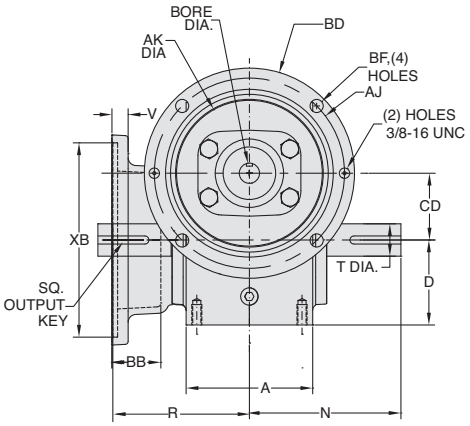
## EL Series Dimensions

### Styles: FRMQ, FRM, FR

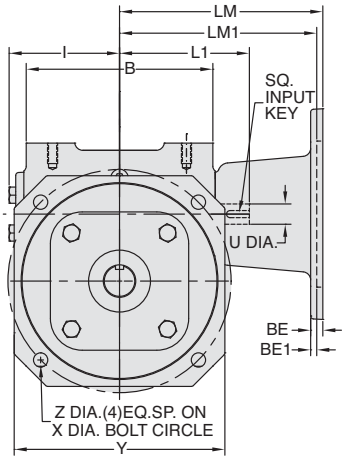
ALUMINUM EL SERIES

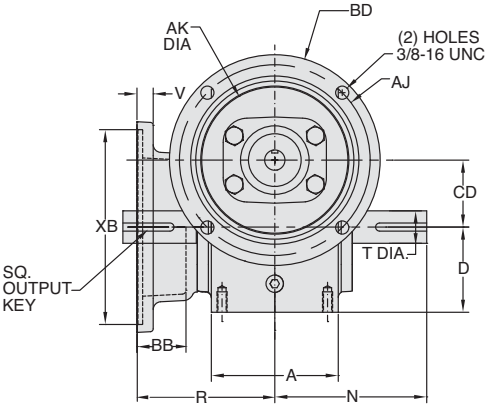
### Style FRMQ



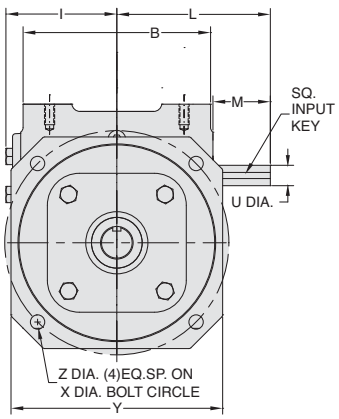



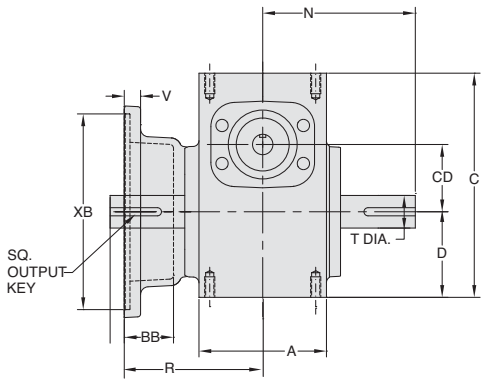

### Style FRM



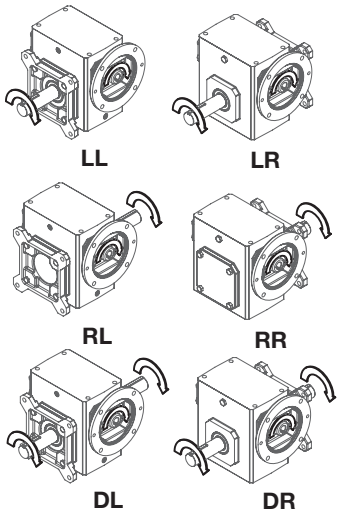




### Style FR

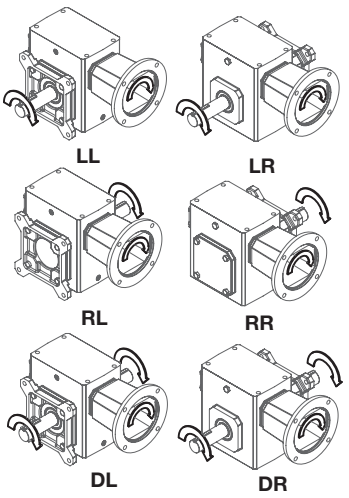


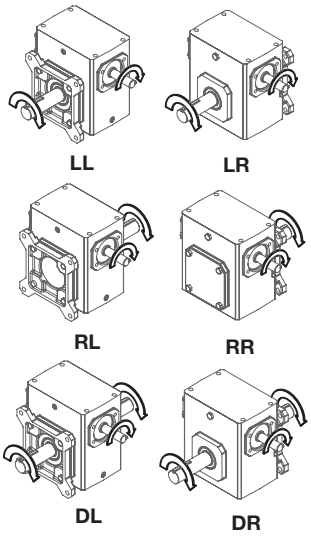

**ASSEMBLIES**




**ASSEMBLIES**




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE FRMQ, FRM, FR DIMENSIONS (Inches)

| Size | A | B | BB | C | CD | D | I | L | M | N | R | V | X | XB | Y | Z | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style F Only) | Input Key (Style FM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL818** | 3.50 | 4.83 | 1.27 | 5.86 | 1.75 | 2.31 | 3.03 | 4.35 | 1.78 | 4.39 | 3.53 | 0.38 | 3.13 | - | 4.00 | 0.34 | 0.750 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 3/16 x 1.38 |
| **EL821** | 3.91 | 5.75 | 1.51 | 6.88 | 2.06 | 2.63 | 3.40 | 4.71 | 1.76 | 4.68 | 4.25 | 0.50 | 6.88 | 6.00 | 6.49 | 0.44 | 1.000 | 0.625 | 3/16 x1.38 | 3/16 x .500 | 1/4 x 1.44 |
| **EL824** | 4.06 | 5.86 | 1.35 | 6.94 | 2.38 | 2.50 | 3.61 | 5.51 | 2.45 | 5.14 | 4.15 | 0.63 | 7.75 | 6.50 | 6.99 | 0.50 | 1.125 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| **EL826** | 4.84 | 7.17 | 1.35 | 8.00 | 2.63 | 3.25 | 4.17 | 6.07 | 2.45 | 5.63 | 4.56 | 0.63 | 7.75 | 6.50 | 6.99 | 0.50 | 1.250 | 0.750 | 3/16 x1.63 | 3/16 x .500 | 1/4 x 1.62 |
| **EL830** | 5.25 | 8.11 | 2.36 | 8.94 | 3.00 | 3.50 | 4.81 | 6.56 | 2.31 | 6.62 | 5.75 | 0.81 | 9.125-9.500 | 8.25 | 8.74 | 0.56 | 1.500 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| **EL832** | 5.25 | 8.11 | 2.54 | 10.50 | 3.25 | 4.00 | 5.00 | 6.75 | 2.31 | 6.62 | 5.94 | 0.81 | 9.125-9.500 | 8.25 | 8.74 | 0.56 | 1.625 | 0.875 | 3/16 x1.63 | 3/16 x .500 | 3/8 x 2.25 |
| **EL842** | 6.13 | 9.63 | 2.06 | 11.69 | 4.25 | 4.50 | 6.15 | 9.57 | 3.47 | 8.12 | 6.06 | 0.75 | 10.75 | 9.75 | 11.00 | 0.69 | 1.750 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| **EL852** | 7.19 | 11.50 | 1.18 | 12.25 | 5.25 | 4.25 | 7.55 | 10.88 | 3.38 | 9.06 | 5.75 | 0.69 | 12.75 | 11.50 | 14.24 | 0.81 | 2.000 | 1.250 | 1/4 x 3.00 | 1/4 x 3.00 | 1/2 x 2.50 |
| **EL860** | 7.00 | 13.50 | 0.25 | 14.25 | 6.00 | 5.00 | 7.88 | 10.99 | 3.00 | 10.75 | 7.25 | 1.00 | 15.25 | 13.00 | 17.00 | 0.81 | 2.250 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 1/2 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| **EL818** | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL821** | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| **EL824** | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| **EL826** | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| **EL830** | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| **EL832** | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| **EL842** | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| **EL852** | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| **EL860** | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

NOTE: Size 813 not available.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | FRMQ |
| STANDARD CATALOGED | FRM |
| OPTION | FR |

NOTE: Not a direct replacement to orginal ring base mounts. Styles R, RC, RSC.

Convert Style FR to motorized coupling input using kits shown on page 278.

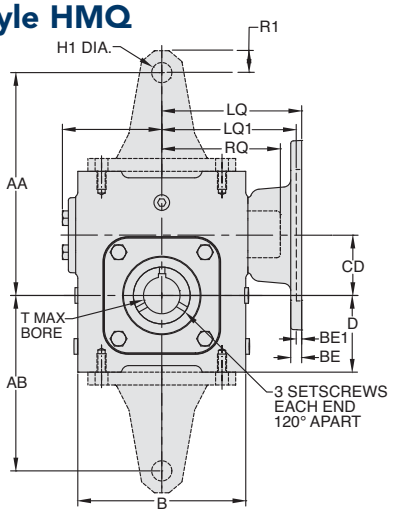
# ELECTRA-GEAR

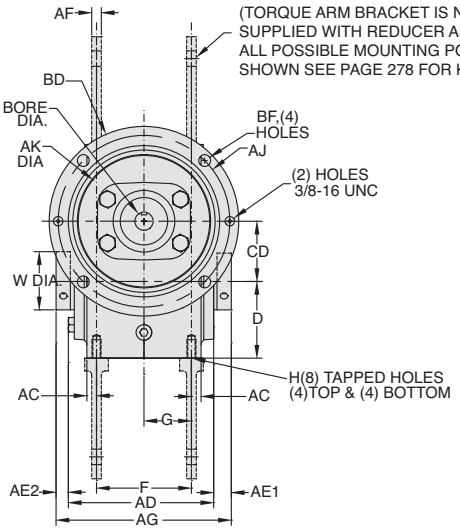
## EL Series Dimensions

### Styles: HMQ, HM, H

ALUMINUM EL SERIES

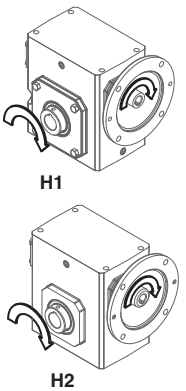
## Style HMQ



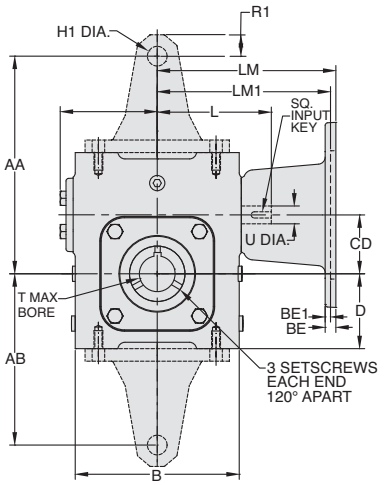

OPTIONAL TORQUE ARM BRACKET (TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD): ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE 278 FOR KITS.

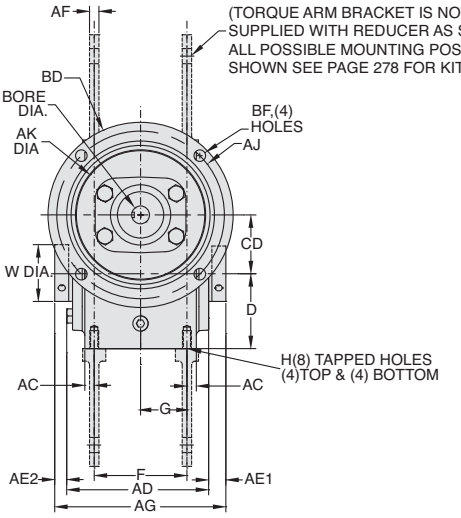
**ASSEMBLIES**




H1 SUPPLIED AS STANDARD UNLESS SPECIFIED. ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

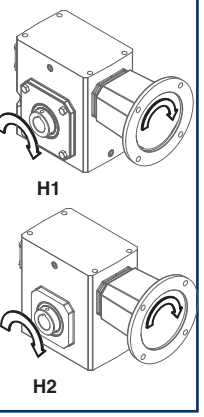
## Style HM



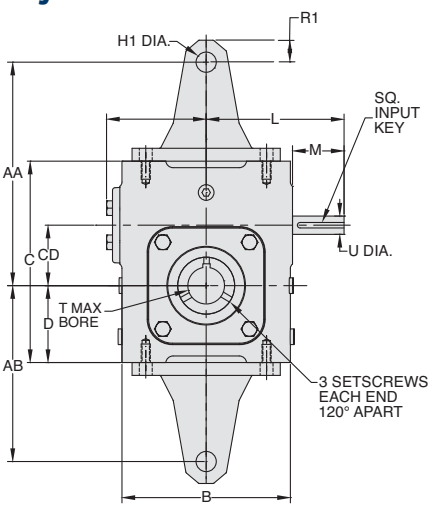

OPTIONAL TORQUE ARM BRACKET (TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD): ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE 278 FOR KITS.

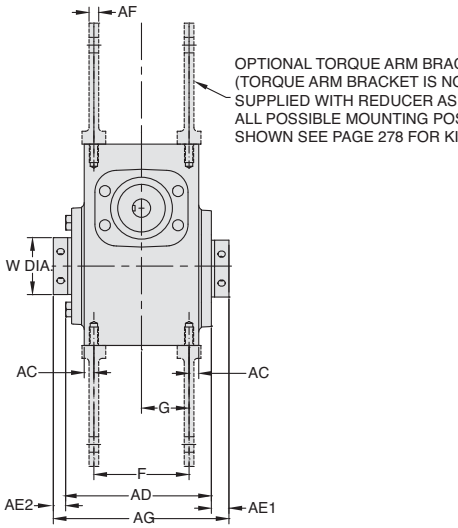
**ASSEMBLIES**




H1 SUPPLIED AS STANDARD UNLESS SPECIFIED. ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

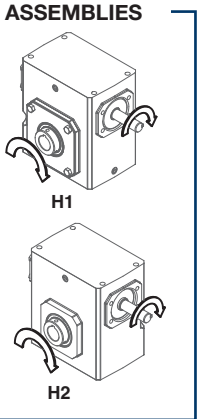
## Style H




OPTIONAL TORQUE ARM BRACKET (TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD): ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE 278 FOR KITS.

**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED. ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

## STYLE HMQ, HM, H DIMENSIONS (Inches)

| Size | AA | AB | AC | AD | AE1 | AE2 | AF | AG | B | C | CD | D | F | G | H1 | I | L | M | R1 | V | T MAX• +0.000 -0.0025 | U +0.000 -0.0015 | Input Key (Style H only)❊ | Input Key (Style HM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | -- | -- | 0.41 | 3.89 | 0.58 | 0.26 | -- | 4.75 | 3.80 | 4.66 | 1.33 | 1.72 | 2.00 | 1.00 | -- | 2.40 | 3.82 | 1.87 | - | 1.00 | 0.625 | 0.500 | 1/8 x 1.00 | -- | 3/16 x 1.50 |
| **EL818** | 6.25 | 5.00 | 0.28 | 4.72 | 0.49 | 0.29 | 0.69 | 5.50 | 4.83 | 5.86 | 1.75 | 2.31 | 2.95 | 1.48 | 0.53 | 3.03 | 4.35 | 1.78 | 0.66 | 1.44 | 1.000 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/4 x 3.00 |
| **EL821** | 7.63 | 6.00 | 0.33 | 4.98 | 0.60 | 0.42 | 0.69 | 6.00 | 5.75 | 6.88 | 2.06 | 2.63 | 3.25 | 1.63 | 0.53 | 3.40 | 4.71 | 1.76 | 0.75 | 1.94 | 1.500* | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 3.00 |
| **EL824** | 7.81 | 5.87 | 0.59 | 5.17 | 1.02 | 0.81 | 0.69 | 6.00 | 5.86 | 6.94 | 2.38 | 2.50 | 2.88 | 1.44 | 0.53 | 3.61 | 5.51 | 2.45 | 0.75 | 1.94 | 1.500* | 0.750 | 3/16 X 1.63 | 3/16 x .500 | 3/8 x 3.00 |
| **EL826** | 8.50 | 7.00 | 0.73 | 6.00 | 0.60 | 0.40 | 0.69 | 7.00 | 7.17 | 8.00 | 2.63 | 3.25 | 3.37 | 1.69 | 0.53 | 4.17 | 6.07 | 2.45 | 0.75 | 1.94 | 1.500* | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 3/8 x 3.00 |
| **EL830** | 9.94 | 8.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 8.94 | 3.00 | 3.50 | 4.13 | 2.07 | 0.53 | 4.81 | 6.56 | 2.31 | 0.81 | 2.75 | 2.188 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 3.00 |
| **EL832** | 12.50 | 10.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 10.50 | 3.25 | 4.00 | 4.13 | 2.07 | 0.53 | 5.00 | 6.75 | 2.31 | 0.88 | 2.75 | 2.188 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 3.00 |
| **EL842** | 14.69 | 12.00 | 1.19 | 7.52 | 0.63 | 0.35 | 0.69 | 8.50 | 9.63 | 11.69 | 4.25 | 4.50 | 3.75 | 1.88 | 0.53 | 6.15 | 9.57 | 3.47 | 0.88 | 2.75 | 2.188 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| **EL852** | 17.75 | 14.00 | 0.97 | 8.84 | 0.97 | 0.69 | 0.81 | 10.50 | 11.50 | 12.25 | 5.25 | 4.25 | 5.25 | 2.63 | 0.66 | 7.55 | 10.88 | 3.38 | 1.13 | 4.26 | 3.438 | 1.250 | 1/4 X 3.00 | 1/4 x 3.00 | 7/8 x 4.00 |
| **EL860** | 20.25 | 16.00 | 0.81 | 11.00 | 0.81 | 0.81 | 0.81 | 10.38 | 13.50 | 14.25 | 6.00 | 5.00 | 5.38 | 2.69 | 0.66 | 7.88 | 10.99 | 3.00 | 1.13 | 3.74 | 3.438 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 7/8 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| **EL813** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL818** | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL821** | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| **EL824** | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| **EL826** | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| **EL830** | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| **EL832** | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| **EL842** | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| **EL852** | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| **EL860** | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

- • Max bore dimensions shown. For additional bores available, refer to page 20.
- ◆ Keyway width by depth
- ❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

Note: Torque arm bracket available separately. Refer to page 278 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 52 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| MHSC | HMQ |
| MHC | HM |
| MH | H |
| MH + "KV" Kit | H + "KV" Kit |

Convert Style H to motorized coupling input using kits shown on page 278.

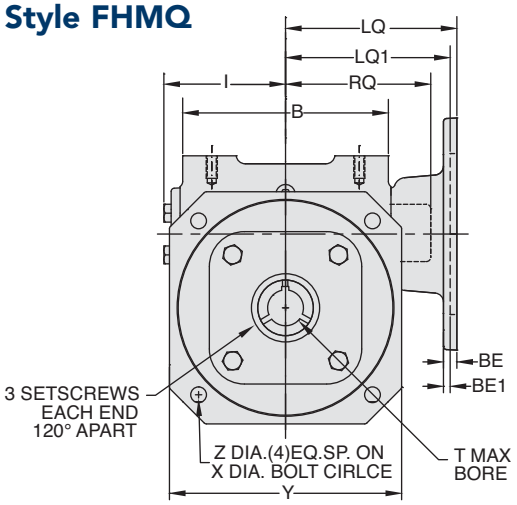
# ELECTRA-GEAR

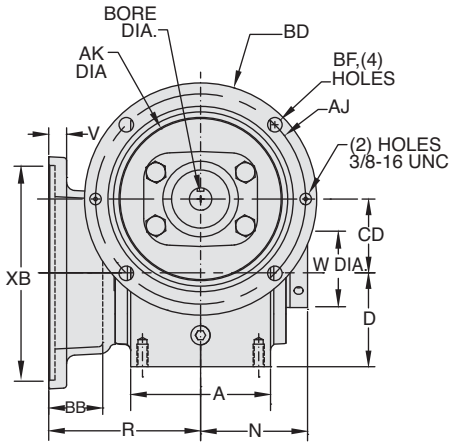
## EL Series Dimensions

### Styles: FHMQ, FHM, FH

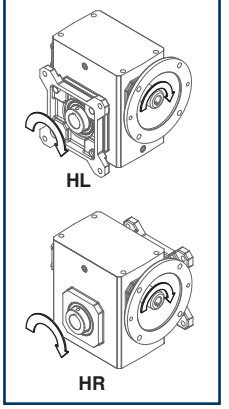
ALUMINUM EL SERIES

### Style FHMQ

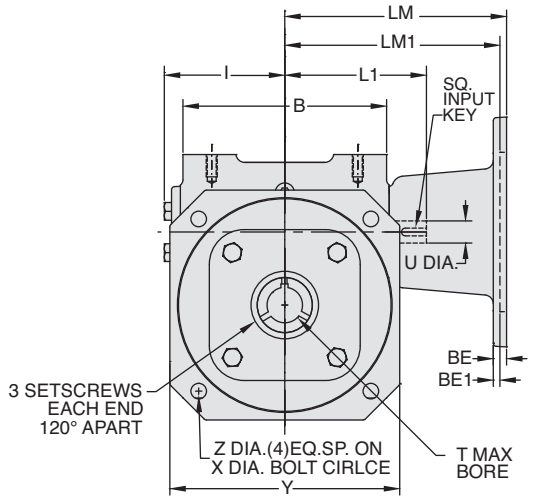


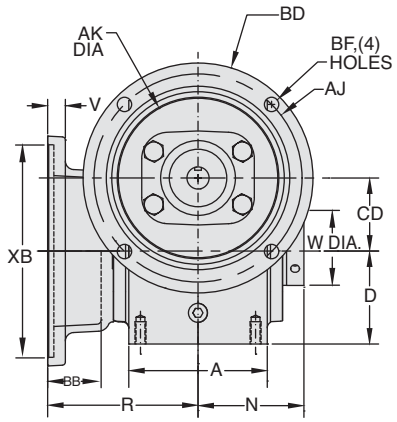




ASSEMBLIES

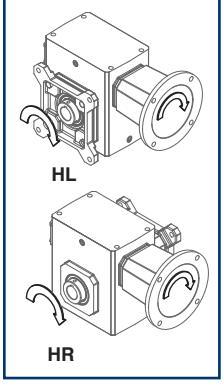



### Style FHM

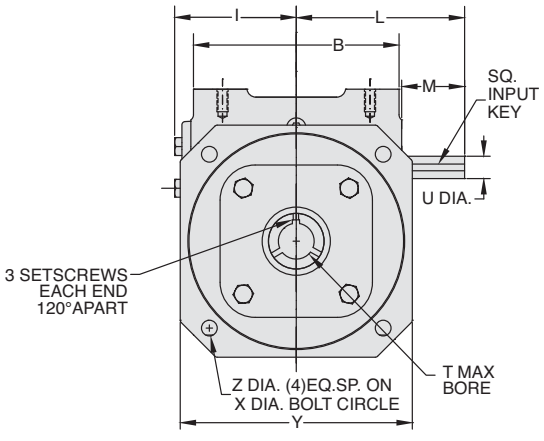


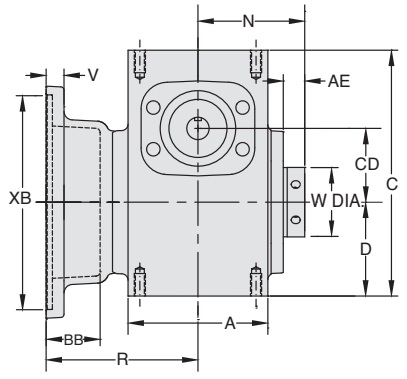




ASSEMBLIES

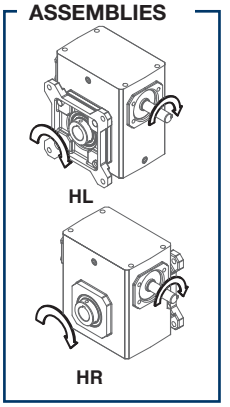



### Style FH




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE FHMQ, FHM, FH DIMENSIONS (Inches)

| Size | A | AE | B | BB | C | CD | D | I | L | M | N | R | V | X | XB | Y | Z | T MAX• +0.000 -0.0025 | U +0.000 -0.0015 | Input Key (Style FH only)❊ | Input Key (Style FHM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL818 | 3.50 | 0.49 | 4.83 | 1.27 | 5.86 | 1.75 | 2.31 | 3.03 | 4.35 | 1.78 | 2.75 | 3.53 | 0.38 | 3.13 | - | 4.00 | 0.34 | 1.000 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/4 x 3.00 |
| EL821 | 3.91 | 0.60 | 5.75 | 1.51 | 6.88 | 2.06 | 2.63 | 3.40 | 4.71 | 1.76 | 2.99 | 4.25 | 0.50 | 6.88 | 6.00 | 6.49 | 0.44 | 1.500* | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 3.00 |
| EL824 | 4.06 | 1.05 | 5.86 | 1.35 | 6.94 | 2.38 | 2.50 | 3.61 | 5.51 | 2.45 | 3.51 | 4.15 | 0.63 | 7.38 | 6.50 | 6.99 | 0.50 | 1.500* | 0.750 | 3/16 X 1.63 | 3/16 x .500 | 3/8 x 3.00 |
| EL826 | 4.84 | 0.60 | 7.17 | 1.35 | 8.00 | 2.63 | 3.25 | 4.17 | 6.07 | 2.45 | 3.19 | 4.56 | 0.63 | 7.38 | 6.50 | 6.99 | 0.50 | 1.500* | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 3/8 x 3.00 |
| EL830 | 5.25 | 0.60 | 8.11 | 2.36 | 8.94 | 3.00 | 3.50 | 4.81 | 6.56 | 2.31 | 3.75 | 5.75 | 0.81 | 9.125-9.500 | 8.25 | 8.74 | 0.56 | 2.188 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 3.00 |
| EL832 | 5.25 | 0.60 | 8.11 | 2.54 | 10.50 | 3.25 | 4.00 | 5.00 | 6.75 | 2.31 | 3.75 | 5.94 | 0.81 | 10.75 | 9.75 | 8.74 | 0.56 | 2.188 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 3.00 |
| EL842 | 6.13 | 0.63 | 9.63 | 2.06 | 11.69 | 4.25 | 4.50 | 6.15 | 9.57 | 3.47 | 4.25 | 6.06 | 0.75 | 11.50 | 10.25 | 11.00 | 0.69 | 2.188 | 1.250 | 1/4 x 2.50 | 1/4 x 2.50 | 3/8 x 3.00 |
| EL852 | 7.19 | 0.97 | 11.50 | 1.18 | 12.25 | 5.25 | 4.25 | 7.55 | 10.88 | 3.38 | 5.25 | 5.75 | 0.69 | 12.75 | 11.50 | 14.24 | 0.81 | 3.438 | 1.250 | 1/4 X 3.00 | 1/4 x 3.00 | 7/8 x 4.00 |
| EL860 | 7.00 | 0.81 | 13.50 | 0.25 | 14.25 | 6.00 | 5.00 | 7.88 | 10.99 | 3.00 | 5.19 | 7.25 | 1.00 | 15.25 | 13.00 | 17.00 | 0.81 | 3.438 | 1.500 | 3/8 x 3.00 | 3/8 x 2.75 | 7/8 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL818 | 5.89 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL821 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL824 | 6.48 | 7.30 | 4.29 | 4.29 | 4.77 | 4.77 | 4.09 | 4.09 |
| EL826 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL830 | 7.67 | 8.31 | 5.38 | 5.38 | 5.97 | 5.97 | 5.32 | 5.32 |
| EL832 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |
| EL842 | 11.25 | 12.53 | 9.57 | 9.57 | 6.45 | 6.45 | 6.04 | 6.04 |
| EL852 | 12.65 | 13.93 | 10.88 | 10.88 | 7.85 | 7.85 | 7.35 | 7.35 |
| EL860 | -- | 11.94 | 10.99 | 10.99 | -- | -- | -- | -- |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

- • Max bore dimensions shown. For additional bores available, refer to page 20.
- ◆ Keyway width by depth
- ❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 52 for GR Series dimensions.

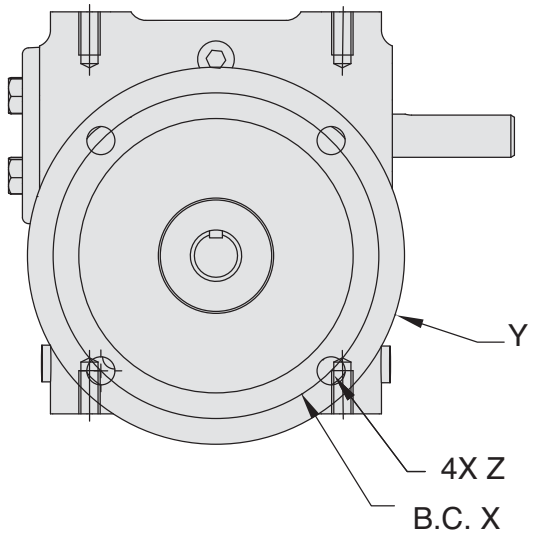
### ELECTRA-GEAR INTERCHANGE GUIDE

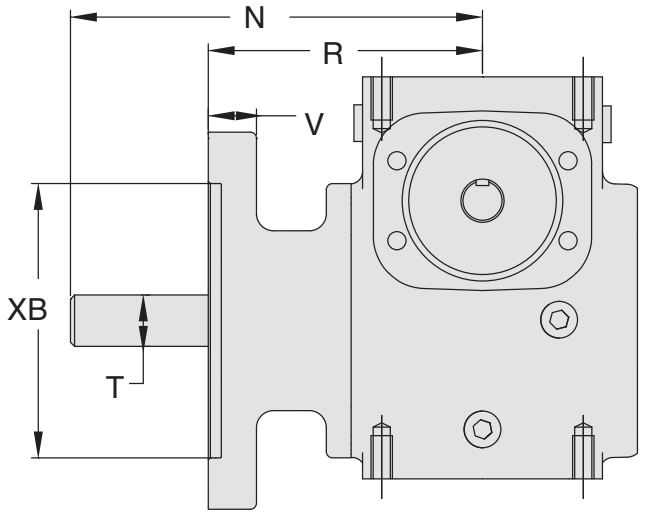
| Original Style | New Style |
|---|---|
| RHSC | FHMQ |
| RHC | FHM |
| RH | FH |
| RH + "KV" Kit | FH + "KV" Kit |

Convert Style FH to motorized coupling input using kits shown on page 278.

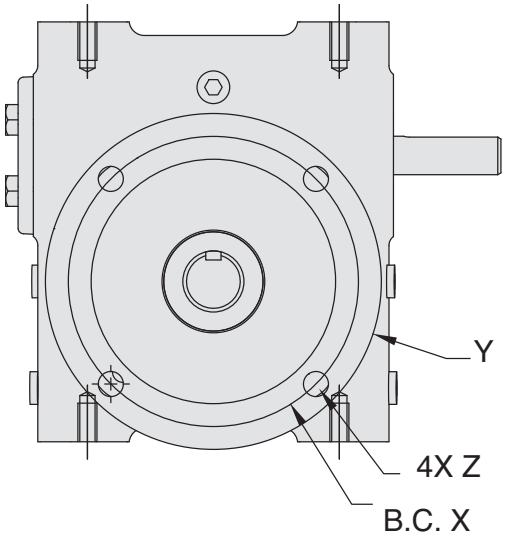
# FL (Ring Base) Output Flange

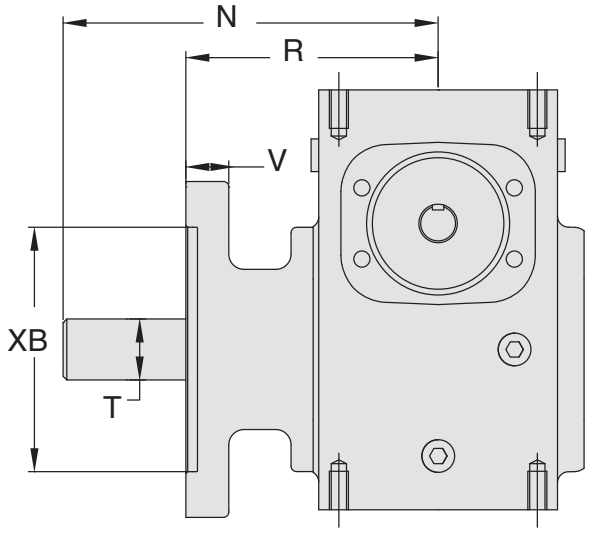
## SIZE 818




## SIZE 821



## FL DIMENSIONS (inches)

| Size | N | R | T +0.000 -0.0015 | V | X | XB | Y | Z |
|---|---|---|---|---|---|---|---|---|
| **818** | 6.01 | 400 | 0.750 | 0.703 | 4.75 | 4.002 | 5.50 | 0.41 |
| **821** | 6.14 | 4.13 | 1.000 | 0.703 | 4.75 | 4.002 | 5.50 | 0.41 |

FL Flange Kit must be assembled at Factory. Contact Factory to order.
Must designate LL (left) or RR (right).

## ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| RL | FL |
| RLC | FLM |
| RLSC | FLMQ |

# Model Number System

## Double Reduction Worm - Worm

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### 800 Series Gear Reducer Model Number Nomenclature

All new stock and custom 800 Series Grove Gear and Electra-Gear worm reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

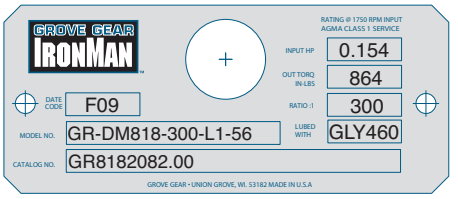
NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional accessory, the modification number T818EL, for example, is stamped in the catalog number field of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, GR8135000 and EL8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

### TYPICAL NAMEPLATE

(Grove Gear shown)




**Series Code**

GR - Grove Gear IRONMAN Cast Iron Reducers
NH - Grove Gear IRONMAN Narrow Housing Cast Iron Reducers
EL - Electra-Gear Aluminum Reducers
GRG - Grove Gear Flexaline Interchange (Sizes 821, 826, 832)
GRL - Leeson IRONMAN Interchange (Sizes 821, 826, 832)

**Style**

SOLID OUTPUT SHAFT
DMQ – Motorized, Quill Input
DM – Motorized, Flexible Coupling Input
D – Non-Flanged

HOLLOW OUTPUT SHAFT
DHMQ – Motorized, Quill Input
DHM – Motorized, Flexible Coupling Input
DH – Non-Flanged

WASHGUARD STYLES
W prefix; i.e. WDMQ denotes WASHDOWN Reducer
S prefix; i.e. SDMQ denotes All-Stainless Steel Reducer

**Size**

800 SERIES CENTER DISTANCES

| Size | Center Distance (Inches) |
|---|---|
| 813 | 1.33 |
| 815 | 1.54 |
| 818 | 1.75 |
| 821 | 2.06 |
| 824 | 2.38 |
| 826 | 2.62 |
| 830 | 3.00 |
| 832 | 3.25 |
| 842 | 4.25 |
| 852 | 5.25 |
| 860 | 6.00 |
| 870* | 7.00 |
| 880* | 8.00 |
| 8100* | 10.00 |

* GR series only

**Ratio**

See Selection Tables on pages 122-126, for all available ratios.

**Output Shaft Orientation**

L – Left-hand Output Shaft*
R – Right-hand Output Shaft*
D – Double Output Shaft
H – Hollow Output Shaft
* Viewed from drive end of reducer.

**Mounting Assembly**

Assembly numbers 1-6 are available. Refer to dimension layouts.

**Motor Flange**

| Input Code | | For Input Type | |
|---|---|---|---|
| Single Input | Dual Input | | |
| blank | A | non-motorized | NEMA Input |
| 48 | 48A | 48CZ | |
| 56 | 56A | 56C | |
| 140 | 140A | 143-5TC | |
| 180 | 180A | 182-4TC | |
| 210 | 210A | 213-5TC | |
| 250 | 250A | 254-6TC | |
| 63 | Contact Factory | D63D B5 | IEC Input |
| 71 | | D71D B5 | |
| 80 | | D80D B5 | |
| 90 | | D90D B5 | |
| 110 | | D100LD/D112MD B5 | |
| 132 | | D132D | |

**Output Bore Code**

Hollow Shaft Only
See page 130.

## Sample Model Number

### Solid Output Shaft - GR Series

Cast iron, double reduction, 2.38" reducer with 56C motorized quill input, left-hand output shaft, 300:1 ratio.

| GR | - | DMQ | 824 | - | 300 | - | L1 | - | 56 |
|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type |

### Hollow Output Shaft - EL Series

Aluminum housing, double reduction, 1.75" reducer with 56C motorized quill input, 1.00" hollow output bore, 100:1 ratio.

| EL | - | DHMQ | 818 | - | 100 | - | H1 | - | 56 | - | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type | | Output Bore Code |


Style DMQ


Style DUMQ


Style DJMQ


Style DFMQ


Style DFEMQ


Style DHMQ


Style DFHMQ


Style DXMQ


Style DXJMQ

| CAST IRON GR SERIES / CAST IRON NH SERIES / ALUMINUM EL SERIES Reducer Style | Replaces Original GROVE GEAR OE Series Reducer Style | Replaces Original ELECTRA-GEAR Reducer Style |
|---|---|---|
| D | DU | D__M |
| DM & DMQ | DUFC & DUF | D__MC & D__MSC |
| DT & DU | DZ & DUB | D__A |
| DTM & DTMQ | DZFC & DZF | D__AC & D__ASC |
| DUM & DUMQ | DUBFC & DUBF | New |
| DJ | DJ | D__JB |
| DJM & DJMQ | DJFC & DJF | D__JBC & D__JBSC |
| DF | DK & DV | N/A |
| DFM & DFMQ | DKFC & DKF / DVFC & DVF | N/A |
| DFE | DE | N/A |
| DFEM & DFEMQ | DEFC & DEF | N/A |
| DH | DY | D_MH |
| DHM & DHMQ | DYFC & DYF | D_MHC & D_MHSC |
| DFH | DM | N/A |
| DFHM | DMFC | N/A |
| DFHMQ | DMF | N/A |
| DX | HWU | H__M |
| DXM | HWUFC | H__MC |
| DXMQ | HWUF | NEW |
| DXT & DXU | HWZ | H__A |
| DXTM | HWZFC | H__AC |
| DXTMQ | HWZF | NEW |
| DXUM | HWUBFC | H__AC |
| DXUMQ | HWUBF | NEW |
| DXJ | N/A | H__JB |
| DXJM | N/A | H__JBC |
| DXJMQ | N/A | NEW |
| DXVL | N/A | H__B |
| DXVLM | N/A | H__BC |
| DXVLMQ | N/A | NEW |
| DXFE | HWE | N/A |
| DXFEM & DXFEMQ | HWEFC & HWEF | N/A |
| DXH | HWY | H_MH |
| DXHM & DXHMQ | HWYFC & HWYF | H_MHC & H_MHSC |
| DFL | N/A | D__RL |
| DFLM & DFLMQ | N/A | D__RLC & D__RLSC |
| DFR | N/A | New |
| DFRM & DFRMQ | N/A | New |
| DVL & DVH | DSL & DSH | D__B |
| DVLM & DVLMQ | DSLFC & DSLF | D__BC & D__BSC |
| DVHM & DVHMQ | DSHFC & DSHF | N/A |
| DXFR | N/A | New |
| DXFRM | N/A | New |
| DXFRMQ | N/A | New |
| DXFL | N/A | H__RL |
| DXFLM & DXFLMQ | N/A | H__RLC |

# Cast Iron Solid Shaft Output Styles

CAST IRON GR SERIES | CAST IRON NH SERIES

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DMQ, DM and D can be field or Factory modified into a wide range of styles.

| | Stock Styles | Modified Stock Styles | |
|---|---|---|---|
| | | Horizontal Base Worm Over | Horizontal Base Worm Under |
| MOTORIZED C-FLANGE QUILL INPUT | **Style DMQ** | **Style DTMQ** | **Style DUMQ *** |
| |  |  |  |
| | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 132-133<br>NH Series 150-151 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 134-135<br>NH Series 152-153 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 136-137<br>NH Series 154-155 |
| MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT | **Style DM** | **Style DTM** | **Style DUM *** |
| |  |  |  |
| | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 132-133<br>NH Series 150-151 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 134-135<br>NH Series 152-153 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 136-137<br>NH Series 154-155 |
| | **Style D** | **Style DT** | **Style DU *** |
| |  |  |  |
| | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 132-133<br>NH Series 150-151 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 134-135<br>NH Series 152-153 | Ratings Pages: 122-126<br>Dimension Pages:<br>GR Series 136-137<br>NH Series 154-155 |

**Additional accessories, options and assembly services are available, Contact Factory for details.**

* Not a recommended mounting style. Consult Factory for selection assistance.

# Cast Iron
# Solid Shaft Output Styles



### Vertical Input Shaft

**Style DJMQ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 138-139
NH Series 156-157

**Style DJM**



Ratings Pages: 122-126

Dimension Pages:
GR Series 138-139
NH Series 156-157

**Style DJ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 138-139
NH Series 156-157

### Vertical Output Shaft High/Low Base

**Style DV_HMQ****



Ratings Pages: 122-126

Dimension Pages:
GR Series 140-141
NH Series 158-159

**Style DV_HM ****



Ratings Pages: 122-126

Dimension Pages:
GR Series 140-141
NH Series 158-159

**Style DV_H****



Ratings Pages: 122-126

Dimension Pages:
GR Series 140-141
NH Series 158-159

### Flange Mounted Output Shaft

**Style DFMQ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 142-143
NH Series 160-161

**Style DFM**



Ratings Pages: 122-126

Dimension Pages:
GR Series 142-143
NH Series 160-161

**Style DF**



Ratings Pages: 122-126

Dimension Pages:
GR Series 142-143
NH Series 160-161

### Drop Bearing Output Flange

**Style DFEMQ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 148-149
NH Series 166-167

**Style DFEM**



Ratings Pages: 122-126

Dimension Pages:
GR Series 148-149
NH Series 166-167

**Style DFE**



Ratings Pages: 122-126

Dimension Pages:
GR Series 148-149
NH Series 166-167

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

# Cast Iron Hollow Shaft Output Styles

CAST IRON GR SERIES | CAST IRON NH SERIES

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DHMQ, DHM and DH can be field or Factory modified into a wide range of styles.

**Flange Mounted Output Shaft**

### MOTORIZED C-FLANGE QUILL INPUT

**Style DHMQ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 144-145
NH Series 162-163

**Style DFHMQ**



Ratings Pages: 122-126

Dimension Pages:
GR Series 144-147
NH Series 164-165

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

**Style DHM**



Ratings Pages: 122-126

Dimension Pages:
GR Series 144-145
NH Series 162-163

**Style DFHM**



Ratings Pages: 122-126

Dimension Pages:
GR Series 146-147
NH Series 164-165

### NON-FLANGED INPUT

**Style DH**



Ratings Pages: 122-126

Dimension Pages:
GR Series 144-145
NH Series 162-163

**Style DFH**



Ratings Pages: 122-126

Dimension Pages:
GR Series 146-147
NH Series 164-165

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DHMQ, DHM and DH can be field or Factory modified into a wide range of styles.

### Style DHMQ

MOTORIZED C-FLANGE QUILL INPUT



Ratings Pages: 122-126

Dimension Pages:
EL Series 180-181

### Style DFHMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 182-183

### Style DHM

MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT



Ratings Pages: 122-126

Dimension Pages:
EL Series 180-181

### Style DFHM



Ratings Pages: 122-126

Dimension Pages:
EL Series 182-183

### Style DH

NON-FLANGED INPUT



Ratings Pages: 122-126

Dimension Pages:
EL Series 180-181

### Style DFH



Ratings Pages: 122-126

Dimension Pages:
EL Series 182-183

# ELECTRA-GEAR
## Aluminum
## Solid Shaft Output Styles

ALUMINUM EL SERIES

**Stock Styles** | **Modified Stock Styles**

Using off-the-shelf accessories, stock styles DMQ, DM and D can be field or Factory modified into a wide range of styles.

**Horizontal Base Worm Over**

### MOTORIZED C-FLANGE QUILL INPUT

#### Style DMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 168-169

#### Style DTMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 170-171

#### Style DUMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 172-173

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

#### Style DM



Ratings Pages: 122-126

Dimension Pages:
EL Series 168-169

#### Style DTM



Ratings Pages: 122-126

Dimension Pages:
EL Series 170-171

#### Style DUM *



Ratings Pages: 122-126

Dimension Pages:
EL Series 172-173

### NON-FLANGED INPUT

#### Style D



Ratings Pages: 122-126

Dimension Pages:
EL Series 168-169

#### Style DT



Ratings Pages: 122-126

Dimension Pages:
EL Series 170-171

#### Style DU *



Ratings Pages: 122-126

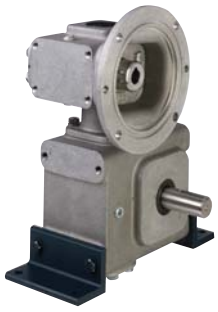
Dimension Pages:
EL Series 172-173

**Additional accessories, options and assembly services are available, Contact Factory for details.**

* Not a recommended mounting style. Consult Factory for selection assistance.

### Vertical Input Shaft

## Style DJMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 174-175

## Style DJM



Ratings Pages: 122-126

Dimension Pages:
EL Series 174-175

## Style DJ



Ratings Pages: 122-126

Dimension Pages:
EL Series 174-175

### Vertical Output Shaft Low Base

## Style DVLMQ **



Ratings Pages: 122-126

Dimension Pages:
EL Series 176-177

## Style DVLM **



Ratings Pages: 122-126

Dimension Pages:
EL Series 176-177

## Style DVL **



Ratings Pages: 122-126

Dimension Pages:
EL Series 176-177

### Flange Mounted Output Shaft

## Style DFRMQ



Ratings Pages: 122-126

Dimension Pages:
EL Series 178-179

## Style DFRM



Ratings Pages: 122-126

Dimension Pages:
EL Series 178-179

## Style DFR



Ratings Pages: 122-126

Dimension Pages:
EL Series 178-179

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

# Quick Selections

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

## How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 418 or contact Factory with specific application information. Reducer size corresponds to center distances of secondary stage reducer, as shown in the chart below.

## 1.00 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 |
| 75 | 23.3 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 860 | 880 | 880 | 8100 | 8100 |
| 100 | 17.5 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | |
| 150 | 11.7 | 813 | 815 | 821 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 880 | 8100 | 8100 | | |
| 200 | 8.75 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | | | |
| 250 | 7.00 | 815 | 818 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 880 | 8100 | 8100 | | | |
| 300 | 5.83 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | |
| 400 | 4.38 | 821 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 860 | 8100 | 8100 | | | | |
| 500 | 3.50 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | |
| 600 | 2.92 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | 860 | 880 | 8100 | | | | | |
| 750 | 2.33 | 824 | 824 | 830 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | | |
| 900 | 1.94 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | |
| 1000 | 1.75 | 824 | 830 | 830 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | | | | | | |
| 1200 | 1.46 | 824 | 830 | 830* | 832 | 842 | 852 | 852 | 870 | 880 | 8100 | | | | | | |
| 1500 | 1.17 | 830 | 830 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | | |
| 1800 | 9.72 | 830 | 830 | 832 | 842 | 852 | 852 | 860 | 8100 | 8100 | | | | | | | |
| 2400 | .729 | 830 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | | |
| 3000 | .583 | 830 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | | | |
| 3600 | .486 | 830* | 832** | 842 | 852 | 852 | 880 | 8100 | | | | | | | | | |

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 |
| 75 | 23.3 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 880 | 880 | 8100 | 8100 | |
| 100 | 17.5 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | 880 | 880 | 8100 | | |
| 150 | 11.7 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | | | |
| 200 | 8.75 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | |
| 250 | 7.00 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | 852 | 880 | 8100 | | | | |
| 300 | 5.83 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | |
| 400 | 4.38 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | |
| 500 | 3.50 | 824 | 824 | 830 | 830* | 842 | 842 | 852 | 852 | 860 | 880 | 8100 | | | | | |
| 600 | 2.92 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | 852 | 870 | 8100 | | | | | | |
| 750 | 2.33 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | 860 | 880 | 8100 | | | | | | |
| 900 | 1.94 | 824 | 830 | 830* | 832** | 842 | 852 | 852 | 880 | 880 | 8100 | | | | | | |
| 1000 | 1.75 | 826 | 830 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | |
| 1200 | 1.46 | 830 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | |
| 1500 | 1.17 | 830 | 830 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | | |
| 1800 | 9.72 | 830 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | | | |
| 2400 | .729 | 830 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | | | |
| 3000 | .583 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | | | | |
| 3600 | .486 | 832** | 842 | 842 | 852 | 852 | 8100 | 8100 | | | | | | | | | |

Note: This chart is meant as a guide for reducer selections at specific motor horsepowers.

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 122-126.

♠ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.

Refer to page 131 for exact ratio of double reduction worm-worm gear reducers.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

## 1.50 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 |
| 75 | 23.3 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | 880 | 880 | 8100 |
| 100 | 17.5 | 815 | 815 | 821 | 821 | 824 | 830 | 830* | 842 | 842 | 852 | 860 | 880 | 8100 | |
| 150 | 11.7 | 815 | 821 | 821 | 824 | 826 | 832** | 832** | 842 | 852 | 852 | 880 | 8100 | 8100 | |
| 200 | 8.75 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | |
| 250 | 7.00 | 821 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | |
| 300 | 5.83 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | |
| 400 | 4.38 | 824 | 824 | 830 | 830* | 842 | 842 | 852 | 852 | 860 | 880 | 8100 | | | |
| 500 | 3.50 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | |
| 600 | 2.92 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 870 | 880 | 8100 | | | | |
| 750 | 2.33 | 826 | 830 | 832** | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | |
| 900 | 1.94 | 826 | 830 | 832** | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | |
| 1000 | 1.75 | 830 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | | | |
| 1200 | 1.46 | 830 | 830* | 832** | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | | |
| 1500 | 1.17 | 830 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | |
| 1800 | 9.72 | 830 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | |
| 2400 | .729 | 842 | 842 | 852 | 852 | 852 | 880 | 8100 | | | | | | | |
| 3000 | .583 | 842 | 842 | 852 | 852 | 852 | 8100 | 8100 | | | | | | | |
| 3600 | .486 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | | | |

## 1.75 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 |
| 75 | 23.3 | 813 | 815 | 821 | 821 | 824 | 830 | 830 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 |
| 100 | 17.5 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 870 | 8100 | 8100 | |
| 150 | 11.7 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | |
| 200 | 8.75 | 821 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | |
| 250 | 7.00 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | 852 | 880 | 8100 | | | |
| 300 | 5.83 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 860 | 880 | 8100 | | | |
| 400 | 4.38 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | |
| 500 | 3.50 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 870 | 880 | 8100 | | | | |
| 600 | 2.92 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | |
| 750 | 2.33 | 826 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | | | |
| 900 | 1.94 | 830 | 830* | 832** | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | |
| 1000 | 1.75 | 830 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | |
| 1200 | 1.46 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | |
| 1500 | 1.17 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | |
| 1800 | 9.72 | 832 | 842 | 842 | 852 | 852 | 8100 | 8100 | | | | | | | |
| 2400 | .729 | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | | | | |
| 3000 | .583 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | | |
| 3600 | .486 | 842 | 842 | 852 | 852 | 8100 | 8100 | | | | | | | | |

## 2.0 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 |
| 75 | 23.3 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 852 | 880 | 880 | 8100 | |
| 100 | 17.5 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | |
| 150 | 11.7 | 821 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 870 | 8100 | 8100 | | |
| 200 | 8.75 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | | | |
| 250 | 7.00 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 860 | 880 | 8100 | | | |
| 300 | 5.83 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | |
| 400 | 4.38 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 860 | 880 | 8100 | | | | |
| 500 | 3.50 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | |
| 600 | 2.92 | 826 | 830 | 832** | 842 | 852 | 852 | 860 | 880 | 8100 | 8100 | | | | |
| 750 | 2.33 | 830 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | | |
| 900 | 1.94 | 830 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | |
| 1000 | 1.75 | 830 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | |
| 1200 | 1.46 | 830* | 832** | 842 | 842 | 852 | 870 | 880 | 8100 | | | | | | |
| 1500 | 1.17 | 832 | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | | | |
| 1800 | 9.72 | 842 | 842 | 852 | 852 | 860 | 8100 | 8100 | | | | | | | |
| 2400 | .729 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | | | |
| 3000 | .583 | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | | | |
| 3600 | .486 | 842 | 852 | 852 | 852 | 8100 | | | | | | | | | |

Note: This chart is meant as a guide for reducer selections at specific motor horsepowers.
Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 122-126.
♠ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of double reduction worm-worm gear reducers.
* Size 832 must be used for NH Series for this selection.
** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES





### SIZE 813, 815, 818 • 1.0 S.F.

| Overall Ratio | Input RPM | Output RPM | SIZE 813 Input HP | SIZE 813 Output HP | SIZE 813 Output TQ (lb-in) | SIZE 815** Input HP | SIZE 815** Output HP | SIZE 815** Output TQ (lb-in) | SIZE 818 Input HP | SIZE 818 Output HP | SIZE 818 Output TQ (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 1750 | 23.30 | 0.215 | 0.141 | 381 | 0.391 | 0.242 | 654 | 0.415 | 0.287 | 776 |
| | 1170 | 15.60 | 0.154 | 0.097 | 390 | 0.286 | 0.168 | 678 | 0.295 | 0.197 | 797 |
| 100 | 1750 | 17.50 | 0.183 | 0.114 | 411 | 0.339 | 0.194 | 698 | 0.344 | 0.230 | 827 |
| | 1170 | 11.70 | 0.130 | 0.078 | 420 | 0.249 | 0.134 | 721 | 0.244 | 0.157 | 847 |
| 150 | 1750 | 11.70 | 0.122 | 0.073 | 395 | 0.233 | 0.125 | 674 | 0.235 | 0.150 | 809 |
| | 1170 | 7.80 | 0.085 | 0.050 | 400 | 0.166 | 0.085 | 690 | 0.166 | 0.101 | 820 |
| 200 | 1750 | 8.75 | 0.104 | 0.059 | 425 | 0.187 | 0.095 | 686 | 0.195 | 0.119 | 858 |
| | 1170 | 5.85 | 0.075 | 0.040 | 430 | 0.136 | 0.065 | 698 | 0.137 | 0.081 | 868 |
| 250 | 1750 | 7.00 | 0.090 | 0.046 | 417 | 0.158 | 0.073 | 660 | 0.165 | 0.096 | 861 |
| | 1170 | 4.68 | 0.064 | 0.031 | 422 | 0.113 | 0.050 | 671 | 0.115 | 0.065 | 871 |
| 300 | 1750 | 5.83 | 0.084 | 0.039 | 422 | 0.139 | 0.064 | 699 | 0.154 | 0.080 | 864 |
| | 1170 | 3.90 | 0.060 | 0.026 | 427 | 0.099 | 0.044 | 706 | 0.110 | 0.054 | 876 |
| 400 | 1750 | 4.38 | 0.062 | 0.030 | 432 | 0.111 | 0.049 | 705 | 0.114 | 0.061 | 874 |
| | 1170 | 2.93 | 0.043 | 0.020 | 435 | 0.081 | 0.033 | 711 | 0.081 | 0.040 | 879 |
| 500 | 1750 | 3.50 | 0.053 | 0.024 | 424 | 0.098 | 0.039 | 708 | 0.097 | 0.049 | 877 |
| | 1170 | 2.34 | 0.007 | 0.016 | 427 | 0.069 | 0.026 | 713 | 0.068 | 0.032 | 882 |
| 600 | 1750 | 2.92 | 0.048 | 0.020 | 430 | 0.086 | 0.033 | 711 | 0.090 | 0.041 | 882 |
| | 1170 | 1.95 | 0.034 | 0.013 | 432 | 0.065 | 0.022 | 714 | 0.066 | 0.027 | 888 |
| 750 | 1750 | 2.33 | 0.040 | 0.016 | 427 | 0.071 | 0.025 | 683 | 0.080 | 0.032 | 886 |
| | 1170 | 1.56 | 0.030 | 0.011 | 429 | 0.055 | 0.017 | 686 | 0.061 | 0.023 | 891 |
| 900 | 1750 | 1.94 | 0.036 | 0.013 | 432 | 0.067 | 0.020 | 665 | 0.068 | 0.027 | 888 |
| | 1170 | 1.30 | 0.028 | 0.009 | 434 | 0.048 | 0.014 | 668 | 0.050 | 0.018 | 893 |
| 1000 | 1750 | 1.75 | 0.038 | 0.012 | 428 | 0.063 | 0.020 | 715 | 0.064 | 0.025 | 884 |
| | 1170 | 1.17 | 0.029 | 0.008 | 429 | 0.045 | 0.014 | 718 | 0.045 | 0.017 | 886 |
| 1200 | 1750 | 1.46 | 0.034 | 0.010 | 434 | 0.052 | 0.017 | 717 | 0.059 | 0.021 | 892 |
| | 1170 | 0.975 | 0.025 | 0.007 | 435 | 0.041 | 0.011 | 719 | 0.043 | 0.014 | 895 |
| 1500 | 1750 | 1.17 | 0.030 | 0.008 | 429 | 0.052 | 0.013 | 689 | 0.054 | 0.017 | 893 |
| | 1170 | 0.780 | 0.022 | 0.005 | 430 | 0.038 | 0.009 | 691 | 0.038 | 0.011 | 896 |
| 1800 | 1750 | 0.972 | 0.028 | 0.007 | 435 | 0.045 | 0.010 | 601 | 0.048 | 0.014 | 895 |
| | 1170 | 0.650 | 0.018 | 0.005 | 436 | 0.032 | 0.007 | 603 | 0.038 | 0.010 | 897 |
| 2400 | 1750 | 0.729 | 0.021 | 0.005 | 438 | 0.039 | 0.007 | 644 | 0.036 | 0.010 | 887 |
| | 1170 | 0.488 | 0.014 | 0.003 | 439 | 0.032 | 0.005 | 646 | 0.030 | 0.007 | 889 |
| 3000 | 1750 | 0.583 | 0.021 | 0.004 | 437 | 0.033 | 0.006 | 605 | 0.032 | 0.008 | 869 |
| | 1170 | 0.390 | 0.014 | 0.003 | 438 | 0.028 | 0.004 | 607 | 0.023 | 0.006 | 871 |
| 3600 | 1750 | 0.486 | 0.020 | 0.003 | 421 | 0.029 | 0.004 | 562 | 0.027 | 0.007 | 854 |
| | 1170 | 0.325 | 0.009 | 0.002 | 422 | 0.017 | 0.003 | 564 | 0.020 | 0.004 | 856 |

**Select and order double reduction reducers with model number. Refer to page 112 for Model Number System.**

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.
** Size 815 is not available in Electra aluminum EL Series.
For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles





**Select and order double reduction reducers with model number. Refer to page 112 for Model Number System.**

### SIZES 821, 824, 826 • 1.0 S.F.

| Overall Ratio | Input RPM | Output RPM | SIZE 821 Input HP | SIZE 821 Output HP | SIZE 821 Output TQ (lb-in) | SIZE 824 Input HP | SIZE 824 Output HP | SIZE 824 Output TQ (lb-in) | SIZE 826 Input HP | SIZE 826 Output HP | SIZE 826 Output TQ (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 1750 | 23.30 | 0.631 | 0.455 | 1230 | 0.979 | 0.707 | 1910 | 1.226 | 0.911 | 2461 |
| | 1170 | 15.60 | 0.451 | 0.313 | 1266 | 0.702 | 0.489 | 1975 | 0.872 | 0.629 | 2540 |
| 100 | 1750 | 17.50 | 0.537 | 0.365 | 1315 | 0.829 | 0.567 | 2041 | 1.048 | 0.736 | 2649 |
| | 1170 | 11.70 | 0.384 | 0.251 | 1352 | 0.597 | 0.392 | 2109 | 0.755 | 0.508 | 2739 |
| 150 | 1750 | 11.70 | 0.366 | 0.238 | 1284 | 0.572 | 0.373 | 2010 | 0.753 | 0.509 | 2740 |
| | 1170 | 7.80 | 0.253 | 0.161 | 1303 | 0.397 | 0.253 | 2045 | 0.532 | 0.347 | 2803 |
| 200 | 1750 | 8.75 | 0.305 | 0.190 | 1372 | 0.478 | 0.298 | 2145 | 0.602 | 0.387 | 2787 |
| | 1170 | 5.85 | 0.216 | 0.129 | 1392 | 0.339 | 0.203 | 2182 | 0.426 | 0.263 | 2835 |
| 250 | 1750 | 7.00 | 0.252 | 0.151 | 1363 | 0.405 | 0.240 | 2160 | 0.501 | 0.309 | 2779 |
| | 1170 | 4.68 | 0.180 | 0.103 | 1381 | 1.276 | 0.164 | 2195 | 0.356 | 0.211 | 2824 |
| 300 | 1750 | 5.83 | 0.222 | 0.128 | 1392 | 0.346 | 0.201 | 2182 | 0.436 | 0.261 | 2835 |
| | 1170 | 3.90 | 0.158 | 0.087 | 1405 | 0.248 | 0.137 | 2207 | 0.312 | 0.177 | 2868 |
| 400 | 1750 | 4.38 | 0.179 | 0.098 | 1402 | 0.280 | 0.154 | 2201 | 0.353 | 0.200 | 2860 |
| | 1170 | 2.93 | 0.126 | 0.065 | 1412 | 0.197 | 0.102 | 2220 | 0.249 | 0.133 | 2885 |
| 500 | 1750 | 3.50 | 0.154 | 0.078 | 1408 | 0.241 | 0.123 | 2212 | 0.303 | 0.160 | 2875 |
| | 1170 | 2.34 | 0.108 | 0.052 | 1416 | 0.169 | 0.081 | 2227 | 0.215 | 0.106 | 2895 |
| 600 | 1750 | 2.92 | 0.134 | 0.065 | 1412 | 0.213 | 0.101 | 2205 | 0.253 | 0.127 | 2752 |
| | 1170 | 1.95 | 0.098 | 0.044 | 1419 | 0.154 | 0.069 | 2224 | 0.171 | 0.079 | 2568 |
| 750 | 1750 | 2.33 | 0.114 | 0.051 | 1409 | 0.181 | 0.081 | 2217 | 0.219 | 0.105 | 2871 |
| | 1170 | 1.56 | 0.087 | 0.036 | 1417 | 0.137 | 0.057 | 2232 | 0.166 | 0.073 | 2887 |
| 900 | 1750 | 1.94 | 0.100 | 0.043 | 1413 | 0.159 | 0.067 | 2224 | 0.189 | 0.086 | 2848 |
| | 1170 | 1.30 | 0.076 | 0.029 | 1420 | 0.118 | 0.046 | 2237 | 0.141 | 0.059 | 2863 |
| 1000 | 1750 | 1.75 | 0.099 | 0.041 | 1420 | 0.152 | 0.062 | 2175 | 0.156 | 0.066 | 2309 |
| | 1170 | 1.17 | 0.072 | 0.027 | 1424 | 0.099 | 0.038 | 1989 | 0.050 | 0.040 | 2107 |
| 1200 | 1750 | 1.46 | 0.088 | 0.034 | 1418 | 0.139 | 0.053 | 2234 | 0.125 | 0.048 | 2029 |
| | 1170 | 0.975 | 0.061 | 0.022 | 1423 | 0.100 | 0.035 | 2244 | 0.081 | 0.029 | 1882 |
| 1500 | 1750 | 1.17 | 0.076 | 0.027 | 1421 | 0.119 | 0.043 | 2240 | 0.113 | 0.042 | 2209 |
| | 1170 | 0.780 | 0.056 | 0.018 | 1426 | 0.087 | 0.029 | 2248 | 0.077 | 0.026 | 2044 |
| 1800 | 1750 | 0.972 | 0.068 | 0.023 | 1424 | 0.111 | 0.036 | 2244 | 0.107 | 0.038 | 2365 |
| | 1170 | 0.650 | 0.053 | 0.016 | 1427 | 0.085 | 0.025 | 2250 | 0.075 | 0.024 | 2184 |
| 2400 | 1750 | 0.729 | 0.056 | 0.016 | 1425 | 0.087 | 0.025 | 2244 | 0.096 | 0.028 | 2563 |
| | 1170 | 0.488 | 0.043 | 0.011 | 1429 | 0.069 | 0.018 | 2250 | 0.070 | 0.019 | 2336 |
| 3000 | 1750 | 0.583 | 0.053 | 0.013 | 1381 | 0.080 | 0.021 | 2206 | 0.091 | 0.026 | 2691 |
| | 1170 | 0.390 | 0.040 | 0.009 | 1384 | 0.057 | 0.014 | 2212 | 0.061 | 0.016 | 2456 |
| 3600 | 1750 | 0.486 | 0.048 | 0.011 | 1378 | 0.064 | 0.017 | 2090 | 0.084 | 0.022 | 2741 |
| | 1170 | 0.325 | 0.034 | 0.007 | 1381 | 0.042 | 0.010 | 2095 | 0.055 | 0.013 | 2748 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES





**Select and order double reduction reducers with model number. Refer to page 112 for Model Number System.**

### SIZES 830, 832 • 1.0 S.F.

| Overall Ratio | Input RPM | Output RPM | SIZE GR830 & EL830 Input HP | SIZE GR830 & EL830 Output HP | SIZE GR830 & EL830 Output TQ (lb-in) | SIZE NH830 Input HP | SIZE NH830 Output HP | SIZE NH830 Output TQ (lb-in) | SIZE GR832 & EL832 Input HP | SIZE GR832 & EL832 Output HP | SIZE GR832 & EL832 Output TQ (lb-in) | SIZE NH832 Input HP | SIZE NH832 Output HP | SIZE NH832 Output TQ (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 1750 | 23.30 | 1.811 | 1.338 | 3615 | 1.610 | 1.190 | 3206 | 2.005 | 1.482 | 4002 | 1.610 | 1.190 | 3214 |
| | 1170 | 15.60 | 1.312 | 0.932 | 3764 | 1.190 | 0.845 | 3412 | 1.569 | 1.109 | 4481 | 1.320 | 0.933 | 3770 |
| 100 | 1750 | 17.50 | 1.528 | 1.063 | 3830 | 1.310 | 0.912 | 3284 | 1.984 | 1.405 | 5059 | 1.610 | 1.140 | 4114 |
| | 1170 | 11.70 | 1.108 | 0.741 | 3990 | 0.950 | 0.635 | 3420 | 1.528 | 1.038 | 5592 | 1.250 | 0.849 | 4574 |
| 150 | 1750 | 11.70 | 1.075 | 0.714 | 3844 | 0.970 | 0.644 | 3482 | 1.537 | 0.973 | 5243 | 1.330 | 0.842 | 4547 |
| | 1170 | 7.80 | 0.766 | 0.486 | 3925 | 0.694 | 0.440 | 3552 | 1.136 | 0.679 | 5485 | 0.984 | 0.588 | 4755 |
| 200 | 1750 | 8.75 | 0.904 | 0.566 | 4076 | 0.775 | 0.485 | 3491 | 1.208 | 0.768 | 5534 | 1.020 | 0.649 | 4673 |
| | 1170 | 5.85 | 0.649 | 0.386 | 4163 | 0.556 | 0.331 | 3563 | 0.870 | 0.525 | 5658 | 0.734 | 0.443 | 4773 |
| 250 | 1750 | 7.00 | 0.770 | 0.458 | 4128 | 0.665 | 0.396 | 3563 | 1.016 | 0.617 | 5557 | 0.838 | 0.509 | 4581 |
| | 1170 | 4.68 | 0.557 | 0.314 | 4213 | 0.479 | 0.270 | 3633 | 0.735 | 0.423 | 5675 | 0.603 | 0.347 | 4673 |
| 300 | 1750 | 5.83 | 0.638 | 0.365 | 3967 | 0.580 | 0.332 | 3589 | 0.931 | 0.517 | 5615 | 0.811 | 0.450 | 4865 |
| | 1170 | 3.90 | 0.462 | 0.248 | 4010 | 0.417 | 0.224 | 3625 | 0.680 | 0.356 | 5747 | 0.589 | 0.308 | 4975 |
| 400 | 1750 | 4.38 | 0.549 | 0.294 | 4209 | 0.467 | 0.250 | 3599 | 0.735 | 0.399 | 5722 | 0.616 | 0.335 | 4824 |
| | 1170 | 2.93 | 0.389 | 0.196 | 4254 | 0.336 | 0.169 | 3636 | 0.523 | 0.266 | 5786 | 0.444 | 0.226 | 4876 |
| 500 | 1750 | 3.50 | 0.466 | 0.236 | 4257 | 0.402 | 0.204 | 3669 | 0.591 | 0.302 | 5440 | 0.528 | 0.270 | 4855 |
| | 1170 | 2.34 | 0.330 | 0.157 | 4301 | 0.290 | 0.138 | 3705 | 0.414 | 0.197 | 5400 | 0.382 | 0.182 | 4896 |
| 600 | 1750 | 2.92 | 0.409 | 0.195 | 4235 | 0.357 | 0.170 | 3671 | 0.571 | 0.268 | 5817 | 0.497 | 0.233 | 5032 |
| | 1170 | 1.95 | 0.297 | 0.132 | 4279 | 0.258 | 0.115 | 3707 | 0.419 | 0.182 | 5886 | 0.361 | 0.157 | 5088 |
| 750 | 1750 | 2.33 | 0.359 | 0.157 | 4301 | 0.313 | 0.137 | 3705 | 0.484 | 0.214 | 5858 | 0.429 | 0.188 | 5066 |
| | 1170 | 1.56 | 0.274 | 0.110 | 4331 | 0.229 | 0.092 | 3729 | 0.370 | 0.150 | 5914 | 0.313 | 0.127 | 5111 |
| 900 | 1750 | 1.94 | 0.315 | 0.129 | 4279 | 0.278 | 0.114 | 3707 | 0.440 | 0.177 | 5886 | 0.389 | 0.157 | 5088 |
| | 1170 | 1.30 | 0.234 | 0.089 | 4309 | 0.203 | 0.077 | 3731 | 0.330 | 0.122 | 5933 | 0.286 | 0.106 | 5127 |
| 1000 | 1750 | 1.75 | 0.314 | 0.123 | 4324 | 0.262 | 0.103 | 3723 | 0.411 | 0.165 | 5776 | 0.334 | 0.134 | 4821 |
| | 1170 | 1.17 | 0.234 | 0.083 | 4346 | 0.195 | 0.069 | 3741 | 0.301 | 0.111 | 5827 | 0.244 | 0.090 | 4861 |
| 1200 | 1750 | 1.46 | 0.277 | 0.102 | 4302 | 0.233 | 0.086 | 3725 | 0.378 | 0.136 | 5731 | 0.327 | 0.118 | 5117 |
| | 1170 | 0.975 | 0.200 | 0.067 | 4324 | 0.174 | 0.058 | 3743 | 0.258 | 0.085 | 5503 | 0.241 | 0.079 | 5146 |
| 1500 | 1750 | 1.17 | 0.206 | 0.067 | 3537 | 0.211 | 0.069 | 3741 | 0.282 | 0.093 | 4905 | 0.287 | 0.095 | 5134 |
| | 1170 | 0.780 | 0.148 | 0.043 | 3395 | 0.158 | 0.046 | 3754 | 0.201 | 0.059 | 4684 | 0.216 | 0.064 | 5158 |
| 1800 | 1750 | 0.972 | 0.193 | 0.059 | 3746 | 0.188 | 0.058 | 3743 | 0.221 | 0.067 | 4221 | 0.261 | 0.079 | 5146 |
| | 1170 | 0.650 | 0.145 | 0.040 | 3580 | 0.142 | 0.039 | 3755 | 0.169 | 0.045 | 4045 | 0.199 | 0.053 | 5165 |
| 2400 | 1750 | 0.729 | 0.173 | 0.046 | 4136 | 0.158 | 0.042 | 3646 | 0.183 | 0.051 | 4565 | 0.206 | 0.057 | 4892 |
| | 1170 | 0.488 | 0.133 | 0.031 | 3900 | 0.120 | 0.028 | 3659 | 0.141 | 0.034 | 4318 | 0.156 | 0.038 | 4909 |
| 3000 | 1750 | 0.583 | 0.168 | 0.041 | 4261 | 0.137 | 0.033 | 3588 | 0.182 | 0.046 | 4823 | 0.170 | 0.043 | 4620 |
| | 1170 | 0.390 | 0.149 | 0.027 | 4276 | 0.104 | 0.019 | 3600 | 0.129 | 0.029 | 4553 | 0.129 | 0.029 | 4636 |
| 3600 | 1750 | 0.486 | 0.151 | 0.033 | 4128 | 0.120 | 0.026 | 3406 | 0.174 | 0.040 | 5064 | 0.143 | 0.033 | 4300 |
| | 1170 | 0.325 | 0.100 | 0.020 | 4142 | 0.091 | 0.018 | 3417 | 0.112 | 0.023 | 4767 | 0.109 | 0.022 | 4314 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles







**Select and order double reduction reducers with model number. Refer to page 112 for Model Number System.**

### SIZES 842, 852, 860 • 1.0 S.F.

| Overall Ratio | Input RPM | Output RPM | SIZE 842 Input HP | SIZE 842 Output HP | SIZE 842 Output TQ (lb-in) | SIZE 852 Input HP | SIZE 852 Output HP | SIZE 852 Output TQ (lb-in) | SIZE 860** Input HP | SIZE 860** Output HP | SIZE 860** Output TQ (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 1750 | 23.30 | 3.845 | 2.941 | 7945 | 7.099 | 5.472 | 14782 | 9.100 | 7.135 | 19271 |
| | 1170 | 15.60 | 3.001 | 2.215 | 8949 | 5.800 | 4.296 | 17357 | 6.941 | 5.231 | 21133 |
| 100 | 1750 | 17.50 | 3.820 | 2.815 | 10140 | 7.206 | 5.269 | 18977 | 8.665 | 5.947 | 21417 |
| | 1170 | 11.70 | 2.978 | 2.099 | 11307 | 5.470 | 3.822 | 20589 | 6.123 | 4.355 | 23458 |
| 150 | 1750 | 11.70 | 2.870 | 2.029 | 10931 | 5.336 | 3.724 | 20059 | 5.945 | 4.357 | 23471 |
| | 1170 | 7.80 | 2.182 | 1.479 | 11950 | 4.273 | 2.845 | 22985 | 3.283 | 3.093 | 24995 |
| 200 | 1750 | 8.75 | 2.347 | 1.612 | 11613 | 4.438 | 2.983 | 21487 | 4.954 | 3.416 | 24607 |
| | 1170 | 5.85 | 1.689 | 1.109 | 11953 | 3.258 | 2.082 | 22429 | 2.728 | 2.397 | 25821 |
| 250 | 1750 | 7.00 | 1.960 | 1.290 | 11619 | 3.834 | 2.424 | 21825 | 4.251 | 2.759 | 24841 |
| | 1170 | 4.68 | 1.417 | 0.890 | 11941 | 2.827 | 1.699 | 22777 | 2.354 | 1.943 | 26061 |
| 300 | 1750 | 5.83 | 1.704 | 1.100 | 11955 | 3.230 | 2.065 | 22434 | 3.607 | 2.376 | 25821 |
| | 1170 | 3.90 | 1.226 | 0.754 | 12191 | 2.358 | 1.429 | 23097 | 2.627 | 1.652 | 26689 |
| 400 | 1750 | 4.38 | 1.376 | 0.847 | 12132 | 2.660 | 1.601 | 22932 | 3.009 | 1.848 | 26473 |
| | 1170 | 2.93 | 0.973 | 0.567 | 12313 | 1.895 | 1.079 | 23443 | 2.138 | 1.249 | 27140 |
| 500 | 1750 | 3.50 | 1.149 | 0.679 | 12219 | 2.249 | 1.290 | 23238 | 2.516 | 1.492 | 26872 |
| | 1170 | 2.34 | 0.787 | 0.441 | 12092 | 1.591 | 0.863 | 23655 | 1.801 | 1.000 | 27416 |
| 600 | 1750 | 2.92 | 0.936 | 0.524 | 11386 | 1.951 | 1.079 | 23447 | 2.242 | 1.249 | 27151 |
| | 1170 | 1.95 | 0.665 | 0.348 | 11241 | 1.411 | 0.736 | 23798 | 1.629 | 0.854 | 27602 |
| 750 | 1750 | 2.33 | 0.873 | 0.446 | 12217 | 1.686 | 0.869 | 23807 | 1.929 | 0.999 | 27386 |
| | 1170 | 1.56 | 0.650 | 0.314 | 12369 | 1.270 | 0.613 | 24161 | 1.458 | 0.707 | 27851 |
| 900 | 1750 | 1.94 | 0.766 | 0.371 | 12293 | 1.516 | 0.725 | 24049 | 1.622 | 0.827 | 27434 |
| | 1170 | 1.30 | 0.566 | 0.256 | 12420 | 1.121 | 0.503 | 24406 | 1.218 | 0.575 | 27900 |
| 1000 | 1750 | 1.75 | 0.749 | 0.351 | 12273 | 1.467 | 0.687 | 24072 | 1.611 | 0.792 | 27737 |
| | 1170 | 1.17 | 0.538 | 0.236 | 12417 | 1.059 | 0.463 | 24342 | 1.171 | 0.535 | 28088 |
| 1200 | 1750 | 1.46 | 0.665 | 0.295 | 12389 | 1.325 | 0.579 | 24316 | 1.403 | 0.659 | 27683 |
| | 1170 | 0.975 | 0.465 | 0.192 | 12485 | 0.931 | 0.378 | 24589 | 1.000 | 0.433 | 28138 |
| 1500 | 1750 | 1.17 | 0.538 | 0.226 | 11853 | 0.938 | 0.393 | 20658 | 1.240 | 0.535 | 28088 |
| | 1170 | 0.780 | 0.361 | 0.141 | 11117 | 0.654 | 0.254 | 19979 | 0.903 | 0.360 | 28328 |
| 1800 | 1750 | 0.972 | 0.439 | 0.168 | 10608 | 0.915 | 0.356 | 22441 | 1.000 | 0.401 | 25273 |
| | 1170 | 0.650 | 0.320 | 0.111 | 10016 | 0.666 | 0.238 | 21472 | 0.767 | 0.283 | 25490 |
| 2400 | 1750 | 0.729 | 0.371 | 0.129 | 11595 | 0.785 | 0.267 | 24026 | 0.839 | 0.310 | 27893 |
| | 1170 | 0.488 | 0.272 | 0.086 | 10782 | 0.618 | 0.192 | 24206 | 0.694 | 0.223 | 28130 |
| 3000 | 1750 | 0.583 | 0.360 | 0.116 | 12214 | 0.756 | 0.227 | 23866 | 0.750 | 0.255 | 26792 |
| | 1170 | 0.390 | 0.269 | 0.078 | 12271 | 0.557 | 0.153 | 24044 | 0.602 | 0.171 | 27020 |
| 3600 | 1750 | 0.486 | 0.315 | 0.094 | 11816 | 0.688 | 0.186 | 23474 | 0.653 | 0.183 | 23067 |
| | 1170 | 0.325 | 0.213 | 0.057 | 11870 | 0.456 | 0.113 | 23649 | 0.436 | 0.111 | 23264 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.

At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.
** Size 860 is only available in GR & EL Series.
For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR Series • All Stock Styles

CAST IRON GR SERIES





### SIZES 870, 880, 8100 • 1.0 S.F.

| Overall Ratio | Input RPM | Output RPM | SIZE GR870 Input HP | SIZE GR870 Output HP | SIZE GR870 Output TQ (lb-in) | SIZE GR880 Input HP | SIZE GR880 Output HP | SIZE GR880 Output TQ (lb-in) | SIZE GR8100 Input HP | SIZE GR8100 Output HP | SIZE GR8100 Output TQ (lb-in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 1750 | 23.30 | 9.13 | 7.55 | 20601 | 15.50 | 13.00 | 35507 | 26.50 | 22.50 | 61010 |
| | 1170 | 15.60 | 7.69 | 6.16 | 25161 | 12.00 | 9.78 | 39931 | 20.40 | 16.90 | 68348 |
| 100 | 1750 | 17.50 | 9.13 | 7.22 | 27535 | 12.60 | 10.10 | 38575 | 20.80 | 17.00 | 64363 |
| | 1170 | 11.70 | 7.04 | 5.37 | 30607 | 9.55 | 7.40 | 42191 | 16.20 | 12.80 | 72302 |
| 150 | 1750 | 11.70 | 7.25 | 5.53 | 30621 | 9.82 | 7.62 | 42212 | 16.50 | 13.00 | 72069 |
| | 1170 | 7.80 | 5.31 | 3.90 | 32270 | 7.23 | 5.41 | 44811 | 12.30 | 9.38 | 77678 |
| 200 | 1750 | 8.75 | 5.81 | 4.32 | 31857 | 7.92 | 5.98 | 44158 | 13.50 | 10.30 | 76261 |
| | 1170 | 5.85 | 4.21 | 3.00 | 33136 | 5.75 | 4.18 | 46181 | 9.93 | 7.31 | 80671 |
| 250 | 1750 | 7.00 | 4.90 | 3.54 | 31238 | 6.61 | 4.88 | 43010 | 11.30 | 8.45 | 74571 |
| | 1170 | 4.68 | 3.55 | 2.46 | 32432 | 4.80 | 3.40 | 44863 | 8.31 | 5.96 | 78638 |
| 300 | 1750 | 5.83 | 4.27 | 2.99 | 33136 | 5.82 | 4.17 | 46181 | 10.10 | 7.29 | 80671 |
| | 1170 | 3.90 | 3.06 | 2.05 | 34024 | 4.19 | 2.87 | 47593 | 7.29 | 5.06 | 83779 |
| 400 | 1750 | 4.38 | 3.41 | 2.29 | 33805 | 4.65 | 3.20 | 47245 | 8.12 | 5.62 | 83011 |
| | 1170 | 2.93 | 2.43 | 1.56 | 34477 | 3.33 | 2.19 | 48316 | 5.85 | 3.87 | 85377 |
| 500 | 1750 | 3.50 | 2.86 | 1.85 | 34209 | 3.88 | 2.60 | 45835 | 6.89 | 4.57 | 84431 |
| | 1170 | 2.34 | 2.04 | 1.26 | 34752 | 2.78 | 1.77 | 46812 | 4.96 | 3.13 | 86351 |
| 600 | 1750 | 2.92 | 2.53 | 1.56 | 34477 | 3.43 | 2.18 | 48316 | 6.03 | 3.86 | 85377 |
| | 1170 | 1.95 | 1.81 | 1.06 | 34936 | 2.46 | 1.48 | 49049 | 4.34 | 2.63 | 87006 |
| 750 | 1750 | 2.33 | 2.13 | 1.27 | 33682 | 2.87 | 1.77 | 46812 | 5.04 | 3.13 | 82964 |
| | 1170 | 1.56 | 1.53 | 0.86 | 34109 | 2.05 | 1.20 | 47481 | 3.63 | 2.13 | 84459 |
| 900 | 1750 | 1.94 | 1.73 | 1.01 | 32016 | 2.50 | 1.47 | 46627 | 4.13 | 2.49 | 79353 |
| | 1170 | 1.30 | 1.24 | 0.68 | 32391 | 1.80 | 0.99 | 46972 | 2.97 | 1.69 | 80681 |
| 1000 | 1750 | 1.75 | 1.73 | 0.95 | 35031 | 2.34 | 1.33 | 49201 | 4.21 | 2.37 | 87344 |
| | 1170 | 1.17 | 1.24 | 0.64 | 35308 | 1.68 | 0.90 | 49644 | 3.05 | 1.60 | 88332 |
| 1200 | 1750 | 1.46 | 1.52 | 0.79 | 35168 | 2.05 | 1.12 | 49420 | 3.73 | 1.98 | 87832 |
| | 1170 | 0.975 | 1.10 | 0.53 | 35402 | 1.48 | 0.75 | 49793 | 2.72 | 1.34 | 88666 |
| 1500 | 1750 | 1.17 | 1.28 | 0.65 | 34325 | 1.71 | 0.90 | 47819 | 3.13 | 1.61 | 85216 |
| | 1170 | 0.780 | 0.93 | 0.44 | 34542 | 1.23 | 0.61 | 48159 | 2.28 | 1.09 | 85980 |
| 1800 | 1750 | 0.972 | 1.04 | 0.51 | 32580 | 1.29 | 0.67 | 42944 | 2.56 | 1.28 | 81353 |
| | 1170 | 0.650 | 0.76 | 0.34 | 32770 | 0.93 | 0.45 | 43207 | 1.86 | 0.86 | 82031 |
| 2400 | 1750 | 0.729 | 0.90 | 0.39 | 33661 | 1.20 | 0.54 | 46987 | 2.17 | 0.96 | 83314 |
| | 1170 | 0.488 | 0.65 | 0.26 | 33868 | 0.87 | 0.37 | 47314 | 1.59 | 0.65 | 84037 |
| 3000 | 1750 | 0.583 | 0.76 | 0.30 | 32512 | 1.02 | 0.42 | 45708 | 1.83 | 0.78 | 80836 |
| | 1170 | 0.390 | 0.55 | 0.20 | 32710 | 0.74 | 0.29 | 46025 | 1.35 | 0.51 | 81535 |
| 3600 | 1750 | 0.486 | 0.60 | 0.23 | 29307 | 0.80 | 0.32 | 41112 | 1.46 | 0.57 | 73284 |
| | 1170 | 0.325 | 0.44 | 0.15 | 29473 | 0.58 | 0.21 | 41376 | 1.07 | 0.38 | 73877 |

**Select and order double reduction reducers with model number. Refer to page 112 for Model Number System.**

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.

At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-420. (Not available in NH or EL)






## GR SERIES • DOUBLE REDUCTION WORM - WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| **Solid Output Shaft** | | | | | | | | | | | | | | |
| DMQ | 34 | 38 | 41 | 46 | 62 | 73 | 89 | 96 | 175 | 303 | 406 | 482 | 728 | 1151 |
| DM | 39 | 43 | 46 | 51 | 67 | 78 | 91 | 98 | 176 | 304 | 407 | 493 | 736 | 1158 |
| D | 34 | 38 | 41 | 46 | 62 | 73 | 86 | 93 | 171 | 299 | 402 | 478 | 718 | 1136 |
| DTMQ & DUMQ | 36 | 41 | 44 | 50 | 66 | 79 | 95 | 105 | 189 | 323 | 437 | 523 | 776 | 1227 |
| DTM & DUM | 41 | 46 | 49 | 55 | 71 | 84 | 97 | 107 | 190 | 324 | 438 | 534 | 784 | 1234 |
| DT & DU | 36 | 41 | 44 | 50 | 66 | 79 | 92 | 102 | 185 | 319 | 433 | 519 | 766 | 1212 |
| DJMQ | 35 | 39 | 43 | 49 | 65 | 78 | 95 | 102 | 185 | 318 | --- | --- | --- | --- |
| DJM | 40 | 44 | 48 | 54 | 70 | 83 | 97 | 104 | 186 | 319 | --- | --- | --- | --- |
| DJ | 35 | 39 | 43 | 49 | 65 | 78 | 92 | 99 | 181 | 314 | --- | --- | --- | --- |
| DVLMQ & DVHMQ | 36 | 41 | 44 | 53 | 69 | 82 | 99 | 109 | 195 | 328 | 442 | 553 | 806 | 1307 |
| DVLM & DVHM | 41 | 46 | 49 | 58 | 74 | 87 | 101 | 111 | 196 | 329 | 443 | 564 | 814 | 1314 |
| DVL & DVH | 36 | 41 | 44 | 53 | 69 | 82 | 96 | 106 | 191 | 324 | 438 | 549 | 796 | 1292 |
| DFMQ | 35 | 39 | 43 | 49 | 65 | 77 | 99 | 106 | 190 | 333 | 444 | 497 | 746 | 1172 |
| DFM | 40 | 44 | 48 | 54 | 70 | 82 | 101 | 108 | 191 | 334 | 445 | 508 | 754 | 1179 |
| DF | 35 | 39 | 43 | 49 | 65 | 77 | 96 | 103 | 186 | 329 | 440 | 493 | 736 | 1157 |
| DFEMQ | --- | --- | --- | --- | --- | --- | 99 | 106 | 205 | 334 | 448 | 647 | 930 | 1431 |
| DFEM | --- | --- | --- | --- | --- | --- | 101 | 108 | 206 | 335 | 449 | 658 | 938 | 1438 |
| DFE | --- | --- | --- | --- | --- | --- | 96 | 103 | 201 | 330 | 444 | 643 | 920 | 1406 |
| **Hollow Output Shaft** | | | | | | | | | | | | | | |
| DHMQ | 35 | 38 | 42 | 47 | 64 | 72 | 90 | 98 | 178 | 303 | 406 | 482 | 728 | 1151 |
| DHM | 40 | 42 | 46 | 51 | 68 | 76 | 92 | 100 | 179 | 304 | 407 | 493 | 736 | 1158 |
| DH | 35 | 38 | 42 | 47 | 64 | 72 | 87 | 95 | 174 | 299 | 402 | 478 | 718 | 1136 |
| DFHMQ | 36 | 39 | 44 | 50 | 67 | 76 | 100 | 108 | 193 | 333 | 444 | 497 | 746 | 1172 |
| DFHM | 41 | 43 | 48 | 54 | 71 | 80 | 102 | 110 | 194 | 334 | 445 | 508 | 754 | 1179 |
| DFH | 36 | 39 | 44 | 50 | 67 | 76 | 97 | 105 | 189 | 329 | 440 | 493 | 736 | 1157 |
| DBFHMQ | 37 | --- | 44 | 50 | 68 | 78 | --- | --- | --- | --- | --- | --- | --- | --- |
| DBFHM | 42 | --- | 48 | 54 | 72 | 82 | --- | --- | --- | --- | --- | --- | --- | --- |
| DBFH | 37 | --- | 44 | 50 | 68 | 78 | --- | --- | --- | --- | --- | --- | --- | --- |

Δ Weights include oil. 870, 880, 8100 shipped without oil.

## GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | IRONMAN Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 | 31 | 41 | 48 | 76 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 | --- | --- | --- | --- |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 | 36 | ** | ** | ** |
| **F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 | 38 | ** | ** | ** |
| BF-Flange (Steel) | 2 | --- | 2 | 3 | 4 | 6 | --- | --- | --- | --- | --- | --- | --- | --- |
| R-Riser Block | --- | 7 | 7 | 9 | 9 | 12 | 15 | 31 | 24 | 15 | --- | --- | --- | --- |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 | --- | --- | --- |
| **Coupling Input C-Flange Kits** | | | | | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 | --- | --- | --- | --- |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 | 22 | 30 | 30 | --- |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 | 32 | 34 | 36 | --- |

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.

# NH Series Weights

CAST IRON NH SERIES

## NH SERIES • DOUBLE REDUCTION WORM-WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| **Solid Output Shaft** | | | | | | | | | | |
| DMQ | 29 | 32 | 35 | 39 | 53 | 62 | 76 | 82 | 149 | 258 |
| DM | 33 | 37 | 39 | 43 | 57 | 66 | 77 | 83 | 150 | 258 |
| D | 29 | 32 | 35 | 39 | 53 | 62 | 73 | 79 | 145 | 254 |
| DTMQ & DUMQ | 31 | 35 | 38 | 43 | 57 | 68 | 82 | 91 | 163 | 278 |
| DTM & DUM | 35 | 40 | 42 | 47 | 61 | 72 | 83 | 92 | 164 | 278 |
| DT & DU | 31 | 35 | 38 | 43 | 57 | 68 | 79 | 88 | 159 | 274 |
| DJMQ | 30 | 33 | 37 | 42 | 56 | 67 | 82 | 88 | 159 | 273 |
| DJM | 34 | 38 | 41 | 46 | 60 | 71 | 83 | 89 | 160 | 273 |
| DJ | 30 | 33 | 37 | 42 | 56 | 67 | 79 | 85 | 155 | 269 |
| DVLMQ & DVHMQ | 31 | 35 | 38 | 46 | 60 | 71 | 86 | 95 | 169 | 283 |
| DVLM & DVHM | 35 | 40 | 42 | 50 | 64 | 75 | 87 | 96 | 170 | 283 |
| DVL & DVH | 31 | 35 | 38 | 46 | 60 | 71 | 83 | 92 | 165 | 279 |
| DFMQ | 30 | 33 | 37 | 42 | 56 | 66 | 86 | 92 | 164 | 288 |
| DFM | 34 | 38 | 41 | 46 | 60 | 70 | 87 | 93 | 165 | 288 |
| DF | 30 | 33 | 37 | 42 | 56 | 66 | 83 | 89 | 160 | 284 |
| DFEMQ | --- | --- | --- | --- | --- | --- | 99 | 106 | 205 | 334 |
| DFEM | --- | --- | --- | --- | --- | --- | 101 | 108 | 206 | 335 |
| DFE | --- | --- | --- | --- | --- | --- | 96 | 103 | 201 | 330 |
| **Hollow Output Shaft** | | | | | | | | | | |
| DHMQ | 30 | 32 | 36 | 40 | 54 | 61 | 77 | 83 | 151 | 258 |
| DHM | 34 | 36 | 39 | 43 | 58 | 65 | 78 | 85 | 152 | 258 |
| DH | 30 | 32 | 36 | 40 | 54 | 61 | 74 | 81 | 148 | 254 |
| DFHMQ | 31 | 33 | 38 | 43 | 57 | 65 | 87 | 93 | 166 | 288 |
| DFHM | 35 | 37 | 41 | 46 | 61 | 69 | 88 | 95 | 167 | 288 |
| DFH | 31 | 33 | 38 | 43 | 57 | 65 | 84 | 91 | 163 | 284 |

Δ Weights include oil.

## NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTSΔ (LBS.)

| Accessory | IRONMAN Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 |
| F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 |

## EL SERIES • DOUBLE REDUCTION WORM-WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| **Solid Output Shaft** | | | | | | | | | | |
| DMQ | 22 | 27 | 30 | 41 | 48 | 59 | 63 | 116 | 200 | 268 |
| DM | 26 | 30 | 34 | 44 | 51 | 60 | 65 | 116 | 201 | 269 |
| D | 22 | 27 | 30 | 41 | 48 | 57 | 61 | 113 | 197 | 265 |
| DTMQ & DUMQ | 23 | 29 | 33 | 44 | 52 | 65 | 71 | 123 | 208 | 278 |
| DTM & DUM | 27 | 32 | 37 | 47 | 55 | 66 | 73 | 123 | 209 | 279 |
| DT & DU | 23 | 29 | 33 | 44 | 52 | 63 | 69 | 120 | 205 | 275 |
| DJMQ | 23 | 29 | 33 | 44 | 52 | 64 | 68 | 122 | 208 | 278 |
| DJM | 27 | 32 | 37 | 47 | 55 | 65 | 70 | 122 | 209 | 279 |
| DJ | 23 | 29 | 33 | 44 | 52 | 62 | 66 | 119 | 205 | 275 |
| DVLMQ | 24 | 30 | 33 | 44 | 52 | 64 | 68 | 122 | 208 | 278 |
| DVLM | 28 | 33 | 37 | 47 | 55 | 65 | 70 | 122 | 209 | 279 |
| DVL | 24 | 30 | 33 | 44 | 52 | 62 | 66 | 119 | 205 | 275 |
| DFMQ | --- | 29 | 33 | 44 | 51 | 65 | 70 | 124 | 208 | 289 |
| DFM | --- | 32 | 37 | 47 | 54 | 66 | 72 | 124 | 209 | 290 |
| DF | --- | 29 | 33 | 44 | 51 | 63 | 68 | 121 | 205 | 286 |
| **Hollow Output Shaft** | | | | | | | | | | |
| DHMQ | 23 | 28 | 31 | 42 | 48 | 59 | 65 | 117 | 200 | 268 |
| DHM | 26 | 30 | 34 | 45 | 50 | 61 | 66 | 118 | 201 | 269 |
| DH | 23 | 28 | 31 | 42 | 48 | 57 | 63 | 115 | 197 | 265 |
| DFHMQ | --- | 30 | 34 | 45 | 51 | 65 | 72 | 125 | 208 | 289 |
| DFHM | --- | 32 | 37 | 48 | 53 | 67 | 73 | 126 | 209 | 290 |
| DFH | --- | 30 | 34 | 45 | 51 | 63 | 70 | 123 | 205 | 286 |

Δ Weights include oil.

## EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| ABC Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| T/U-Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| J-Base | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| VL Base | 2 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| FR and F-Flange | --- | 2 | 3 | 3 | 3 | 6 | 7 | 8 | 8 | 21 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 7 | 7 | --- |
| 180TC-210TC | --- | --- | --- | 5 | 5 | 5 | 5 | 8 | 8 | 8 |
| 250TC | --- | --- | --- | --- | --- | --- | 8 | 8 | 8 | 8 |

* Will not fit solid output shaft models.
✪ Will not fit hollow output shaft models.

# Hollow Bore Shaft Sizes

## GR, NH & EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### HOLLOW SHAFT BORE SIZES (Inches)*

| Fraction Size | Decimal Size | Output Bore Code | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 860 | 870 | 880 | 8100 | Keyway** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 0.625 | 10 | ■ | ■ | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 11/16 | 0.688 | 11 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 3/4 | 0.750 | 12 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 7/8 | 0.875 | 14 | | | ■ | | | | | | | | | | | | 3/16 x 3/32 |
| 1 | 1.000 | 16 | | | ■ | ■ | ■ | ■ | | | | | | | | | 1/4 x 1/8 |
| 1-1/8 | 1.125 | 18 | | | | ■ | ■ | ■ | | | | | | | | | 1/4 x 1/8 |
| 1-3/16 | 1.188 | 19 | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | 1/4 x 1/8 |
| 1-1/4 | 1.250 | 20 | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | 1/4 x 1/8 |
| 1-7/16 | 1.438 | 23 | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-1/2 | 1.500 | 24 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-5/8 | 1.625 | 26 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-11/16 | 1.688 | 27 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-3/4 | 1.750 | 28 | | | | | | | ■ | ■ | ■ | | | | | | 3/8 x 3/16 |
| 1-7/8 | 1.875 | 30 | | | | | | | ■ | ■ | ■ | | | | | | 1/2 x 1/4 |
| 1-15/16 | 1.938 | 31 | | | | | | | | | ■ | | | | | | 1/2 x 1/4 |
| 2 | 2.000 | 32 | | | | | | | | | ■ | ■ | ■ | | | | 1/2 x 1/4 |
| 2-3/16 | 2.188 | 35 | | | | | | | | | ■ | ■ | ■ | | | | 1/2 x 1/4 |
| 2-1/4 | 2.250 | 36 | | | | | | | | | | ■ | ■ | | | | 1/2 x 1/4 |
| 2-7/16 | 2.438 | 39 | | | | | | | | | | ■ | ■ | | | | 5/8 x 5/16 |
| 2-1/2 | 2.500 | 40 | | | | | | | | | | ■ | ■ | | | | 5/8 x 5/16 |
| 2-11/16 | 2.688 | 43 | | | | | | | | | | ■ | ■ | | | | 5/8 x 5/16 |
| 2-15/16 | 2.938 | 47 | | | | | | | | | | ■ | ■ | | | | 3/4 x 3/8 |
| 3 | 3.000 | 48 | | | | | | | | | | ■ | ■ | | | | 3/4 x 3/8 |
| 3-3/16 | 3.188 | 51 | | | | | | | | | | ■ | ■ | | | | 3/4 x 3/8 |
| 3-7/16 | 3.438 | 55 | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | 7/8 x 7/16 |
| 3-15/16 | 3.938 | 63 | | | | | | | | | | | | ■ | ■ | ■ | 1 x 1/2 |
| 4-3/16 | 4.188 | 67 | | | | | | | | | | | | | ■ | | 1 x 1/2 |
| 4-7/16 | 4.438 | 71 | | | | | | | | | | | | | ■ | ■ | 1 x 1/2 |
| 4-15/16 | 4.938 | 79 | | | | | | | | | | | | | | ■ | 1-1/4 x 5/8 |
| 5-7/16 | 5.438 | 87 | | | | | | | | | | | | | | ■ | 1-1/4 x 5/8 |

■ Stock Bore Sizes.

* Other bore sizes are available. Contact Factory for sizes and availability.

** Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above.

## DOUBLE REDUCTION & WORM–WORM EXACT RATIO COMBINATIONS

| Total Ratio | GEAR REDUCER SIZE | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 813 | | 815 (GR+NH) | | 818 | | 821 | | 824 | | 826 | | 830** | |
| | P 813 | S 813 | P 813 | S 815 | P 813 | S 818 | P 813 | S 821 | P 813 | S 824 | P 813 | S 826 | P 818 | S 830 |
| 75 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | 15 |
| 100 | 5 | 20 | 5 | 20 | 5 | 20 | 5 | 20 | 5 | 20 | 5 | 20 | 5 | 20 |
| 150 | 10 | 15 | 7.5 | 20 | 10 | 15 | 10 | 15 | 10 | 15 | 7.5 | 20 | 10 | 15 |
| 200 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 |
| 250 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 25 |
| 300 | 10 | 30 | 15 | 20 | 10 | 30 | 15 | 20 | 15 | 20 | 15 | 20 | 20 | 15 |
| 400 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 500 | 20 | 25 | 25 | 20 | 25 | 20 | 25 | 20 | 25 | 20 | 25 | 20 | 20 | 25 |
| 600 | 20 | 30 | 30 | 20 | 20 | 30 | 30 | 20 | 20 | 30 | 30 | 20 | 20 | 30 |
| 750 | 30 | 25 | 30 | 25 | 25 | 30 | 25 | 30 | 25 | 30 | 30 | 25 | 30 | 25 |
| 900 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 1000 | 40 | 25 | 50 | 20 | 50 | 20 | 50 | 20 | 50 | 20 | 50 | 20 | 40 | 25 |
| 1200 | 40 | 30 | 60 | 20 | 40 | 30 | 40 | 30 | 40 | 30 | 60 | 20 | 40 | 30 |
| 1500 | 60 | 25 | 60 | 25 | 50 | 30 | 50 | 30 | 50 | 30 | 60 | 25 | 60 | 25 |
| 1800 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 30 |
| 2400 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 |
| 3000 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 |
| 3600 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

| Total Ratio | GEAR REDUCER SIZE | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 832** | | 842 | | 852 | | 860 | | 870 | | 880 | | 8100 | |
| | P 818 | S 832 | P 821 | S 842 | P 826 | S 852 | P 832 | S 860 | P 832 | S 870 | P 842 | S 880 | P 852 | S 8100 |
| 75 | 5 | 15 | 5 | 15 | 5.17 | 15 | 5.17 | 15 | 5.17 | 14.67 | 5.17 | 14.67 | 5.13 | 14.67 |
| 100 | 5 | 20 | 5 | 20 | 5.17 | 20 | 5.17 | 20 | 5.17 | 20.50 | 5.17 | 20.50 | 5.13 | 20.50 |
| 150 | 5 | 30 | 7.5 | 20 | 7.5 | 20 | 10 | 15 | 7.5 | 20.50 | 7.5 | 20.50 | 10 | 14.67 |
| 200 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20.50 | 10 | 20.50 | 10 | 20.50 |
| 250 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 25 | 10 | 24.50 | 10 | 24.50 | 10 | 24.50 |
| 300 | 10 | 30 | 15 | 20 | 15 | 20 | 20 | 15 | 15 | 20.50 | 15 | 20.50 | 20 | 14.67 |
| 400 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20.50 | 20 | 20.50 | 20 | 20.50 |
| 500 | 25 | 20 | 25 | 20 | 25 | 20 | 25 | 20 | 25 | 20.50 | 25 | 20.50 | 25 | 20.50 |
| 600 | 20 | 30 | 30 | 20 | 30 | 20 | 30 | 20 | 30 | 20.50 | 30 | 20.50 | 30 | 20.50 |
| 750 | 25 | 30 | 25 | 30 | 30 | 25 | 30 | 25 | 30 | 24.50 | 30 | 24.50 | 30 | 24.50 |
| 900 | 30 | 30 | 30 | 30 | 30 | 30 | 60 | 15 | 30 | 29.50 | 30 | 29.50 | 60 | 14.67 |
| 1000 | 25 | 40 | 25 | 40 | 40 | 25 | 50 | 20 | 50 | 20.50 | 40 | 24.50 | 50 | 20.50 |
| 1200 | 40 | 30 | 40 | 30 | 40 | 30 | 60 | 20 | 60 | 20.50 | 40 | 29.50 | 60 | 20.50 |
| 1500 | 50 | 30 | 50 | 30 | 60 | 25 | 60 | 25 | 60 | 24.50 | 60 | 24.50 | 60 | 24.50 |
| 1800 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 30 | 60 | 29.50 | 60 | 29.50 | 60 | 29.50 |
| 2400 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 | 60 | 40 |
| 3000 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 |
| 3600 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

**Note:** Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio
* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
** For NH Series, P = 815

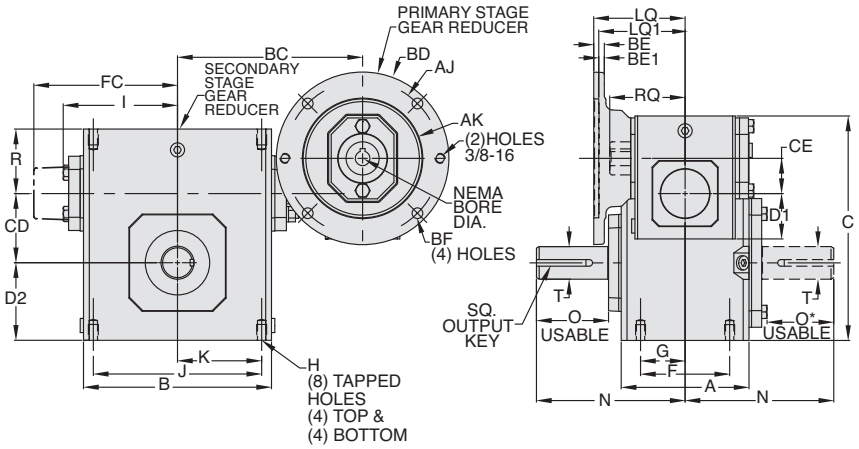
For exact total of double reduction package multiply "P" by the "S" ratio.

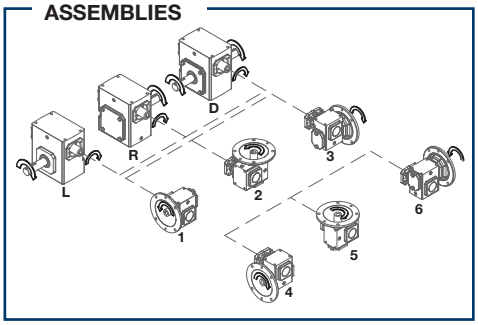
# GR Series Dimensions

## Styles: DMQ, DM, D

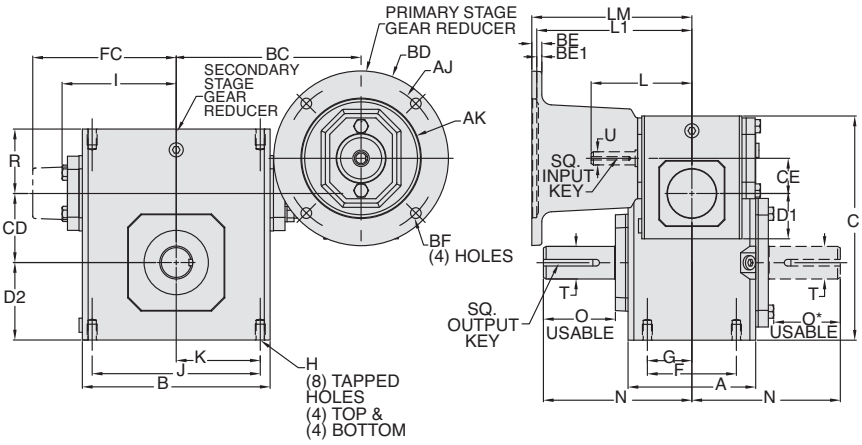
CAST IRON GR SERIES

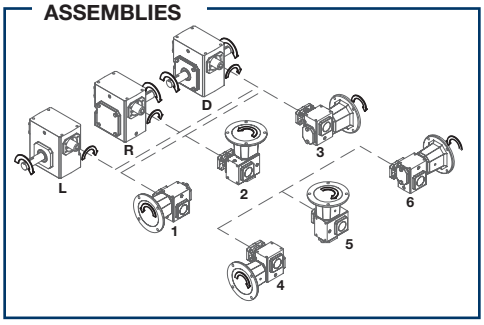
## Style DMQ



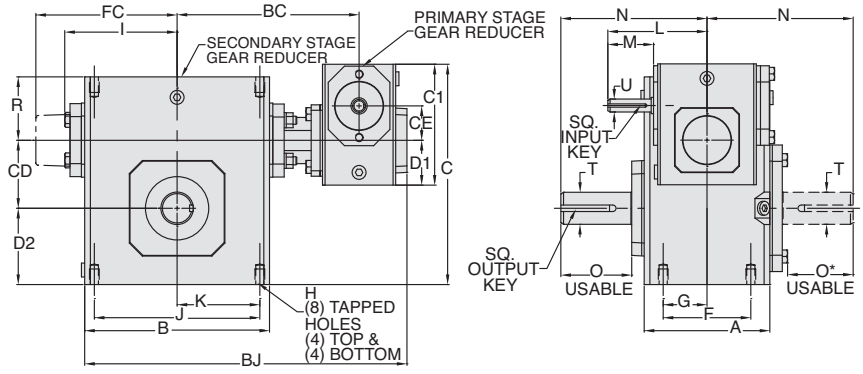



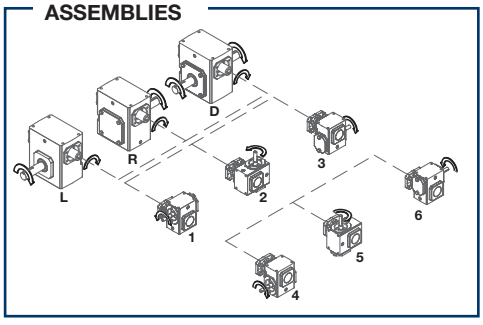

## Style DM




## Style D




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DMQ, DM, D DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | FC▼ | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | R | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 5.32 | 9.06 | 5.99 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 2.00 | N/A | 1.00 | 5/16-18 UNC | .50 | 2.61 | 3.25 | 1.63 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.61 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 3.44 | 4.88 | 5.85 | 10.13 | 6.38 | 1.54 | 1.33 | 4.66 | 1.72 | 1.91 | 2.75 | N/A | 1.38 | 5/16-18 UNC | .63 | 3.14 | 4.19 | 2.09 | 3.82 | 1.76 | 4.31 | 2.11 | 1.90 | 1.93 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 3.56 | 5.06 | 5.94 | 10.32 | 6.75 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 2.75 | N/A | 1.38 | 5/16-18 UNC | .63 | 3.24 | 4.19 | 2.09 | 3.82 | 1.76 | 4.31 | 2.05 | 1.84 | 1.94 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 3.81 | 5.80 | 6.32 | 11.06 | 7.28 | 2.06 | 1.33 | 4.66 | 1.72 | 2.28 | ▲ | N/A | 1.44 | 3/8-16 UNC | .63 | 3.61 | ▲ | 2.50 | 3.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.03 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 4.06 | 6.12 | 6.44 | 11.35 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | 2.88 | N/A | 1.44 | 3/8-16 UNC | .69 | 3.77 | 5.00 | 2.50 | 3.82 | 1.76 | 5.14 | 2.66 | 2.44 | 2.06 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 4.84 | 7.12 | 7.01 | 12.41 | 8.50 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 3.38 | N/A | 1.69 | 3/8-16 UNC | .69 | 4.34 | 6.38 | 3.19 | 3.82 | 1.76 | 5.63 | 2.73 | 2.52 | 2.44 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 5.25 | 8.12 | 7.86 | 14.12 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 3.25 | 4.00 | N/A | 2.00 | 7/16-14 UNC | .88 | 4.84 | 7.00 | 3.50 | 4.45 | 1.76 | 6.75 | 3.60 | 3.36 | 2.63 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 5.75 | 8.50 | 8.05 | 14.50 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 3.50 | 4.00 | N/A | 2.00 | 7/16-14 UNC | .88 | 5.02 | 7.50 | 3.75 | 4.45 | 1.76 | 7.06 | 3.66 | 3.42 | 2.63 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 6.13 | 10.25 | 9.18 | 16.69 | 12.78 | 4.25 | 2.06 | 6.38 | 2.28 | 4.44 | 5.00 | N/A | 2.50 | 5/8-11 UNC | 1.00 | 6.10 | 8.50 | 4.25 | 4.82 | 1.76 | 8.12 | 4.50 | 4.21 | 2.69 | 1.875 | 0.625 | 3/16 x 1.38 | 1/2 X 3.06 |
| GR852 | 7.19 | 13.00 | 11.57 | 20.97 | 15.43 | 5.25 | 2.63 | 8.00 | 2.94 | 5.12 | 5.81 | N/A | 2.91 | 5/8-11 UNC | 1.25 | 7.50 | 11.00 | 5.50 | 6.07 | 2.38 | 9.06 | 4.78 | 4.53 | 3.63 | 2.000 | 0.750 | 3/16 x 1.63 | 1/2 X 3.50 |
| GR860 | 8.13 | 14.25 | 13.30 | 23.82 | 18.38 | 6.00 | 3.25 | 9.38 | 3.50 | 6.50 | 6.38 | 10.24 | 3.19 | 5/8-11 UNC | 1.00 | N/A | 12.75 | 6.38 | 6.76 | 2.38 | 10.00 | 4.65 | 4.65 | 4.00 | 2.500 | 0.875 | 3/16 x 1.63 | 5/8 X 4.00 |
| GR870 | 7.63 | 14.88 | 12.96 | 24.33 | 20.46 | 7.00 | 3.25 | 9.38 | 3.50 | 7.59 | 5.50 | 10.63 | 2.75 | 1-8 UNC | 1.56 | N/A | 12.50 | 6.25 | 6.76 | 2.38 | 11.76 | 5.65 | 5.65 | 4.33 | 2.750 | 0.875 | 3/16 x 1.75** | 5/8 x 4.00** |
| GR880 | 8.63 | 17.00 | 13.94 | 26.69 | 23.79 | 8.00 | 4.25 | 11.38 | 4.44 | 8.86 | 6.50 | 11.93 | 3.25 | 1-8 UNC | 1.66 | N/A | 14.25 | 7.13 | 9.57 | 3.47 | 12.25 | 5.98 | 5.98 | 4.11 | 3.000 | 1.250 | 1/4 X 2.88** | 3/4 x 4.50** |
| GR8100 | 9.53 | 20.88 | 17.05 | 32.74 | 29.24 | 10.00 | 5.25 | 14.00 | 5.12 | 10.36 | 6.88 | 14.34 | 3.44 | 1-1/4 -7 UNC | 2.04 | N/A | 17.75 | 8.88 | 10.88 | 3.38 | 14.75 | 6.76 | 6.76 | 5.12 | 3.750 | 1.250 | 1/4 X 3.00** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | Identical | ✔ | | GRG |
| | | (F)2.88" x (J)5.00" | | | | ✔ | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❊ Style D and DM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

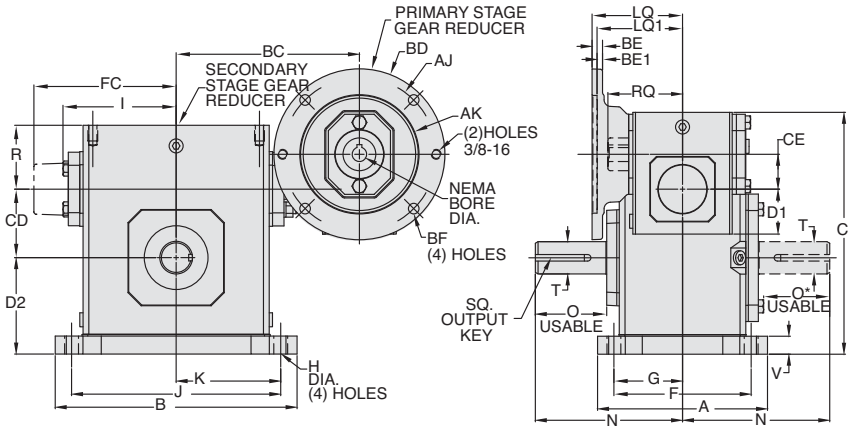
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

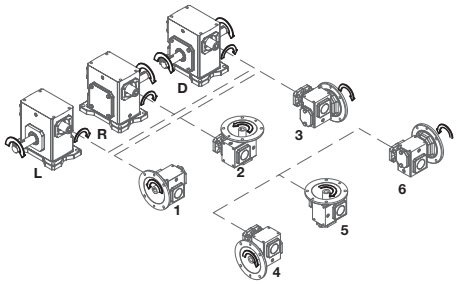
## Styles: DTMQ, DTM, DT

CAST IRON GR SERIES

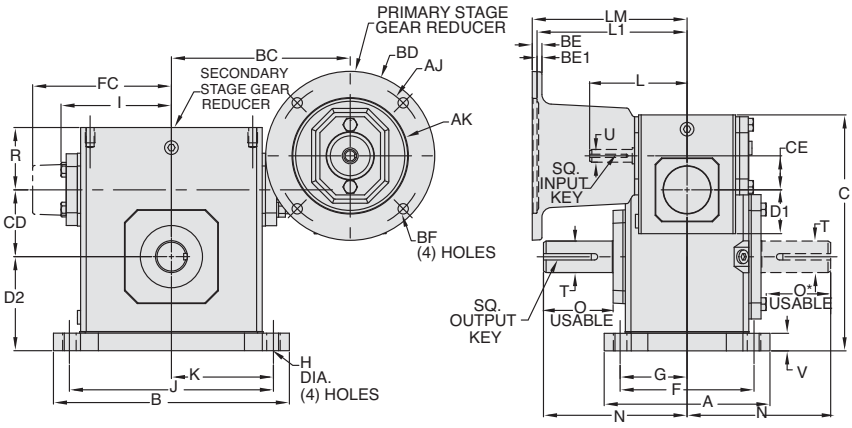
## Style DTMQ



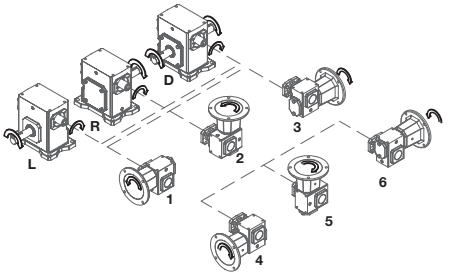

ASSEMBLIES



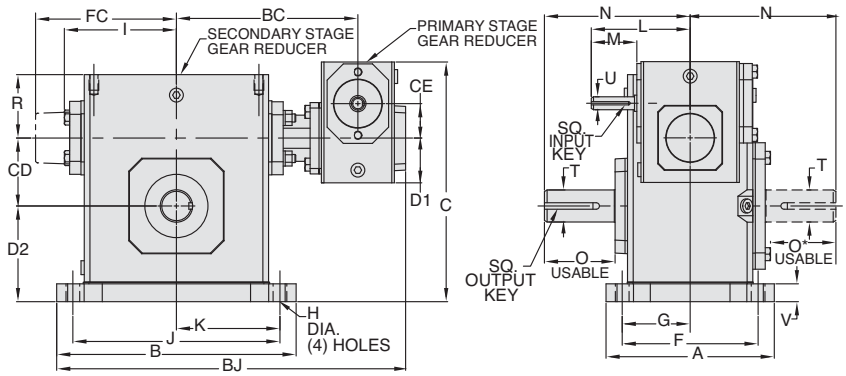

## Style DTM



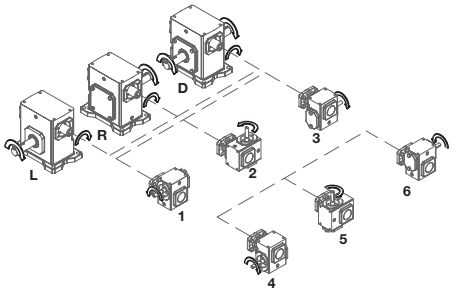

ASSEMBLIES




## Style DT




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.24 | 5.37 | 5.32 | 9.85 | 6.52 | 1.33 | 1.33 | 4.66 | 1.72 | 2.25 | 3.31 | N/A | 1.66 | .34 | 2.61 | 4.37 | 2.19 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.61 | 0.53 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 5.56 | 6.50 | 5.85 | 10.94 | 6.98 | 1.54 | 1.33 | 4.66 | 1.72 | 2.50 | 4.31 | N/A | 2.16 | .41 | 3.14 | 5.25 | 2.63 | 3.82 | 1.76 | 4.31 | 2.11 | 1.90 | 1.93 | 0.59 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 5.75 | 6.99 | 5.94 | 11.28 | 7.44 | 1.75 | 1.33 | 4.66 | 1.72 | 2.75 | 4.50 | N/A | 2.25 | .41 | 3.24 | 5.75 | 2.88 | 3.82 | 1.76 | 4.31 | 2.05 | 1.84 | 1.94 | 0.69 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 6.00 | 7.69 | 6.32 | 12.01 | 8.00 | 2.06 | 1.33 | 4.66 | 1.72 | 3.00 | 4.69 | N/A | 2.34 | .47 | 3.61 | 6.38 | 3.19 | 3.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.03 | 0.72 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 6.19 | 8.37 | 6.44 | 12.48 | 8.56 | 2.38 | 1.33 | 4.66 | 1.72 | 3.25 | 4.88 | N/A | 2.44 | .49 | 3.77 | 7.06 | 3.53 | 3.82 | 1.76 | 5.14 | 2.66 | 2.44 | 2.06 | 0.75 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 6.50 | 9.25 | 7.01 | 13.48 | 9.25 | 2.63 | 1.33 | 4.66 | 1.72 | 3.69 | 5.25 | N/A | 2.63 | .53 | 4.34 | 8.00 | 4.00 | 3.82 | 1.76 | 5.63 | 2.73 | 2.52 | 2.44 | 0.75 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 7.50 | 10.00 | 7.86 | 15.08 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 4.00 | 5.88 | N/A | 2.94 | .53 | 4.84 | 8.44 | 4.22 | 4.35 | 1.76 | 6.75 | 3.60 | 3.36 | 2.63 | 0.75 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 7.75 | 11.12 | 8.05 | 15.81 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 4.38 | 6.13 | N/A | 3.06 | .53 | 5.02 | 9.50 | 4.75 | 4.35 | 1.76 | 7.06 | 3.66 | 3.42 | 2.63 | 0.81 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 9.75 | 13.24 | 9.18 | 18.19 | 13.78 | 4.25 | 2.06 | 6.38 | 2.28 | 5.44 | 7.63 | N/A | 3.81 | .66 | 6.10 | 11.12 | 5.56 | 4.82 | 1.76 | 8.12 | 4.50 | 4.21 | 2.69 | 1.00 | 1.875 | 0.625 | 3/16 x 1.38 | 1/2 X 3.06 |
| GR852 | 10.50 | 16.24 | 11.57 | 22.59 | 16.56 | 5.25 | 2.63 | 8.00 | 2.94 | 6.25 | 8.38 | N/A | 4.19 | .78 | 7.50 | 14.12 | 7.06 | 6.07 | 2.38 | 9.06 | 4.78 | 4.53 | 3.63 | 1.13 | 2.000 | 0.750 | 3/16 x 1.63 | 1/2 X 3.50 |
| GR860 | 12.00 | 18.99 | 13.30 | 26.19 | 19.63 | 6.00 | 3.25 | 9.38 | 3.50 | 7.75 | 9.50 | 10.24 | 4.75 | .91 | N/A | 16.49 | 8.25 | 6.76 | 2.38 | 10.00 | 4.65 | 4.65 | 4.00 | 1.25 | 2.500 | 0.875 | 3/16 x 1.63 | 5/8 X 4.00 |
| GR870 | 13.38 | 15.38 | 12.96 | 24.58 | 21.88 | 7.00 | 3.25 | 9.38 | 3.50 | 9.00 | 11.25 | 10.63 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 6.76 | 2.38 | 11.76 | 5.65 | 5.65 | 4.33 | 1.42 | 2.750 | 0.875 | 3/16 x 1.75** | 5/8 x 4.00** |
| GR880 | 13.50 | 17.37 | 13.94 | 26.88 | 25.44 | 8.00 | 4.25 | 11.38 | 4.44 | 10.50 | 11.50 | 11.93 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 9.57 | 3.47 | 12.25 | 5.98 | 5.98 | 4.11 | 1.65 | 3.000 | 1.250 | 1/4 X 2.88** | 3/4 x 4.50** |
| GR8100 | 16.88 | 21.14 | 17.05 | 32.92 | 30.88 | 10.00 | 5.25 | 14.00 | 5.12 | 12.00 | 14.00 | 14.34 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 10.88 | 3.38 | 14.75 | 6.76 | 6.76 | 5.12 | 1.65 | 3.750 | 1.250 | 1/4 X 3.00** | 7/8 x 5.00** |

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

▲ See feature comparison chart.

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❁ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❊ Style DT and DTM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

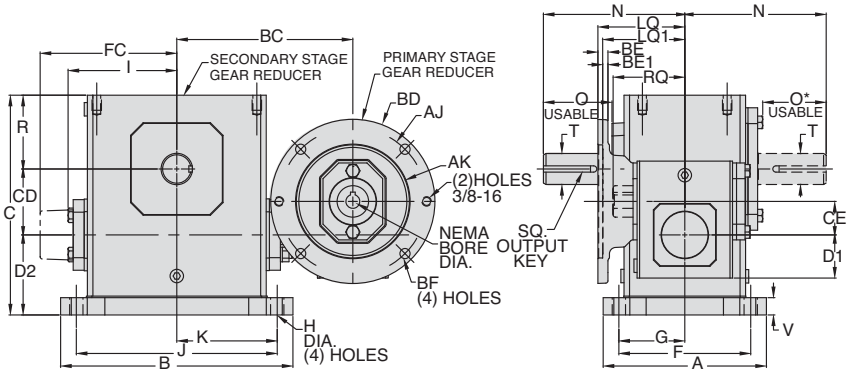
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

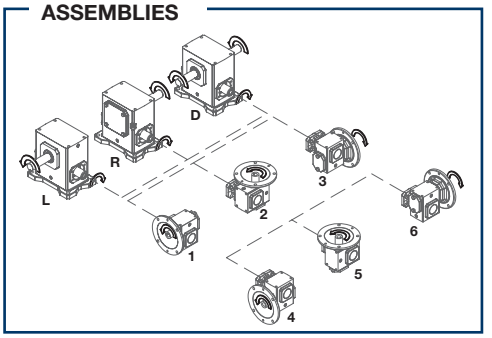
# GR Series Dimensions

## Styles: DUMQ, DUM, DU

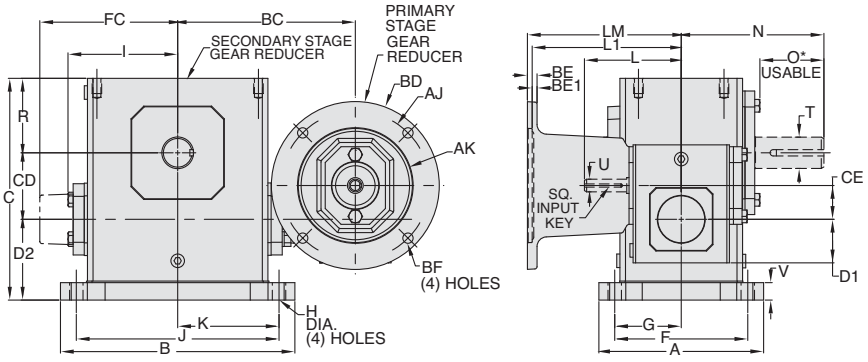
CAST IRON GR SERIES

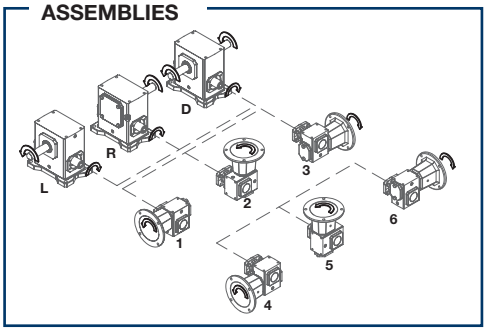
## Style DUMQ



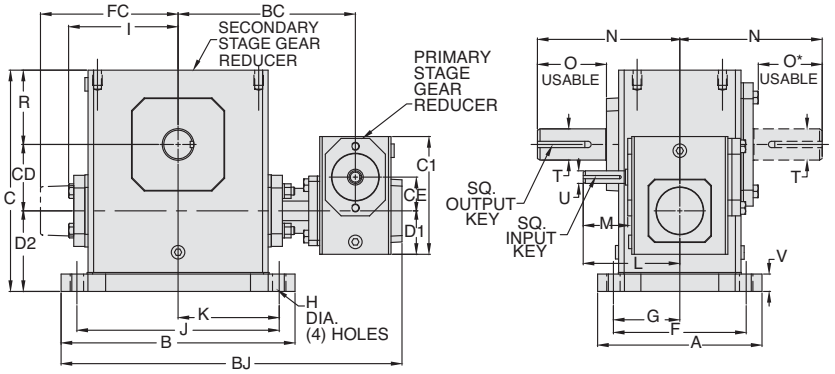



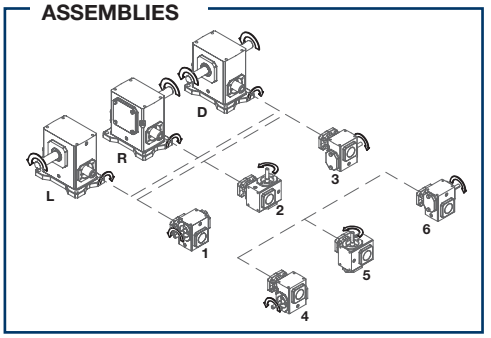

## Style DUM




## Style DU




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.24 | 5.37 | 5.32 | 9.85 | 5.19 | 1.33 | 1.33 | 4.66 | 1.72 | 2.14 | 3.31 | N/A | 1.66 | .34 | 2.61 | 4.37 | 2.19 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.72 | 0.53 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 5.56 | 6.50 | 5.85 | 10.94 | 5.97 | 1.54 | 1.33 | 4.66 | 1.72 | 2.52 | 4.31 | N/A | 2.16 | .41 | 3.14 | 5.25 | 2.63 | 3.82 | 1.76 | 4.31 | 2.11 | 1.90 | 1.91 | 0.59 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 5.75 | 6.99 | 5.94 | 11.28 | 6.44 | 1.75 | 1.33 | 4.66 | 1.72 | 2.63 | 4.50 | N/A | 2.25 | .41 | 3.24 | 5.75 | 2.88 | 3.82 | 1.76 | 4.31 | 2.05 | 1.84 | 2.06 | 0.69 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 6.00 | 7.69 | 6.32 | 12.01 | 7.09 | 2.06 | 1.33 | 4.66 | 1.72 | 2.75 | 4.69 | N/A | 2.34 | .47 | 3.61 | 6.38 | 3.19 | 3.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.28 | 0.72 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 6.19 | 8.37 | 6.44 | 12.48 | 7.69 | 2.38 | 1.33 | 4.66 | 1.72 | 2.81 | 4.88 | N/A | 2.44 | .49 | 3.77 | 7.06 | 3.53 | 3.82 | 1.76 | 5.14 | 2.66 | 2.44 | 2.50 | 0.75 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 6.50 | 9.25 | 7.01 | 13.48 | 8.75 | 2.63 | 1.33 | 4.66 | 1.72 | 3.19 | 5.25 | N/A | 2.63 | .53 | 4.34 | 8.00 | 4.00 | 3.82 | 1.76 | 5.63 | 2.73 | 2.52 | 2.94 | 0.75 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 7.50 | 10.00 | 7.86 | 15.08 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 3.38 | 5.88 | N/A | 2.94 | .53 | 4.84 | 8.44 | 4.22 | 4.35 | 1.76 | 6.75 | 3.60 | 3.36 | 3.25 | 0.75 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 7.75 | 11.12 | 8.05 | 15.81 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 3.50 | 6.13 | N/A | 3.06 | .53 | 5.02 | 9.50 | 4.75 | 4.35 | 1.76 | 7.06 | 3.66 | 3.42 | 3.50 | 0.81 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 9.75 | 13.24 | 9.18 | 18.19 | 12.38 | 4.25 | 2.06 | 6.38 | 2.28 | 3.69 | 7.63 | N/A | 3.81 | .66 | 6.10 | 11.12 | 5.56 | 4.82 | 1.76 | 8.12 | 4.50 | 4.21 | 4.44 | 1.00 | 1.875 | 0.625 | 3/16 x 1.38 | 1/2 X 3.06 |
| GR852 | 10.50 | 16.24 | 11.57 | 22.59 | 15.13 | 5.25 | 2.63 | 8.00 | 2.94 | 4.76 | 8.38 | N/A | 4.19 | .78 | 7.50 | 14.12 | 7.06 | 6.07 | 2.38 | 9.06 | 4.78 | 4.53 | 5.12 | 1.13 | 2.000 | 0.750 | 3/16 x 1.63 | 1/2 X 3.50 |
| GR860 | 12.00 | 18.99 | 13.30 | 26.19 | 17.75 | 6.00 | 3.25 | 9.38 | 3.50 | 5.25 | 9.50 | 10.24 | 4.75 | .91 | N/A | 16.49 | 8.25 | 6.76 | 2.38 | 10.00 | 4.65 | 4.65 | 6.50 | 1.25 | 2.500 | 0.875 | 3/16 x 1.63 | 5/8 X 4.00 |
| GR870 | 13.38 | 15.38 | 12.96 | 24.58 | 20.33 | 7.00 | 3.25 | 9.38 | 3.50 | 5.74 | 11.25 | 10.63 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 6.76 | 2.38 | 11.76 | 5.65 | 5.65 | 7.59 | 1.42 | 2.750 | 0.875 | 3/16 x 1.75** | 5/8 x 4.00** |
| GR880 | 13.50 | 17.37 | 13.94 | 26.88 | 22.61 | 8.00 | 4.25 | 11.38 | 4.44 | 5.75 | 11.50 | 11.93 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 9.57 | 3.47 | 12.25 | 5.98 | 5.98 | 8.86 | 1.65 | 3.000 | 1.250 | 1/4 X 2.88** | 3/4 x 4.50** |
| GR8100 | 16.88 | 21.14 | 17.05 | 32.92 | 27.12 | 10.00 | 5.25 | 14.00 | 5.12 | 6.76 | 14.00 | 14.34 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 10.88 | 3.38 | 14.75 | 6.76 | 6.76 | 10.36 | 1.65 | 3.750 | 1.250 | 1/4 X 3.00** | 7/8 x 5.00** |

## FEATURE COMPARISON (821, 826, 832)

▲ See feature comparison chart.

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❊ Style DU and DUM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

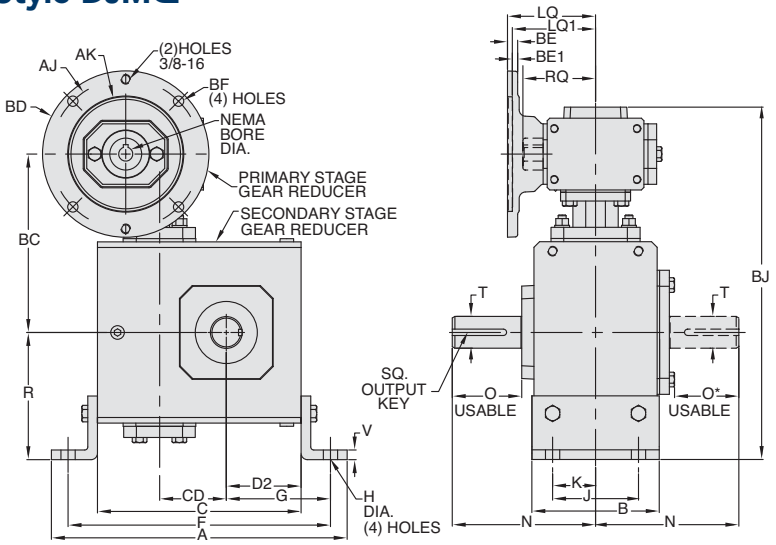
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

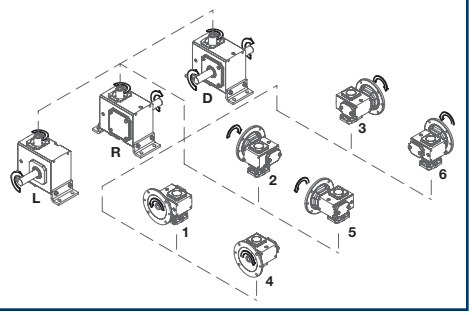
## Styles: DJMQ, DJM, DJ

CAST IRON GR SERIES

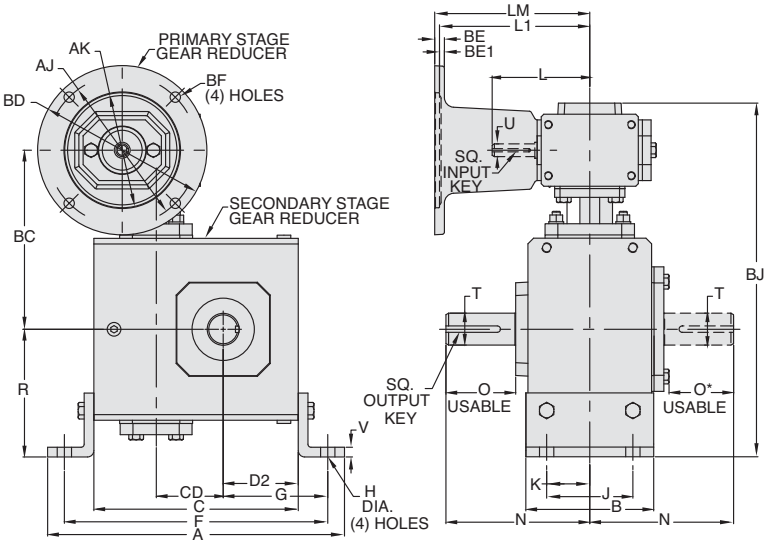
## Style DJMQ



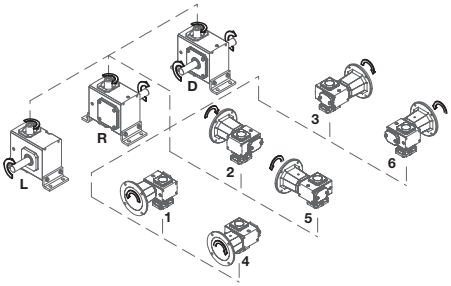

### ASSEMBLIES



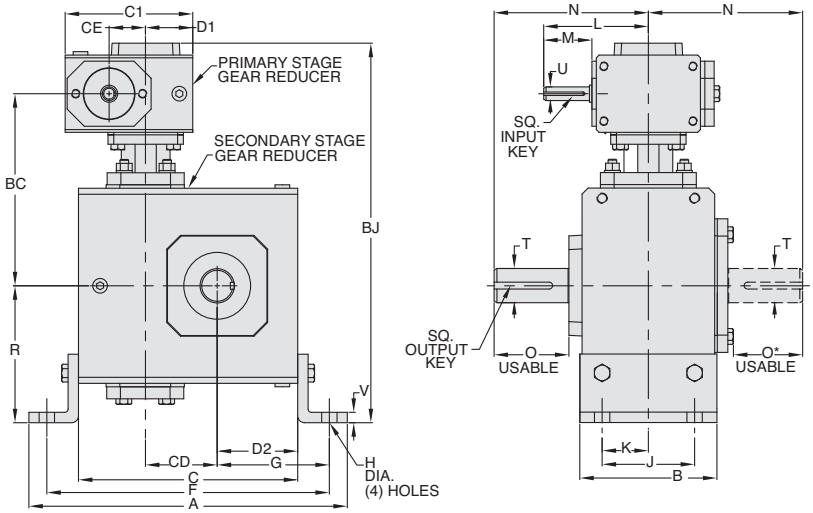

## Style DJM



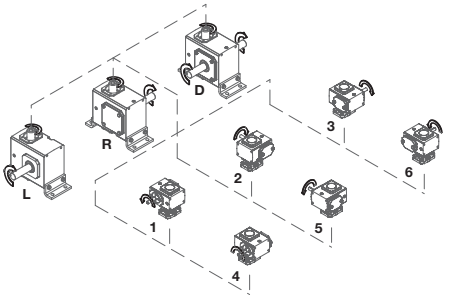

### ASSEMBLIES




## Style DJ




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | G | H | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.42 | 2.75 | 5.32 | 10.10 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 6.42 | 2.60 | .38 | 2.00 | 1.00 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 2.94 | 0.25 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 8.14 | 3.50 | 5.85 | 11.20 | 5.38 | 1.54 | 1.33 | 4.66 | 1.72 | 1.91 | 7.08 | 2.76 | .44 | 2.75 | 1.38 | 3.82 | 1.76 | 4.31 | 2.11 | 1.90 | 3.50 | 0.25 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 8.51 | 3.50 | 5.94 | 11.29 | 5.75 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 7.45 - 7.63 | 3.00 | .44 slot | 2.50 - 2.75 | 1.25 - 1.38 | 3.82 | 1.76 | 4.31 | 2.05 | 1.84 | 3.50 | 0.25 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 9.76 | 4.00 | 6.32 | 12.17 | 6.38 | 2.06 | 1.33 | 4.66 | 1.72 | 2.28 | 8.63 | 3.40 | .56 slot | 2.63 - 2.75 | 1.31-1.38 | 3.82 | 1.76 | 4.68 | 2.29 | 2.08 | 4.01 | 0.38 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 10.31 | 4.00 | 6.44 | 12.35 | 6.94 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | 9.19 | 3.63 | .69 | 2.88 | 1.44 | 3.82 | 1.76 | 5.14 | 2.66 | 2.44 | 4.06 | 0.38 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 11.62 | 5.00 | 7.01 | 13.85 | 8.00 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 10.38 | 4.13 | .56 | 3.38 | 1.69 | 3.82 | 1.76 | 5.63 | 2.73 | 2.52 | 5.00 | 0.38 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 12.64 | 6.00 | 7.86 | 15.68 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 3.25 | 11.38 | 4.50 | .56 | 3.88 | 1.94 | 4.35 | 1.76 | 6.75 | 3.60 | 3.36 | 5.62 | 0.38 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 13.14 | 6.00 | 8.05 | 15.88 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 3.50 | 11.88 | 4.75 | .56 | 3.88 | 1.94 | 4.35 | 1.76 | 7.06 | 3.66 | 3.42 | 5.63 | 0.38 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 16.38 | 7.00 | 9.18 | 18.07 | 11.38 | 4.25 | 2.06 | 6.38 | 2.28 | 4.44 | 14.88 | 6.19 | .69 | 5.00 | 2.50 | 4.82 | 1.76 | 8.12 | 4.50 | 4.21 | 6.50 | 0.50 | 1.875 | 0.625 | 1/4 X 2.88** | 1/2 X 3.06 |
| GR852 | 19.00 | 7.00 | 11.57 | 22.22 | 14.00 | 5.25 | 2.63 | 8.00 | 2.94 | 5.12 | 17.50 | 6.87 | .69 | 5.81 | 2.91 | 6.07 | 2.38 | 9.06 | 4.78 | 4.53 | 7.75 | 0.50 | 2.000 | 0.750 | 1/4 X 3.00** | 1/2 X 3.50 |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DJ and DJM only.
❖ Metric IEC B5 input flange options are available only on quill input styles.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

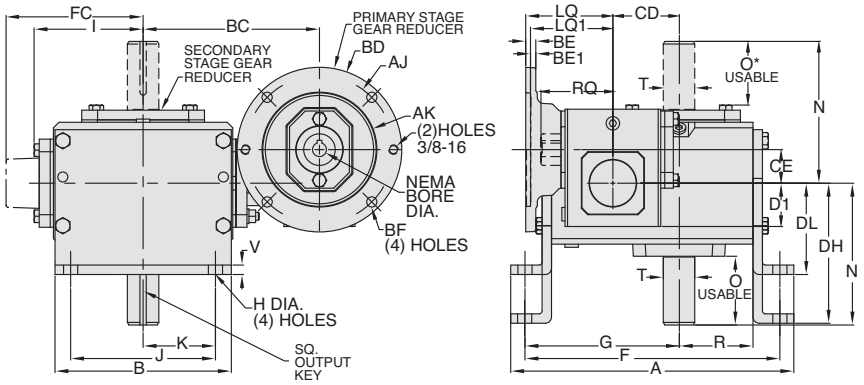
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

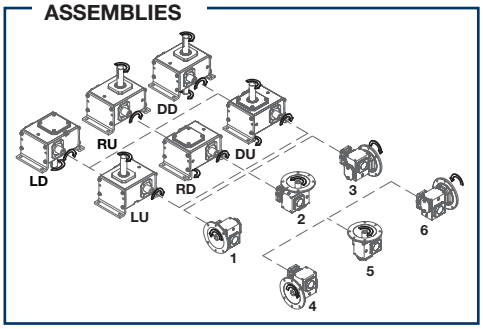
# GR Series Dimensions

**Styles: DV_MQ, DV_M, DV_**

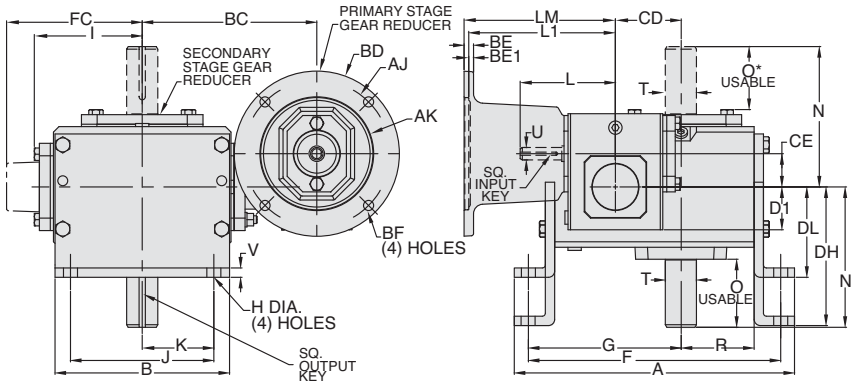
CAST IRON GR SERIES

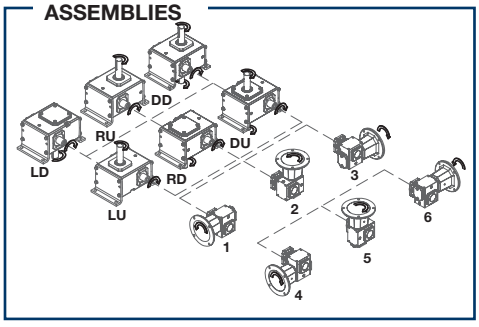
## Style DV(L or H)MQ



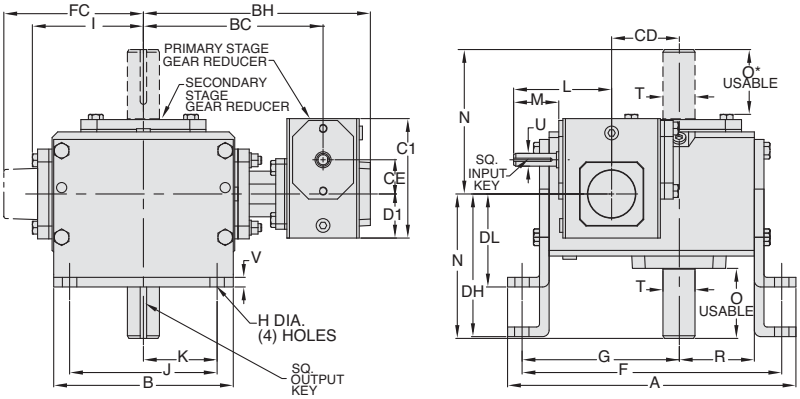



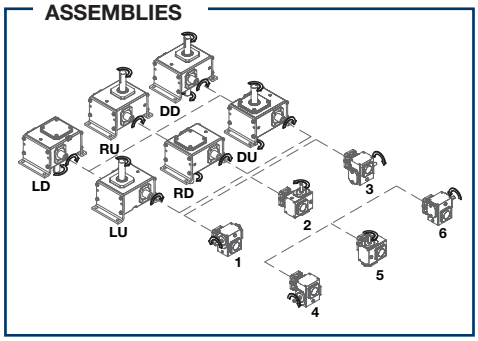

## Style DV(L or H)M




## Style DV(L or H)




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# GR Series Dimensions

## Styles: DV_MQ, DV_M, DV_



### STYLE DV_MQ, DV_M, DV_ DIMENSIONS (Inches)

| Size | A | B | BC | BH | CD | CE | C1 | D1 | DL | DH | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.26 | 4.00 | 5.32 | 7.16 | 1.33 | 1.33 | 4.66 | 1.72 | 2.63 | 3.56 | 6.50 | N/A | 3.86 | .38 | 2.61 | 3.00 | 1.50 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.72 | 0.25 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 7.88 | 5.00 | 5.85 | 7.69 | 1.54 | 1.33 | 4.66 | 1.72 | 3.00 | 4.38 | 7.00 | N/A | 4.28 | .44 | 3.14 | 4.00 | 2.00 | 3.82 | 1.76 | 4.31 | 2.11 | 1.90 | 1.91 | 0.25 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 8.25 | 5.00 | 5.94 | 7.79 | 1.75 | 1.33 | 4.66 | 1.72 | 3.00 | 4.38 | 7.37 | N/A | 4.50 | .44 | 3.24 | 4.00 | 2.00 | 3.82 | 1.76 | 4.31 | 2.05 | 1.84 | 2.06 | 0.25 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 9.38 | 6.00 | 6.32 | 8.16 | 2.06 | 1.33 | 4.66 | 1.72 | 3.13 | 4.88 | 8.38 | N/A | 5.09 | .50 | 3.61 | 4.88 | 2.44 | 3.82 | 1.76 | 4.68 | 2.29 | 2.08 | 2.28 | 0.38 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 9.94 | 6.00 | 6.44 | 8.29 | 2.38 | 1.33 | 4.66 | 1.72 | 3.38 | 5.25 | 8.81 | N/A | 5.44 | .50 | 3.77 | 4.88 | 2.44 | 3.82 | 1.76 | 5.14 | 2.66 | 2.44 | 2.50 | 0.38 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 11.24 | 7.00 | 7.01 | 8.85 | 2.63 | 1.33 | 4.66 | 1.72 | 3.63 | 5.56 | 10.12 | N/A | 6.12 | .56 | 4.34 | 5.75 | 2.88 | 3.82 | 1.76 | 5.63 | 2.73 | 2.52 | 2.94 | 0.38 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 12.50 | 8.00 | 7.86 | 10.06 | 3.00 | 1.75 | 5.38 | 2.06 | 3.94 | 5.88 | 11.13 | N/A | 6.75 | .56 | 4.84 | 6.00 | 3.00 | 4.35 | 1.76 | 6.75 | 3.60 | 3.36 | 3.25 | 0.38 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 13.00 | 8.50 | 8.05 | 10.25 | 3.25 | 1.75 | 5.38 | 2.06 | 4.69 | 6.25 | 11.88 | N/A | 7.13 | .56 | 5.02 | 6.13 | 3.06 | 4.35 | 1.76 | 7.06 | 3.66 | 3.42 | 3.50 | 0.38 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 16.26 | 10.00 | 9.18 | 11.57 | 4.25 | 2.06 | 6.38 | 2.28 | 5.00 | 7.50 | 14.88 | N/A | 8.69 | .69 | 6.10 | 7.88 | 3.94 | 4.82 | 1.76 | 8.12 | 4.50 | 4.21 | 4.44 | 0.50 | 1.875 | 0.625 | 3/16 x 1.38 | 1/2 X 3.06 |
| GR852 | 19.62 | 13.00 | 11.57 | 14.47 | 5.25 | 2.63 | 8.00 | 2.94 | 5.16 | 9.16 | 18.00 | N/A | 10.88 | .78 | 7.50 | 10.00 | 5.00 | 6.07 | 2.38 | 9.06 | 4.78 | 4.53 | 5.12 | 0.50 | 2.000 | 0.750 | 3/16 x 1.63 | 1/2 X 3.50 |
| GR860 | 23.26 | 14.75 | 13.30 | 16.70 | 6.00 | 3.25 | 9.38 | 3.50 | 7.31 | 9.63 | 20.88 | 10.24 | 12.19 | .91 | N/A | 11.76 | 5.88 | 6.76 | 2.38 | 10.00 | 4.65 | 4.65 | 6.50 | 0.50 | 2.500 | 0.875 | 3/16 x 1.63 | 5/8 X 4.00 |
| GR870 | 26.91 | 14.88 | 12.96 | 16.90 | 7.00 | 3.25 | 9.38 | 3.50 | 7.00 | N/A | 23.99 | 10.63 | 13.87 | 1.13 | N/A | 12.50 | 6.25 | 6.76 | 2.38 | 11.76 | 5.65 | 5.65 | 7.59 | 0.75 | 2.750 | 0.875 | 3/16 x 1.75** | 5/8 x 4.00** |
| GR880 | 28.96 | 17.00 | 13.94 | 18.19 | 8.00 | 4.25 | 11.38 | 4.44 | 8.00 | N/A | 25.50 | 11.93 | 14.38 | 1.13 | N/A | 14.00 | 7.00 | 9.57 | 3.47 | 12.25 | 5.98 | 5.98 | 8.86 | 0.75 | 3.000 | 1.250 | 1/4 X 2.88** | 3/4 x 4.50** |
| GR8100 | 37.47 | 20.88 | 17.05 | 22.30 | 10.00 | 5.25 | 14.00 | 5.12 | 9.00 | N/A | 30.75 | 14.34 | 17.76 | 1.44 | N/A | 17.75 | 8.88 | 10.88 | 3.38 | 14.75 | 6.76 | 6.76 | 10.36 | 1.00 | 3.750 | 1.250 | 1/4 X 3.00** | 7/8 x 5.00** |

### FEATURE COMPARISON (821, 826, 832)

▲ See feature comparison chart.

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 826 | 1.250"<br>1.125" | Identical | Identical | Identical | ✔<br> | <br>✔ | GRG<br>GRL |
| 832 | 1.500"<br>1.375" | Identical | 3.8 x 2.63<br>5/16 x 2.63 | Identical | ✔<br> | <br>✔ | GRG<br>GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❊ Style DVL/DVH and DVLM/DVHM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

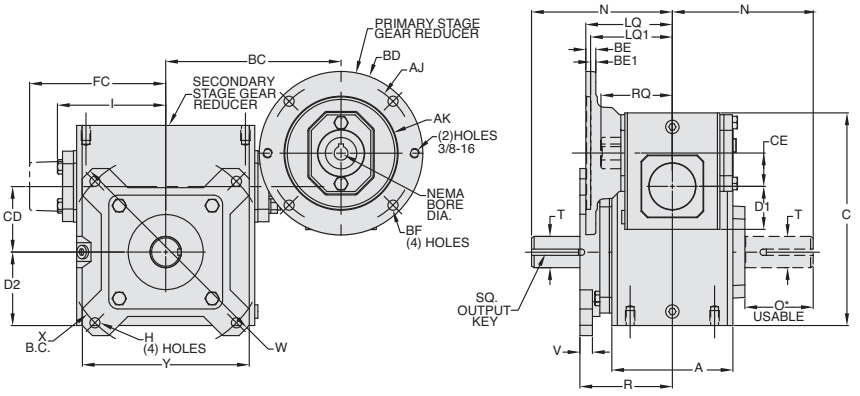
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

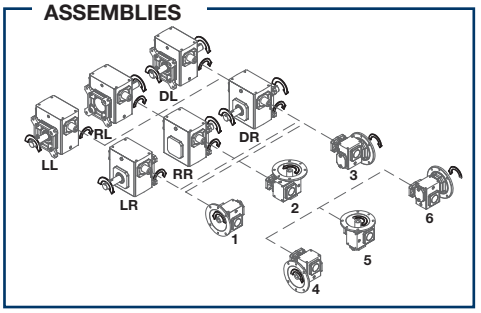
# GR Series Dimensions

## Styles: DFMQ, DFM, DF

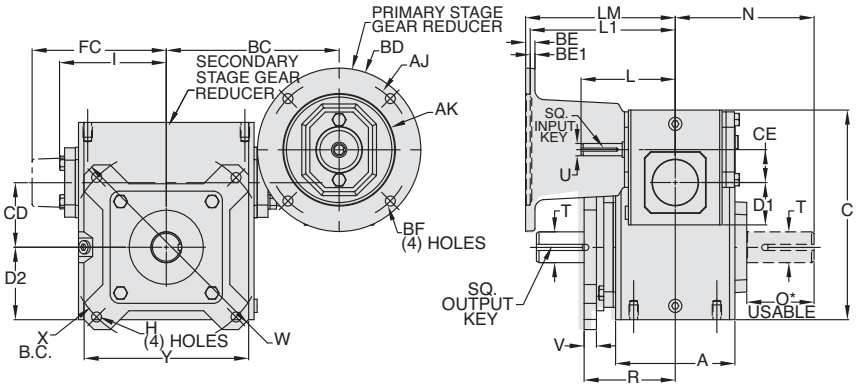
CAST IRON GR SERIES

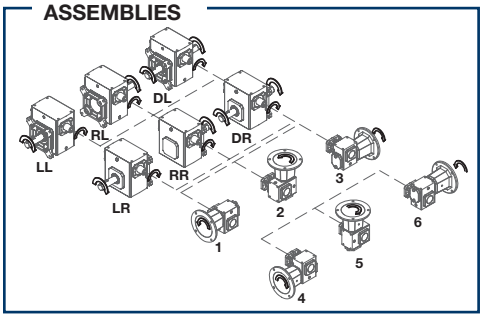
## Style DFMQ



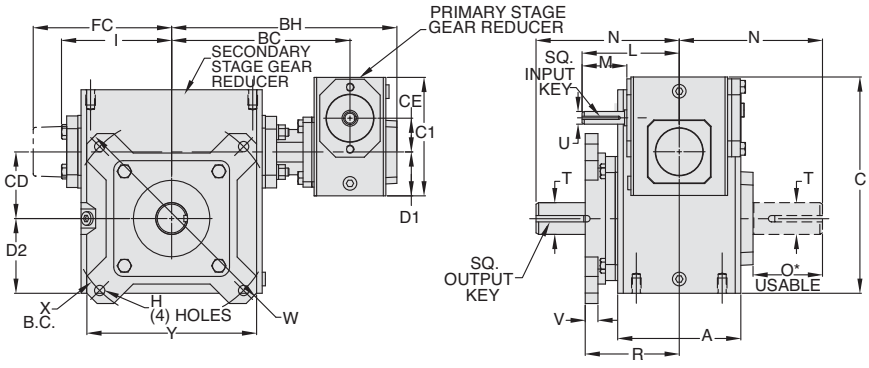



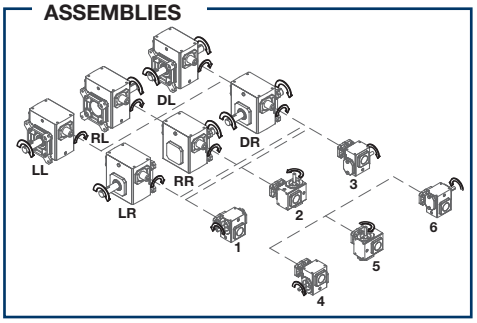

## Style DFM




## Style DF




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

**Sizes 813-8100 output flange must be mounted at Factory on styles FMQ, FM, F.**

## STYLE DFMQ, DFM, DF DIMENSIONS (Inches)

| Size | A | BC | BH | C | CD | CE | C1 | D1 | D2 | FC▼ | H | I | L | M | N | O* | R | V | W | X | Y | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 5.32 | 7.16 | 5.99 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | N/A | .34 | 2.61 | 3.82 | 1.76 | 4.00 | 1.94 | 2.52 | 0.38 | 5.92 | 5.00 | 4.50 | .625 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR815 | 3.44 | 5.85 | 7.69 | 6.38 | 1.54 | 1.33 | 4.66 | 1.72 | 1.91 | N/A | .34 | 3.14 | 3.82 | 1.76 | 4.31 | 1.90 | 2.87 | 0.38 | 5.88 | 5.00 | 4.50 | .750 | 0.500 | 1/8 x 1.00 | 3/16 X 1.50 |
| GR818 | 3.56 | 5.94 | 7.79 | 6.75 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | N/A | .34 | 3.24 | 3.82 | 1.76 | 4.31 | 1.84 | 3.18 | 0.38 | 6.64 | 5.88 | 5.00 | .875 | 0.500 | 1/8 x 1.00 | 3/16 X 1.38 |
| GR821 | 3.81 | 6.32 | 8.16 | 7.28 | 2.06 | 1.33 | 4.66 | 1.72 | 2.28 | N/A | .41 | 3.61 | 3.82 | 1.76 | 4.68 | 2.08 | 3.69 | 0.44 | 7.88 | 7.00 | 5.99 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 X 1.44 |
| GR824 | 4.06 | 6.44 | 8.29 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | N/A | .41 | 3.77 | 3.82 | 1.76 | 5.14 | 2.44 | 3.73 | 0.44 | 8.39 | 7.50 | 6.27 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR826 | 4.84 | 7.01 | 8.85 | 8.50 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | N/A | .41 | 4.34 | 3.82 | 1.76 | 5.63 | 2.52 | 3.70 | 0.50 | 8.88 | 8.00 | 6.67 | ▲ | 0.500 | 1/8 x 1.00 | 1/4 X 1.75 |
| GR830 | 5.25 | 7.86 | 10.06 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 3.25 | N/A | .41 | 4.84 | 4.35 | 1.76 | 6.75 | 3.36 | 3.78 | 0.50 | 9.89 | 9.00 | 7.37 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 X 1.75 |
| GR832 | 5.75 | 8.05 | 10.25 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 3.50 | N/A | .41 | 5.02 | 4.35 | 1.76 | 7.06 | 3.42 | 4.03 | 0.50 | 9.89 | 9.00 | 7.37 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 X 2.25 |
| GR842 | 6.13 | 9.18 | 11.57 | 12.78 | 4.25 | 2.06 | 6.38 | 2.28 | 4.44 | N/A | .56 | 6.10 | 4.82 | 1.76 | 8.12 | 4.21 | 4.56 | 0.62 | 12.95 | 11.50 | 9.65 | 1.875 | 0.625 | 3/16 x 1.38 | 1/2 X 3.06 |
| GR852 | 7.19 | 11.57 | 14.47 | 15.43 | 5.25 | 2.63 | 8.00 | 2.94 | 5.12 | N/A | .69 | 7.50 | 6.07 | 2.38 | 9.06 | 4.53 | 5.62 | 0.75 | 15.50 | 14.00 | 11.75 | 2.000 | 0.750 | 3/16 x 1.63 | 1/2 X 3.50 |
| GR860 | 8.13 | 13.30 | 16.70 | 18.38 | 6.00 | 3.25 | 9.38 | 3.50 | 6.50 | 10.24 | .69 | N/A | 6.76 | 2.38 | 10.00 | 4.65 | 7.26 | 0.75 | 18.00 | 15.63 | 14.00 | 2.500 | 0.875 | 3/16 x 1.63 | 5/8 X 4.00 |
| GR870 | 7.63 | 12.96 | 16.90 | 20.46 | 7.00 | 3.25 | 9.38 | 3.50 | 7.59 | 10.63 | .78 | N/A | 6.76 | 2.38 | 11.76 | 5.65 | 7.45 | 0.75 | 21.00 | 18.38 | 15.63 | 2.750 | 0.875 | 3/16 x 1.75** | 5/8 x 4.00** |
| GR880 | 8.63 | 13.94 | 18.19 | 23.79 | 8.00 | 4.25 | 11.38 | 4.44 | 8.86 | 11.93 | 1.03 | N/A | 9.57 | 3.47 | 12.25 | 5.98 | 8.34 | 0.75 | 24.00 | 21.00 | 17.88 | 3.000 | 1.250 | 1/4 X 2.88** | 3/4 x 4.50** |
| GR8100 | 9.53 | 17.05 | 22.30 | 29.24 | 10.00 | 5.25 | 14.00 | 5.12 | 10.36 | 14.34 | 1.03 | N/A | 10.88 | 3.38 | 14.75 | 6.76 | 9.07 | 1.00 | 29.00 | 25.00 | 21.19 | 3.750 | 1.250 | 1/4 X 3.00** | 7/8 x 5.00** |

## FEATURE COMPARISON (821, 826, 832)

▲ See feature comparison chart.

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| GR821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| GR826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| GR832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

# MOTOR MOUNTING DIMENSIONS

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832✖ | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832✖ | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❊ Style DF and DFM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.

✖ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

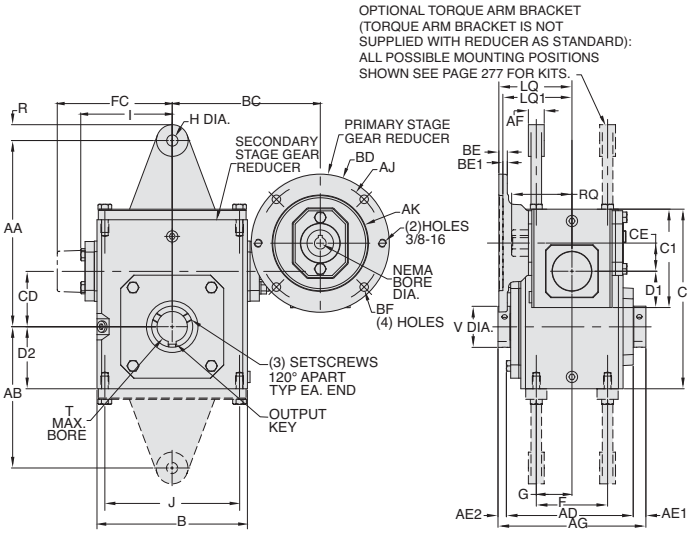
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

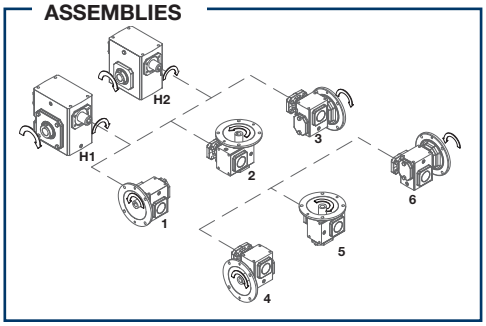
## Styles: DHMQ, DHM, DH

CAST IRON GR SERIES

## Style DHMQ

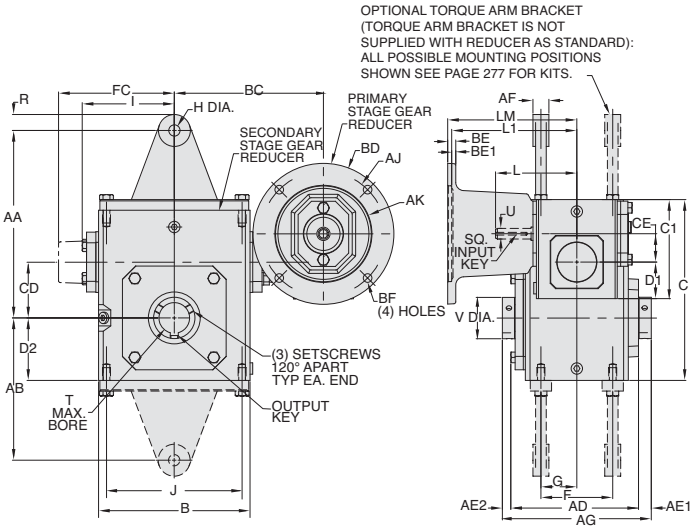



### ASSEMBLIES

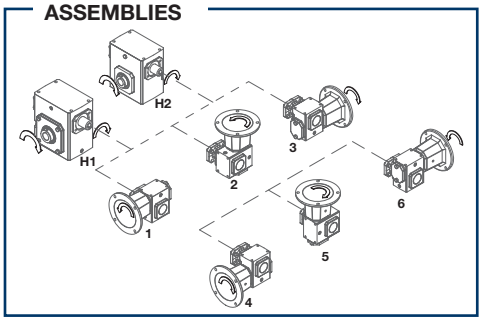



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DHM

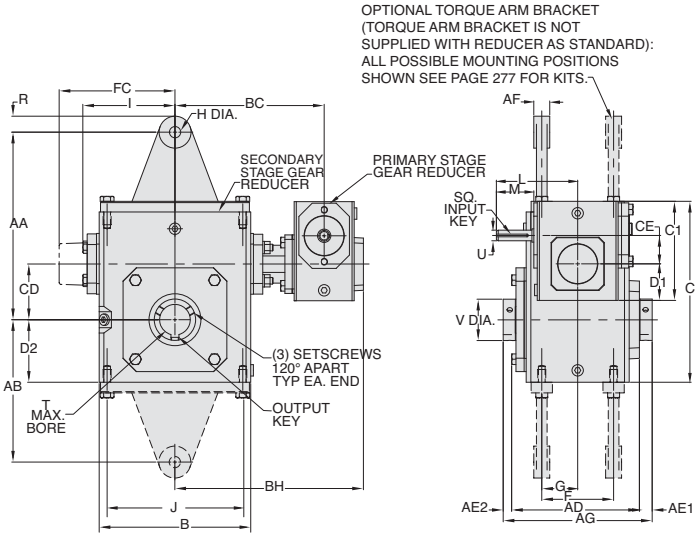



### ASSEMBLIES

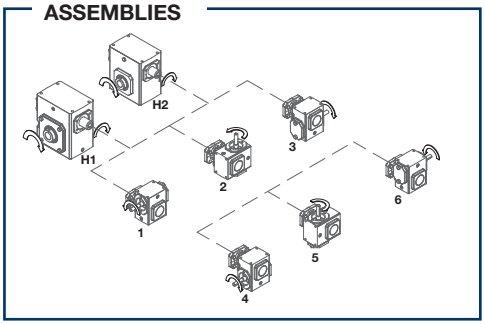



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DH




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.






## STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

| Size | AA | AB | AD | AE1 | AE2 | AF | AG | B | BC | BH | C | CD | CE | C1 | C2 | D1 | D2 | F | FC▼ | G | H | I | J | L | M | R | V | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.19 | 2.97 | 3.90 | 0.53 | 0.32 | 0.75 | 4.75 | 3.80 | 5.32 | 7.16 | 5.99 | 1.33 | 1.33 | 4.66 | 4.66 | 1.72 | 1.72 | 2.00 | N/A | 1.00 | 0.53 | 2.61 | 3.25 | 3.82 | 1.76 | 0.50 | 1.00 | 0.625 | .500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 5.97 | 4.41 | 4.61 | 0.51 | 0.30 | 0.75 | 5.42 | 5.19 | 5.85 | 7.69 | 6.38 | 1.54 | 1.33 | 4.66 | 5.38 | 1.72 | 1.91 | 2.75 | N/A | 1.38 | 0.53 | 3.14 | 4.19 | 3.82 | 1.76 | 0.75 | 1.00 | 0.625 | .500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR818 | 6.19 | 4.56 | 4.73 | 0.49 | 0.28 | 0.75 | 5.50 | 5.19 | 5.94 | 7.79 | 6.75 | 1.75 | 1.33 | 4.66 | 5.75 | 1.72 | 2.06 | 2.75 | N/A | 1.38 | 0.53 | 3.24 | 4.19 | 3.82 | 1.76 | 0.75 | 1.44 | 1.000 | .500 | 1/8 x 1.00 | 1/4 x 3.00 |
| GR821 | 7.24 | 5.43 | 4.99 | 0.61 | 0.40 | 0.75 | 6.00 | 5.80 | 6.32 | 8.16 | 7.28 | 2.06 | 1.33 | 4.66 | 6.38 | 1.72 | 2.28 | ▲ | N/A | 1.44 | 0.53 | 3.61 | ▲ | 3.82 | 1.76 | 0.75 | 1.44 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR824 | 7.69 | 5.75 | 5.18 | 0.51 | 0.31 | 0.75 | 6.00 | 6.12 | 6.44 | 8.29 | 7.81 | 2.38 | 1.33 | 4.66 | 6.94 | 1.72 | 2.50 | 2.88 | N/A | 1.44 | 0.53 | 3.77 | 5.00 | 3.82 | 1.76 | 0.75 | 1.94 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR826 | 8.81 | 6.69 | 6.01 | 0.60 | 0.39 | 0.75 | 7.00 | 7.38 | 7.01 | 8.85 | 8.50 | 2.63 | 1.33 | 4.66 | 8.00 | 1.72 | 2.94 | 3.38 | N/A | 1.69 | 0.53 | 4.34 | 6.38 | 3.82 | 1.76 | 0.75 | 1.94 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR830 | 10.63 | 8.25 | 6.53 | 0.60 | 0.36 | 0.75 | 7.50 | 8.12 | 7.86 | 10.06 | 9.94 | 3.00 | 1.75 | 5.38 | 8.88 | 2.06 | 3.25 | 4.00 | N/A | 2.00 | 0.53 | 4.84 | 7.00 | 4.35 | 1.76 | 0.88 | 2.51 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR832 | 10.88 | 8.50 | 7.04 | 0.54 | 0.29 | 0.75 | 7.88 | 8.75 | 8.05 | 10.25 | 10.44 | 3.25 | 1.75 | 5.38 | 9.38 | 2.06 | 3.50 | 4.00 | N/A | 2.00 | 0.53 | 5.02 | 7.50 | 4.35 | 1.76 | 0.88 | 2.51 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR842 | 11.94 | 9.44 | 7.53 | 0.63 | 0.34 | 0.75 | 8.50 | 10.25 | 9.18 | 11.57 | 12.78 | 4.25 | 2.06 | 6.38 | 11.38 | 2.28 | 4.44 | 5.00 | N/A | 2.50 | 0.53 | 6.10 | 8.50 | 4.82 | 1.76 | 0.75 | 2.75 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR852 | 13.88 | 10.12 | 8.85 | 0.97 | 0.68 | 1.00 | 10.50 | 13.00 | 11.57 | 14.47 | 15.43 | 5.25 | 2.63 | 8.00 | 14.00 | 2.94 | 5.12 | 5.81 | N/A | 2.91 | 0.66 | 7.50 | 11.00 | 6.07 | 2.38 | 1.00 | 4.26 | 3.438 | .750 | 3/16 x 1.63 | 7/8 x 3.44 |
| GR860 | 15.00 | 11.50 | 10.52 | 0.52 | 0.52 | 0.38 | 11.50 | 14.50 | 13.30 | 16.70 | 18.38 | 6.00 | 3.25 | 9.38 | 16.50 | 3.50 | 6.50 | 6.38 | 10.24 | 3.19 | 0.66 | N/A | 12.75 | 6.76 | 2.38 | 0.69 | 4.18 | 3.438 | .875 | 3/16 x 1.63 | 7/8 x 3.44 |
| GR870 | N/A | N/A | 11.36 | 1.09 | 1.09 | N/A | 13.50 | 14.88 | 12.96 | 16.90 | 20.46 | 7.00 | 3.25 | 9.38 | 18.91 | 3.50 | 7.59 | 5.50 | 10.63 | 2.75 | N/A | N/A | 12.50 | 6.76 | 2.38 | N/A | 4.92 | 3.938 | .875 | 3/16 x 1.75** | 1 x 1/2** |
| GR880 | N/A | N/A | 12.48 | 1.03 | 1.03 | N/A | 14.50 | 17.00 | 13.94 | 18.19 | 23.79 | 8.00 | 4.25 | 11.38 | 20.96 | 4.44 | 8.86 | 6.50 | 11.93 | 3.25 | N/A | N/A | 14.25 | 9.57 | 3.47 | N/A | 5.55 | 4.438 | 1.250 | 1/4 X 2.88** | 1 x 1/2** |
| GR8100 | N/A | N/A | 15.78 | 1.39 | 1.39 | N/A | 18.50 | 20.88 | 17.05 | 22.30 | 29.24 | 10.00 | 5.25 | 14.00 | 25.47 | 5.12 | 10.36 | 6.88 | 14.34 | 3.44 | N/A | N/A | 17.75 | 10.88 | 3.38 | N/A | 6.67 | 5.438 | 1.250 | 1/4 X 3.00** | 1-1/4 x 5/8** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | ✔ | | GRG |
| | | (F)2.88" x (J)5.00" | | | ✔ | GRL |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

• Max bore dimensions shown. For additional bores available, refer to page 130.
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DH and DHM only.
❖ Metric IEC B5 input flange options are available only on quill input styles.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

Note: Torque arm bracket available separately. Refer to page 277 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

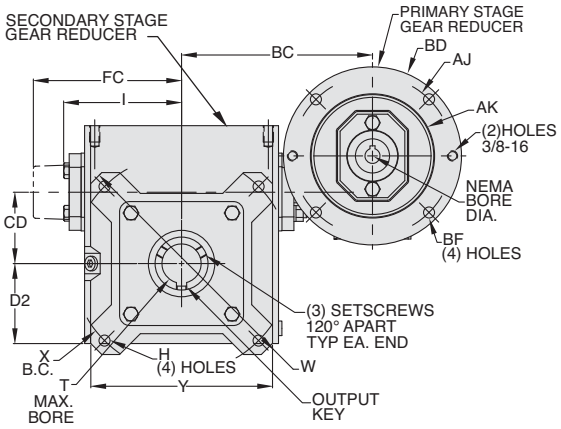
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

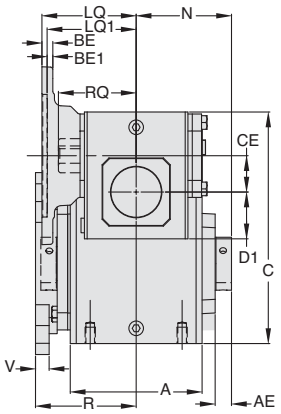
# GR Series Dimensions

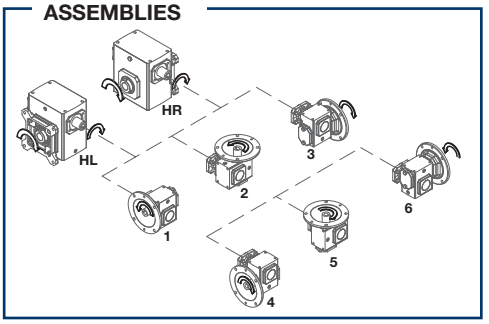
## Styles: DFHMQ, DFHM, DFH

CAST IRON GR SERIES

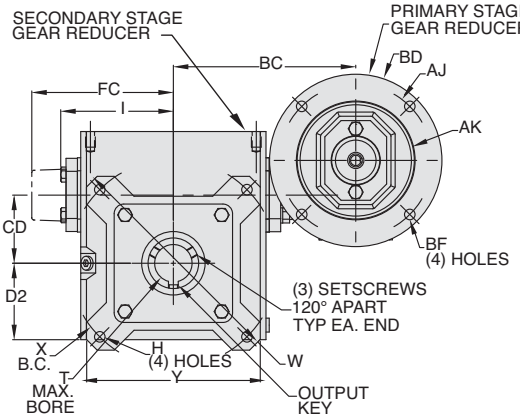
## Style DFHMQ

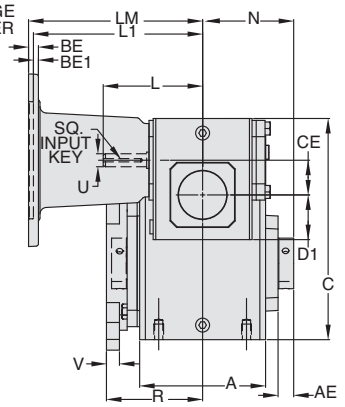


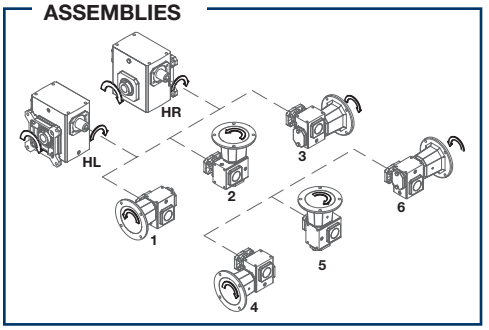



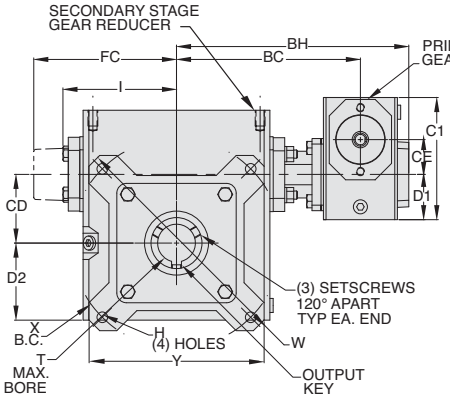

## Style DFHM

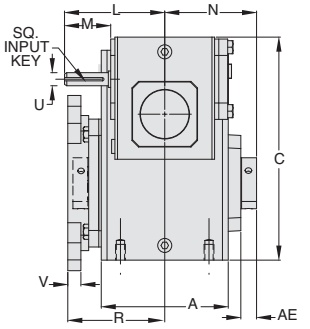


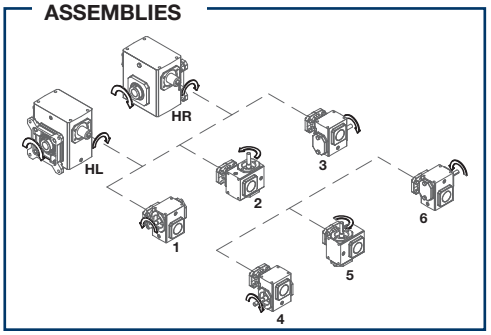




## Style DFH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

| Size | A | AE | BC | BH | C | CD | CE | C1 | D1 | D2 | FC▼ | H | I | L | M | N | R | V | W | X | Y | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 0.53 | 5.32 | 7.16 | 5.99 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | N/A | .34 | 2.61 | 3.82 | 1.76 | 2.38 | 2.52 | 0.38 | 5.92 | 5.00 | 4.50 | 0.625 | .500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR815 | 3.44 | 0.51 | 5.85 | 7.69 | 6.38 | 1.54 | 1.33 | 4.66 | 1.72 | 1.91 | N/A | .34 | 3.14 | 3.82 | 1.76 | 2.71 | 2.87 | 0.38 | 5.88 | 5.00 | 4.50 | 0.625 | .500 | 1/8 x 1.00 | 3/16 x 1.50 |
| GR818 | 3.56 | 0.49 | 5.94 | 7.79 | 6.75 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | N/A | .34 | 3.24 | 3.82 | 1.76 | 2.75 | 3.18 | 0.38 | 6.64 | 5.88 | 5.00 | 1.000 | .500 | 1/8 x 1.00 | 1/4 x 3.00 |
| GR821 | 3.81 | 0.61 | 6.32 | 8.16 | 7.28 | 2.06 | 1.33 | 4.66 | 1.72 | 2.28 | N/A | .41 | 3.61 | 3.82 | 1.76 | 3.00 | 3.69 | 0.44 | 7.88 | 7.00 | 5.99 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR824 | 4.06 | 0.51 | 6.44 | 8.29 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | N/A | .41 | 3.77 | 3.82 | 1.76 | 3.00 | 3.73 | 0.44 | 8.39 | 7.50 | 6.27 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR826 | 4.84 | 0.60 | 7.01 | 8.85 | 8.50 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | N/A | .41 | 4.34 | 3.82 | 1.76 | 3.50 | 3.70 | 0.50 | 8.88 | 8.00 | 6.67 | 1.500 | .500 | 1/8 x 1.00 | 3/8 x 3.00 |
| GR830 | 5.25 | 0.60 | 7.86 | 10.06 | 9.94 | 3.00 | 1.75 | 5.38 | 2.06 | 3.25 | N/A | .41 | 4.84 | 4.35 | 1.76 | 3.75 | 3.78 | 0.50 | 9.89 | 9.00 | 7.37 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR832 | 5.75 | 0.54 | 8.05 | 10.25 | 10.44 | 3.25 | 1.75 | 5.38 | 2.06 | 3.50 | N/A | .41 | 5.02 | 4.35 | 1.76 | 3.94 | 4.03 | 0.50 | 9.89 | 9.00 | 7.37 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR842 | 6.13 | 0.63 | 9.18 | 11.57 | 12.78 | 4.25 | 2.06 | 6.38 | 2.28 | 4.44 | N/A | .56 | 6.10 | 4.82 | 1.76 | 4.25 | 4.56 | 0.62 | 12.95 | 11.50 | 9.65 | 2.188 | .625 | 3/16 x 1.38 | 1/2 x 3.00 |
| GR852 | 7.19 | 0.97 | 11.57 | 14.47 | 15.43 | 5.25 | 2.63 | 8.00 | 2.94 | 5.12 | N/A | .69 | 7.50 | 6.07 | 2.38 | 5.25 | 5.62 | 0.75 | 15.50 | 14.00 | 11.75 | 3.438 | .750 | 3/16 x 1.63 | 7/8 x 3.44 |
| GR860 | 8.13 | 0.52 | 13.30 | 16.70 | 18.38 | 6.00 | 3.25 | 9.38 | 3.50 | 6.50 | 10.24 | .69 | N/A | 6.76 | 2.38 | 5.75 | 7.26 | 0.75 | 18.00 | 15.63 | 14.00 | 3.438 | .875 | 3/16 x 1.63 | 7/8 x 3.44 |
| GR870 | 7.63 | 1.09 | 12.96 | 16.90 | 20.46 | 7.00 | 3.25 | 9.38 | 3.50 | 7.59 | 10.63 | .78 | N/A | 6.76 | 2.38 | 6.75 | 7.45 | 0.75 | 21.00 | 18.38 | 15.63 | 3.938 | .875 | 3/16 x 1.75** | 1 x 1/2** |
| GR880 | 8.63 | 1.03 | 13.94 | 18.19 | 23.79 | 8.00 | 4.25 | 11.38 | 4.44 | 8.86 | 11.93 | 1.03 | N/A | 9.57 | 3.47 | 7.25 | 8.34 | 0.75 | 24.00 | 21.00 | 17.88 | 4.438 | 1.250 | 1/4 X 2.88** | 1 x 1/2** |
| GR8100 | 9.53 | 1.39 | 17.05 | 22.30 | 29.24 | 10.00 | 5.25 | 14.00 | 5.12 | 10.36 | 14.34 | 1.03 | N/A | 10.88 | 3.38 | 9.25 | 9.07 | 1.00 | 29.00 | 25.00 | 21.19 | 5.438 | 1.250 | 1/4 X 3.00** | 1-1/4 x 5/8** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | ✔ | ✔ | GRG<br>GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR815 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR818 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR821✖ | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR824 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR826 | 5.63 | 6.07 | N/A | N/A | 3.46 | N/A | N/A | N/A | 3.09 | N/A | N/A | N/A |
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 | | | | | | RQ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D | D63D | D71D | D80D | D90D | D100LD/ D112MD | D132D |
| GR813 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR815 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR818 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR821✖ | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR824 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR826 | 2.62 | 2.65 | 2.89 | N/A | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A | N/A |
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

- • Max bore dimensions shown. For additional bores available, refer to page 140.
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❊ Style DFH and DFHM only.
- ❖ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

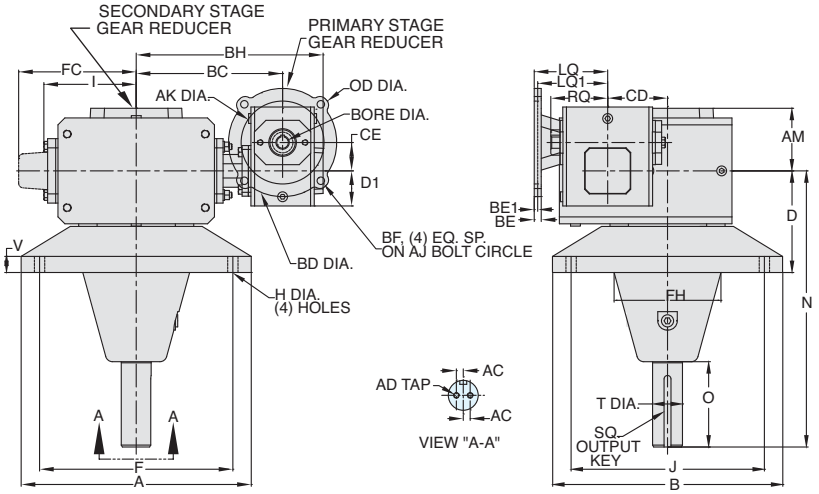
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

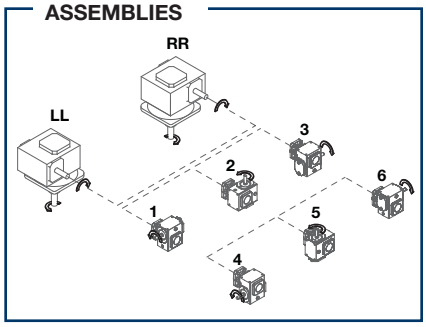
# GR Series Dimensions

## Styles: DFEMQ, DFEM, DFE

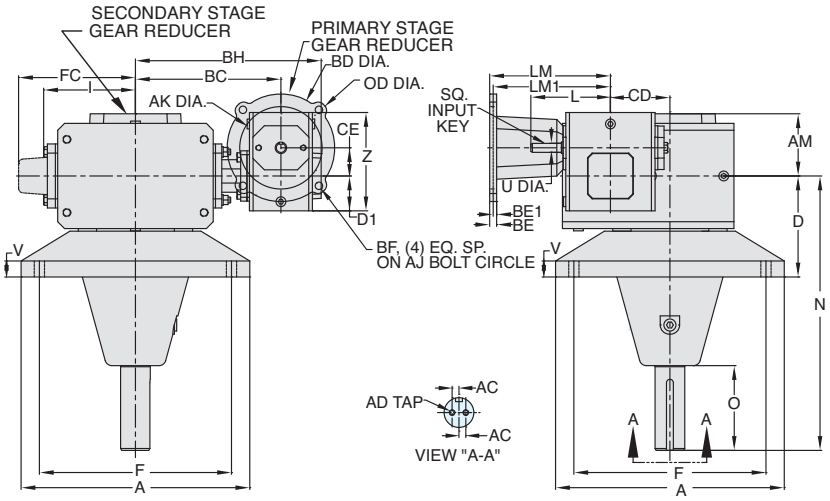
CAST IRON GR SERIES

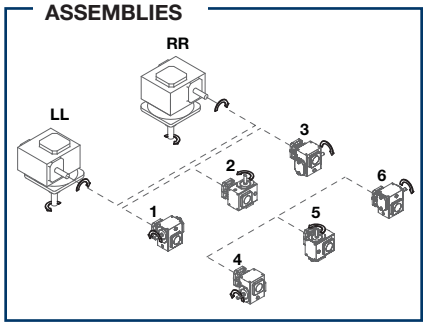
## Style DFEMQ



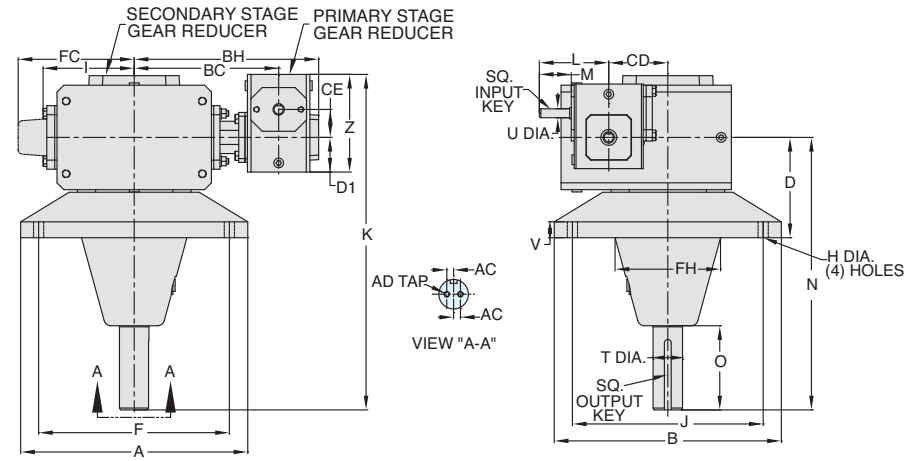



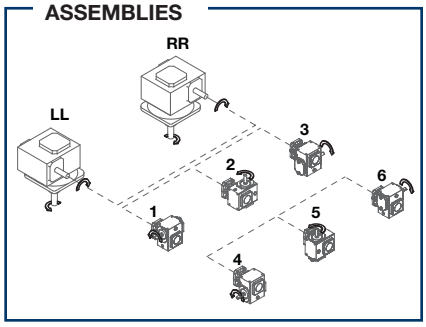

## Style DFEM




## Style DFE




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DFEMQ, DFEM, DFE DIMENSIONS (Inches)

| Size | A | AC | AD | AM | B | BC | BH | CD | CE | C1 | D | D1 | F | FC▼ | FH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 3.15 | 11.00 | 7.86 | 10.06 | 3.00 | 1.75 | 5.38 | 4.60 | 2.06 | 9.00 | N/A | 5.12 |
| GR832 | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 3.40 | 12.50 | 8.05 | 10.25 | 3.25 | 1.75 | 5.38 | 5.52 | 2.06 | 10.50 | N/A | 5.75 |
| GR842 | 14.00 | 0.500 | .38-16 UNC X 1.00 DP | 3.62 | 14.00 | 9.18 | 11.57 | 4.25 | 2.06 | 6.38 | 5.74 | 2.28 | 12.00 | N/A | 6.75 |
| GR852 | 16.00 | 0.750 | .38-16 UNC X 1.00 DP | 4.28 | 16.00 | 11.57 | 14.47 | 5.25 | 2.62 | 8.00 | 6.00 | 2.94 | 14.00 | N/A | 8.00 |
| GR860 | 19.50 | 0.750 | .38-16 UNC X 1.00 DP | 5.28 | 19.50 | 13.30 | 16.70 | 6.00 | 3.25 | 9.38 | 7.00 | 3.50 | 17.00 | 10.24 | 9.50 |
| GR870 | 22.00 | 1.000 | .38-16 UNC X 1.00 DP | 6.06 | 22.00 | 12.96 | 16.90 | 7.00 | 3.25 | 9.38 | 8.50 | 3.50 | 19.00 | 10.63 | 10.75 |
| GR880 | 28.00 | 1.062 | .62-11 UNC X 1.50 DP | 6.22 | 28.00 | 13.94 | 18.19 | 8.00 | 4.25 | 11.38 | 10.00 | 4.44 | 24.00 | 11.93 | 13.75 |
| GR8100 | 32.00 | 1.118 | .62-11 UNC X 1.50 DP | 7.94 | 32.00 | 17.05 | 22.30 | 10.00 | 5.25 | 14.00 | 12.50 | 5.12 | 28.00 | 14.34 | 17.00 |

| Size | H | I | J | K | L | M | N | O[3] | V -0.0015 | T -0.000 -0.0015 | U +0.000 | P❊ | Output Key❊ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | .56 | 4.84 | 9.00 | 17.85 | 4.35 | 1.76 | 14.38 | 4.96 | 0.78 | 1.438 | .625 | 3/16 x 1.38 | 3/8 x 3.88 |
| GR832 | .56 | 5.02 | 10.50 | 18.47 | 4.35 | 1.76 | 15.00 | 4.63 | 0.88 | 1.438 | .625 | 3/16 x 1.38 | 3/8 x 3.69 |
| GR842 | .69 | 6.10 | 12.00 | 20.59 | 4.82 | 1.76 | 16.50 | 5.91 | 1.00 | 1.688 | .625 | 3/16 x 1.38 | 3/8 x 4.68 |
| GR852 | .81 | 7.50 | 14.00 | 21.56 | 6.07 | 2.38 | 16.50 | 5.62 | 1.25 | 2.188 | .750 | 3/16 x 1.63 | 1/2 x 4.63 |
| GR860 | .88 | N/A | 17.00 | 28.36 | 6.76 | 2.38 | 22.50 | 7.63 | 1.50 | 2.438 | .875 | 3/16 x 1.63 | 5/8 x 6.50 |
| GR870 | 1.13 | N/A | 19.00 | 29.88 | 6.76 | 2.38 | 24.00 | 7.63 | 1.75 | 2.937 | .875 | 3/16 x 1.75** | 3/4 x 6.44 |
| GR880 | 1.31 | N/A | 24.00 | 34.00 | 9.57 | 3.47 | 27.06 | 9.25 | 2.00 | 3.438 | 1.250 | 1/4 X 2.88** | 7/8 x 8.00 |
| GR8100 | 1.31 | N/A | 28.00 | 38.38 | 10.88 | 3.38 | 29.50 | 9.43 | 2.25 | 3.938 | 1.250 | 1/4 X 3.00** | 1 x 7.75 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/140TC | L1 180TC/210TC | L1 250TC | LQ 48CZ/56C/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR832 | 6.26 | 6.70 | N/A | N/A | 4.09 | N/A | N/A | N/A | 3.59 | N/A | N/A | N/A |
| GR842 | 6.63 | 7.07 | N/A | N/A | 4.46 | N/A | N/A | N/A | 4.06 | N/A | N/A | N/A |
| GR852 | N/A | 8.32 | 9.32 | N/A | 5.19■ | 5.62 | N/A | N/A | 4.82■ | 5.13 | N/A | N/A |
| GR860 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR870 | N/A | 9.01 | 10.01 | N/A | 6.14■ | 6.34 | 6.75 | N/A | 5.51■ | 5.81 | 6.25 | N/A |
| GR880 | N/A | 11.81 | 12.90 | 13.46 | 6.45■ | 7.21 | 7.21 | 7.77 | 6.04■ | 6.68 | 6.68 | 7.24 |
| GR8100 | N/A | 13.21 | 14.30 | 14.86 | 7.85■ | 8.61 | 8.61 | 9.17 | 7.35■ | 7.98 | 7.98 | 8.54 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/D112MD | LQ1 D132D | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/D112MD | RQ D132D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR832 | 3.25 | 3.28 | 3.52 | N/A | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A | N/A |
| GR842 | 3.62 | 3.65 | 3.89 | N/A | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A | N/A |
| GR852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | N/A | 4.09 | 4.72 | 4.72 | 5.07 | N/A |
| GR860 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR870 | N/A | 4.97 | 5.59 | 5.59 | 6.07 | N/A | N/A | 4.78 | 5.41 | 5.41 | 5.76 | N/A |
| GR880 | N/A | N/A | N/A | 6.38 | 6.39 | 7.17 | N/A | N/A | N/A | 6.16 | 6.14 | 6.93 |
| GR8100 | N/A | N/A | N/A | 7.78 | 7.78 | 8.57 | N/A | N/A | N/A | 7.46 | 7.45 | 8.24 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |
| D132D | 265 | 230 | 267 | 18 | 38 | 10 X 4 | M12 X 1.75 | 290 |

** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DFE and DFEM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.
▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

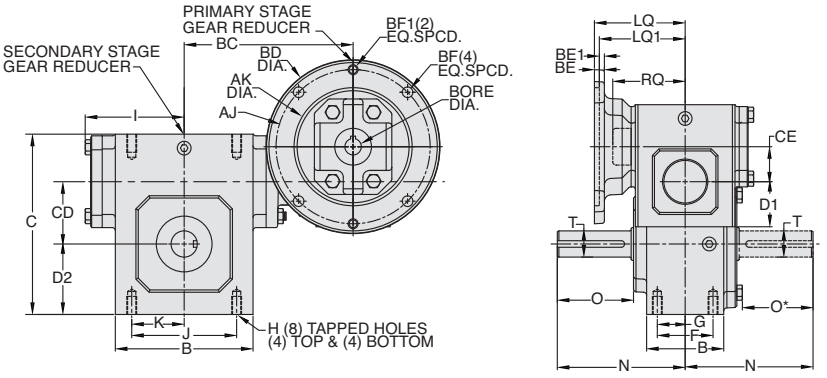
[3] "O" dimension is the minimum dimension to output or screw head on sizes GR860-GR8100

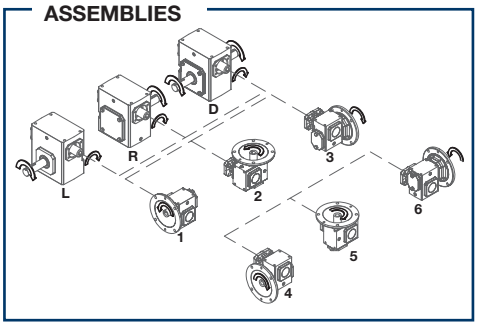
# NH Series Dimensions

## Styles: DMQ, DM, D

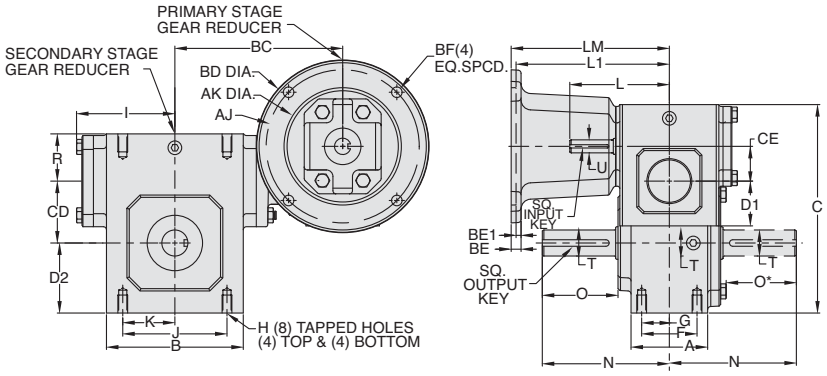
CAST IRON NH SERIES

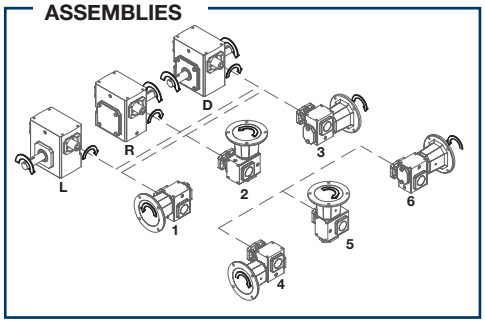
## Style DMQ



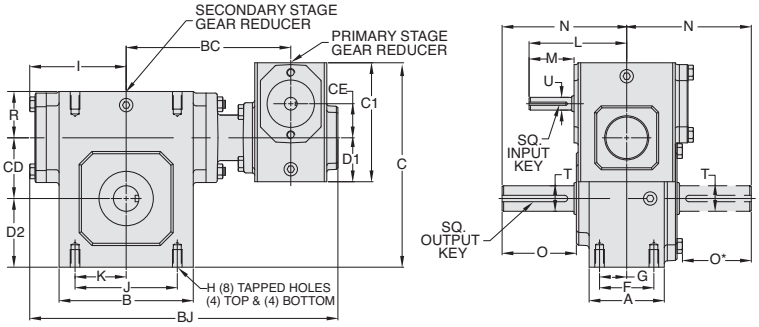



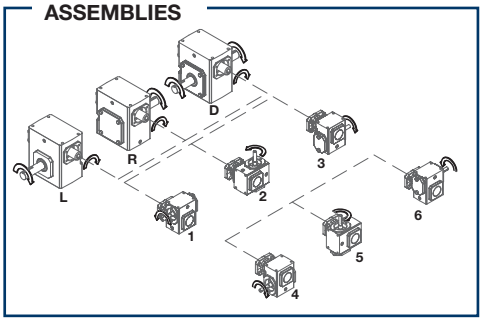

## Style DM




## Style D




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DMQ, DM, D DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | R | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 3.80 | 5.32 | 9.06 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 2.00 | 1.00 | 5/16-18 UNC | .50 | 2.61 | 3.25 | 1.63 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.61 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 2.57 | 4.06 | 5.85 | 9.72 | 5.03 | 1.54 | 1.33 | 4.66 | 1.72 | 1.88 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.14 | 3.25 | 1.63 | 3.82 | 1.76 | 4.25 | 2.56 | 2.35 | 1.58 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH818 | 2.56 | 4.50 | 5.94 | 10.03 | 5.42 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.24 | 3.75 | 1.88 | 3.82 | 1.76 | 4.75 | 2.94 | 2.73 | 1.63 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH821 | 2.50 | 4.50 | 6.32 | 10.41 | 5.98 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.61 | 3.25 | 1.63 | 3.82 | 1.76 | 4.34 | 2.66 | 2.45 | 1.63 | 0.875 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH824 | 2.94 | 5.25 | 6.44 | 10.91 | 6.68 | 2.38 | 1.33 | 4.66 | 1.72 | 2.69 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 3.77 | 4.00 | 2.00 | 3.82 | 1.76 | 4.88 | 2.91 | 2.69 | 1.81 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH826 | 2.88 | 5.75 | 7.01 | 11.73 | 7.18 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 4.34 | 4.00 | 2.00 | 3.82 | 1.76 | 5.25 | 3.28 | 3.07 | 1.81 | 1.125 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH830 | 3.12 | 6.62 | 7.35 | 12.35 | 8.22 | 3.00 | 1.75 | 5.00 | 2.06 | 3.38 | 2.38 | 1.19 | 3/8-16 UNC | .75 | 4.84 | 4.63 | 2.31 | 4.35 | 1.76 | 5.77 | 3.56 | 3.31 | 1.87 | 1.250 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH832 | 4.44 | 8.00 | 7.53 | 13.22 | 9.28 | 3.25 | 1.75 | 5.00 | 2.06 | 4.19 | 3.50 | 1.75 | 1/2-13 UNC | 1.00 | 5.02 | 7.00 | 3.50 | 4.35 | 1.76 | 7.03 | 4.24 | 3.99 | 2.62 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH842 | 4.75 | 9.75 | 8.47 | 15.03 | 10.38 | 4.25 | 2.06 | 6.00 | 2.31 | 4.50 | 3.75 | 1.88 | 1/2-13 UNC | 1.00 | 6.10 | 7.50 | 3.75 | 4.82 | 1.76 | 7.50 | 3.88 | 3.59 | 2.75 | 1.750 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH852 | 6.19 | 11.00 | 10.64 | 18.11 | 11.94 | 5.25 | 2.63 | 7.38 | 2.94 | 4.88 | 4.50 | 2.25 | 5/8-11 UNC | 1.25 | 7.50 | 9.00 | 4.50 | 6.07 | 2.38 | 9.00 | 4.72 | 4.47 | 2.56 | 2.000 | 0.750 | 3/16 X 1.63 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style D and DM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DUF | DMQ |
| DUFC | DM |
| DU | D |

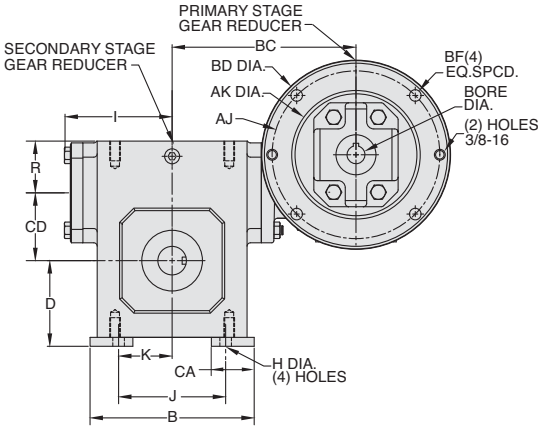
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

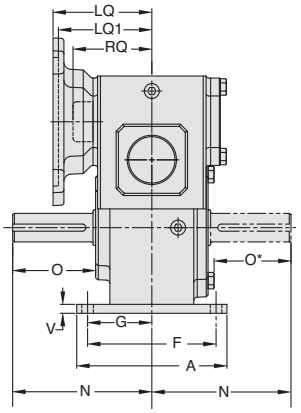
# NH Series Dimensions

## Styles: DTMQ, DTM, DT

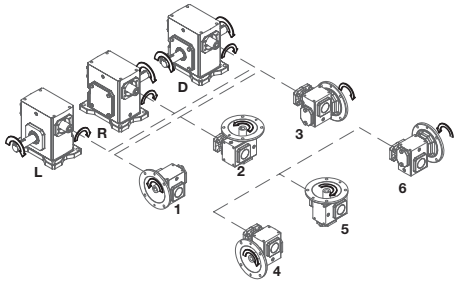
CAST IRON NH SERIES

## Style DTMQ

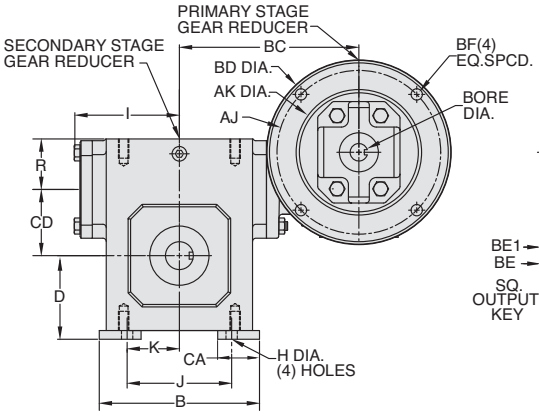


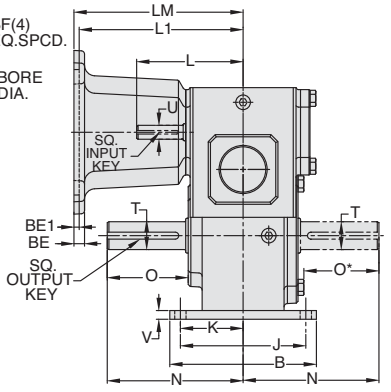




**ASSEMBLIES**

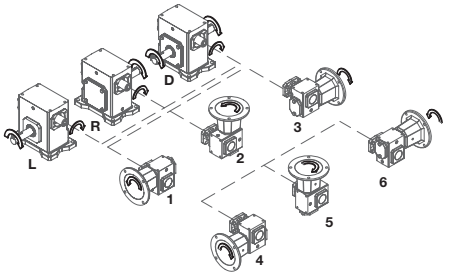



## Style DTM

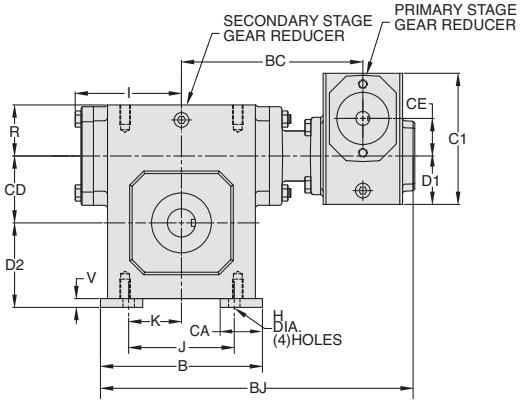


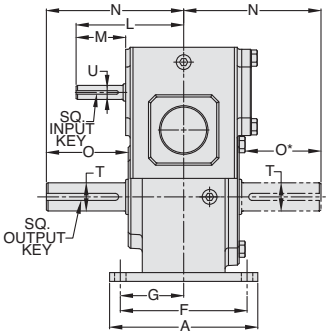




**ASSEMBLIES**

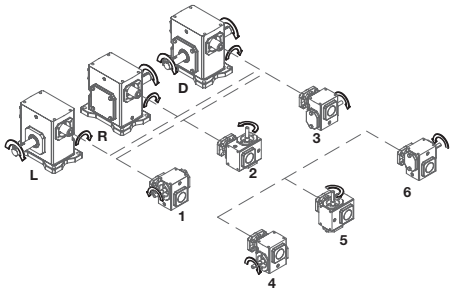



## Style DT




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CA | CD | CE | C1 | D1 | D2 | F | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 4.00 | 5.01 | 5.32 | 9.67 | 4.97 | 1.50 | 1.33 | 1.33 | 4.66 | 1.72 | 2.03 | 3.25 | 1.63 | 0.28 | 2.61 | 4.25 | 2.13 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.61 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 5.25 | 5.19 | 5.85 | 10.29 | 5.34 | 1.50 | 1.54 | 1.33 | 4.66 | 1.72 | 2.19 | 4.50 | 2.25 | 0.34 | 3.14 | 4.19 | 2.09 | 3.82 | 1.76 | 4.25 | 2.56 | 2.35 | 1.58 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH818 | 4.62 | 5.89 | 5.94 | 10.73 | 5.80 | 1.88 | 1.75 | 1.33 | 4.66 | 1.72 | 2.44 | 3.50 | 1.75 | 0.41 | 3.24 | 4.63 | 2.31 | 3.82 | 1.76 | 4.75 | 2.94 | 2.73 | 1.63 | 0.38 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH821 | 5.25 | 5.19 | 6.32 | 10.76 | 6.29 | 1.50 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 | 4.50 | 2.25 | 0.34 | 3.61 | 4.19 | 2.09 | 3.82 | 1.76 | 4.34 | 2.66 | 2.45 | 1.63 | 0.31 | 0.875 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH824 | 5.25 | 5.75 | 6.44 | 11.16 | 6.99 | 1.50 | 2.38 | 1.33 | 4.66 | 1.72 | 3.00 | 4.50 | 2.25 | 0.41 | 3.77 | 3.75 | 1.88 | 3.82 | 1.76 | 4.88 | 2.91 | 2.69 | 1.81 | 0.31 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH826 | 6.13 | 6.51 | 7.01 | 12.11 | 7.49 | 2.00 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 | 4.13 | 2.06 | 0.41 | 4.34 | 4.75 | 2.38 | 3.82 | 1.76 | 5.25 | 3.28 | 3.07 | 1.81 | 0.31 | 1.125 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH830 | 6.13 | 7.74 | 7.35 | 12.91 | 8.22 | 2.25 | 3.00 | 1.75 | 5.00 | 2.06 | 3.69 | 4.13 | 2.06 | 0.41 | 4.84 | 6.00 | 3.00 | 4.35 | 1.76 | 5.77 | 3.56 | 3.31 | 1.87 | 0.31 | 1.250 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH832 | 7.50 | 9.25 | 7.53 | 13.85 | 9.28 | 2.50 | 3.25 | 1.76 | 5.00 | 2.06 | 4.56 | 6.50 | 3.25 | 0.41 | 5.02 | 7.75 | 3.88 | 4.35 | 1.76 | 7.03 | 4.24 | 3.99 | 2.62 | 0.38 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH842 | 6.75 | 10.99 | 8.47 | 15.65 | 10.88 | 2.50 | 4.25 | 2.06 | 6.00 | 2.31 | 5.00 | 5.75 | 2.88 | 0.56 | 6.10 | 9.75 | 4.88 | 4.82 | 1.76 | 7.50 | 3.88 | 3.59 | 2.75 | 0.50 | 1.750 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH852 | 8.25 | 13.24 | 10.64 | 19.23 | 13.07 | 3.00 | 5.25 | 2.63 | 7.38 | 2.94 | 6.00 | 7.00 | 3.50 | 0.69 | 7.50 | 12.00 | 6.00 | 6.07 | 2.38 | 9.00 | 4.72 | 4.47 | 2.56 | 1.13 | 2.000 | 0.750 | 3/16 X 1.63 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DT and DTM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DZF | DTMQ |
| DZFC | DTM |
| DZ | DT |

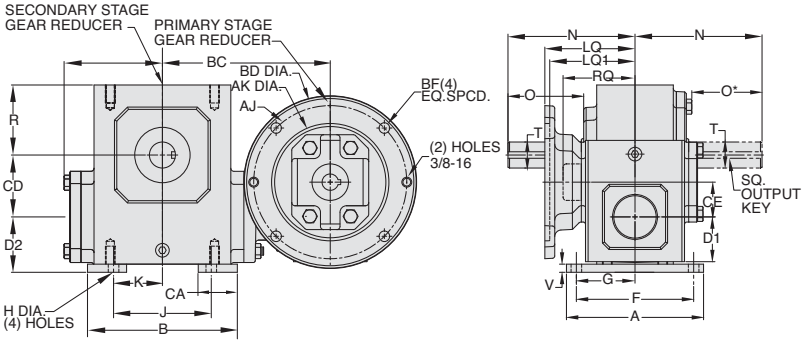
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

# NH Series Dimensions

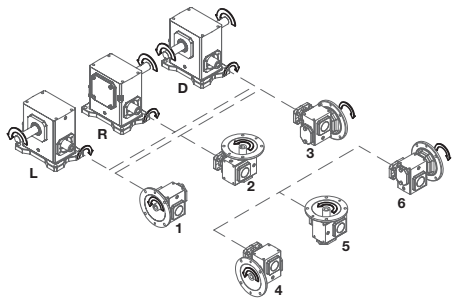
## Styles: DUMQ, DUM, DU

CAST IRON NH SERIES

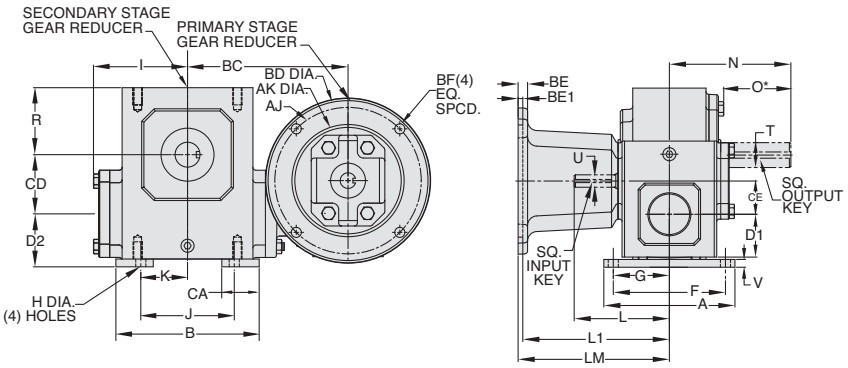
## Style DUMQ



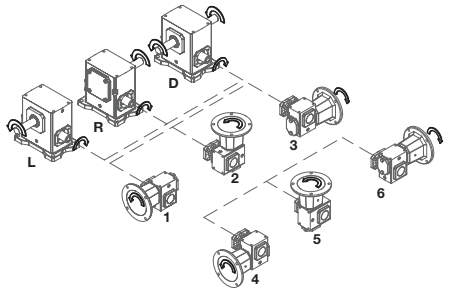

**ASSEMBLIES**



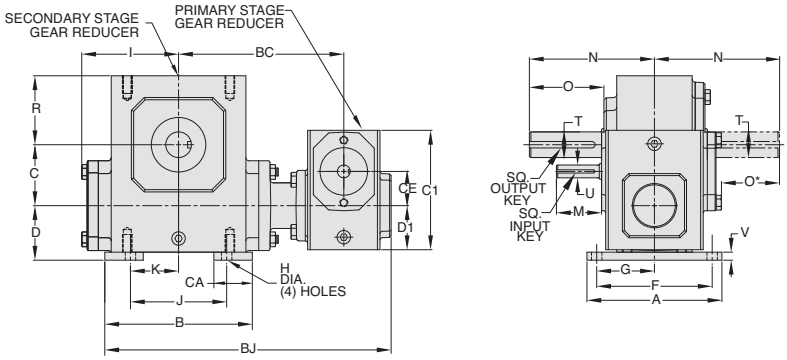

## Style DUM



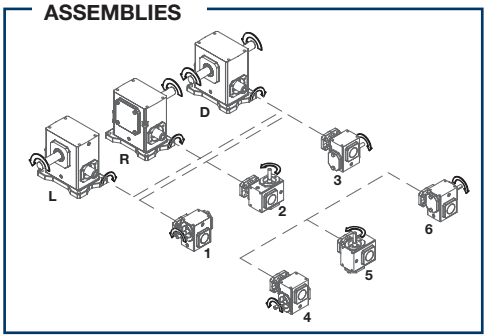

**ASSEMBLIES**




## Style DU




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CA | CD | CE | C1 | D1 | D2 | F | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 4.00 | 5.01 | 5.32 | 9.67 | 4.97 | 1.50 | 1.33 | 1.33 | 4.66 | 1.72 | 1.92 | 3.25 | 1.63 | 0.28 | 2.61 | 4.25 | 2.13 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 1.72 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 5.25 | 5.19 | 5.85 | 10.29 | 5.34 | 1.50 | 1.54 | 1.33 | 4.66 | 1.72 | 1.90 | 4.50 | 2.25 | 0.34 | 3.14 | 4.19 | 2.09 | 3.82 | 1.76 | 4.25 | 2.56 | 2.35 | 1.88 | 0.31 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH818 | 4.62 | 5.89 | 5.94 | 10.73 | 5.80 | 1.88 | 1.75 | 1.33 | 4.66 | 1.72 | 2.00 | 3.50 | 1.75 | 0.41 | 3.24 | 4.63 | 2.31 | 3.82 | 1.76 | 4.75 | 2.94 | 2.73 | 2.06 | 0.38 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH821 | 5.25 | 5.19 | 6.32 | 10.76 | 6.29 | 1.50 | 2.06 | 1.33 | 4.66 | 1.72 | 1.94 | 4.50 | 2.25 | 0.34 | 3.61 | 4.19 | 2.09 | 3.82 | 1.76 | 4.34 | 2.66 | 2.45 | 2.31 | 0.31 | 0.875 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH824 | 5.25 | 5.75 | 6.44 | 11.16 | 6.99 | 1.50 | 2.38 | 1.33 | 4.66 | 1.72 | 2.13 | 4.50 | 2.25 | 0.41 | 3.77 | 3.75 | 1.88 | 3.82 | 1.76 | 4.88 | 2.91 | 2.69 | 2.69 | 0.31 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH826 | 6.13 | 6.51 | 7.01 | 12.11 | 7.49 | 2.00 | 2.63 | 1.33 | 4.66 | 1.72 | 2.13 | 4.13 | 2.06 | 0.41 | 4.34 | 4.75 | 2.38 | 3.82 | 1.76 | 5.25 | 3.28 | 3.07 | 2.94 | 0.31 | 1.125 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH830 | 6.13 | 7.74 | 7.35 | 12.91 | 8.22 | 2.25 | 3.00 | 1.75 | 5.00 | 2.06 | 2.19 | 4.13 | 2.06 | 0.41 | 4.84 | 6.00 | 3.00 | 4.35 | 1.76 | 5.77 | 3.56 | 3.31 | 3.38 | 0.31 | 1.250 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH832 | 7.50 | 9.25 | 7.53 | 13.85 | 9.28 | 2.50 | 3.25 | 1.75 | 5.00 | 2.06 | 3.00 | 6.50 | 3.25 | 0.41 | 5.02 | 7.75 | 3.88 | 4.35 | 1.76 | 7.03 | 4.24 | 3.99 | 4.19 | 0.38 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH842 | 6.75 | 10.99 | 8.47 | 15.65 | 10.88 | 2.50 | 4.25 | 2.06 | 6.00 | 2.31 | 3.25 | 5.75 | 2.88 | 0.56 | 6.10 | 9.75 | 4.88 | 4.82 | 1.76 | 7.50 | 3.88 | 3.59 | 4.50 | 0.50 | 1.750 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH852 | 8.25 | 13.24 | 10.64 | 19.23 | 13.07 | 3.00 | 5.25 | 2.63 | 7.38 | 2.94 | 3.69 | 7.00 | 3.50 | 0.69 | 7.50 | 12.00 | 6.00 | 6.07 | 2.38 | 9.00 | 4.72 | 4.47 | 4.88 | 1.13 | 2.000 | 0.750 | 3/16 X 1.63 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DU and DUM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DUBF | DUMQ |
| DUBFC | DUM |
| DUB | DU |

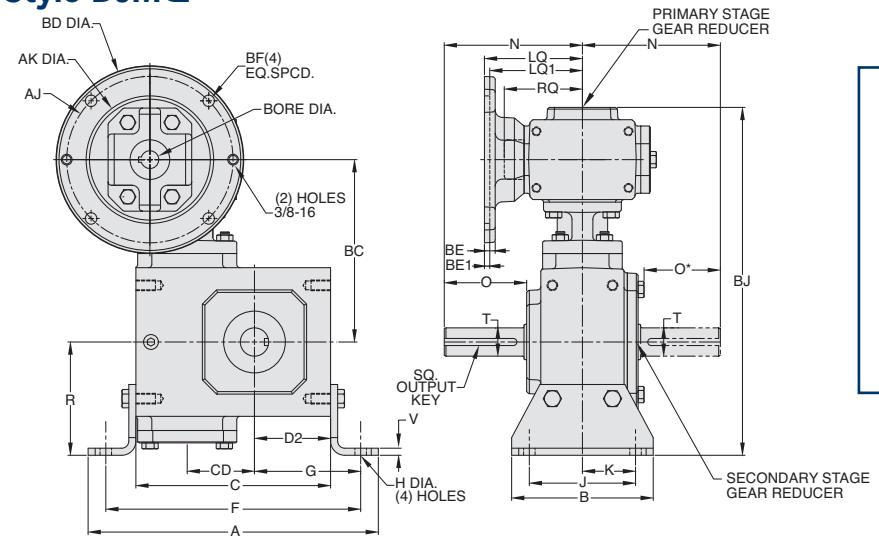
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

# NH Series Dimensions

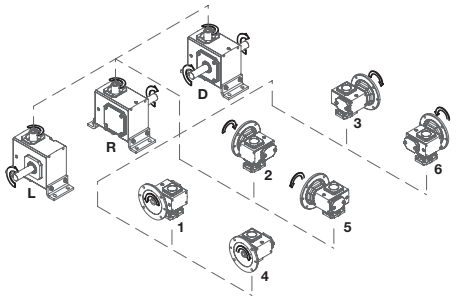
## Styles: DJMQ, DJM, DJ

CAST IRON NH SERIES

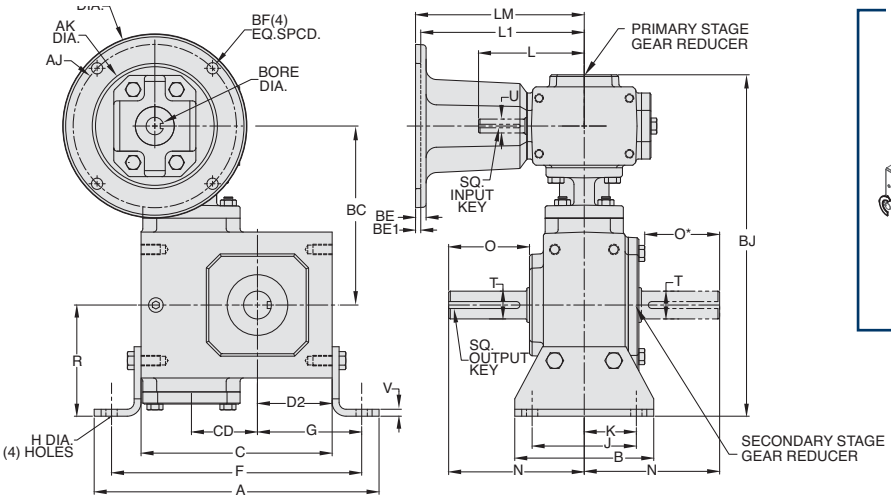
## Style DJMQ



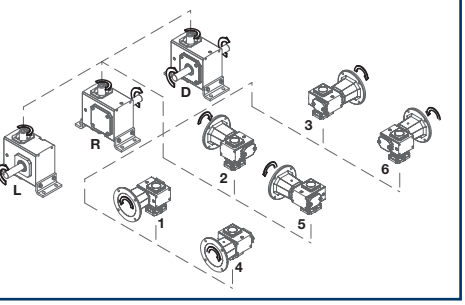

### ASSEMBLIES



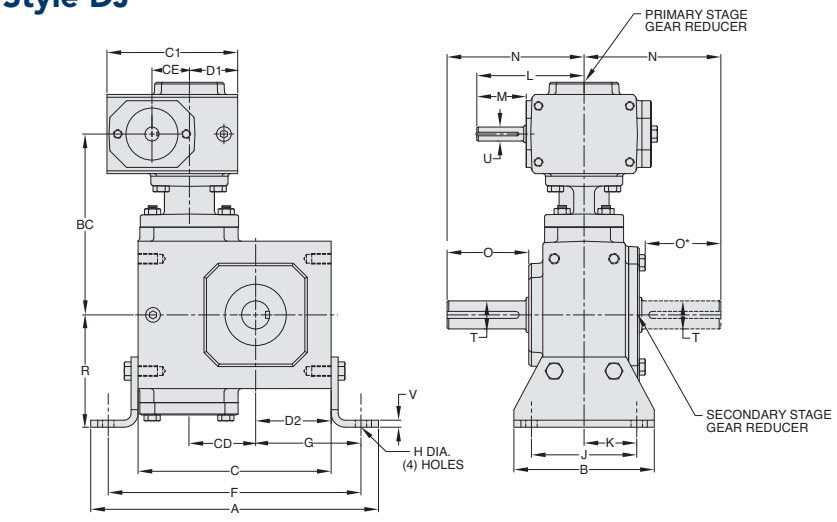

## Style DJM



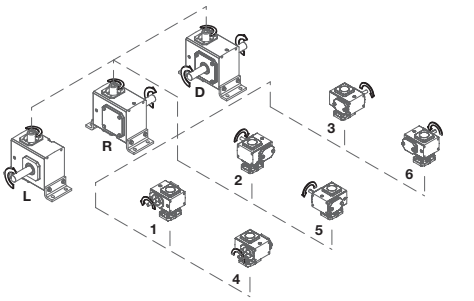

### ASSEMBLIES




## Style DJ




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

| Size | A | B | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | G | H | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 7.42 | 2.75 | 5.32 | 10.10 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 6.42 | 2.60 | 0.38 | 2.00 | 1.00 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | 2.94 | 0.25 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 8.06 | 3.75 | 5.85 | 11.44 | 5.00 | 1.54 | 1.33 | 4.66 | 1.72 | 1.88 | 7.06 | 2.91 | 0.34 | 2.75 | 1.38 | 3.82 | 1.76 | 4.25 | 2.56 | 2.35 | 3.75 | 0.25 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH818 | 8.50 | 3.75 | 5.94 | 11.78 | 5.44 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 7.50 | 3.09 | 0.34 | 2.75 | 1.38 | 3.82 | 1.76 | 4.75 | 2.94 | 2.73 | 4.00 | 0.25 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH821 | 9.06 | 3.75 | 6.32 | 11.91 | 6.00 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 8.06 | 3.34 | 0.34 | 2.75 | 1.38 | 3.82 | 1.76 | 4.34 | 2.66 | 2.45 | 3.75 | 0.25 | 0.875 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH824 | 9.96 | 5.00 | 6.44 | 12.72 | 6.88 | 2.38 | 1.33 | 4.66 | 1.72 | 2.69 | 8.70 | 3.60 | 0.41 | 3.75 | 1.88 | 3.82 | 1.76 | 4.88 | 2.91 | 2.69 | 4.44 | 0.25 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH826 | 10.46 | 5.00 | 7.01 | 13.29 | 7.38 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 9.20 | 3.85 | 0.41 | 3.75 | 1.88 | 3.82 | 1.76 | 5.25 | 3.28 | 3.07 | 4.44 | 0.25 | 1.125 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH830 | 12.01 | 5.25 | 7.35 | 13.98 | 8.22 | 3.00 | 1.75 | 5.00 | 2.06 | 3.38 | 10.75 | 4.63 | 0.41 | 4.00 | 2.00 | 4.35 | 1.76 | 5.77 | 3.56 | 3.31 | 4.94 | 0.31 | 1.250 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH832 | 14.00 | 6.25 | 7.53 | 14.47 | 9.28 | 3.25 | 1.75 | 5.00 | 2.06 | 4.19 | 12.50 | 5.41 | 0.53 | 5.00 | 2.50 | 4.35 | 1.76 | 7.03 | 4.24 | 3.99 | 5.25 | 0.31 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH842 | 16.50 | 6.75 | 8.47 | 16.65 | 11.50 | 4.25 | 2.06 | 6.00 | 2.31 | 4.50 | 15.00 | 6.25 | 0.69 | 5.00 | 2.50 | 4.82 | 1.76 | 7.50 | 3.88 | 3.59 | 6.50 | 0.50 | 1.750 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH852 | 17.69 | 7.20 | 10.64 | 20.36 | 12.69 | 5.25 | 2.63 | 7.38 | 2.94 | 4.88 | 16.31 | 6.69 | 0.69 | 5.81 | 2.91 | 6.07 | 2.38 | 9.00 | 4.72 | 4.47 | 7.75 | 0.50 | 2.000 | 0.750 | 3/16 X 1.63 | 1/2 X 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DJ and DJM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DJF | DJMQ |
| DJFC | DJM |
| DJ | DJ |

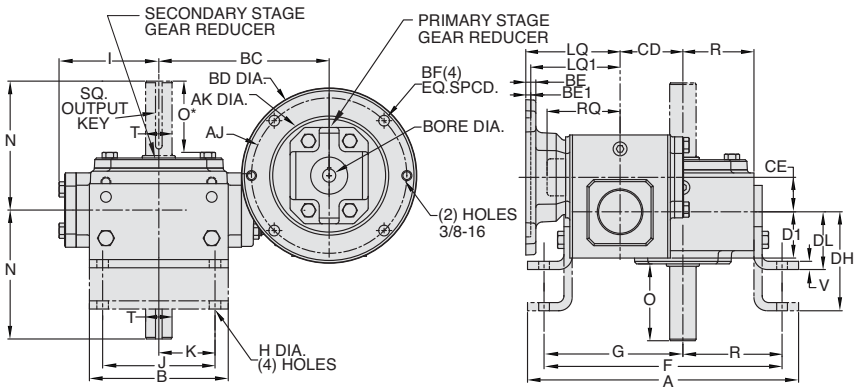
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

# NH Series Dimensions

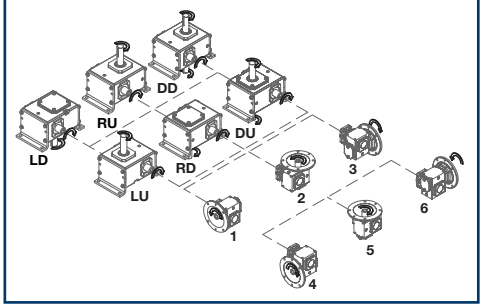
**Styles: DV_MQ, DV_M, DV_**

CAST IRON NH SERIES

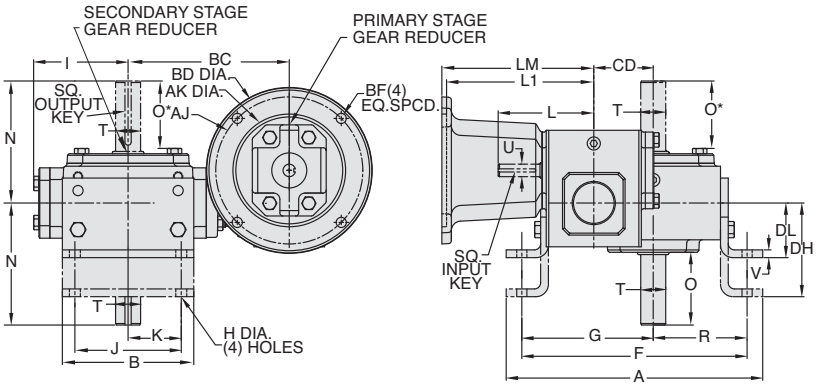
## Style DV(L OR H)MQ



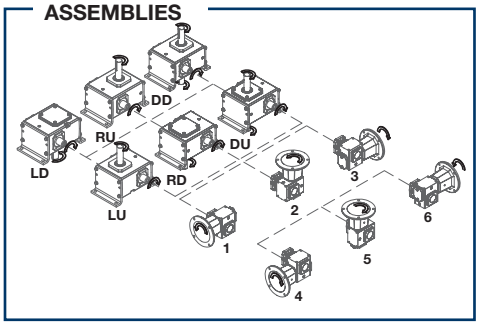

**ASSEMBLIES**



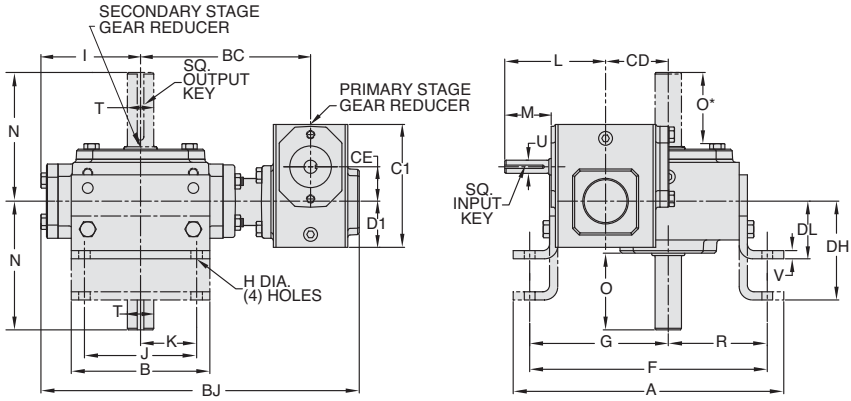

## Style DV(L OR H)M



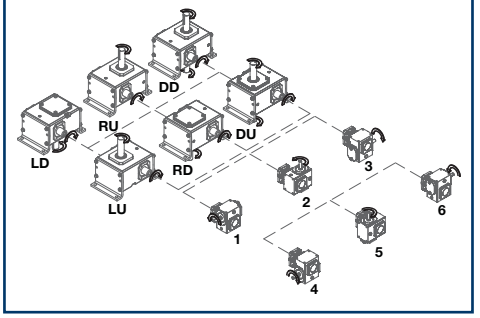

**ASSEMBLIES**




## Style DV(L OR H)




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DV_MQ, DV_M, DV_ DIMENSIONS (Inches)

| Size | A | B | BC | BH | CD | CE | C1 | D1 | DL | DH | F | G | H | I | J | K | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 7.78 | 4.00 | 5.32 | 7.16 | 1.33 | 1.33 | 4.66 | 1.72 | 2.00 | 3.88 | 6.78 | | 0.44 | 2.61 | 3.00 | 1.50 | 3.82 | 1.76 | 4.00 | 2.16 | 1.94 | | 0.31 | 0.750 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| NH815 | 8.12 | 4.00 | 5.85 | 7.69 | 1.54 | 1.33 | 4.66 | 1.72 | 1.94 | 3.82 | 7.12 | | 0.44 | 3.14 | 3.00 | 1.50 | 3.82 | 1.76 | 4.25 | 2.56 | 2.35 | | 0.31 | 0.750 | 0.500 | 1/8 x 1.00 | 3/69 x 1.50 |
| NH818 | 8.56 | 4.75 | 5.94 | 7.78 | 1.75 | 1.33 | 4.66 | 1.72 | 1.94 | 3.82 | 7.56 | | 0.44 | 3.24 | 3.00 | 1.50 | 3.82 | 1.76 | 4.75 | 2.94 | 2.73 | | 0.31 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 x 1.75 |
| NH821 | 9.12 | 4.00 | 6.32 | 8.16 | 2.06 | 1.33 | 4.66 | 1.72 | 1.94 | 3.82 | 8.12 | | 0.44 | 3.61 | 3.00 | 1.50 | 3.82 | 1.76 | 4.34 | 2.66 | 2.45 | | 0.31 | 0.875 | 0.500 | 1/8 x 1.00 | 3/16 x 1.50 |
| NH824 | 10.5 | 5.25 | 6.44 | 8.28 | 2.38 | 1.33 | 4.66 | 1.72 | 2.18 | 3.74 | 9.50 | | 0.44 | 3.77 | 4.25 | 2.13 | 3.82 | 1.76 | 4.88 | 2.91 | 2.69 | | 0.31 | 1.000 | 0.500 | 1/8 x 1.00 | 1/4 x 1.75 |
| NH826 | 11.00 | 5.25 | 7.01 | 8.85 | 2.63 | 1.33 | 4.66 | 1.72 | 2.18 | 3.74 | 10.00 | | 0.44 | 4.34 | 4.25 | 2.13 | 3.82 | 1.76 | 5.25 | 3.28 | 3.07 | | 0.31 | 1.125 | 0.500 | 1/8 x 1.00 | 1/4 x 1.75 |
| NH830 | 11.87 | 6.00 | 7.35 | 9.04 | 3.00 | 1.75 | 5.00 | 2.06 | 2.31 | 3.69 | 10.87 | | 0.44 | 4.84 | 4.75 | 2.38 | 4.35 | 1.76 | 5.77 | 3.56 | 3.31 | | 0.31 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 x 1.75 |
| NH832 | 13.86 | 8.00 | 7.53 | 9.22 | 3.25 | 1.75 | 5.00 | 2.06 | 3.50 | 4.81 | 12.82 | | 0.47 | 5.02 | 7.00 | 3.50 | 4.35 | 1.76 | 7.03 | 4.24 | 3.99 | | 0.31 | 1.500 | 0.625 | 3/16 x 1.38 | 3/8 x 2.25 |
| NH842 | 16.38 | 9.50 | 8.47 | 10.15 | 4.25 | 2.06 | 6.00 | 2.31 | 5.00 | 7.50 | 15.00 | | 0.69 | 6.10 | 7.88 | 3.94 | 4.82 | 1.76 | 7.50 | 3.88 | 3.59 | | 0.50 | 1.750 | 0.625 | 3/16 x 1.38 | 3/8 x 2.25 |
| NH852 | 18.29 | 11.50 | 10.64 | 12.61 | 5.25 | 2.63 | 7.38 | 2.94 | 5.16 | 9.16 | 16.69 | | 0.78 | 7.50 | 10.00 | 5.00 | 6.07 | 2.38 | 9.00 | 4.72 | 4.47 | | 0.50 | 2.000 | 0.750 | 3/16 x 1.38 | 1/2 x 2.50 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DVL and DVLM only.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DSLF | DVLMQ |
| DSLFC | DVLM |
| DSL | DVL |
| DSHF | DVHMQ |
| DSHFC | DVHM |
| DSH | DVH |

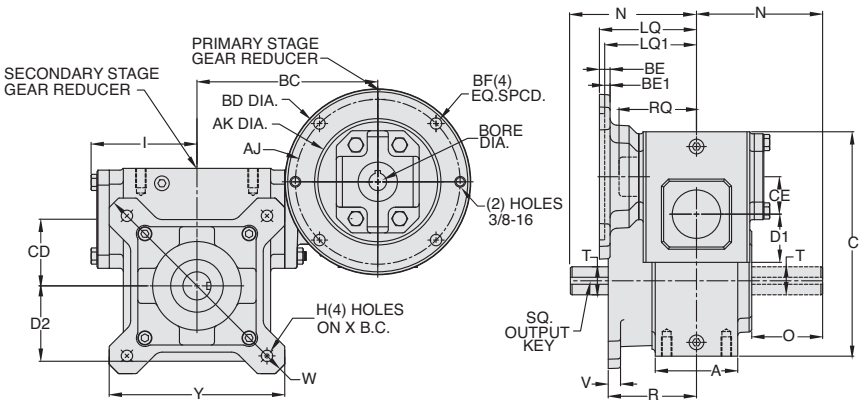
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

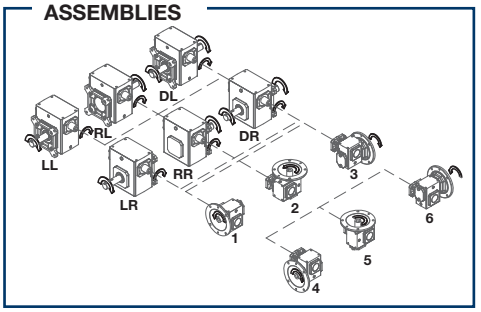
# NH Series Dimensions

## Styles: DFMQ, DFM, DF

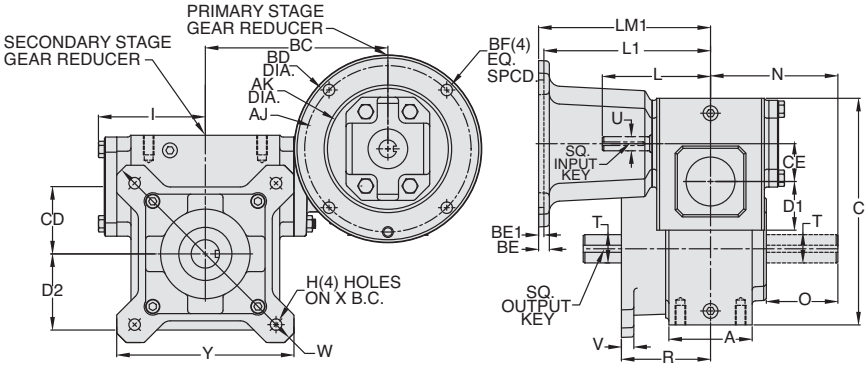
CAST IRON NH SERIES

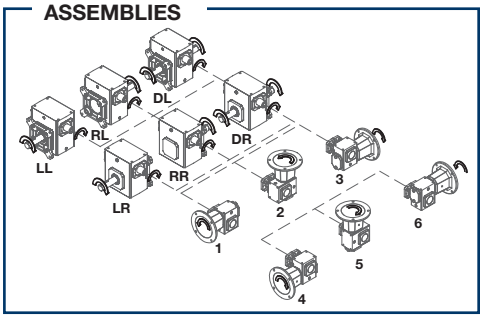
## Style DFMQ



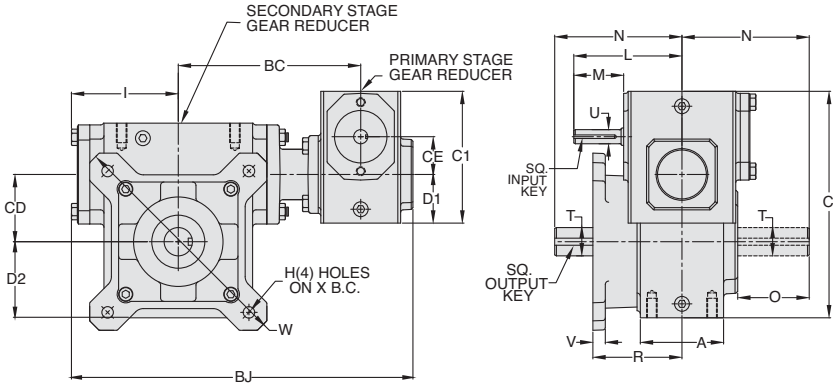



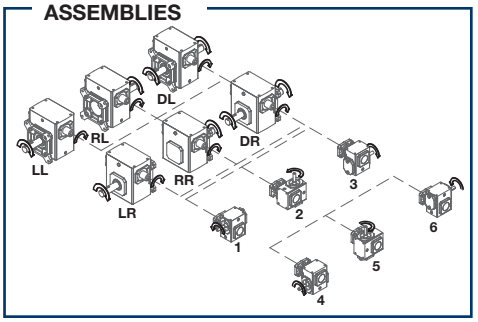

## Style DFM




## Style DF




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

**Sizes 813-852 output flange must be mounted at Factory on styles FMQ, FM, F.**






## STYLE DFMQ, DFM, DF DIMENSIONS (Inches)

| Size | A | B | BC | BH | BL | C | CD | CE | C1 | D1 | D2 | H | I | L | M | N | O* | R | V | W | X | Y | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 3.80 | 5.32 | 7.16 | 0.38 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 0.34 | 2.61 | 3.82 | 1.76 | 4.00 | 1.94 | 2.52 | 0.25 | 5.92 | 5.00 | 4.50 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH815 | 2.57 | 4.06 | 5.85 | 7.69 | 0.38 | 5.03 | 1.54 | 1.33 | 4.66 | 1.72 | 1.88 | 0.34 | 3.14 | 3.82 | 1.76 | 4.25 | 2.35 | 3.50 | 0.25 | 6.79 | 5.88 | 5.12 | 0.750 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH818 | 2.56 | 4.50 | 5.94 | 7.78 | 0.38 | 5.42 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 0.34 | 3.24 | 3.82 | 1.76 | 4.75 | 2.73 | 2.73 | 0.25 | 6.64 | 5.88 | 5.00 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH821 | 2.50 | 4.50 | 6.32 | 8.16 | 0.38 | 5.98 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 0.34 | 3.61 | 3.82 | 1.76 | 4.34 | 2.45 | 3.51 | 0.25 | 7.37 | 6.25 | 5.56 | 0.875 | 0.500 | 1/8 X 1.00 | 3/16 X 1.50 |
| NH824 | 2.94 | 5.25 | 6.44 | 8.28 | 0.44 | 6.68 | 2.38 | 1.33 | 4.66 | 1.72 | 2.69 | 0.34 | 3.77 | 3.82 | 1.76 | 4.88 | 2.69 | 3.47 | 0.25 | 8.29 | 7.06 | 6.24 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH826 | 2.88 | 5.75 | 7.01 | 8.85 | 0.50 | 7.18 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 0.34 | 4.34 | 3.82 | 1.76 | 5.25 | 3.07 | 3.56 | 0.25 | 8.90 | 7.63 | 6.68 | 1.125 | 0.500 | 1/8 X 1.00 | 1/4 X 1.75 |
| NH830 | 3.12 | 6.62 | 7.35 | 9.04 | 0.50 | 8.22 | 3.00 | 1.75 | 5.00 | 2.06 | 3.38 | 0.41 | 4.84 | 4.35 | 1.76 | 5.77 | 3.31 | 3.69 | 0.31 | 9.50 | 8.63 | 7.34 | 1.250 | 0.625 | 3/16 X 1.38 | 1/4 X 1.75 |
| NH832 | 4.44 | 8.00 | 7.53 | 9.22 | 0.56 | 9.28 | 3.25 | 1.75 | 5.00 | 2.06 | 4.19 | 0.53 | 5.02 | 4.35 | 1.76 | 7.03 | 3.99 | 5.00 | 0.31 | 11.84 | 10.63 | 9.00 | 1.500 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH842 | 4.75 | 9.75 | 8.47 | 10.15 | 0.62 | 10.38 | 4.25 | 2.06 | 6.00 | 2.31 | 4.50 | 0.56 | 6.10 | 4.82 | 1.76 | 7.50 | 3.59 | 4.50 | 0.50 | 12.95 | 11.50 | 9.66 | 1.750 | 0.625 | 3/16 X 1.38 | 3/8 X 2.25 |
| NH852 | 6.19 | 11.00 | 10.64 | 12.61 | 0.75 | 11.94 | 5.25 | 2.63 | 7.38 | 2.94 | 4.88 | 0.69 | 7.50 | 6.07 | 2.38 | 9.00 | 4.47 | 5.56 | 0.50 | 15.50 | 14.00 | 11.76 | 2.000 | 0.750 | 3/16 X 1.63 | 1/2 X 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DF and DFM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DKF & DVF | DFMQ |
| DKFC & DVFC | DFM |
| DK & DV | DF |

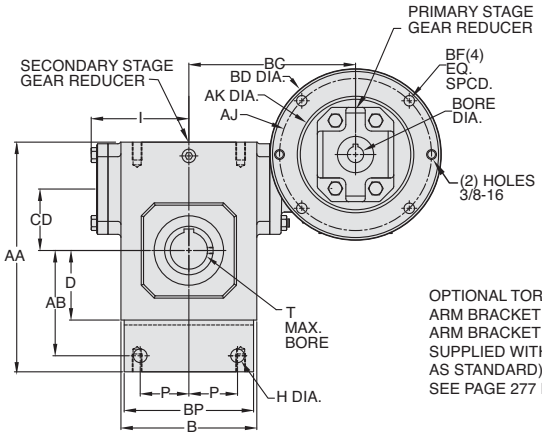
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

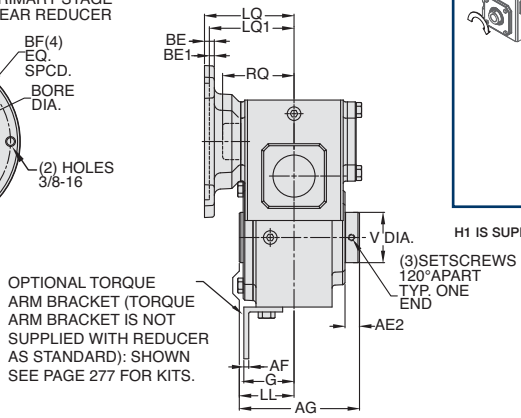
# NH Series Dimensions

## Styles: DHMQ, DHM, DH

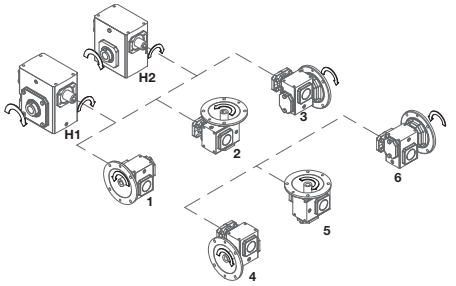
CAST IRON NH SERIES

## Style DHMQ



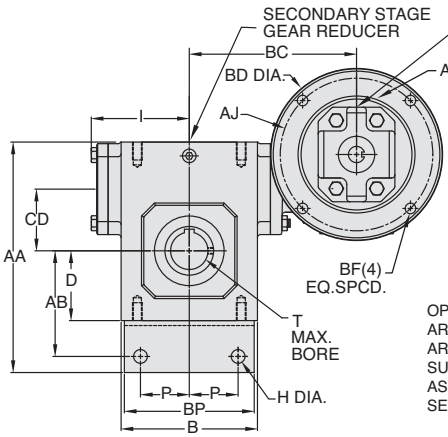



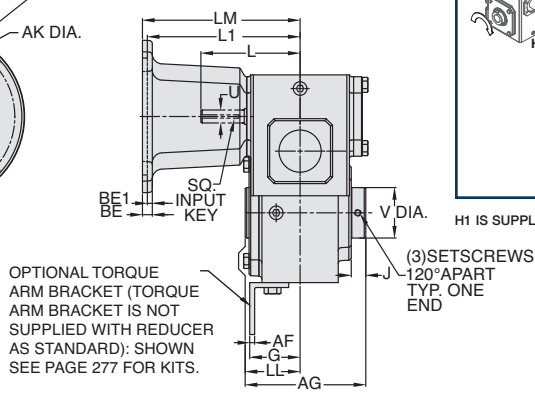

### ASSEMBLIES



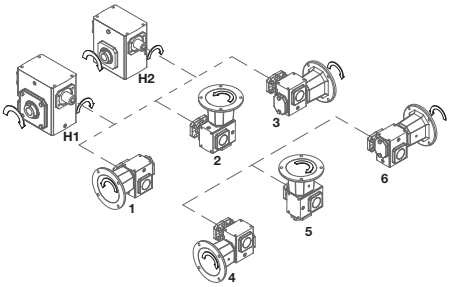

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DHM



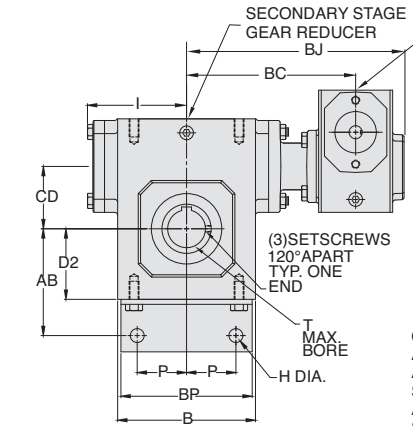



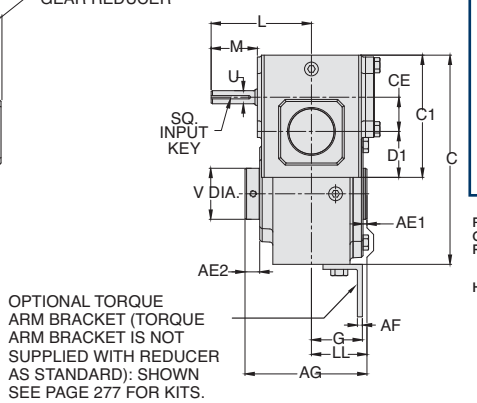

### ASSEMBLIES



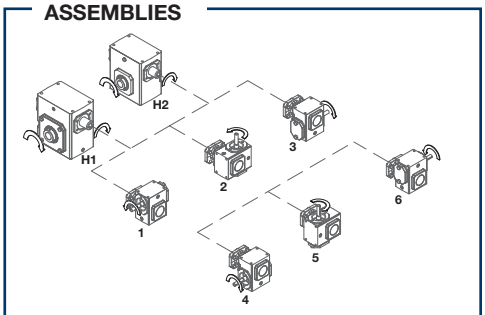

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DH




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.






## STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

| Size | AA | AB | AD | AE2 | AF | AG | B | BC | BH | C | CD | CE | C1 | D1 | D2 | G | H | I | L | LL | M | P* | V | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 6.66 | 3.10 | 3.90 | 0.53 | 0.19 | 4.75 | 3.80 | 5.32 | 7.16 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 1.88 | 0.53 | 2.61 | 3.82 | 2.38 | 1.76 | 1.38 | 1.00 | 0.625 | 0.500 | 1/8 X 1.00 | 3/16 x 1.50 |
| NH815 | 7.00 | 3.26 | 3.59 | 0.51 | 0.19 | 4.08 | 4.06 | 5.85 | 7.69 | 5.03 | 1.54 | 1.33 | 4.66 | 1.72 | 1.88 | 1.82 | 0.53 | 3.14 | 3.82 | 1.88 | 1.76 | 1.38 | 1.00 | 0.625 | 0.500 | 1/8 X 1.00 | 3/16 x 1.50 |
| NH818 | 7.44 | 3.44 | 3.83 | 0.56 | 0.19 | 4.29 | 4.50 | 5.94 | 7.78 | 5.42 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 1.82 | 0.53 | 3.24 | 3.82 | 1.98 | 1.76 | 1.38 | 1.44 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 x 3.00 |
| NH821 | 8.00 | 3.69 | 3.57 | 0.85 | 0.19 | 4.65 | 4.50 | 6.32 | 8.16 | 5.98 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 1.82 | 0.53 | 3.61 | 3.82 | 2.12 | 1.76 | 1.38 | 1.94 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH824 | 8.88 | 4.07 | 4.16 | 0.56 | 0.19 | 4.65 | 5.25 | 6.44 | 8.28 | 6.68 | 2.38 | 1.33 | 4.66 | 1.72 | 2.69 | 1.94 | 0.53 | 3.77 | 3.82 | 2.12 | 1.76 | 1.88 | 1.94 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH826 | 9.38 | 4.32 | 4.15 | 0.56 | 0.19 | 4.65 | 5.75 | 7.01 | 8.85 | 7.18 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 1.94 | 0.53 | 4.34 | 3.82 | 2.12 | 1.76 | 1.88 | 1.94 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH830 | 10.25 | 4.76 | 4.67 | 0.56 | 0.25 | 5.16 | 6.62 | 7.35 | 9.04 | 8.22 | 3.00 | 1.75 | 5.00 | 2.06 | 3.38 | 2.32 | 0.53 | 4.84 | 4.35 | 2.38 | 1.76 | 2.38 | 2.51 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH832 | 12.06 | 5.57 | 5.83 | 0.57 | 0.25 | 6.31 | 8.00 | 7.53 | 9.22 | 9.28 | 3.25 | 1.75 | 5.00 | 2.06 | 4.19 | 2.87 | 0.53 | 5.02 | 4.35 | 2.95 | 1.76 | 3.51 | 2.51 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH842 | 14.00 | 6.38 | 7.53 | 0.63 | 0.38 | 8.50 | 9.75 | 8.47 | 10.15 | 10.38 | 4.25 | 2.06 | 6.00 | 2.31 | 4.50 | 3.26 | 0.53 | 6.10 | 4.82 | 4.25 | 1.76 | 3.69 | 2.75 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH852 | 15.19 | 6.76 | 8.81 | 0.97 | 0.38 | 10.50 | 11.00 | 10.64 | 12.61 | 11.94 | 5.25 | 2.63 | 7.38 | 2.94 | 4.88 | 3.63 | 0.53 | 7.50 | 6.07 | 5.25 | 2.38 | 4.62 | 4.26 | 3.438 | 0.750 | 3/16 X 1.63 | 7/8 x 3.44 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

Note: Torque arm bracket available seperately. Refer to page 277 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

- Max bore dimensions shown. For additional bores available, refer to page 130.

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DH and DHM only.

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DYF | DHMQ |
| DYFC | DHM |
| DY | DH |

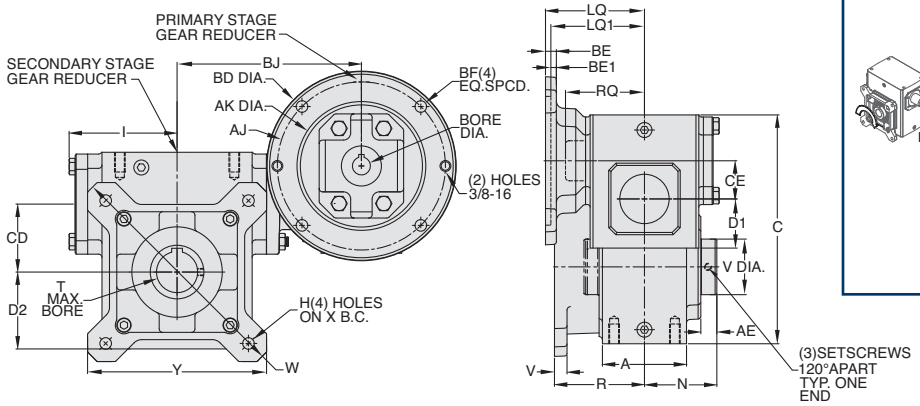
Refer to page 113 for complete interchange guide for original Grove Gear OE Series..

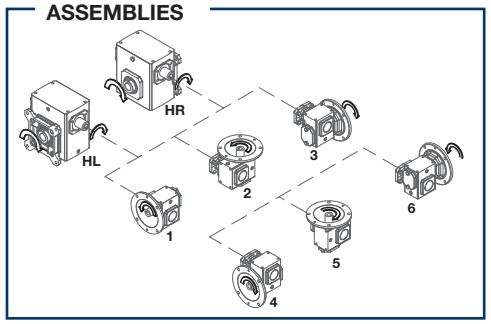
# NH Series Dimensions

## Styles: DFHMQ, DFHM, DFH

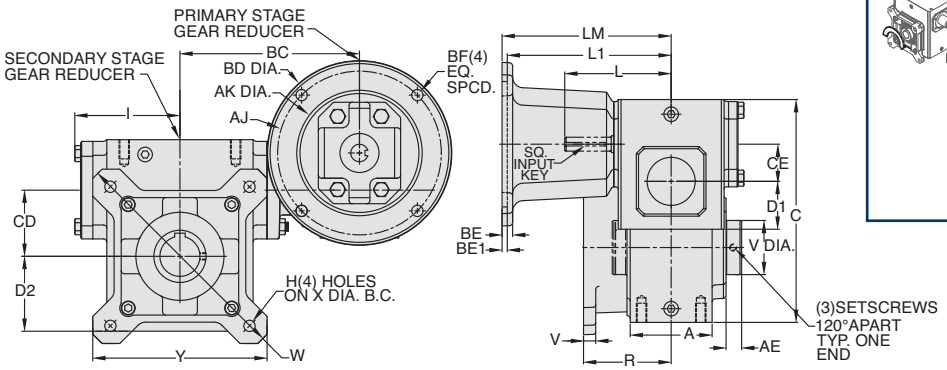
CAST IRON NH SERIES

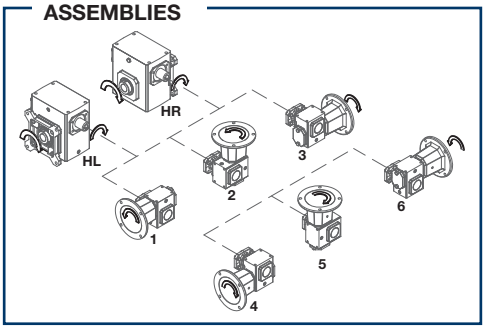
## Style DFHMQ



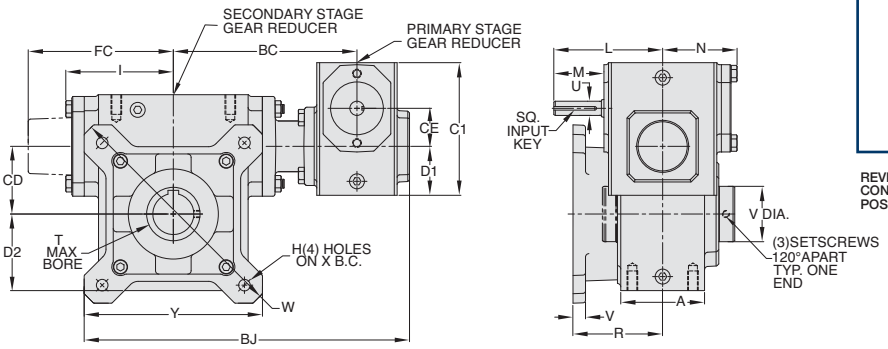



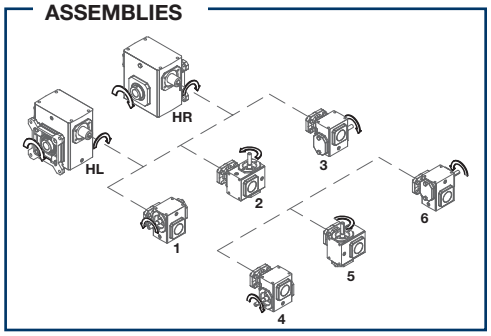

## Style DFHM




## Style DFH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

| Size | A | AE | B | BC | BH | BL | C | CD | CE | C1 | D1 | D2 | H | I | L | M | N | R | V | W | X | Y | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key❊ | Output Key• |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.82 | 0.53 | 3.80 | 5.32 | 7.16 | 0.38 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 0.34 | 2.61 | 3.82 | 1.76 | 2.37 | 2.52 | 1.00 | 5.92 | 5.00 | 4.50 | 0.625 | 0.500 | 1/8 X 1.00 | 3/16 x 1.50 |
| NH815 | 2.57 | 0.51 | 4.06 | 5.85 | 7.69 | 0.38 | 5.03 | 1.54 | 1.33 | 4.66 | 1.72 | 1.88 | 0.34 | 3.14 | 3.82 | 1.76 | 2.20 | 3.50 | 1.00 | 6.79 | 5.88 | 5.12 | 0.625 | 0.500 | 1/8 X 1.00 | 3/16 x 1.50 |
| NH818 | 2.56 | 0.56 | 4.50 | 5.94 | 7.78 | 0.38 | 5.42 | 1.75 | 1.33 | 4.66 | 1.72 | 2.06 | 0.34 | 3.24 | 3.82 | 1.76 | 2.37 | 2.74 | 1.44 | 6.64 | 5.88 | 5.00 | 1.000 | 0.500 | 1/8 X 1.00 | 1/4 x 3.00 |
| NH821 | 2.50 | 0.85 | 4.50 | 6.32 | 8.16 | 0.38 | 5.98 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 0.34 | 3.61 | 3.82 | 1.76 | 2.53 | 3.50 | 1.94 | 7.37 | 6.25 | 5.56 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH824 | 2.94 | 0.56 | 5.25 | 6.44 | 8.28 | 0.44 | 6.68 | 2.38 | 1.33 | 4.66 | 1.72 | 2.69 | 0.34 | 3.77 | 3.82 | 1.76 | 2.53 | 3.53 | 1.94 | 8.29 | 7.06 | 6.24 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH826 | 2.88 | 0.56 | 5.75 | 7.01 | 8.85 | 0.50 | 7.18 | 2.63 | 1.33 | 4.66 | 1.72 | 2.94 | 0.34 | 4.34 | 3.82 | 1.76 | 2.53 | 3.62 | 1.94 | 8.90 | 7.63 | 6.68 | 1.500 | 0.500 | 1/8 X 1.00 | 3/8 x 3.00 |
| NH830 | 3.12 | 0.56 | 6.62 | 7.35 | 9.04 | 0.50 | 8.22 | 3.00 | 1.75 | 5.00 | 2.06 | 3.38 | 0.41 | 4.84 | 4.35 | 1.76 | 2.78 | 3.75 | 2.51 | 9.50 | 8.63 | 7.34 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH832 | 4.44 | 0.57 | 8.00 | 7.53 | 9.22 | 0.56 | 9.28 | 3.25 | 1.75 | 5.00 | 2.06 | 4.19 | 0.53 | 5.02 | 4.35 | 1.76 | 3.36 | 5.06 | 2.51 | 11.84 | 10.63 | 9.00 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH842 | 4.75 | 0.63 | 9.75 | 8.47 | 10.15 | 0.62 | 10.38 | 4.25 | 2.06 | 6.00 | 2.31 | 4.50 | 0.56 | 6.10 | 4.82 | 1.76 | 4.25 | 4.56 | 2.75 | 12.95 | 11.50 | 9.66 | 2.188 | 0.625 | 3/16 X 1.38 | 1/2 x 3.00 |
| NH852 | 6.19 | 0.97 | 11.00 | 10.64 | 12.61 | 0.75 | 11.94 | 5.25 | 2.63 | 7.38 | 2.94 | 4.88 | 0.69 | 7.50 | 6.07 | 2.38 | 5.25 | 5.62 | 4.26 | 15.50 | 14.00 | 11.76 | 3.438 | 0.750 | 3/16 X 1.63 | 7/8 x 3.44 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH813 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH815 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH818 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH821 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH824 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH826 | 5.63 | 6.07 | N/A | 3.46 | N/A | 3.09 | N/A |
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH813 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH815 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH818 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH821 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH824 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH826 | 2.62 | 2.65 | 2.89 | N/A | N/A | 2.45 | 2.47 | 2.71 | N/A | N/A |
| NH830 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH832 | 3.25 | 3.28 | 3.52 | N/A | N/A | 2.95 | 2.97 | 3.21 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

## IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

- Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❖ Metric IEC B5 input flange options are available only on quill input styles.
- ❊ Style DFH and DFHM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DMF | DFHMQ |
| DMFC | DFHM |
| DM | DFH |

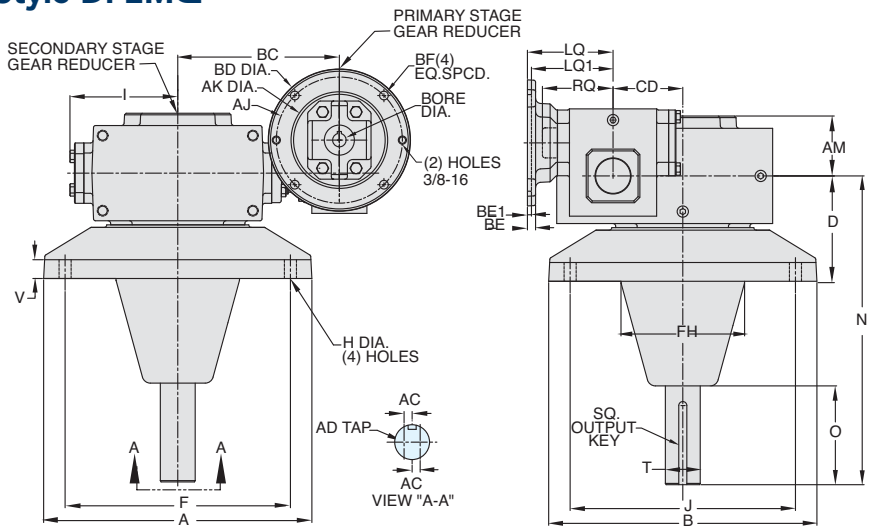
Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

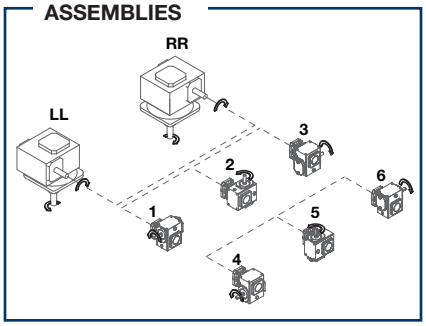
# NH Series Dimensions

## Styles: DFEMQ, DFEM, DFE

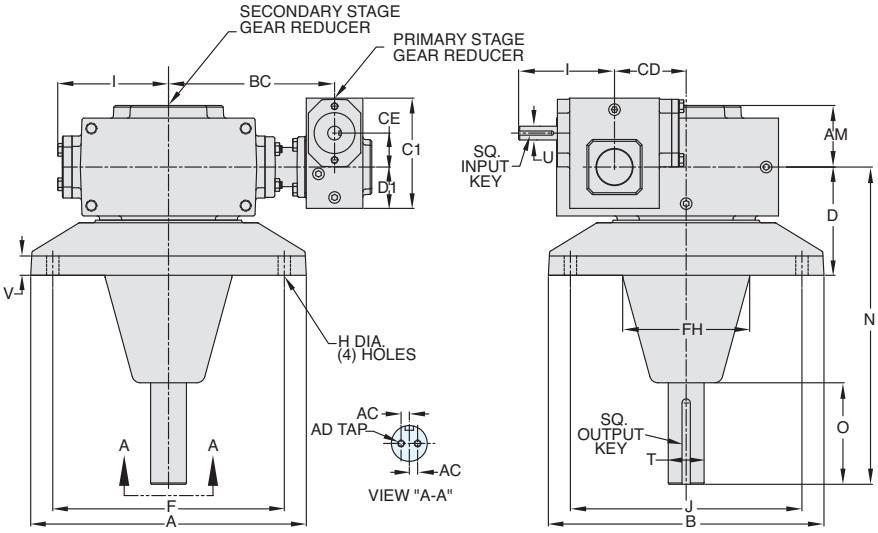
CAST IRON NH SERIES

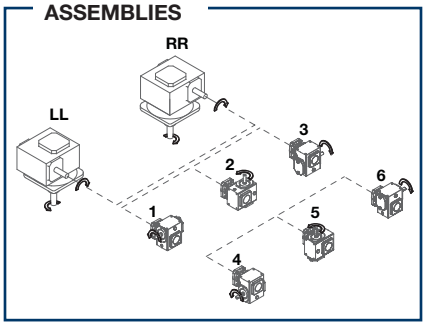
## Style DFEMQ



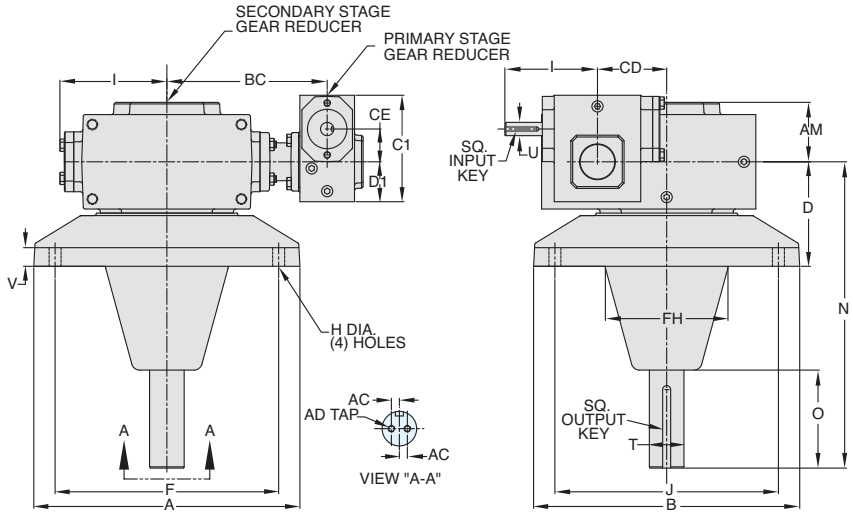



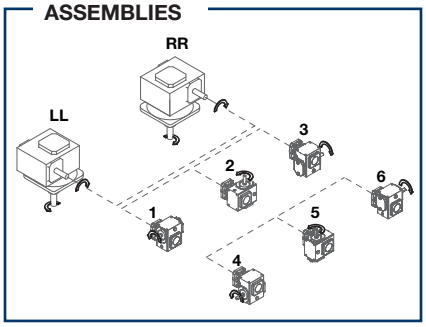

## Style DFEM




## Style DFE




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DFEMQ, DFEM, DFE DIMENSIONS (Inches)

| Size | A | AC | AD | AM | B | BC | BH | CD | CE | C1 | D | D1 | F | FH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH830 | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 2.22 | 11.00 | 7.35 | 9.04 | 3.00 | 1.75 | 5.00 | 3.67 | 2.06 | 9.00 | 5.12 |
| NH832 | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 2.79 | 12.50 | 7.53 | 9.22 | 3.25 | 1.75 | 5.00 | 4.91 | 2.06 | 10.50 | 5.75 |
| NH842 | 14.00 | 0.500 | .38-16 UNC X 1.00 DP | 3.62 | 14.00 | 8.47 | 10.15 | 4.25 | 2.06 | 6.00 | 5.74 | 2.31 | 12.00 | 6.75 |
| NH852 | 16.00 | 0.750 | .38-16 UNC X 1.00 DP | 4.28 | 16.00 | 10.64 | 12.61 | 5.25 | 2.63 | 7.38 | 6.00 | 2.94 | 14.00 | 8.00 |

| Size | H | I | J | K | L | M | N | O | V | T MAX +0.000 +0.0015 | U +0.000 -0.0015 | Input Key* | P** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NH830 | 0.56 | 4.84 | 9.00 | 16.27 | 4.35 | 1.76 | 13.15 | 4.66 | 0.78 | 1.438 | 0.875 | 3/16 x 1.63 | 3/8 x 3.88 |
| NH832 | 0.56 | 5.02 | 10.50 | 17.51 | 4.35 | 1.76 | 14.39 | 4.63 | 0.88 | 1.625 | 0.875 | 3/16 x 1.63 | 3/8 x 3.69 |
| NH842 | 0.69 | 6.10 | 12.00 | 19.94 | 4.82 | 1.76 | 16.25 | 5.66 | 1.00 | 1.688 | 1.25 | 1/4 x 2.50 | 3/8 x 4.68 |
| NH852 | 0.81 | 7.50 | 14.00 | 20.94 | 6.07 | 2.38 | 16.50 | 5.62 | 1.25 | 2.188 | 1.25 | 1/4 x 3.00 | 1/2 x 4.63 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 48CZ | LM 56C/ 140TC | L1 180TC/ 210TC | LQ 48CZ/ 56C/140TC | LQ1 180TC | RQ 48CZ/ 56C/140TC | RQ 180TC |
|---|---|---|---|---|---|---|---|
| NH830 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH832 | 6.76 | 6.70 | N/A | 4.09 | N/A | 3.59 | N/A |
| NH842 | 6.63 | 7.07 | N/A | 4.46 | N/A | 4.06 | N/A |
| NH852 | N/A | 8.32 | 9.32 | 5.19■ | 5.62 | 4.82■ | 5.13 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)❖

| Size | LQ1 D63D | LQ1 D71D | LQ1 D80D | LQ1 D90D | LQ1 D100LD/ D112MD | RQ D63D | RQ D71D | RQ D80D | RQ D90D | RQ D100LD/ D112MD |
|---|---|---|---|---|---|---|---|---|---|---|
| NH830 | 3.15 | 3.18 | 3.42 | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A |
| NH832 | 3.15 | 3.18 | 3.42 | N/A | N/A | 2.98 | 3.00 | 3.24 | N/A | N/A |
| NH842 | 3.62 | 3.65 | 3.89 | N/A | N/A | 3.43 | 3.44 | 3.68 | N/A | N/A |
| NH852 | N/A | 4.28 | 4.90 | 4.90 | 5.30 | N/A | 4.09 | 4.72 | 4.72 | 5.07 |

### IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

| Frame | AJ | AK | BD | BE | Bore Dia. | Keyway◆ | BF TAP | OD |
|---|---|---|---|---|---|---|---|---|
| D63D | 115 | 95 | 117 | 10 | 11 | 4 X 2 | M8 X 1.25 | 131 |
| D71D | 130 | 110 | 132 | 11 | 14 | 5 X 2.5 | M8 X 1.25 | 146 |
| D80D | 165 | 130 | 165 | 15 | 19 | 6 X 3 | M10 X 1.50 | 184 |
| D90D | 165 | 130 | 165 | 15 | 24 | 8 X 3.5 | M10 X 1.50 | 184 |
| D100LD/ D112MD | 215 | 180 | 216 | 18 | 28 | 8 X 3.5 | M12 X 1.75 | 237 |

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

❖ Metric IEC B5 input flange options are available only on quill input styles.

❊ Style DFE and DFEM only.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| DEF | DFEMQ |
| DEFC | DFEM |
| DE | DFE |

Refer to page 113 for complete interchange guide for original Grove Gear OE Series.

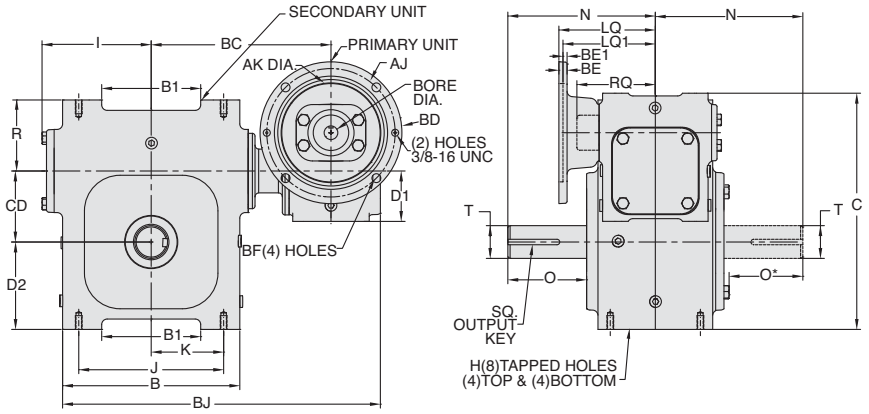
# ELECTRA-GEAR

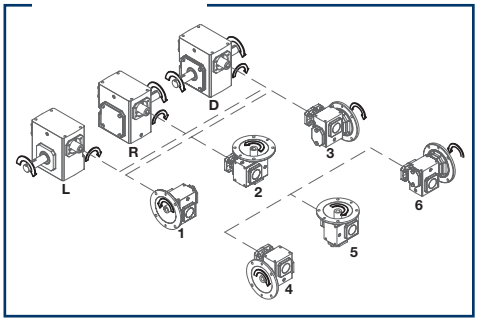
ALUMINUM EL SERIES

## EL Series Dimensions

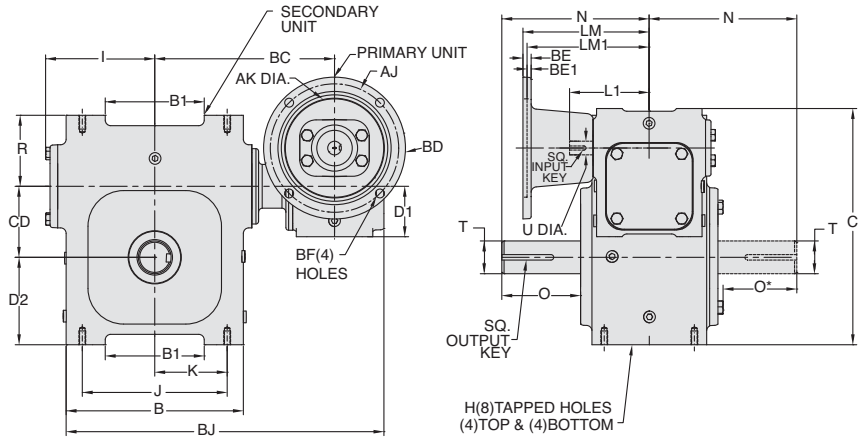
### Styles: DMQ, DM, D

### Style DMQ

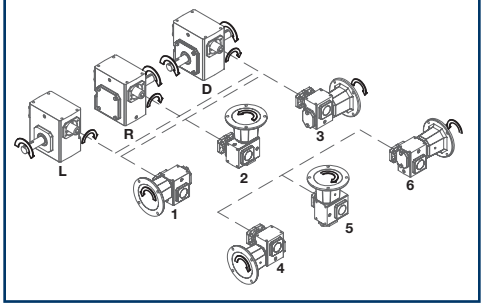


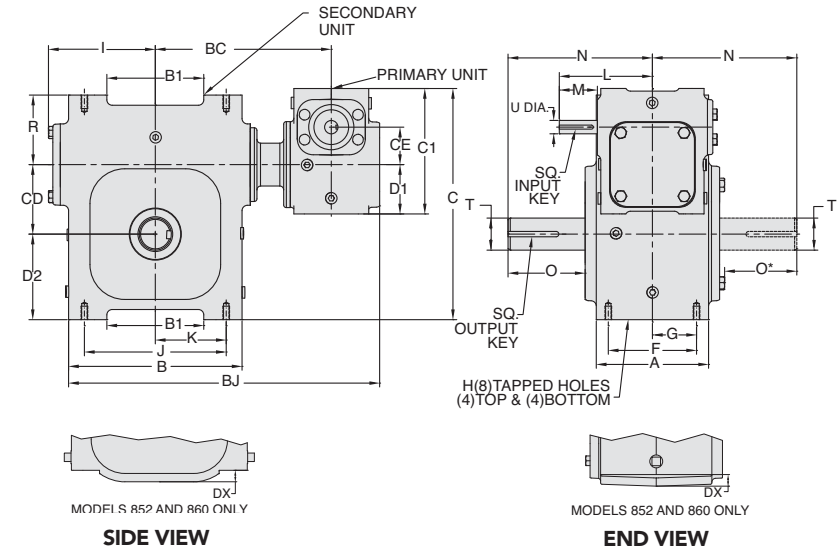

### Style DM

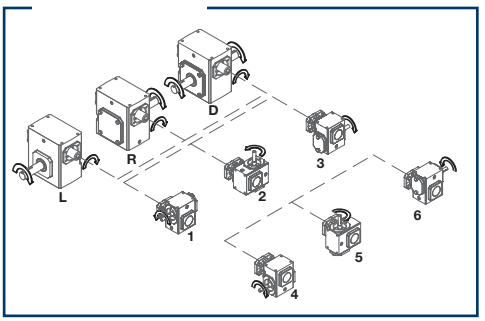



**ASSEMBLIES**




### Style D




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.




SIDE VIEW




END VIEW

# EL Series Dimensions

## Styles: DMQ, DM, D

### STYLE DMQ, DM, D DIMENSIONS (Inches)

| Size | A | B | B1 | BC | BJ | C | CD | CE | C1 | D1 | D2 | DX | F | G | H | | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | Tap Size | Depth | |
| EL813 | 2.82 | 3.80 | -- | 5.32 | 9.02 | 5.99 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | -- | 2.00 | 1.00 | 5/16-18 | 0.50 | 2.40 |
| EL818 | 3.50 | 4.83 | 2.48 | 5.94 | 10.05 | 7.00 | 1.75 | 1.33 | 4.66 | 1.72 | 2.31 | -- | 2.94 | 1.47 | 5/16-18 | 0.63 | 3.03 |
| EL821 | 3.91 | 5.75 | 2.76 | 6.32 | 10.97 | 7.63 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 | -- | 3.25 | 1.63 | 3/8-16 | 0.87 | 3.40 |
| EL824 | 4.06 | 5.86 | -- | 6.43 | 11.08 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | -- | 2.88 | 1.44 | 3/8-16 | 0.69 | 3.61 |
| EL826 | 4.84 | 7.17 | 4.21 | 6.99 | 12.39 | 8.81 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 | -- | 3.38 | 1.69 | 3/8-16 | 0.69 | 4.17 |
| EL830 | 5.25 | 8.11 | 4.50 | 8.04 | 14.16 | 10.06 | 3.00 | 1.75 | 5.86 | 2.31 | 3.50 | -- | 4.13 | 2.06 | 1/2-13 | 1.00 | 4.81 |
| EL832 | 5.25 | 8.11 | 4.53 | 8.23 | 14.16 | 10.81 | 3.25 | 1.75 | 5.86 | 2.31 | 4.00 | -- | 4.13 | 2.06 | 1/2-13 | 1.00 | 5.00 |
| EL842 | 6.13 | 9.63 | 5.71 | 9.17 | 11.56 | 13.00 | 4.25 | 2.06 | 6.88 | 2.63 | 4.50 | -- | 3.75 | 1.88 | 5/8-11 | 1.19 | 6.15 |
| EL852 | 7.19 | 11.50 | 7.82 | 11.57 | 14.47 | 13.75 | 5.25 | 2.63 | 8.00 | 3.25 | 4.25 | 0.75 | 5.25 | 2.63 | 3/4-10 | 1.44 | 7.55 |
| EL860 | 7.00 | 13.50 | -- | 12.63 | 23.57 | 14.25 | 6.00 | 3.25 | 10.50 | 3.50 | 5.00 | 1.63 | 5.38 | 2.69 | 7/8-9 | 1.63 | 7.88 |

| Size | J | K | L | M | N | O | O* | R | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style D only) | Input Key (Style DM only) | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 3.25 | 1.63 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 1.61 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 3.69 | 1.84 | 3.82 | 1.87 | 4.39 | 2.05 | 1.85 | 1.81 | 0.750 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL821 | 4.13 | 2.06 | 3.82 | 1.87 | 4.68 | 2.29 | 2.09 | 2.19 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| EL824 | 5.00 | 2.50 | 3.82 | 1.87 | 5.14 | 2.66 | 2.46 | 2.06 | 1.125 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL826 | 5.00 | 2.50 | 3.82 | 1.87 | 5.63 | 2.73 | 2.53 | 2.13 | 1.250 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL830 | 5.75 | 2.88 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 2.44 | 1.500 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL832 | 6.63 | 3.31 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 3.25 | 1.625 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL842 | 7.00 | 3.50 | 4.82 | 1.76 | 8.12 | 4.50 | 4.22 | 2.94 | 1.750 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| EL852 | 9.62 | 4.81 | 6.07 | 2.45 | 9.06 | 4.78 | 4.50 | 2.75 | 2.000 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| EL860 | 11.00 | 5.50 | 6.75 | 2.31 | 10.75 | 5.25 | 5.25 | 3.25 | 2.250 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | LM1 | L1 | | LQ | LQ1 | RQ | |
|---|---|---|---|---|---|---|---|---|
| | 56C/140TC | 180TC / 210TC | 56C/140TC | 180TC / 210TC | 56C/140TC | 180TC / 210TC | 56C/140TC | 180TC / 210TC |
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

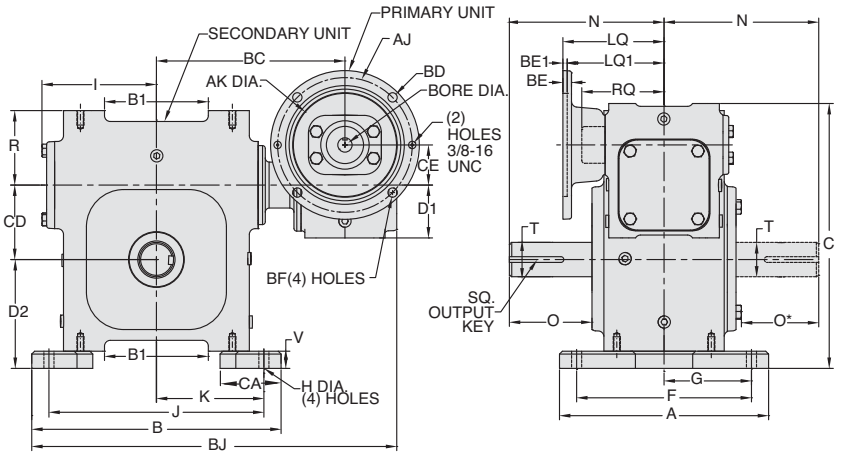
| Original Style | New Style |
|---|---|
| D_MSC or D_MLSC | DMQ |
| D_MC or D_MLC | DM |
| D_M or D_ML | D |

Convert Style D to motorized coupling input using kits shown on page 278.

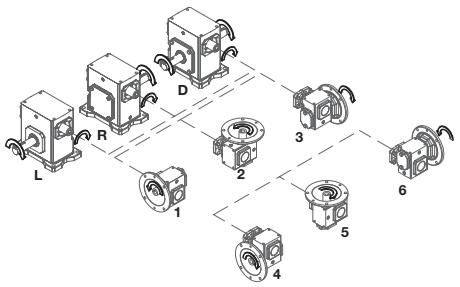
# ELECTRA-GEAR
## EL Series
## Dimensions
### Styles: DTMQ, DTM, DT

ALUMINUM EL SERIES

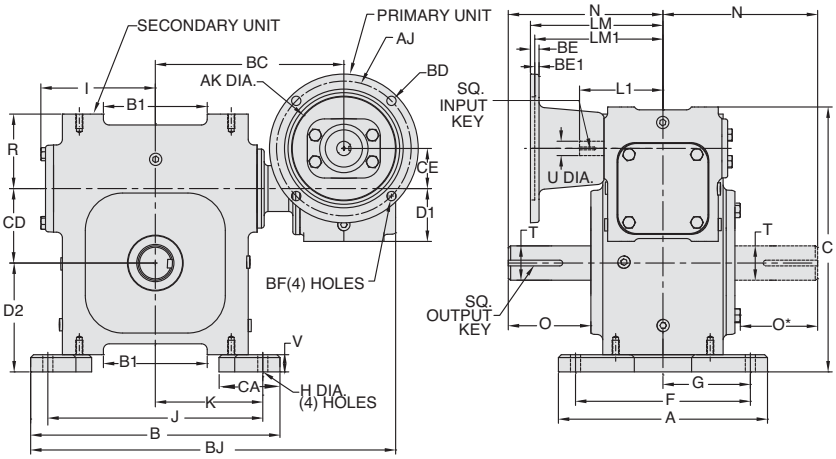
## Style DTMQ

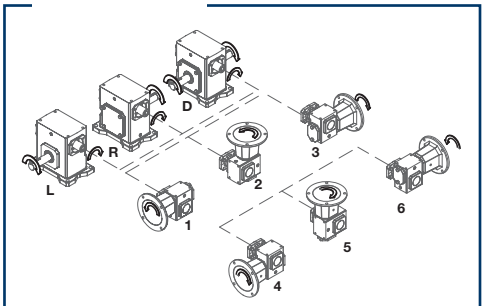



**ASSEMBLIES**

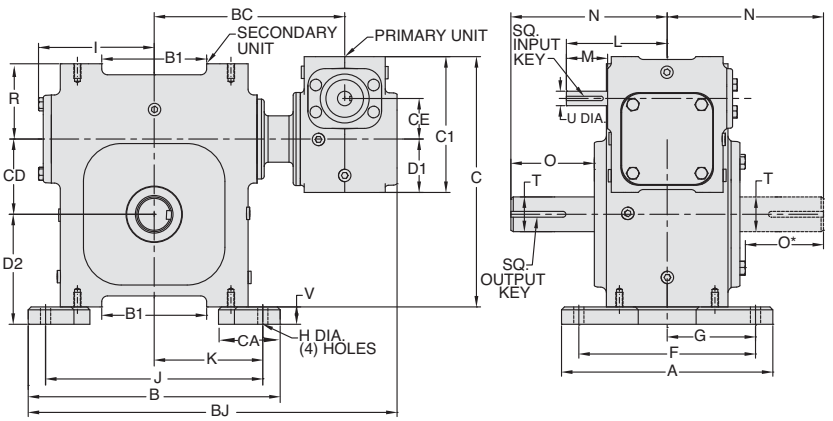



## Style DTM

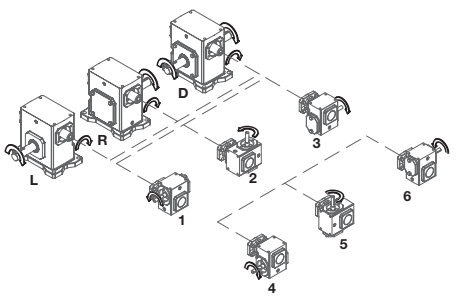



## Style DT




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DTMQ, DTM, DT

### STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

| Size | A | B | BC | BJ | B1 | C | CA | CD | CE | C1 | D1 | D2 | F | G | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 4.06 | 5.13 | 5.32 | 9.73 | -- | 6.52 | 1.56 | 1.33 | 1.33 | 4.66 | 1.72 | 2.25 | 3.31 | 1.66 | 0.34 |
| EL818 | 5.19 | 6.06 | 5.94 | 10.82 | 2.48 | 7.56 | 2.06 | 1.75 | 1.33 | 4.66 | 1.72 | 2.87 | 4.38 | 2.19 | 0.38 |
| EL821 | 6.63 | 7.25 | 6.32 | 11.79 | 2.76 | 8.26 | 2.40 | 2.06 | 1.33 | 4.66 | 1.72 | 3.26 | 5.38 | 2.69 | 0.44 |
| EL824 | 6.38 | 7.69 | 6.43 | 12.11 | -- | 8.56 | 2.59 | 2.38 | 1.33 | 4.66 | 1.72 | 3.25 | 4.88 | 2.44 | 0.47 |
| EL826 | 6.63 | 8.13 | 6.99 | 12.90 | 4.21 | 9.50 | 2.81 | 2.63 | 1.33 | 4.66 | 1.72 | 3.94 | 5.38 | 2.69 | 0.50 |
| EL830 | 9.00 | 9.88 | 8.04 | 15.24 | 4.50 | 10.81 | 3.69 | 3.00 | 1.75 | 5.86 | 2.31 | 4.25 | 7.50 | 3.75 | 0.56 |
| EL832 | 9.13 | 10.88 | 8.23 | 15.93 | 4.53 | 11.56 | 3.69 | 3.25 | 1.75 | 5.86 | 2.31 | 4.75 | 7.63 | 3.82 | 0.56 |
| EL842 | 10.00 | 10.50 | 9.17 | 16.68 | 5.71 | 14.25 | 3.38 | 4.25 | 2.06 | 6.88 | 2.63 | 5.75 | 8.00 | 4.00 | 0.81 |
| EL852 | 10.75 | 12.13 | 11.57 | 19.98 | 7.82 | 15.25 | 2.50 | 5.25 | 2.63 | 8.00 | 3.25 | 5.75 | 8.75 | 4.38 | 0.81 |
| EL860 | 11.75 | 13.50 | 12.63 | 22.44 | -- | 17.50 | 4.35 | 6.00 | 3.25 | 10.50 | 3.50 | 6.75 | 9.50 | 4.75 | 0.94 |

| Size | I | J | K | L | M | N | O | O* | R | T +0.000 -0.0015 | U +0.000 -0.0015 | V | Input Key (Style DT only)❊ | Input Key (Style DTM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 2.40 | 4.38 | 2.19 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 1.61 | 0.625 | 0.500 | 0.53 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL818 | 3.03 | 5.25 | 2.63 | 3.82 | 1.87 | 4.39 | 2.05 | 1.85 | 1.81 | 0.750 | 0.500 | 0.56 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL821 | 3.40 | 6.00 | 3.00 | 3.82 | 1.87 | 4.68 | 2.29 | 2.09 | 2.19 | 1.000 | 0.500 | 0.63 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| EL824 | 3.61 | 6.19 | 3.09 | 3.82 | 1.87 | 5.14 | 2.66 | 2.46 | 2.06 | 1.125 | 0.500 | 0.75 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL826 | 4.17 | 6.88 | 3.44 | 3.82 | 1.87 | 5.63 | 2.73 | 2.53 | 2.13 | 1.250 | 0.500 | 0.69 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL830 | 4.81 | 8.38 | 4.19 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 2.44 | 1.500 | 0.625 | 0.75 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL832 | 5.00 | 9.38 | 4.69 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 3.25 | 1.625 | 0.625 | 0.75 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL842 | 6.15 | 8.50 | 4.25 | 4.82 | 1.76 | 8.12 | 4.50 | 4.22 | 2.94 | 1.750 | 0.625 | 1.25 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| EL852 | 7.55 | 9.75 | 4.88 | 6.07 | 2.45 | 9.06 | 4.78 | 4.50 | 2.75 | 2.000 | 0.750 | 1.50 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| EL860 | 7.88 | 10.50 | 5.25 | 6.75 | 2.31 | 10.75 | 5.25 | 5.25 | 3.25 | 2.250 | 0.875 | 1.75 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

– Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

– EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

– See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| D_ASC or D_ALSC | DTMQ |
| D_AC or D_ALC | DTM |
| D_A or D_AL | DT |

Convert Style DT to motorized coupling input using kits shown on page 278.

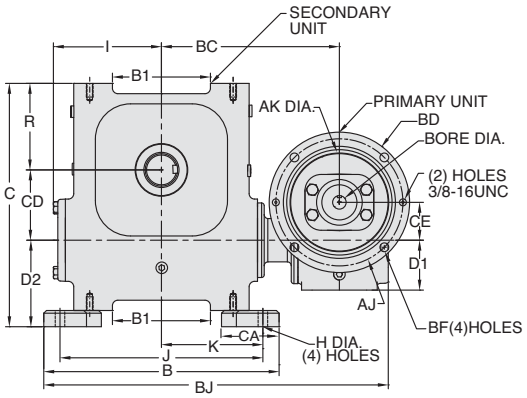
# ELECTRA-GEAR

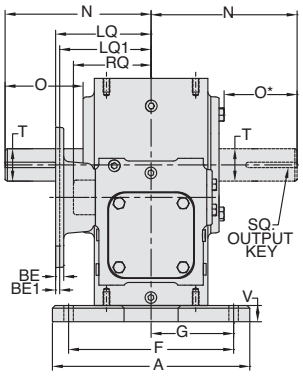
## EL Series Dimensions

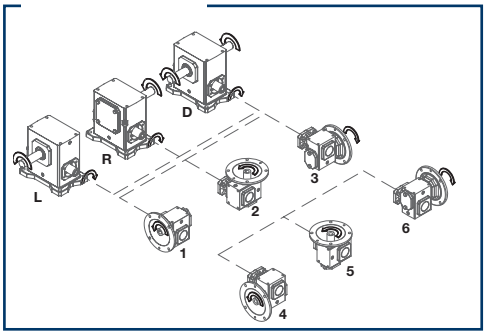
### Styles: DUMQ, DUM, DU

ALUMINUM EL SERIES

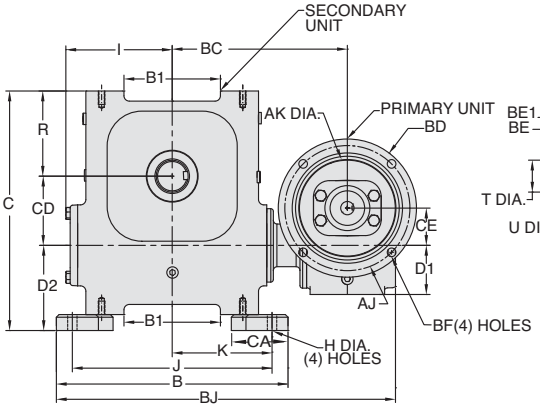
## Style DUMQ

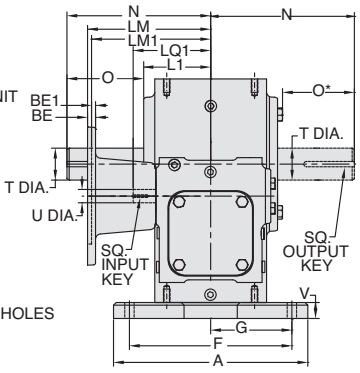


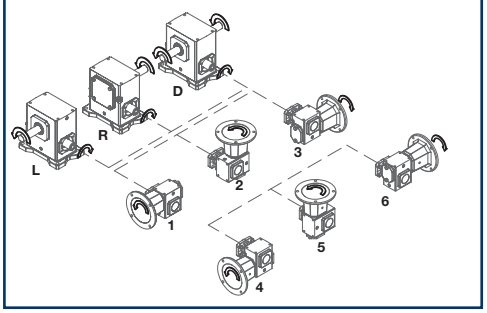




## Style DUM

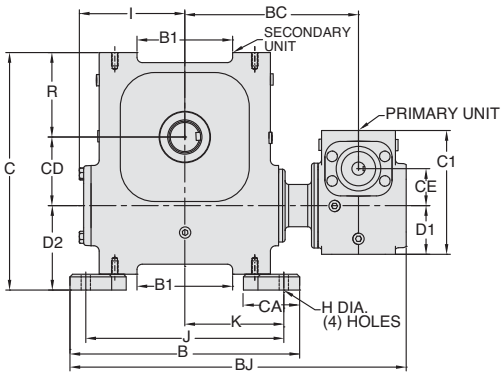


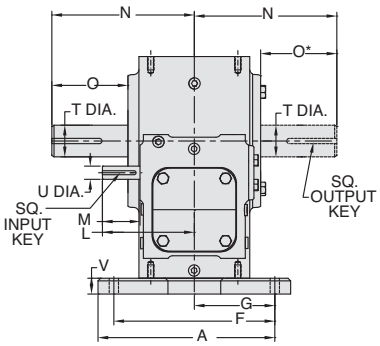



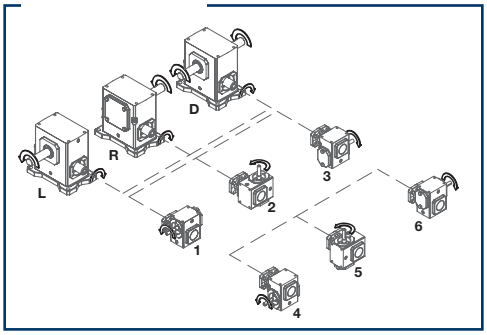

**ASSEMBLIES**




## Style DU




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DUMQ, DUM, DU

### STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

| Size | A | B | BC | BJ | B1 | C | CA | CD | CE | C1 | D1 | D2 | F | G | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 4.06 | 5.13 | 5.32 | 9.73 | -- | 5.19 | 1.56 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 3.31 | 1.66 | 0.34 |
| EL818 | 5.19 | 6.06 | 5.94 | 10.82 | 2.48 | 6.42 | 2.15 | 1.75 | 1.33 | 4.66 | 1.72 | 2.31 | 4.38 | 2.19 | 0.38 |
| EL821 | 6.63 | 7.25 | 6.32 | 11.79 | 2.76 | 7.51 | 2.66 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 | 5.38 | 2.69 | 0.44 |
| EL824 | 6.38 | 7.69 | 6.43 | 12.11 | -- | 7.63 | 2.59 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | 4.88 | 2.44 | 0.47 |
| EL826 | 6.63 | 8.13 | 6.99 | 12.90 | 4.21 | 8.69 | 2.81 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 | 5.38 | 2.69 | 0.50 |
| EL830 | 9.00 | 9.88 | 8.04 | 15.24 | 4.50 | 9.69 | 3.69 | 3.00 | 1.75 | 5.86 | 2.31 | 3.50 | 7.50 | 3.75 | 0.56 |
| EL832 | 9.13 | 10.88 | 8.23 | 15.93 | 4.53 | 11.25 | 3.69 | 3.25 | 1.75 | 5.86 | 2.31 | 4.00 | 7.63 | 3.82 | 0.56 |
| EL842 | 10.00 | 10.50 | 9.17 | 16.68 | 5.71 | 12.94 | 3.38 | 4.25 | 2.06 | 6.88 | 2.63 | 4.50 | 8.00 | 4.00 | 0.81 |
| EL852 | 10.75 | 12.13 | 11.57 | 19.89 | 7.82 | 13.75 | 2.50 | 5.25 | 2.63 | 8.00 | 3.25 | 4.25 | 8.75 | 4.38 | 0.81 |
| EL860 | 11.75 | 13.50 | 12.63 | 22.44 | -- | 16.00 | 4.35 | 6.00 | 3.25 | 10.50 | 3.50 | 5.00 | 9.50 | 4.75 | 0.94 |

| Size | I | J | K | L | M | N | O | O* | R | T +0.000 -0.0015 | U +0.000 -0.0015 | V | Input Key (Style DU only)❊ | Input Key (Style DUM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 2.40 | 4.38 | 2.19 | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 1.72 | 0.625 | 0.500 | 0.53 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 3.03 | 5.25 | 2.63 | 3.82 | 1.87 | 4.39 | 2.05 | 1.85 | 2.30 | 0.750 | 0.500 | 0.56 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL821 | 3.40 | 6.00 | 3.00 | 3.82 | 1.87 | 4.68 | 2.29 | 2.09 | 2.63 | 1.000 | 0.500 | 0.63 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| EL824 | 3.61 | 6.19 | 3.09 | 3.82 | 1.87 | 5.14 | 2.66 | 2.46 | 2.50 | 1.125 | 0.500 | 0.75 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL826 | 4.17 | 6.88 | 3.44 | 3.82 | 1.87 | 5.63 | 2.73 | 2.53 | 3.25 | 1.250 | 0.500 | 0.69 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL830 | 4.81 | 8.38 | 4.19 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 3.50 | 1.500 | 0.625 | 0.75 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL832 | 5.00 | 9.38 | 4.69 | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 4.00 | 1.625 | 0.625 | 0.75 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL842 | 6.15 | 8.50 | 4.25 | 4.82 | 1.76 | 8.12 | 4.50 | 4.22 | 4.19 | 1.750 | 0.625 | 1.25 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| EL852 | 7.55 | 9.75 | 4.88 | 6.07 | 2.45 | 9.06 | 4.78 | 4.50 | 4.25 | 2.000 | 0.750 | 1.50 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| EL860 | 7.88 | 10.50 | 5.25 | 6.75 | 2.31 | 10.75 | 5.25 | 5.25 | 5.00 | 2.250 | 0.875 | 1.75 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | DUMQ |
| STANDARD CATALOGED | DUM |
| OPTION | DU |

Convert Style DU to motorized coupling input using kits shown on page 278.

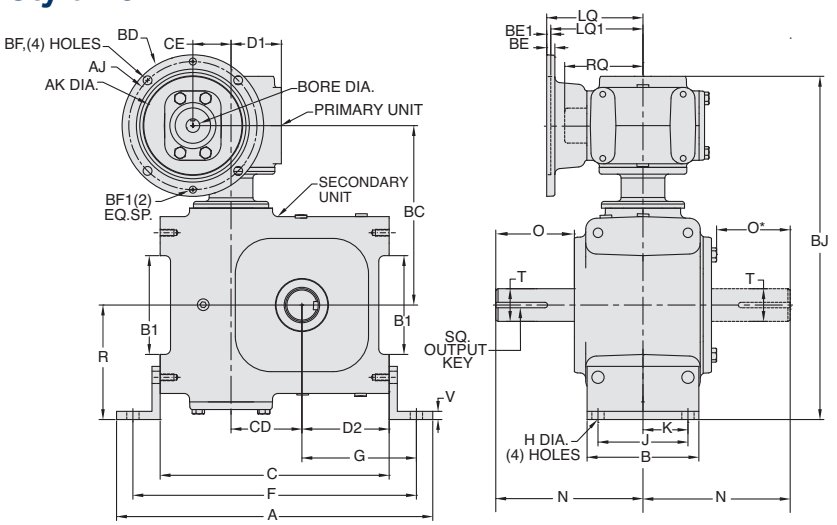
# ELECTRA-GEAR

## EL Series Dimensions

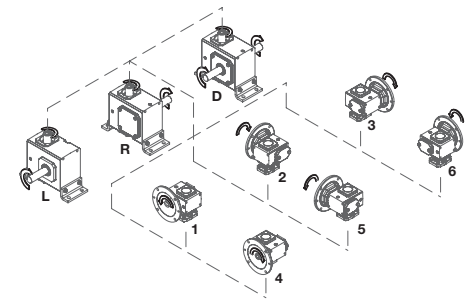
### Styles: DJMQ, DJM, DJ

ALUMINUM EL SERIES

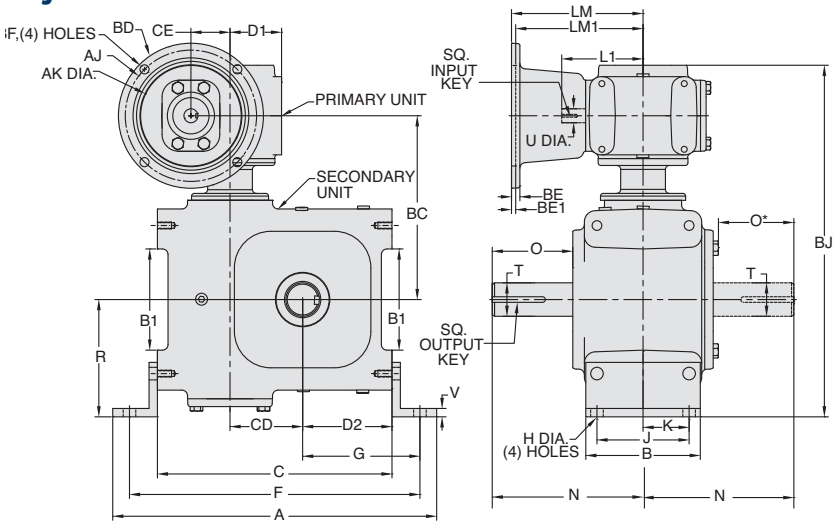
### Style DJMQ

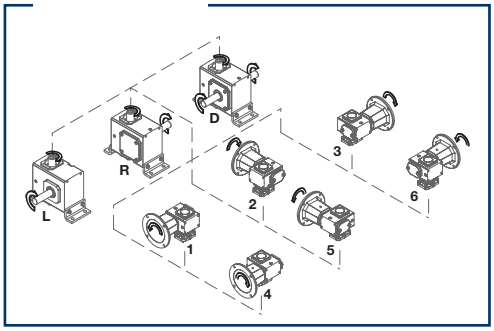



**ASSEMBLIES**

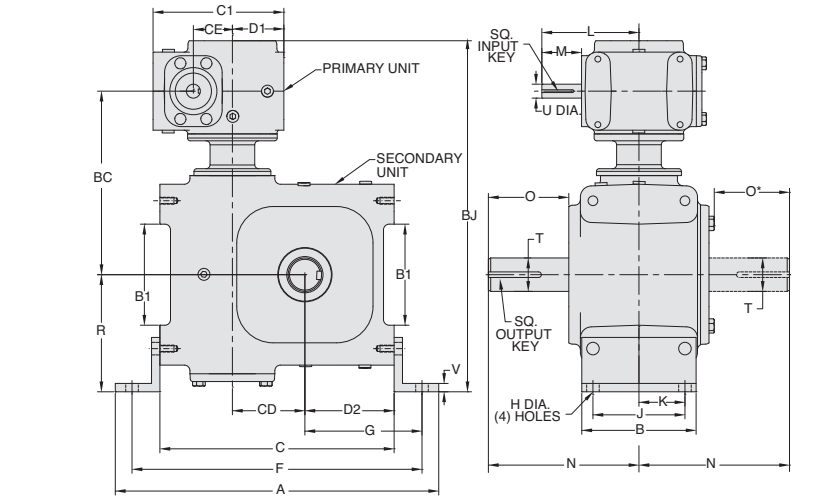



### Style DJM

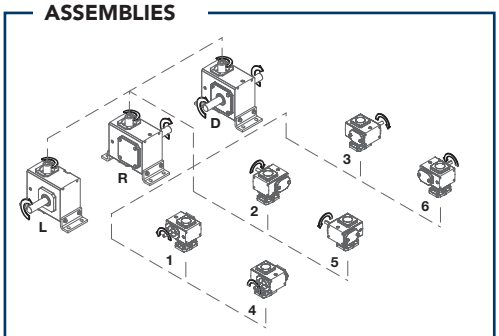



### Style DJ




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DJMQ, DJM, DJ

### STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

| Size | A | B | B1 | BC | BJ | C | CD | CE | C1 | D1 | D2 | F | G | H | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 7.16 | 2.91 | -- | 5.32 | 10.10 | 4.66 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 | 6.41 | 2.60 | 0.34 | 2.00 | 1.00 |
| **EL818** | 8.88 | 3.56 | 2.48 | 5.94 | 10.76 | 5.86 | 1.75 | 1.33 | 4.66 | 1.72 | 2.31 | 7.88 | 3.32 | 0.38 | 2.94 | 1.47 |
| **EL821** | 9.87 | 4.00 | 2.76 | 6.32 | 11.63 | 6.88 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 | 8.87 | 3.62 | 0.44 | 3.25 | 1.63 |
| **EL824** | 10.31 | 4.00 | -- | 6.43 | 12.33 | 6.94 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | 9.19 | 3.63 | 0.69 | 2.88 | 1.44 |
| **EL826** | 12.00 | 4.38 | 4.21 | 6.99 | 12.86 | 8.00 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 | 10.50 | 4.50 | 0.50 | 3.38 | 1.69 |
| **EL830** | 12.94 | 5.13 | 4.50 | 8.04 | 15.11 | 8.94 | 3.00 | 1.75 | 5.86 | 2.31 | 3.50 | 11.44 | 4.75 | 0.56 | 4.13 | 2.06 |
| **EL832** | 14.50 | 5.13 | 4.53 | 8.23 | 15.74 | 10.50 | 3.25 | 1.75 | 5.86 | 2.31 | 4.00 | 13.00 | 5.25 | 0.56 | 4.13 | 2.06 |
| **EL842** | 17.50 | 5.13 | 5.71 | 9.17 | 17.06 | 11.69 | 4.25 | 2.06 | 6.88 | 2.63 | 4.50 | 14.50 | 5.91 | 0.81 | 3.75 | 1.88 |
| **EL852** | 20.25 | 6.50 | 7.82 | 11.57 | 21.46 | 12.25 | 5.25 | 2.63 | 8.00 | 3.25 | 4.25 | 16.75 | 6.50 | 0.81 | 5.25 | 2.63 |
| **EL860** | 22.25 | 7.00 | -- | 12.63 | 24.07 | 14.25 | 6.00 | 3.25 | 10.50 | 3.50 | 5.00 | 18.75 | 7.63 | 0.94 | 5.38 | 2.69 |

| Size | L | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style DJ only)❊ | Input Key (Style DJM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 3.82 | 1.87 | 4.00 | 2.16 | 1.96 | 2.94 | 0.19 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| **EL818** | 3.82 | 1.87 | 4.39 | 2.05 | 1.85 | 2.97 | 0.38 | 0.750 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| **EL821** | 3.82 | 1.87 | 4.68 | 2.29 | 2.09 | 3.47 | 0.38 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| **EL824** | 3.82 | 1.87 | 5.14 | 2.66 | 2.46 | 4.06 | 0.31 | 1.125 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| **EL826** | 3.82 | 1.87 | 5.63 | 2.73 | 2.53 | 4.03 | 0.31 | 1.250 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| **EL830** | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 4.81 | 0.25 | 1.500 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| **EL832** | 4.45 | 1.78 | 6.62 | 3.60 | 3.37 | 5.25 | 0.38 | 1.625 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| **EL842** | 4.82 | 1.76 | 8.12 | 4.50 | 4.22 | 5.63 | 0.50 | 1.750 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| **EL852** | 6.07 | 2.45 | 9.06 | 4.78 | 4.50 | 7.63 | 0.50 | 2.000 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| **EL860** | 6.75 | 2.31 | 10.75 | 5.25 | 5.25 | 8.38 | 0.63 | 2.250 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| **EL813** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL818** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL821** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL824** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL826** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL830** | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL832** | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL842** | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| **EL852** | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| **EL860** | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft
◆ Keyway width by depth
❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| D_JBSC or D_JBLSC | DJMQ |
| D_JBC or D_JBLC | DJM |
| D_JB or D_JBL | DJ |

Convert Style DJ to motorized coupling input using kits shown on page 278.

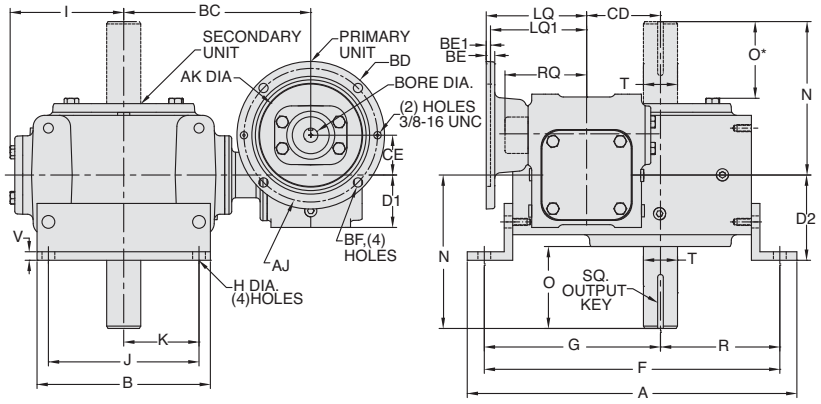
# ELECTRA-GEAR

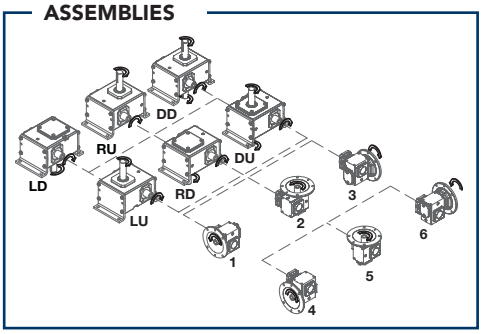
## EL Series Dimensions

### Styles: DVLMQ, DVLM, DVL

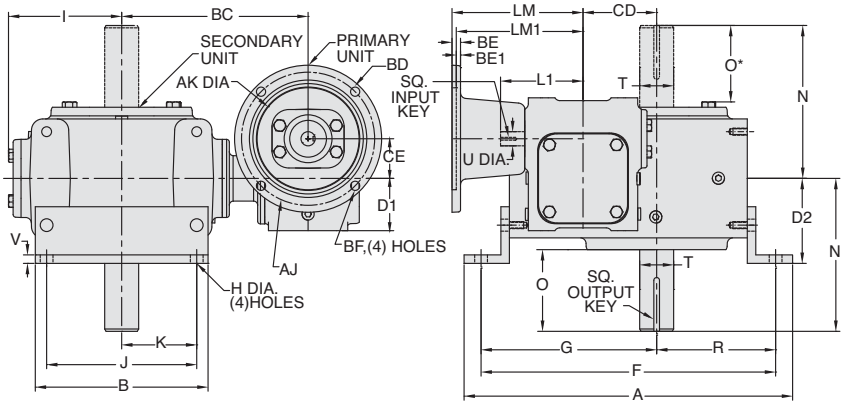
ALUMINUM EL SERIES

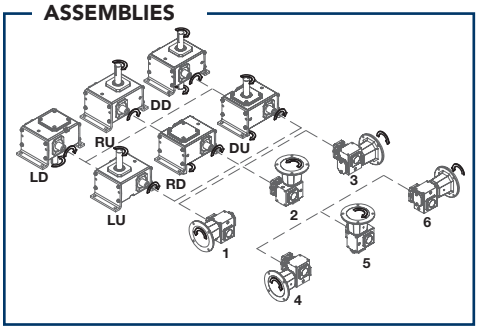
## Style DVLMQ



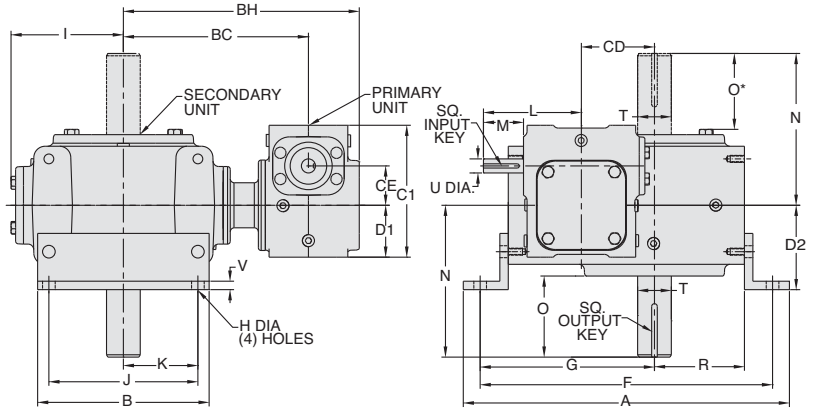



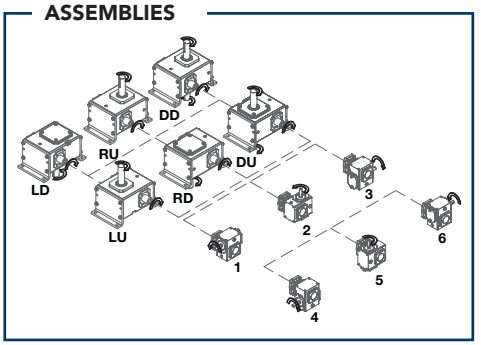

## Style DVLM




## Style DVL




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DVLMQ, DVLM, DVL DIMENSIONS (Inches)

| Size | A | B | BC | BH | CD | CE | C1 | D1 | D2 | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 7.16 | 4.13 | 5.32 | 7.16 | 1.33 | 1.33 | 4.66 | 1.72 | 2.31 | 6.16 | 3.69 | 0.34 | 2.40 | 3.25 | 1.63 | 3.82 |
| EL818 | 8.88 | 4.25 | 5.94 | 7.79 | 1.75 | 1.33 | 4.66 | 1.72 | 2.28 | 7.88 | 4.57 | 0.38 | 3.03 | 3.69 | 1.84 | 3.82 |
| EL821 | 9.87 | 4.81 | 6.32 | 8.16 | 2.06 | 1.33 | 4.66 | 1.72 | 2.56 | 8.87 | 5.25 | 0.44 | 3.40 | 4.13 | 2.06 | 3.82 |
| EL824 | 10.88 | 5.88 | 6.43 | 8.27 | 2.38 | 1.33 | 4.66 | 1.72 | 2.75 | 9.38 | 5.66 | 0.50 | 3.61 | 5.00 | 2.50 | 3.82 |
| EL826 | 12.00 | 5.88 | 6.99 | 8.83 | 2.63 | 1.33 | 4.66 | 1.72 | 2.81 | 10.50 | 6.00 | 0.50 | 4.17 | 5.00 | 2.50 | 3.82 |
| EL830 | 12.94 | 6.75 | 8.04 | 10.30 | 3.00 | 1.75 | 5.86 | 2.31 | 3.75 | 11.44 | 6.69 | 0.56 | 4.81 | 5.75 | 2.88 | 4.45 |
| EL832 | 14.50 | 7.63 | 8.23 | 10.49 | 3.25 | 1.75 | 5.86 | 2.31 | 3.75 | 13.00 | 7.75 | 0.56 | 5.00 | 6.63 | 3.31 | 4.45 |
| EL842 | 17.50 | 8.38 | 9.17 | 11.56 | 4.25 | 2.06 | 6.88 | 2.63 | 4.59 | 14.50 | 8.60 | 0.81 | 6.15 | 7.00 | 3.50 | 4.82 |
| EL852 | 19.25 | 11.50 | 11.57 | 14.47 | 5.25 | 2.63 | 8.00 | 3.25 | 5.88 | 16.88 | 9.19 | 0.81 | 7.55 | 9.63 | 4.82 | 6.07 |
| EL860 | 21.25 | 13.50 | 12.63 | 15.69 | 6.00 | 3.25 | 10.50 | 3.50 | 6.38 | 18.63 | 11.44 | 0.94 | 7.88 | 11.00 | 5.50 | 6.75 |

| Size | M | N | O | O* | R | V | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style DVL only)❊ | Input Key (Style DVLM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EL813 | 1.87 | 4.00 | 2.16 | 1.96 | 1.72 | 0.19 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.38 |
| EL818 | 1.87 | 4.39 | 2.05 | 1.85 | 2.31 | 0.38 | 0.750 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL821 | 1.87 | 4.68 | 2.29 | 2.09 | 2.63 | 0.38 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| EL824 | 1.87 | 5.14 | 2.66 | 2.46 | 2.50 | 0.31 | 1.125 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL826 | 1.87 | 5.63 | 2.73 | 2.53 | 3.25 | 0.31 | 1.250 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL830 | 1.78 | 6.62 | 3.60 | 3.37 | 3.50 | 0.25 | 1.500 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL832 | 1.78 | 6.62 | 3.60 | 3.37 | 4.00 | 0.38 | 1.625 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL842 | 1.76 | 8.12 | 4.50 | 4.22 | 4.50 | 0.50 | 1.750 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| EL852 | 2.45 | 9.06 | 4.78 | 4.50 | 4.25 | 0.50 | 2.000 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| EL860 | 2.31 | 10.75 | 5.25 | 5.25 | 5.00 | 0.63 | 2.250 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL813 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

## EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 132 for GR Series dimensions.

## ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| D_BSC or D_BLSC | DVLMQ |
| D_BC or D_BLC | DVLM |
| D_B or D_BL | DVL |

Convert Style DVL to motorized coupling input using kits shown on page 278.

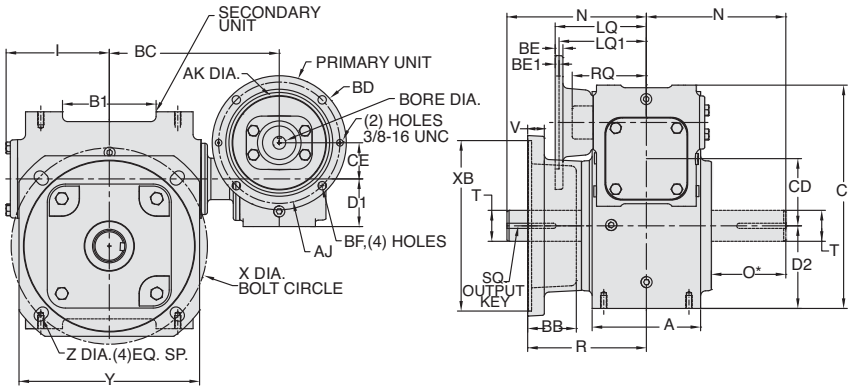
# ELECTRA-GEAR

## EL Series Dimensions

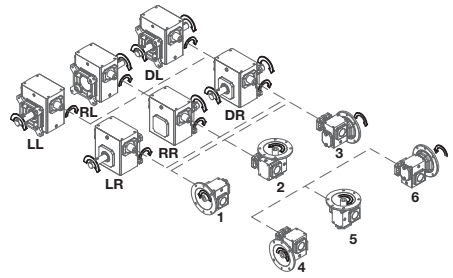
### Styles: DFRMQ, DFRM, DFR

ALUMINUM EL SERIES

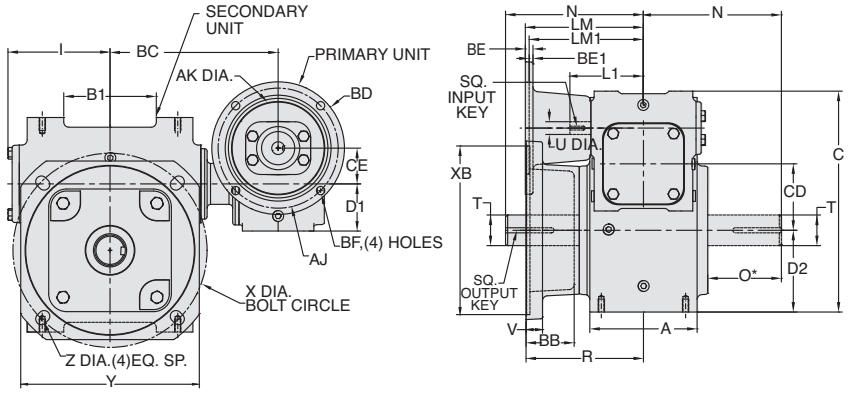
## Style DFRMQ



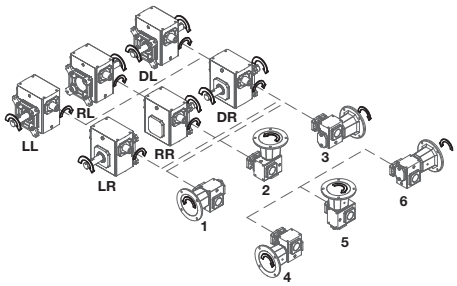

**ASSEMBLIES**



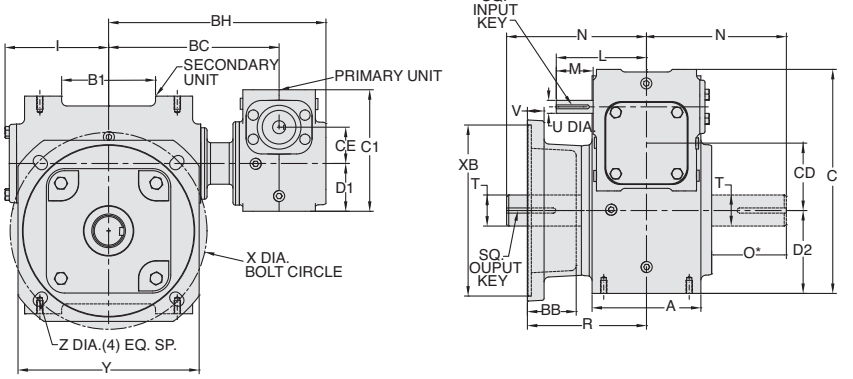

## Style DFRM



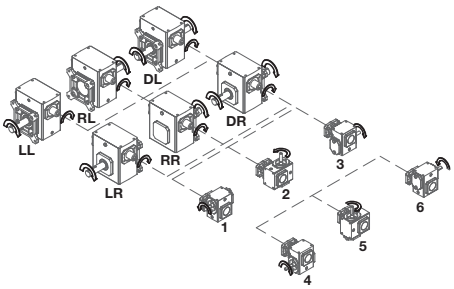

**ASSEMBLIES**




## Style DFR




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DFRMQ, DFRM, DFR

### STYLE DFRMQ, DFRM, DFR DIMENSIONS (Inches)

| Size | A | BB | BC | BH | B1 | C | CD | CE | C1 | D1 | D2 | I | L | M | N | O* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL818 | 3.50 | 1.27 | 5.94 | 7.79 | 2.48 | 7.00 | 1.75 | 1.33 | 4.66 | 1.72 | 2.31 | 3.03 | 3.82 | 1.87 | 4.39 | 1.85 |
| EL821 | 3.91 | 1.51 | 6.32 | 8.16 | 2.76 | 7.63 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 | 3.40 | 3.82 | 1.87 | 4.68 | 2.09 |
| EL824 | 4.06 | 1.35 | 6.43 | 8.27 | -- | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 | 3.61 | 3.82 | 1.87 | 5.14 | 2.46 |
| EL826 | 4.84 | 1.35 | 6.99 | 8.83 | 4.21 | 8.81 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 | 4.17 | 3.82 | 1.87 | 5.63 | 2.53 |
| EL830 | 5.25 | 2.36 | 8.04 | 10.30 | 4.50 | 10.06 | 3.00 | 1.75 | 5.86 | 2.31 | 3.50 | 4.81 | 4.45 | 1.78 | 6.62 | 3.37 |
| EL832 | 5.25 | 2.54 | 8.23 | 10.49 | 4.53 | 10.81 | 3.25 | 1.75 | 5.86 | 2.31 | 4.00 | 5.00 | 4.45 | 1.78 | 6.62 | 3.37 |
| EL842 | 6.13 | 2.06 | 9.17 | 11.56 | 5.71 | 13.00 | 4.25 | 2.06 | 6.88 | 2.63 | 4.50 | 6.15 | 4.82 | 1.76 | 8.12 | 4.22 |
| EL852 | 7.19 | 1.18 | 11.57 | 14.47 | 7.82 | 13.75 | 5.25 | 2.63 | 8.00 | 3.25 | 4.25 | 7.55 | 6.07 | 2.45 | 9.06 | 4.50 |
| EL860 | 7.00 | 0.25 | 12.63 | 15.69 | -- | 14.25 | 6.00 | 3.25 | 10.50 | 3.50 | 5.00 | 7.88 | 6.75 | 2.31 | 10.75 | 5.25 |

| Size | R | V | X | XB | Y | Z | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key (Style DF only)❊ | Input Key (Style DFM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EL818 | 3.53 | 0.38 | 3.13 | - | 4.00 | 0.34 | 0.750 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 X 1.38 |
| EL821 | 4.25 | 0.50 | 6.88 | 6.00 | 6.49 | 0.44 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 1.44 |
| EL824 | 4.15 | 0.63 | 7.75 | 6.50 | 6.99 | 0.50 | 1.125 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL826 | 4.56 | 0.63 | 7.75 | 6.50 | 6.99 | 0.50 | 1.250 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 X 1.62 |
| EL830 | 5.75 | 0.81 | 9.125-9.500 | 8.25 | 8.74 | 0.56 | 1.500 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL832 | 5.94 | 0.81 | 9.125-.9500 | 8.25 | 8.74 | 0.56 | 1.625 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 3/8 X 2.25 |
| EL842 | 6.06 | 0.75 | 10.75 | 9.75 | 11.00 | 0.69 | 1.750 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 3/8 x 2.50 |
| EL852 | 5.75 | 0.69 | 12.75 | 11.50 | 14.24 | 0.81 | 2.000 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 1/2 x 2.50 |
| EL860 | 7.25 | 1.00 | 15.25 | 13.00 | 17.00 | 0.81 | 2.250 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 5/8 X 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | DFRMQ |
| STANDARD CATALOGED | DFRM |
| OPTION | DFR |

NOTE: New styles are not a direct replacement to orignal ring base.

Convert Style DFR to motorized coupling input using kits shown on page 278.

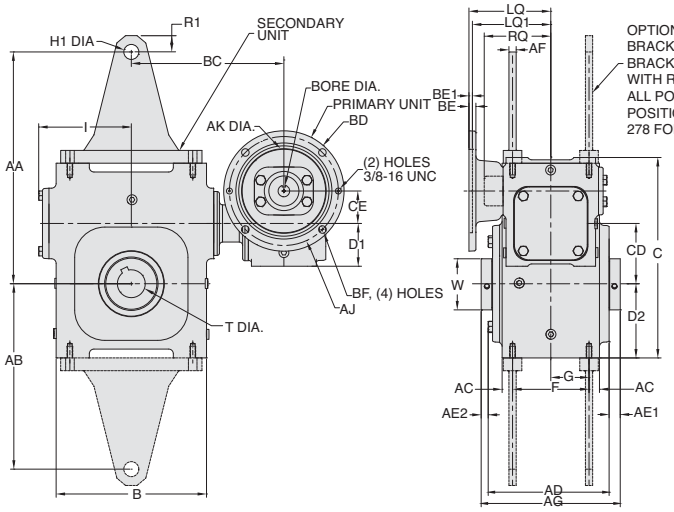
# ELECTRA-GEAR

## EL Series Dimensions

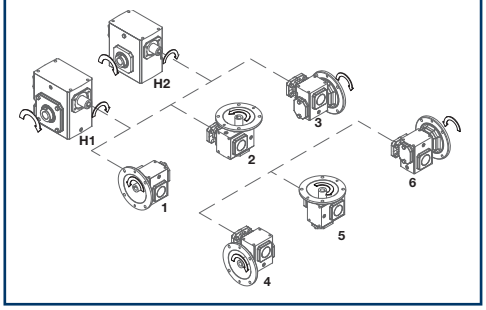
### Styles: DHMQ, DHM, DH

ALUMINUM EL SERIES

## Style DHMQ

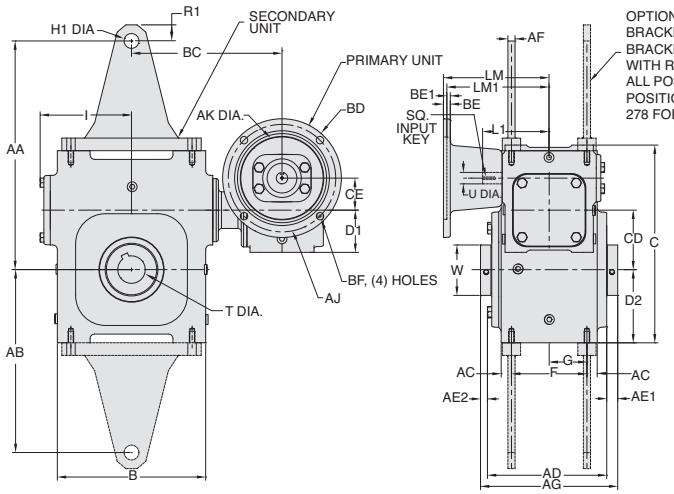



### ASSEMBLIES

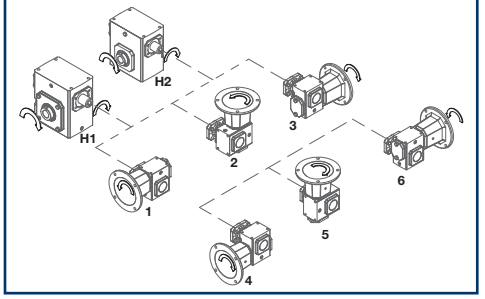



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DHM

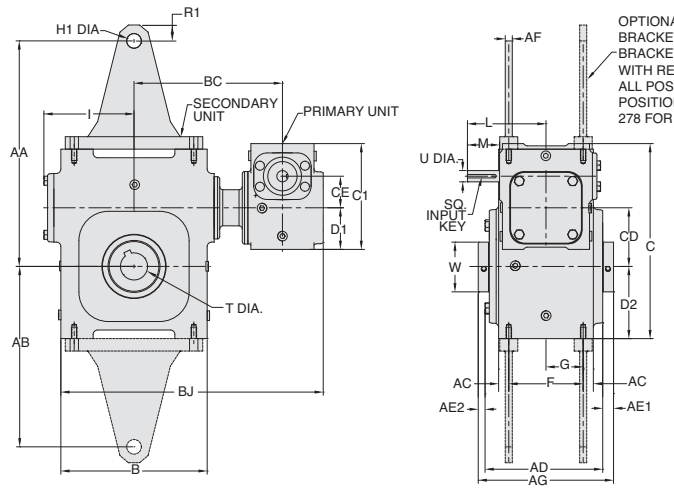



### ASSEMBLIES

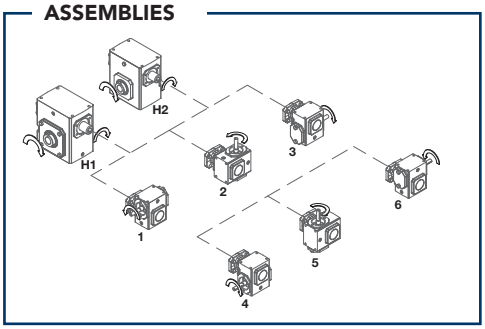



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DH




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

| D2 | Size | AA | AB | AC | AD | AE1 | AE2 | AF | AG | B | BC | C | CD | CE | C1 | D1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | -- | -- | 0.41 | 3.89 | 0.58 | 0.26 | -- | 4.75 | 3.80 | 5.32 | 5.99 | 1.33 | 1.33 | 4.66 | 1.72 | 1.72 |
| **EL818** | 6.25 | 5.00 | 0.28 | 4.72 | 0.49 | 0.29 | 0.69 | 5.50 | 4.83 | 5.94 | 7.00 | 1.75 | 1.33 | 4.66 | 1.72 | 2.31 |
| **EL821** | 7.63 | 6.00 | 0.33 | 4.98 | 0.60 | 0.42 | 0.69 | 6.00 | 5.75 | 6.32 | 7.63 | 2.06 | 1.33 | 4.66 | 1.72 | 2.63 |
| **EL824** | 7.81 | 5.87 | 0.59 | 5.17 | 1.02 | 0.81 | 0.69 | 6.00 | 5.86 | 6.43 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.50 |
| **EL826** | 8.50 | 7.00 | 0.73 | 6.00 | 0.60 | 0.40 | 0.69 | 7.00 | 7.17 | 6.99 | 8.81 | 2.63 | 1.33 | 4.66 | 1.72 | 3.25 |
| **EL830** | 9.94 | 8.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 8.04 | 10.06 | 3.00 | 1.75 | 5.86 | 2.31 | 3.50 |
| **EL832** | 12.50 | 10.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 8.23 | 10.81 | 3.25 | 1.75 | 5.86 | 2.31 | 4.00 |
| **EL842** | 14.69 | 12.00 | 1.19 | 7.52 | 0.63 | 0.35 | 0.69 | 8.50 | 9.63 | 9.17 | 13.00 | 4.25 | 2.06 | 6.88 | 2.63 | 4.50 |
| **EL852** | 17.75 | 14.00 | 0.97 | 8.84 | 0.97 | 0.69 | 0.81 | 10.50 | 11.50 | 11.57 | 15.50 | 5.25 | 2.63 | 8.00 | 3.25 | 4.25 |
| **EL860** | 20.25 | 16.00 | 0.81 | 11.00 | 0.81 | 0.81 | 0.81 | 10.38 | 13.50 | 12.63 | 14.25 | 6.00 | 3.25 | 10.50 | 3.50 | 5.00 |

| Size | F | G | H1 | I | L | M | R1 | V | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key (Style DH only)❊ | Input Key (Style DHM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 2.00 | 1.00 | -- | 2.40 | 3.82 | 1.87 | - | 1.00 | 0.625 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/16 x 1.50 |
| **EL818** | 2.94 | 1.47 | 0.53 | 3.03 | 3.82 | 1.87 | 0.66 | 1.44 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 3.00 |
| **EL821** | 3.25 | 1.63 | 0.53 | 3.40 | 3.82 | 1.87 | 0.75 | 1.94 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| **EL824** | 2.88 | 1.44 | 0.53 | 3.61 | 3.82 | 1.87 | 0.75 | 1.94 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| **EL826** | 3.38 | 1.69 | 0.53 | 4.17 | 3.82 | 1.87 | 0.75 | 1.94 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| **EL830** | 4.13 | 2.06 | 0.53 | 4.81 | 4.45 | 1.78 | 0.81 | 2.76 | 2.188 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| **EL832** | 4.13 | 2.06 | 0.53 | 5.00 | 4.45 | 1.78 | 0.88 | 2.76 | 2.188 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| **EL842** | 3.75 | 1.88 | 0.53 | 6.15 | 4.82 | 1.76 | 0.88 | 2.76 | 2.188 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| **EL852** | 5.25 | 2.63 | 0.66 | 7.55 | 6.07 | 2.45 | 1.13 | 4.26 | 3.438 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 7/8 x 4.00 |
| **EL860** | 5.38 | 2.69 | 0.66 | 7.88 | 6.75 | 2.31 | 1.13 | 3.74 | 3.438 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 7/8 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| **EL813** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL818** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL821** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL824** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL826** | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| **EL830** | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL832** | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| **EL842** | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| **EL852** | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| **EL860** | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

Note: Torque arm bracket available separately. Refer to page 278 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

- • Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| D_MHSC | DHMQ |
| D_MHC | DHM |
| D_MH | DH |

Convert Style DH to motorized coupling input using kits shown on page 278.

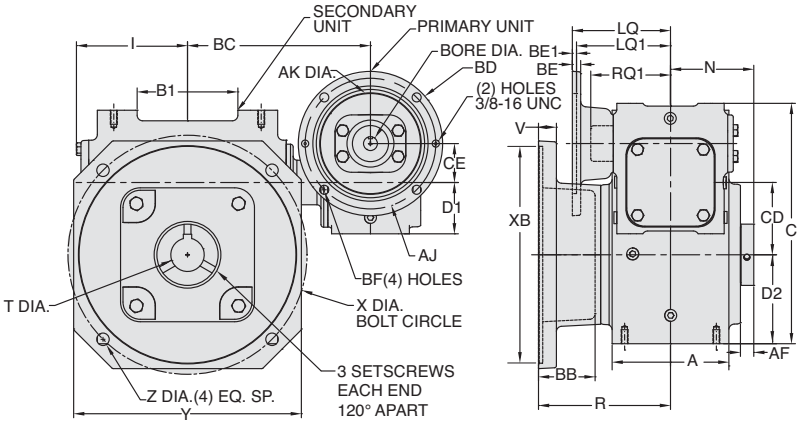
# ELECTRA-GEAR

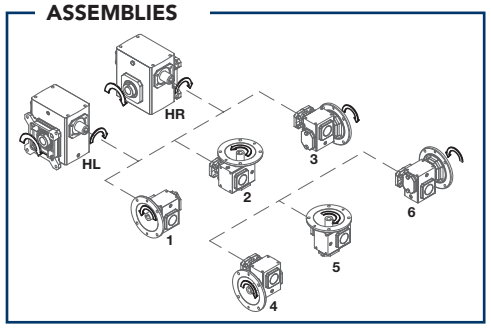
## EL Series Dimensions

### Styles: DFHMQ, DFHM, DFH

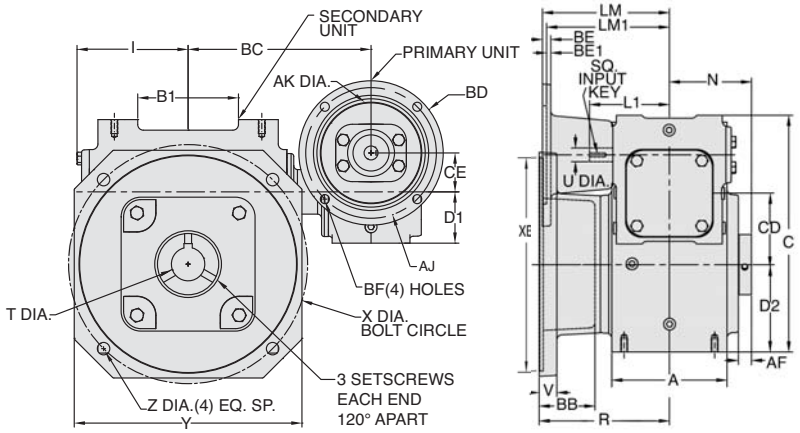
ALUMINUM EL SERIES

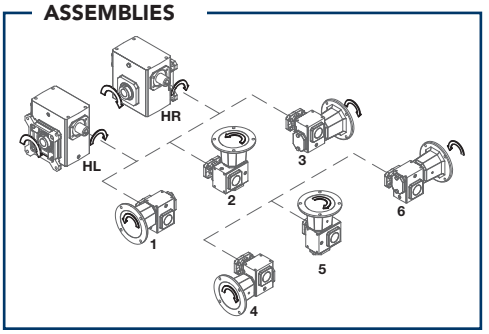
## Style DFHMQ



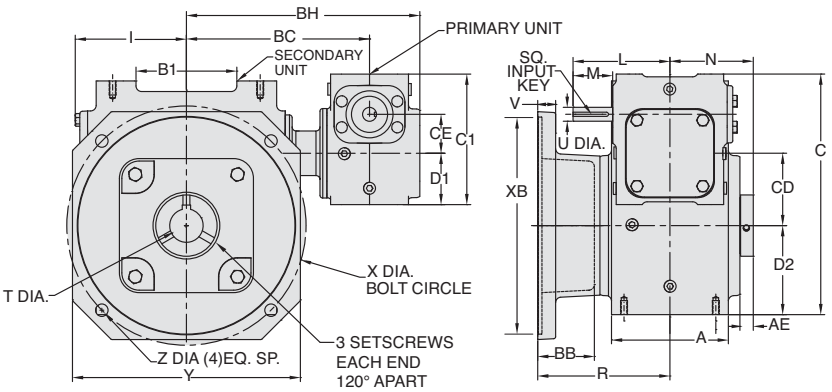



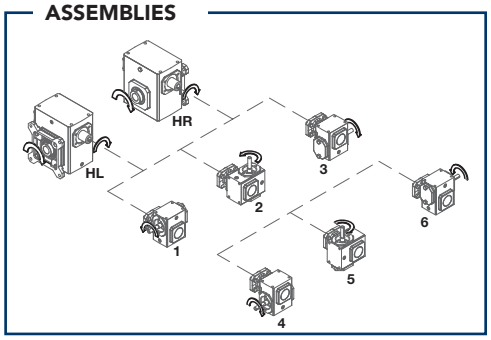

## Style DFHM




## Style DFH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DFHMQ, DFHM, DFH

### STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

| Size | A | AE | B1 | BB | BC | BH | C | CD | CE | C1 | D1 | D2 | I | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EL818 | 3.50 | 0.49 | 2.48 | 1.27 | 5.94 | 7.79 | 7.00 | 1.75 | 1.33 | 4.66 | 1.72 | 1.72 | 3.03 | 3.82 | 1.87 | 2.75 |
| EL821 | 3.91 | 0.60 | 2.76 | 1.51 | 6.32 | 8.16 | 7.63 | 2.06 | 1.33 | 4.66 | 1.72 | 2.31 | 3.40 | 3.82 | 1.87 | 2.99 |
| EL824 | 4.06 | 1.05 | -- | 1.35 | 6.43 | 8.27 | 7.81 | 2.38 | 1.33 | 4.66 | 1.72 | 2.63 | 3.61 | 3.82 | 1.87 | 3.51 |
| EL826 | 4.84 | 0.60 | 4.21 | 1.35 | 6.99 | 8.83 | 8.81 | 2.63 | 1.33 | 4.66 | 1.72 | 2.50 | 4.17 | 3.82 | 1.87 | 3.19 |
| EL830 | 5.25 | 0.60 | 4.50 | 2.36 | 8.04 | 10.30 | 10.06 | 3.00 | 1.75 | 5.86 | 2.31 | 3.25 | 4.81 | 4.45 | 1.78 | 3.75 |
| EL832 | 5.25 | 0.60 | 4.53 | 2.54 | 8.23 | 10.49 | 10.81 | 3.25 | 1.75 | 5.86 | 2.31 | 3.50 | 5.00 | 4.45 | 1.78 | 3.75 |
| EL842 | 6.13 | 0.63 | 5.71 | 2.06 | 9.17 | 11.56 | 13.00 | 4.25 | 2.06 | 6.88 | 2.63 | 4.00 | 6.15 | 4.82 | 1.76 | 4.25 |
| EL852 | 7.19 | 0.97 | 7.82 | 1.18 | 11.57 | 14.47 | 15.50 | 5.25 | 2.63 | 8.00 | 3.25 | 4.50 | 7.55 | 6.07 | 2.45 | 5.25 |
| EL860 | 7.00 | 0.81 | -- | 0.25 | 12.63 | 15.69 | 14.25 | 6.00 | 3.25 | 10.50 | 3.50 | 4.25 | 7.88 | 6.75 | 2.31 | 5.19 |

| Size | R | V | X | XB | Y | Z | T MAX• -0.000 +0.0025 | U +0.000 -0.0015 | Input Key (Style DFH only)❊ | Input Key (Style DFHM only)❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EL818 | 3.53 | 0.38 | 3.13 | - | 4.00 | 0.34 | 1.000 | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 1/4 x 3.00 |
| EL821 | 4.25 | 0.50 | 6.88 | 6.00 | 6.49 | 0.44 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| EL824 | 4.15 | 0.63 | 7.38 | 6.50 | 6.99 | 0.50 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| EL826 | 4.56 | 0.63 | 7.38 | 6.50 | 6.99 | 0.50 | 1.500* | 0.500 | 1/8 x 1.00 | 1/8 x 1.00 | 3/8 x 3.00 |
| EL830 | 5.75 | 0.81 | 9.125-9.500 | 8.25 | 8.74 | 0.56 | 2.188 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| EL832 | 5.94 | 0.81 | 10.75 | 9.75 | 8.74 | 0.56 | 2.188 | 0.625 | 3/16 x 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| EL842 | 6.06 | 0.75 | 11.50 | 10.25 | 11.00 | 0.69 | 2.188 | 0.625 | 3/16 X 1.38 | 3/16 x .500 | 1/2 x 3.00 |
| EL852 | 5.75 | 0.69 | 12.75 | 11.50 | 14.24 | 0.81 | 3.438 | 0.750 | 3/16 x 1.63 | 3/16 x .500 | 7/8 x 4.00 |
| EL860 | 7.25 | 1.00 | 15.25 | 13.00 | 17.00 | 0.81 | 3.438 | 0.875 | 3/16 x 1.63 | 3/16 x .500 | 7/8 x 4.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | L1 56C/140TC | L1 180TC / 210TC | LQ 56C/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|---|---|
| EL818 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL821 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL824 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL826 | 6.07 | -- | 3.82 | -- | 3.79 | -- | 3.09 | -- |
| EL830 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL832 | 5.88 | -- | 3.64 | -- | 4.42 | -- | 3.59 | -- |
| EL842 | 6.26 | -- | 4.00 | -- | 4.79 | -- | 4.06 | -- |
| EL852 | 7.04 | 7.86 | 4.88 | 4.88 | 5.33 | 5.33 | 4.82 | 4.82 |
| EL860 | 7.86 | 8.50 | 5.56 | 5.56 | 6.16 | 6.16 | 5.51 | 5.51 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

- • Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

– Contact Factory for price and availability.

### EL SERIES MOUNTING DIMENSIONS

– EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
– See page 132 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| D_RHSC | DFHMQ |
| D_RHC | DFHM |
| D_RH | DFH |

Convert Style DFH to motorized coupling input using kits shown on page 278.

# Model Number System
# Double Reduction Helical-Worm

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

## 800 Series Gear Reducer Model Number Nomenclature

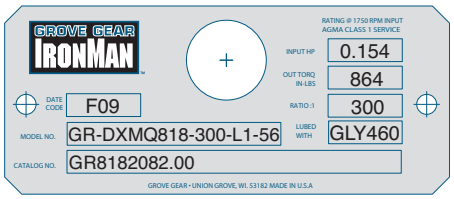
All new stock and custom 800 Series Grove Gear and Electra-Gear worm reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional base for example, the modification number T818, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, GR8135000 and EL8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

### TYPICAL NAMEPLATE
(Grove Gear shown)




**Series Code**

**GR** - Grove Gear IRONMAN Cast Iron Reducers
**NH** - Grove Gear IRONMAN Narrow Housing Cast Iron Reducers
**EL** - Electra-Gear Aluminum Reducers
**GRG** - Grove Gear Flexaline Interchange (Sizes 821, 826, 832)
**GRL** - Leeson IRONMAN Interchange (Sizes 821, 826, 832)

**Style**

**SOLID OUTPUT SHAFT**
**DXMQ** – Motorized, Quill Input
**DXM** – Motorized, Flexible Coupling Input
**DX** – Non-Flanged

**HOLLOW OUTPUT SHAFT**
**DXHMQ** – Motorized, Quill Input
**DXHM** – Motorized, Flexible Coupling Input
**DXH** – Non-Flanged

**WASHGUARD STYLES**
**W** prefix; i.e. WDXMQ denotes WASHDOWN Reducer
**S** prefix; i.e. SDXMQ denotes All-Stainless Steel Reducer

**Size**

**800 SERIES CENTER DISTANCES**

| Size | Center Distance (Inches) |
|---|---|
| 813 | 1.33 |
| 815 | 1.54 |
| 818 | 1.75 |
| 821 | 2.06 |
| 824 | 2.38 |
| 826 | 2.62 |
| 830 | 3.00 |
| 832 | 3.25 |
| 842 | 4.25 |
| 852 | 5.25 |
| 860 | 6.00 |
| 870* | 7.00 |
| 880* | 8.00 |
| 8100* | 10.00 |

* GR series only

**Ratio**

**See Selection Tables on pages 194-197, for all available ratios.**

**Output Shaft Orientation**

**L** – Left-hand Output Shaft*
**R** – Right-hand Output Shaft*
**D** – Double Output Shaft
**H** – Hollow Output Shaft
* Viewed from drive end of reducer.

**Mounting Assembly**

**Assembly numbers 1-6 are available. Refer to dimension layouts.**

**Motor Flange**

| Input Code | | For Input Type | |
|---|---|---|---|
| Single Input | Dual Input | | |
| blank | A | non-motorized | NEMA Input |
| 48 | 48A | 48CZ | |
| 56 | 56A | 56C | |
| 140 | 140A | 143-5TC | |
| 180 | 180A | 182-4TC | |
| 210 | 210A | 213-5TC | |
| 250 | 250A | 254-6TC | |
| 63 | Contact Grove Gear | D63D B5 | IEC Input |
| 71 | | D71D B5 | |
| 80 | | D80D B5 | |
| 90 | | D90D B5 | |
| 110 | | D100LD/D112MD B5 | |
| 132 | | D132D | |

**Output Bore Code**

**Hollow Shaft Only**
See page 130.

## Sample Model Numbers

### Solid Output Shaft - GR Series

Cast iron, double reduction, 2.38” reducer with 56C motorized quill input, left-hand output shaft, 300:1 ratio.

| GR | - | DXMQ | 824 | - | 300 | - | L1 | - | 56 |
|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type |

### Hollow Output Shaft - EL Series

Aluminum, double reduction, 1.75” reducer with 56C motorized quill input, 1.00” hollow output bore, 100:1 ratio.

| EL | - | DXHMQ | 818 | - | 100 | - | H13 | - | 56 | - | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Series | | Style | Size | | Ratio | | Shaft Orientation | | Input Type | | Output Bore Code |

# Cast Iron Solid Shaft Output Styles



## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DXMQ, DXM and DX can be field or Factory modified into a wide range of styles.*

| | | Horizontal Base Worm Over | Vertical Input Shaft |
|---|---|---|---|
| MOTORIZED C-FLANGE QUILL INPUT | **Style DXMQ** | **Style DXTMQ** | **Style DXJMQ** |
| |  |  |  |
| | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 202-203<br>NH Series 220-221 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 204-205<br>NH Series 222-223 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 208-209<br>NH Series Contact Factory |
| MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT | **Style DXM** | **Style DXTM** | **Style DXJM** |
| |  |  |  |
| | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 202-203<br>NH Series 220-221 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 204-205<br>NH Series 222-223 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 208-209<br>NH Series Contact Factory |
| NON-FLANGED INPUT | **Style DX** | **Style DXT** | **Style DXJ** |
| |  |  |  |
| | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 202-203<br>NH Series 220-221 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 204-205<br>NH Series 222-223 | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 208-209<br>NH Series Contact Factory |

***Additional accessories, options and assembly services are available, Contact Factory for details.**

# Cast Iron Solid Shaft Output Styles

CAST IRON GR SERIES | CAST IRON NH SERIES

## Modified Stock Styles

### MOTORIZED C-FLANGE QUILL INPUT

| Vertical Output Shaft High / Low Base | Flange Mounted Output Shaft | Flange Mounted Output Shaft |
|---|---|---|
| **Style DXV_MQ**** | **Style DXFMQ** | **Style DXFEMQ** |
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 210-211<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 212-213<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 218-2129<br>NH Series 228-229 |

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

| | | |
|---|---|---|
| **Style DXV_M**** | **Style DXFM** | **Style DXFEM** |
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 210-211<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 212-213<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 218-219<br>NH Series 228-229 |

### NON-FLANGED INPUT

| | | |
|---|---|---|
| **Style DXV_**** | **Style DXF** | **Style DXFE** |
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 210-211<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 212-213<br>NH Series Contact Factory | Ratings Pages: 194-197<br>Dimension Pages:<br>GR Series 218-219<br>NH Series 228-229 |

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

# Cast Iron Hollow Shaft Output Styles



## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DXHMQ, DXHM and DXH can be field or Factory modified into a wide range of styles.

### MOTORIZED C-FLANGE QUILL INPUT

**Style DXHMQ**



Ratings Pages: 194-197

Dimension Pages:
GR Series 214-215
NH Series 224-225

**Flange Mounted Output Shaft**

**Style DXFHMQ**



Ratings Pages: 194-197

Dimension Pages:
GR Series 216-217
NH Series 226-227

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

**Style DXHM**



Ratings Pages: 194-197

Dimension Pages:
GR Series 214-215
NH Series 224-225

**Style DXFHM**



Ratings Pages: 194-197

Dimension Pages:
GR Series 216-217
NH Series 226-227

### NON-FLANGED INPUT

**Style DXH**



Ratings Pages: 194-197

Dimension Pages:
GR Series 214-215
NH Series 224-225

**Style DXFH**



Ratings Pages: 194-197

Dimension Pages:
GR Series 216-217
NH Series 226-227

# ELECTRA-GEAR

## Aluminum
## Hollow Shaft Output Styles

ALUMINUM EL SERIES

| Stock Styles | Modified Stock Styles |
|---|---|

Using off-the-shelf accessories, stock styles DXHMQ, DXHM and DXH can be field or Factory modified into a wide range of styles.

### MOTORIZED C-FLANGE QUILL INPUT

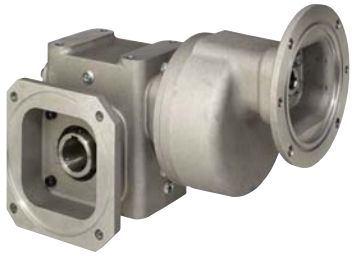
**Style DXHMQ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 242-243

**Style DXFHMQ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 244-245

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

**Style DXHM**



Ratings Pages: 194-197

Dimension Pages:
EL Series 242-243

**Style DXFHM**



Ratings Pages: 194-197

Dimension Pages:
EL Series 244-245

### NON-FLANGED INPUT

**Style DXH**



Ratings Pages: 194-197

Dimension Pages:
EL Series 242-2453

**Style DXFH**



Ratings Pages: 194-197

Dimension Pages:
EL Series 244-245

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, stock styles DXMQ, DXM and DX can be field or Factory modified into a wide range of styles.

### MOTORIZED C-FLANGE QUILL INPUT

| Style DXMQ | Horizontal Base Worm Over<br>Style DXTMQ | Horizontal Base Worm Under<br>Style DXUMQ* |
|---|---|---|
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 230-231 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 232-233 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 234-235 |

### MOTORIZED C-FLANGE FLEXIBLE COUPLING INPUT

| Style DXM | Style DXTM | Style DXUM* |
|---|---|---|
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 230-231 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 232-233 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 234-235 |

### NON-FLANGED INPUT

| Style DX | Style DXT | Style DXU* |
|---|---|---|
|  |  |  |
| Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 230-231 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 232-233 | Ratings Pages: 194-197<br>Dimension Pages:<br>EL Series 234-235 |

**Additional accessories, options and assembly services are available, Contact Factory for details.**

* Not a recommended mounting style. Consult Factory for selection assistance.

# ELECTRA-GEAR
## Aluminum
## Solid Shaft Output Styles

ALUMINUM EL SERIES

### Modified Stock Styles

**Vertical Input Shaft**

**Style DXJMQ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 236-237

**Vertical Output Shaft Low Base**

**Style DXVLMQ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 238-239

**Flange Mounted Output Shaft**

**Style DXFRMQ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 240-241

**Style DXJM**



Ratings Pages: 194-197

Dimension Pages:
EL Series 236-237

**Style DXVLM**



Ratings Pages: 194-197

Dimension Pages:
EL Series 238-239

**Style DXFRM**



Ratings Pages: 194-197

Dimension Pages:
EL Series 240-241

**Style DXJ**



Ratings Pages: 194-197

Dimension Pages:
EL Series 236-237

**Style DXVL**



Ratings Pages: 194-197

Dimension Pages:
EL Series 238-239

**Style DXFR**



Ratings Pages: 194-197

Dimension Pages:
EL Series 240-241

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

## How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 418 or contact Factory with specific application information. Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

### 1.00 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 | 40 |
| 10 | 175.0 | 813 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 830 | 842 | 842 | 852 | 852 | N/A | N/A | N/A |
| 15 | 116.7 | 813 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 852 | N/A | N/A | N/A |
| 20 | 87.5 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | N/A |
| 25 | 70.0 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 880 | 880 | 880 | 8100 |
| 30 | 58.3 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | N/A | N/A | N/A | N/A | |
| 40 | 43.8 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | N/A | N/A | N/A | N/A | |
| 45 | 38.9 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | N/A | N/A | N/A | N/A | |
| 50 | 35.0 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | 8100 | |
| 60 | 29.2 | 813 | 813 | 815 | 815 | 821 | 824 | 824 | 826 | 830* | 842 | 842 | 852 | 860 | N/A | N/A | N/A | | |
| 75 | 23.3 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | 870 | 880 | 8100 | 8100 | | |
| 80 | 21.9 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 832** | 842 | 852 | 860 | N/A | N/A | N/A | | | |
| 100 | 17.5 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | | |
| 125 | 14.0 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | 870 | 880 | 8100 | | | | |
| 150 | 11.7 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 860 | 880 | 8100 | 8100 | | | | |
| 200 | 8.8 | 813 | 815 | 821 | 821 | 824 | 830* | 832** | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | | |
| 250 | 7.0 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | | |
| 300 | 5.8 | 815 | 815 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 8100 | | | | | | | |
| 400 | 4.4 | 821 | 824 | 830 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |
| 500 | 3.5 | 826 | 830 | 832 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | | |
| 600 | 2.9 | 826 | 830 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | | |

### 1.25 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 | 30 |
| 10 | 175.0 | 813 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | N/A | N/A | N/A |
| 15 | 116.7 | 813 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 824 | 830 | 842 | 842 | 852 | 852 | N/A | N/A | N/A |
| 20 | 87.5 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | N/A | N/A | N/A | N/A |
| 25 | 70.0 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 870 | 870 | 880 | 8100 | 8100 |
| 30 | 58.3 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | N/A | N/A | N/A | N/A |
| 40 | 43.8 | 813 | 813 | 813 | 815 | 821 | 824 | 824 | 830 | 830* | 842 | 842 | 852 | N/A | N/A | N/A | N/A | N/A |
| 45 | 38.9 | 813 | 813 | 813 | 815 | 821 | 824 | 824 | 830 | 830* | 842 | 842 | 852 | N/A | N/A | N/A | N/A | N/A |
| 50 | 35.0 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | 870 | 880 | 8100 | 8100 | 8100 |
| 60 | 29.2 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 860 | N/A | N/A | N/A | | |
| 75 | 23.3 | 813 | 813 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | |
| 80 | 21.9 | 813 | 813 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | | | |
| 100 | 17.5 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 880 | 880 | 8100 | | | |
| 125 | 14.0 | 815 | 815 | 821 | 821 | 824 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | | |
| 150 | 11.7 | 815 | 815 | 821 | 824 | 826 | 830* | 832 | 842 | 842 | 852 | 870 | 8100 | 8100 | | | | |
| 200 | 8.8 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 860 | 870 | 8100 | 8100 | | | | |
| 250 | 7.0 | 815 | 821 | 824 | 824 | 830* | 832** | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | | |
| 300 | 5.8 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | | |
| 400 | 4.4 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | 860 | | | | | | | | | |
| 500 | 3.5 | 830 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | | |
| 600 | 2.9 | 826 | 830 | 832 | 842 | 852 | 852 | 852 | | | | | | | | | | |

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 194-197.

♠ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.

Refer to page 201 for exact ratio of helical primary stage and worm gear secondary stage.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

# Quick Selections

## GR • NH • EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### 1.50 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 25 |
| 10 | 175.0 | 813 | 813 | 813 | 813 | 813 | 815 | 818 | 824 | 824 | 830 | 842 | 842 | 852 | N/A | N/A | N/A |
| 15 | 116.7 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | N/A | N/A | N/A |
| 20 | 87.5 | 813 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832 | 842 | 852 | 852 | N/A | N/A | N/A |
| 25 | 70.0 | 813 | 813 | 813 | 815 | 818 | 824 | 824 | 826 | 830* | 842 | 852 | 870 | 870 | 880 | 880 | 8100 |
| 30 | 58.3 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | N/A | N/A | N/A | N/A |
| 40 | 43.8 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | N/A | N/A | N/A | N/A |
| 45 | 38.9 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | N/A | N/A | N/A | N/A | N/A |
| 50 | 35.0 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 870 | 870 | 8100 | 8100 | 8100 |
| 60 | 29.2 | 813 | 815 | 815 | 821 | 824 | 826 | 826 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | | |
| 75 | 23.3 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 852 | 870 | 880 | 8100 | | |
| 80 | 21.9 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 860 | N/A | N/A | N/A | | |
| 100 | 17.5 | 815 | 815 | 821 | 821 | 824 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | | |
| 125 | 14.0 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 842 | 852 | 870 | 8100 | 8100 | | | |
| 150 | 11.7 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | |
| 200 | 8.8 | 815 | 821 | 824 | 824 | 830* | 832** | 842 | 852 | 852 | 870 | 8100 | 8100 | | | | |
| 250 | 7.0 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | | | | | |
| 300 | 5.8 | 815 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | | | | | | |
| 400 | 4.4 | 826 | 830 | 830 | 842 | 842 | 852 | 852 | | | | | | | | | |
| 500 | 3.5 | 830 | 832 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |
| 600 | 2.9 | 830 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |

### 1.75 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 |
| 10 | 175.0 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 824 | 830* | 842 | 842 | 852 | N/A | N/A |
| 15 | 116.7 | 813 | 813 | 813 | 813 | 815 | 821 | 821 | 824 | 830 | 832 | 842 | 852 | 852 | N/A | N/A |
| 20 | 87.5 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | N/A | N/A | N/A |
| 25 | 70.0 | 813 | 813 | 815 | 815 | 821 | 824 | 824 | 830 | 842 | 842 | 852 | 870 | 870 | 880 | 8100 |
| 30 | 58.3 | 813 | 813 | 815 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 852 | 852 | N/A | N/A | N/A |
| 40 | 43.8 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | N/A |
| 45 | 38.9 | 813 | 813 | 815 | 821 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | N/A |
| 50 | 35.0 | 813 | 813 | 818 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 |
| 60 | 29.2 | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832** | 842 | 852 | 852 | N/A | N/A | N/A | |
| 75 | 23.3 | 813 | 815 | 821 | 821 | 824 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | 8100 | |
| 80 | 21.9 | 813 | 815 | 821 | 824 | 824 | 830 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | | |
| 100 | 17.5 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 842 | 852 | 870 | 8100 | 8100 | | |
| 125 | 14.0 | 815 | 818 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | |
| 150 | 11.7 | 815 | 821 | 824 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | |
| 200 | 8.8 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | | | | |
| 250 | 7.0 | 821 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | | |
| 300 | 5.8 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | 852 | 880 | 8100 | | | | | |
| 400 | 4.4 | 826 | 830 | 832 | 842 | 852 | 852 | 860 | | | | | | | | |
| 500 | 3.5 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |
| 600 | 2.9 | 830 | 832 | 842 | 842 | 852 | 852 | 860 | | | | | | | | |

### 2.00 Service Factor

| Nominal Ratio♠ | Output RPM | Input Horsepower @ 1750 RPM | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/8 | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 |
| 10 | 175.0 | 813 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 852 | 852 | N/A | N/A |
| 15 | 116.7 | 813 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 852 | N/A | N/A |
| 20 | 87.5 | 813 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | N/A | N/A | N/A |
| 25 | 70.0 | 813 | 813 | 815 | 818 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 870 | 870 | 880 | 8100 |
| 30 | 58.3 | 813 | 813 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 852 | N/A | N/A | N/A | |
| 40 | 43.8 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | N/A | N/A | N/A | |
| 45 | 38.9 | 813 | 815 | 815 | 821 | 824 | 826 | 830 | 832** | 842 | 842 | 852 | N/A | N/A | N/A | |
| 50 | 35.0 | 813 | 815 | 821 | 821 | 824 | 826 | 830 | 842 | 842 | 852 | 860 | 870 | 880 | 8100 | |
| 60 | 29.2 | 815 | 815 | 821 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 860 | N/A | N/A | | |
| 75 | 23.3 | 815 | 815 | 821 | 824 | 826 | 830 | 832 | 842 | 842 | 852 | 870 | 880 | 8100 | | |
| 80 | 21.9 | 815 | 815 | 821 | 824 | 826 | 830* | 832** | 842 | 842 | 852 | N/A | N/A | N/A | | |
| 100 | 17.5 | 815 | 815 | 821 | 824 | 826 | 832 | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | |
| 125 | 14.0 | 815 | 821 | 824 | 824 | 830 | 832** | 842 | 842 | 852 | 870 | 880 | 8100 | | | |
| 150 | 11.7 | 815 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 870 | 8100 | 8100 | | | |
| 200 | 8.8 | 821 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | | |
| 250 | 7.0 | 821 | 824 | 826 | 830* | 842 | 842 | 852 | 852 | 880 | 8100 | 8100 | | | | |
| 300 | 5.8 | 821 | 824 | 830 | 832** | 842 | 842 | 852 | 860 | 880 | 8100 | | | | | |
| 400 | 4.4 | 830 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | |
| 500 | 3.5 | 832 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |
| 600 | 2.9 | 830 | 842 | 842 | 852 | 852 | 860 | | | | | | | | | |

Note: This chart is meant as a guide for reducer selections at specific motor horsepowers.
Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages 194-197.
♠ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 201 for exact ratio of helical primary stage and worm gear secondary stage.
* Size 832 must be used for NH Series for this selection.
** Size 842 must be used for NH Series for this selection.

indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.
indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

## How To Use Maximum Rating Tables

Maximum Rating Tables for Double Reduction Gear Reducers are shown on pages 193-196.

**BEFORE YOU START:**

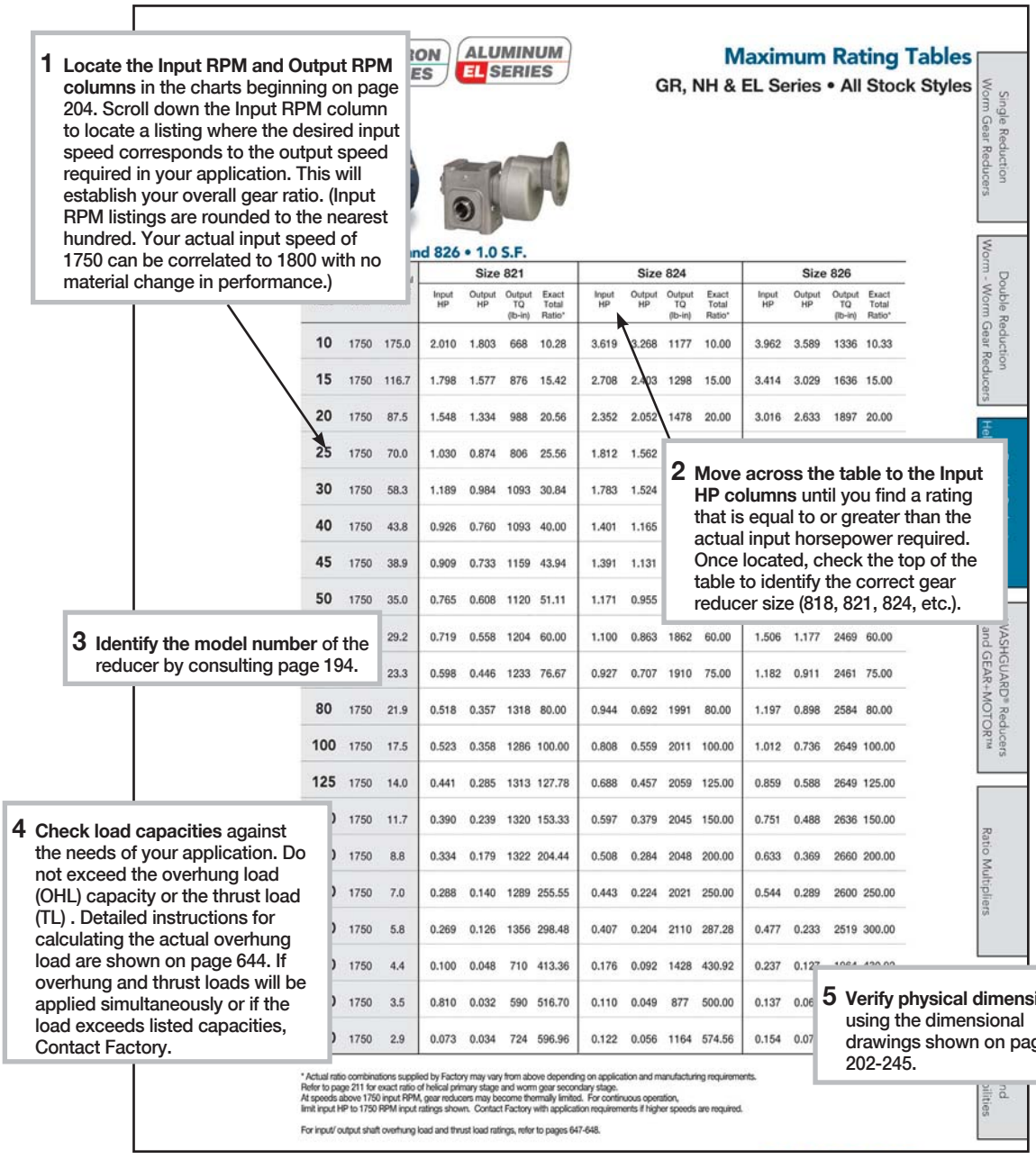
**Identify the Service Factor** of the application (see page 418).

**Determine the actual input horsepower** of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

**Determine the output speed (RPM)** required at output shaft of reducer.

**Identify the mounting style** required by your application from the style charts shown on pages 185-190.

To select the proper gear reducer size, use the Maximum Rating Tables as shown:




**1** **Locate the Input RPM and Output RPM columns** in the charts beginning on page 204. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. This will establish your overall gear ratio. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

**2** **Move across the table to the Input HP columns** until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

**3** **Identify the model number** of the reducer by consulting page 194.

**4** **Check load capacities** against the needs of your application. Do not exceed the overhung load (OHL) capacity or the thrust load (TL) . Detailed instructions for calculating the actual overhung load are shown on page 644. If overhung and thrust loads will be applied simultaneously or if the load exceeds listed capacities, Contact Factory.

**5** **Verify physical dimensions** using the dimensional drawings shown on pages 202-245.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES





### Sizes 813, 815 and 818 • 1.0 S.F.

| Nominal Ratio | Input RPM | Nominal Output RPM | Size 813 | | | | Size 815** | | | | Size 818 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* |
| **10** | 1750 | 175.0 | 0.767 | 0.679 | 252 | 10.00 | 1.265 | 1.123 | 416 | 10.00 | 1.702 | 1.524 | 564 | 10.00 |
| **15** | 1750 | 116.7 | 0.616 | 0.530 | 294 | 15.00 | 0.993 | 0.849 | 472 | 15.00 | 1.196 | 1.041 | 578 | 15.00 |
| **20** | 1750 | 87.5 | 0.505 | 0.420 | 311 | 20.00 | 0.838 | 0.691 | 511 | 20.00 | 1.000 | 0.853 | 632 | 20.00 |
| **25** | 1750 | 70.0 | 0.370 | 0.306 | 282 | 25.00 | 0.629 | 0.528 | 486 | 25.00 | 0.844 | 0.718 | 662 | 25.00 |
| **30** | 1750 | 58.3 | 0.399 | 0.311 | 345 | 30.00 | 0.665 | 0.510 | 566 | 30.00 | 0.770 | 0.623 | 692 | 30.00 |
| **40** | 1750 | 43.8 | 0.302 | 0.235 | 338 | 40.00 | 0.516 | 0.401 | 576 | 40.00 | 0.595 | 0.479 | 690 | 40.00 |
| **45** | 1750 | 40.1 | 0.306 | 0.229 | 363 | 43.69 | 0.519 | 0.385 | 609 | 43.69 | 0.590 | 0.463 | 732 | 43.69 |
| **50** | 1750 | 35.0 | 0.251 | 0.187 | 345 | 50.00 | 0.429 | 0.322 | 593 | 50.00 | 0.492 | 0.382 | 705 | 50.00 |
| **60** | 1750 | 29.2 | 0.244 | 0.174 | 375 | 60.00 | 0.418 | 0.295 | 638 | 60.00 | 0.469 | 0.352 | 760 | 60.00 |
| **75** | 1750 | 23.3 | 0.205 | 0.138 | 382 | 75.00 | 0.352 | 0.237 | 656 | 75.00 | 0.392 | 0.281 | 777 | 75.00 |
| **80** | 1750 | 21.9 | 0.215 | 0.140 | 404 | 80.00 | 0.392 | 0.254 | 731 | 80.00 | 0.402 | 0.282 | 812 | 80.00 |
| **100** | 1750 | 17.5 | 0.179 | 0.110 | 395 | 100.00 | 0.327 | 0.196 | 704 | 100.00 | 0.345 | 0.227 | 818 | 100.00 |
| **125** | 1750 | 14.0 | 0.153 | 0.087 | 403 | 125.00 | 0.280 | 0.157 | 723 | 125.00 | 0.292 | 0.181 | 833 | 125.00 |
| **150** | 1750 | 11.7 | 0.142 | 0.074 | 408 | 150.00 | 0.246 | 0.127 | 701 | 150.00 | 0.261 | 0.150 | 831 | 150.00 |
| **200** | 1750 | 8.8 | 0.124 | 0.056 | 413 | 200.00 | 0.228 | 0.102 | 753 | 200.00 | 0.221 | 0.113 | 831 | 200.00 |
| **250** | 1750 | 7.0 | 0.111 | 0.045 | 413 | 250.00 | 0.196 | 0.077 | 709 | 250.00 | 0.194 | 0.089 | 817 | 250.00 |
| **300** | 1750 | 6.1 | 0.102 | 0.039 | 421 | 287.28 | 0.188 | 0.072 | 777 | 287.28 | 0.179 | 0.079 | 849 | 287.288 |
| **400** | 1750 | 4.4 | 0.040 | 0.015 | 228 | 400.00 | 0.086 | 0.027 | 392 | 400.00 | 0.068 | 0.031 | 451 | 400.00 |
| **500** | 1750 | 3.5 | 0.030 | 0.010 | 180 | 500.00 | 0.063 | 0.017 | 308 | 500.00 | 0.046 | 0.019 | 348 | 500.00 |
| **600** | 1750 | 3.0 | 0.029 | 0.011 | 232 | 574.56 | 0.065 | 0.019 | 403 | 574.56 | 0.049 | 0.021 | 459 | 574.56 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 201 for exact ratio of helical primary stage and worm gear secondary stage.
** Size 815 is not available in EL Series.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input / output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles





### Sizes 821, 824 and 826 • 1.0 S.F.

| Nominal Ratio | Input RPM | Nominal Output RPM | Size 821 | | | | Size 824 | | | | Size 826 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* |
| **10** | 1750 | 175.0 | 2.010 | 1.803 | 668 | 10.00 | 3.619 | 3.268 | 1177 | 10.00 | 3.962 | 3.589 | 1336 | 10.00 |
| **15** | 1750 | 116.7 | 1.798 | 1.577 | 876 | 15.00 | 2.708 | 2.403 | 1298 | 15.00 | 3.414 | 3.029 | 1636 | 15.00 |
| **20** | 1750 | 87.5 | 1.548 | 1.334 | 988 | 20.00 | 2.352 | 2.052 | 1478 | 20.00 | 3.016 | 2.633 | 1897 | 20.00 |
| **25** | 1750 | 70.0 | 1.030 | 0.874 | 806 | 25.00 | 1.812 | 1.562 | 1406 | 25.00 | 2.337 | 2.025 | 1823 | 25.00 |
| **30** | 1750 | 58.3 | 1.189 | 0.984 | 1093 | 30.00 | 1.783 | 1.524 | 1598 | 30.00 | 2.299 | 1.968 | 2064 | 30.00 |
| **40** | 1750 | 43.8 | 0.926 | 0.760 | 1093 | 40.00 | 1.401 | 1.165 | 1676 | 40.00 | 1.812 | 1.510 | 2173 | 40.00 |
| **45** | 1750 | 40.1 | 0.909 | 0.733 | 1159 | 43.69 | 1.391 | 1.131 | 1778 | 43.69 | 1.784 | 1.464 | 2303 | 43.69 |
| **50** | 1750 | 35.0 | 0.765 | 0.608 | 1120 | 50.00 | 1.171 | 0.955 | 1721 | 50.00 | 1.517 | 1.242 | 2236 | 50.00 |
| **60** | 1750 | 29.2 | 0.719 | 0.558 | 1204 | 60.00 | 1.100 | 0.863 | 1862 | 60.00 | 1.506 | 1.177 | 2469 | 60.00 |
| **75** | 1750 | 23.3 | 0.598 | 0.446 | 1233 | 75.00 | 0.927 | 0.707 | 1910 | 75.00 | 1.182 | 0.911 | 2461 | 75.00 |
| **80** | 1750 | 21.9 | 0.518 | 0.357 | 1318 | 80.00 | 0.944 | 0.692 | 1991 | 80.00 | 1.197 | 0.898 | 2584 | 80.00 |
| **100** | 1750 | 17.5 | 0.523 | 0.358 | 1286 | 100.00 | 0.808 | 0.559 | 2011 | 100.00 | 1.012 | 0.736 | 2649 | 100.00 |
| **125** | 1750 | 14.0 | 0.441 | 0.285 | 1313 | 125.00 | 0.688 | 0.457 | 2059 | 125.00 | 0.859 | 0.588 | 2649 | 125.00 |
| **150** | 1750 | 11.7 | 0.390 | 0.239 | 1320 | 150.00 | 0.597 | 0.379 | 2045 | 150.00 | 0.751 | 0.488 | 2636 | 150.00 |
| **200** | 1750 | 8.8 | 0.334 | 0.179 | 1322 | 200.00 | 0.508 | 0.284 | 2048 | 200.00 | 0.633 | 0.369 | 2660 | 200.00 |
| **250** | 1750 | 7.0 | 0.288 | 0.140 | 1289 | 250.00 | 0.443 | 0.224 | 2021 | 250.00 | 0.544 | 0.289 | 2600 | 250.00 |
| **300** | 1750 | 6.1 | 0.269 | 0.126 | 1356 | 287.28 | 0.407 | 0.204 | 2110 | 287.28 | 0.477 | 0.233 | 2519 | 287.28 |
| **400** | 1750 | 4.4 | 0.100 | 0.048 | 710 | 400.00 | 0.176 | 0.092 | 1428 | 400.00 | 0.237 | 0.127 | 1964 | 400.00 |
| **500** | 1750 | 3.5 | 0.810 | 0.032 | 590 | 500.00 | 0.110 | 0.049 | 877 | 500.00 | 0.137 | 0.064 | 1157 | 500.00 |
| **600** | 1750 | 3.0 | 0.073 | 0.034 | 724 | 574.56 | 0.122 | 0.056 | 1164 | 574.56 | 0.154 | 0.075 | 1542 | 574.56 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 201 for exact ratio of helical primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES





### Sizes 830 & 832 • 1.0 S.F.

| Nominal Ratio | Input RPM | Nominal Output RPM | Size GR830 & EL830 | | | | Size NH830 | | | | Size GR832 & EL832 | | | | Size NH832 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Ratio Ratio* |
| **10** | 1750 | 175.0 | 6.000 | 5.475 | 1972 | 10.00 | 5.080 | 4.570 | 1645 | 10.00 | 6.000 | 5.410 | 2011 | 10.34 | 6.000 | 5.410 | 2011 | 10.34 |
| **15** | 1750 | 116.7 | 4.857 | 4.376 | 2364 | 7.5 | 4.560 | 4.030 | 2180 | 7.5 | 6.000 | 5.407 | 2921 | 15.00 | 5.920 | 5.260 | 2839 | 15.00 |
| **20** | 1750 | 87.5 | 4.242 | 3.747 | 2699 | 10.00 | 3.970 | 3.450 | 2488 | 10.00 | 5.632 | 5.026 | 3620 | 20.00 | 5.190 | 4.560 | 3287 | 20.00 |
| **25** | 1750 | 70.0 | 3.000 | 2.642 | 2379 | 5.00 | 2.750 | 2.400 | 2157 | 5.00 | 3.000 | 2.669 | 2403 | 25.85 | 3.000 | 2.620 | 2360 | 25.85 |
| **30** | 1750 | 58.3 | 3.256 | 2.830 | 2968 | 30.00 | 2.930 | 2.560 | 2771 | 30.00 | 4.210 | 3.703 | 3884 | 29.13 | 3.850 | 3.410 | 3680 | 29.13 |
| **40** | 1750 | 43.8 | 2.574 | 2.187 | 3147 | 40.00 | 2.390 | 2.030 | 2924 | 40.00 | 3.427 | 2.953 | 4249 | 40.00 | 3.140 | 2.700 | 3894 | 40.00 |
| **45** | 1750 | 40.1 | 2.545 | 2.110 | 3320 | 43.69 | 2.230 | 1.870 | 3026 | 43.69 | 3.337 | 2.824 | 4442 | 43.69 | 2.970 | 2.500 | 4044 | 43.69 |
| **50** | 1750 | 35.0 | 2.157 | 1.805 | 3250 | 50.00 | 2.000 | 1.680 | 3020 | 50.00 | 2.870 | 2.441 | 4395 | 50.00 | 2.640 | 2.240 | 4028 | 50.00 |
| **60** | 1750 | 29.2 | 2.021 | 1.625 | 3507 | 60.00 | 1.820 | 1.470 | 3181 | 60.00 | 2.657 | 2.190 | 4727 | 60.00 | 2.440 | 1.980 | 4284 | 60.00 |
| **75** | 1750 | 23.3 | 1.702 | 1.338 | 3615 | 75.00 | 1.520 | 1.210 | 3279 | 75.00 | 2.238 | 1.811 | 4892 | 75.00 | 2.060 | 1.640 | 4434 | 75.00 |
| **80** | 1750 | 21.9 | 1.684 | 1.291 | 3714 | 80.00 | 1.430 | 1.100 | 3186 | 80.00 | 2.221 | 1.745 | 5023 | 80.00 | 1.890 | 1.470 | 4247 | 80.00 |
| **100** | 1750 | 17.5 | 1.441 | 1.049 | 3773 | 100.00 | 1.210 | 0.910 | 3284 | 100.00 | 1.872 | 1.409 | 5068 | 100.00 | 1.590 | 1.220 | 4385 | 100.00 |
| **125** | 1750 | 14.0 | 1.226 | 0.863 | 3886 | 125.00 | 1.030 | 0.750 | 3359 | 125.00 | 1.588 | 1.160 | 5224 | 125.00 | 1.300 | 0.958 | 4312 | 125.00 |
| **150** | 1750 | 11.7 | 1.074 | 0.716 | 3868 | 150.00 | 0.900 | 0.620 | 3362 | 150.00 | 1.392 | 0.970 | 5243 | 150.00 | 1.230 | 0.842 | 4547 | 150.00 |
| **200** | 1750 | 8.8 | 0.879 | 0.534 | 3844 | 200.00 | 0.730 | 0.450 | 3266 | 200.00 | 1.137 | 0.723 | 5208 | 200.00 | 0.951 | 0.606 | 4361 | 200.00 |
| **250** | 1750 | 7.0 | 0.766 | 0.424 | 3815 | 250.00 | 0.620 | 0.360 | 3226 | 250.00 | 0.971 | 0.570 | 5130 | 250.00 | 0.772 | 0.460 | 4141 | 250.00 |
| **300** | 1750 | 6.1 | 0.696 | 0.386 | 3989 | 300.00 | 0.530 | 0.280 | 3062 | 300.00 | 0.895 | 0.524 | 5412 | 300.00 | 0.639 | 0.358 | 3868 | 300.00 |
| **400** | 1750 | 4.1 | 0.400 | 0.200 | 3172 | 430.92 | 0.400 | 0.200 | 3172 | 430.92 | 0.483 | 0.258 | 4006 | 430.92 | 0.483 | 0.258 | 4006 | 430.92 |
| **500** | 1750 | 3.5 | 0.240 | 0.110 | 1157 | 500.00 | 0.240 | 0.110 | 1157 | 500.00 | 0.270 | 0.129 | 2326 | 500.00 | 0.270 | 0.129 | 2326 | 500.00 |
| **600** | 1750 | 3.0 | 0.270 | 0.130 | 3508 | 574.56 | 0.270 | 0.130 | 3508 | 574.56 | 0.307 | 0.150 | 3112 | 574.56 | 0.307 | 0.150 | 3112 | 574.56 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 211 for exact ratio of helical primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation,
limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

# Maximum Rating Tables

## GR, NH & EL Series • All Stock Styles





### Sizes 842, 852 and 860 • 1.0 S.F.

| Nominal Ratio | Nominal Input RPM | Output RPM | Size 842 | | | | Size 852 | | | | Size 860** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio* |
| **10** | 1750 | 175.0 | 13.43 | 12.469 | 4640 | 10.00 | 20.00 | 18.699 | 6902 | 10.00 | 20.00 | 18.74 | 6748 | 10.00 |
| **15** | 1750 | 116.7 | 11.93 | 10.934 | 5907 | 15.00 | 20.00 | 18.501 | 9994 | 15.00 | 20.00 | 18.54 | 10013 | 15.00 |
| **20** | 1750 | 87.5 | 10.76 | 9.770 | 7037 | 20.00 | 17.27 | 15.751 | 11345 | 20.00 | 18.67 | 17.08 | 12302 | 20.00 |
| **25** | 1750 | 65.5 | 7.471 | 6.797 | 6529 | 26.70 | 10.07 | 9.273 | 8835 | 26.70 | 10.07 | 9.32 | 8389 | 26.70 |
| **30** | 1750 | 58.3 | 8.056 | 7.120 | 7693 | 30.00 | 13.54 | 11.980 | 12944 | 30.00 | 14.41 | 12.80 | 13824 | 30.00 |
| **40** | 1750 | 43.8 | 6.701 | 5.950 | 8660 | 40.45 | 11.35 | 10.188 | 14828 | 40.45 | 11.35 | 10.24 | 14836 | 40.45 |
| **45** | 1750 | 39.4 | 6.293 | 5.480 | 8781 | 44.46 | 11.05 | 9.668 | 15492 | 44.46 | 11.99 | 10.54 | 16884 | 44.46 |
| **50** | 1750 | 33.9 | 5.568 | 4.881 | 9074 | 51.57 | 9.81 | 8.718 | 16208 | 51.57 | 10.07 | 9.02 | 16240 | 51.67 |
| **60** | 1750 | 28.8 | 5.061 | 4.340 | 9476 | 60.68 | 9.11 | 7.876 | 17195 | 60.68 | 9.82 | 8.39 | 17924 | 60.68 |
| **75** | 1750 | 23.3 | 4.121 | 3.527 | 9581 | 75.38 | 7.71 | 6.578 | 18345 | 77.38 | 8.21 | 6.78 | 18118 | 75.38 |
| **80** | 1750 | 21.6 | 4.277 | 3.525 | 10261 | 80.90 | 7.377 | 6.161 | 17934 | 80.90 | 8.22 | 6.93 | 20079 | 80.90 |
| **100** | 1750 | 16.9 | 3.575 | 2.884 | 10725 | 103.34 | 6.259 | 5.143 | 19122 | 103.34 | 6.89 | 5.60 | 20287 | 103.34 |
| **125** | 1750 | 13.5 | 2.989 | 2.318 | 10776 | 129.18 | 5.300 | 4.181 | 19432 | 129.18 | 5.71 | 4.55 | 22053 | 129.18 |
| **150** | 1750 | 11.6 | 2.685 | 2.078 | 11292 | 150.76 | 4.765 | 3.795 | 20618 | 150.76 | 5.32 | 4.29 | 23533 | 150.76 |
| **200** | 1750 | 8.5 | 2.099 | 1.449 | 10775 | 206.68 | 3.636 | 2.582 | 19198 | 206.68 | 3.93 | 2.83 | 21924 | 206.68 |
| **250** | 1750 | 6.7 | 1.765 | 1.139 | 10584 | 258.35 | 3.103 | 2.052 | 19075 | 258.35 | 3.32 | 2.23 | 21649 | 258.35 |
| **300** | 1750 | 5.8 | 1.618 | 1.043 | 11335 | 301.52 | 2.829 | 1.904 | 20687 | 301.52 | 3.13 | 2.15 | 23615 | 301.52 |
| **400** | 1750 | 4.2 | 0.781 | 0.417 | 6210 | 413.36 | 1.718 | 0.797 | 11864 | 413.36 | 2.19 | 1.08 | 16037 | 413.36 |
| **500** | 1750 | 3.4 | 0.526 | 0.257 | 4782 | 516.70 | 1.206 | 0.522 | 9707 | 516.70 | 1.56 | 0.69 | 12884 | 516.70 |
| **600** | 1750 | 3.0 | 0.588 | 0.298 | 6468 | 603.04 | 1.374 | 0.590 | 12810 | 603.04 | 1.75 | 0.80 | 17397 | 603.04 |

### Sizes 870, 880 and 8100 • 1.0 S.F.

| Nominal Ratio | Nominal Input RPM | Output RPM | Size 870*** | | | | Size 880*** | | | | Size 8100*** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio | Input HP | Output HP | Output TQ (lb-in) | Exact Total Ratio |
| **25** | 1750 | 70.0 | 19.60 | 18.10 | 17000 | 26.05 | 31.90 | 29.70 | 26900 | 25.23 | 42.10 | 39.30 | 36800 | 26.02 |
| **37.5** | 1750 | 46.7 | 18.60 | 16.90 | 22900 | 37.61 | 26.80 | 24.60 | 32300 | 36.43 | 42.10 | 39.00 | 52300 | 37.23 |
| **50** | 1750 | 25.0 | 15.20 | 13.70 | 24400 | 49.56 | 21.70 | 19.70 | 34100 | 48.00 | 37.80 | 34.60 | 61700 | 49.50 |
| **75** | 1750 | 23.3 | 11.20 | 9.74 | 26200 | 74.55 | 16.20 | 14.30 | 37100 | 72.21 | 28.40 | 25.20 | 67700 | 74.46 |
| **100** | 1750 | 17.5 | 8.95 | 7.41 | 27800 | 104.20 | 12.60 | 10.60 | 38600 | 100.92 | 22.30 | 19.00 | 71400 | 104.08 |
| **125** | 1750 | 14.0 | 7.56 | 6.14 | 27500 | 124.53 | 10.80 | 8.90 | 38600 | 120.61 | 18.90 | 15.80 | 70600 | 124.39 |
| **138** | 1750 | 12.7 | 6.90 | 5.84 | 29000 | 138.08 | 10.20 | 8.75 | 41200 | 130.65 | 17.80 | 15.40 | 79000 | 139.22 |
| **150** | 1750 | 11.7 | 6.26 | 4.95 | 26700 | 149.95 | 9.05 | 7.27 | 38000 | 145.23 | 15.80 | 13.00 | 69000 | 149.77 |
| **185** | 1750 | 9.5 | 5.52 | 4.43 | 30800 | 192.99 | 8.00 | 6.53 | 42900 | 182.61 | 14.20 | 11.70 | 83900 | 194.59 |
| **200** | 1750 | 8.8 | 5.06 | 3.70 | 27100 | 203.32 | 7.00 | 5.22 | 37000 | 196.92 | 12.40 | 9.46 | 69200 | 203.08 |
| **210** | 1750 | 8.3 | 4.90 | 4.07 | 30200 | 205.92 | 6.94 | 5.84 | 43200 | 205.78 | 12.60 | 10.70 | 80800 | 212.23 |
| **250** | 1750 | 7.0 | 3.77 | 3.25 | 28500 | 244.04 | 5.35 | 4.63 | 41100 | 246.38 | 10.10 | 8.81 | 77300 | 243.65 |
| **280** | 1750 | 6.3 | 3.98 | 3.09 | 32000 | 287.82 | 5.50 | 4.38 | 45300 | 287.62 | 10.10 | 8.13 | 86800 | 296.64 |
| **300** | 1750 | 5.8 | 3.31 | 2.23 | 24500 | 304.98 | 4.78 | 3.23 | 34300 | 295.38 | 7.15 | 5.69 | 62400 | 304.62 |

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
** Size 860 is only available in GR and EL Series
*** Sizes 870, 880 and 8100 are only available in GR Series
Refer to page 201 for exact ratio of helical primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.
For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
EL Series sizes 842-860 have cast iron primary. Contact Factory for dimensions.

# GR Series Weights

CAST IRON GR SERIES

## GR SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| **Solid Output Shaft** | | | | | | | | | | | | | | |
| DXMQ | 36 | 40 | 43 | 48 | 67 | 78 | 90 | 97 | 191 | 292 | 376 | --- | --- | --- |
| DXM | --- | --- | --- | --- | 70 | 83 | 95 | 102 | 196 | 297 | 381 | --- | --- | --- |
| DX | --- | --- | --- | --- | 65 | 76 | 88 | 95 | 187 | 288 | 372 | 510 | 770 | 1250 |
| DXTMQ & DXUMQ | 38 | 43 | 46 | 52 | 71 | 84 | 96 | 106 | 205 | 312 | 407 | --- | --- | --- |
| DXTM & DXUM | --- | --- | --- | --- | 74 | 89 | 101 | 111 | 210 | 317 | 412 | --- | --- | --- |
| DXT & DXU | --- | --- | --- | --- | 69 | 82 | 94 | 104 | 201 | 308 | 403 | 551 | 818 | 1326 |
| DXJMQ | 37 | 41 | 45 | 51 | 70 | 83 | 96 | 103 | 201 | 307 | --- | --- | --- | --- |
| DXJM | --- | --- | --- | --- | 73 | 88 | 101 | 108 | 206 | 312 | --- | --- | --- | --- |
| DXJ | --- | --- | --- | --- | 68 | 81 | 94 | 101 | 197 | 303 | --- | --- | --- | --- |
| DXVLMQ & DXVHMQ | 38 | 43 | 46 | 55 | 74 | 87 | 100 | 110 | 211 | 317 | 412 | --- | --- | --- |
| DXVLM & DXVHM | --- | --- | --- | --- | 77 | 92 | 105 | 115 | 216 | 322 | 417 | --- | --- | --- |
| DXVL & DXVH | --- | --- | --- | --- | 72 | 85 | 98 | 108 | 207 | 313 | 408 | 581 | 848 | 1403 |
| DXFMQ | 37 | 41 | 45 | 51 | 70 | 82 | 100 | 107 | 206 | 322 | 414 | --- | --- | --- |
| DXFM | --- | --- | --- | --- | 73 | 87 | 105 | 112 | 211 | 327 | 419 | --- | --- | --- |
| DXF | --- | --- | --- | --- | 68 | 80 | 98 | 105 | 202 | 318 | 410 | 540 | 788 | 1271 |
| DXFEMQ | --- | --- | --- | --- | --- | --- | 100 | 107 | 221 | 323 | 418 | --- | --- | --- |
| DXFEM | --- | --- | --- | --- | --- | --- | 101 | 108 | 229 | 330 | 423 | --- | --- | --- |
| DXFE | --- | --- | --- | --- | --- | --- | 96 | 103 | 211 | 308 | 408 | 671 | 968 | 1526 |
| **Hollow Output Shaft** | | | | | | | | | | | | | | |
| DXHMQ | 37 | 40 | 44 | 49 | 69 | 77 | 91 | 99 | 194 | 292 | 376 | --- | --- | --- |
| DXHM | --- | --- | --- | --- | 71 | 78 | 92 | 100 | 202 | 299 | 381 | --- | --- | --- |
| DXH | --- | --- | --- | --- | 64 | 73 | 87 | 95 | 184 | 277 | 366 | 510 | 770 | 1250 |
| DXFHMQ | 38 | 41 | 46 | 52 | 72 | 81 | 101 | 109 | 209 | 322 | 414 | --- | --- | --- |
| DXFHM | --- | --- | --- | --- | 74 | 82 | 102 | 110 | 217 | 329 | 419 | --- | --- | --- |
| DXFH | --- | --- | --- | --- | 67 | 77 | 97 | 105 | 199 | 307 | 404 | 540 | 788 | 1271 |
| DXBFHMQ | 39 | --- | 46 | 52 | 73 | 83 | --- | --- | --- | --- | --- | --- | --- | --- |
| DXBFHM | --- | --- | --- | --- | 75 | 84 | --- | --- | --- | --- | --- | --- | --- | --- |
| DXBFH | --- | --- | --- | --- | 68 | 79 | --- | --- | --- | --- | --- | --- | --- | --- |

Δ Weights include oil. 870, 880, 8100 shipped without oil.

## GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 | 31 | 41 | 48 | 76 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 | --- | --- | --- | --- |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 | 36 | ** | ** | ** |
| F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 | 38 | ** | ** | ** |
| BF-Flange (Steel) | 2 | --- | 2 | 3 | 4 | 6 | --- | --- | --- | --- | --- | --- | --- | --- |
| R-Riser Block | --- | 7 | 7 | 9 | 9 | 12 | 15 | 31 | 24 | 15 | --- | --- | --- | --- |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 | --- | --- | --- |
| **Coupling Input C-Flange Kits** | | | | | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 | --- | --- | --- | --- |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 | 22 | 30 | 30 | --- |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 | 32 | 34 | 36 | --- |

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.

## NH SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| **Solid Output Shaft** | | | | | | | | | | |
| DXMQ | 31 | 34 | 37 | 41 | 57 | 66 | 77 | 82 | 162 | 248 |
| DXM | --- | --- | --- | --- | 60 | 71 | 81 | 87 | 167 | 252 |
| DX | --- | --- | --- | --- | 55 | 65 | 75 | 81 | 159 | 245 |
| DXTMQ & DXUMQ | 33 | 37 | 40 | 45 | 61 | 72 | 83 | 91 | 176 | 268 |
| DXTM & DXUM | --- | --- | --- | --- | 64 | 77 | 87 | 96 | 181 | 272 |
| DXT & DXU | --- | --- | --- | --- | 59 | 71 | 81 | 90 | 173 | 265 |
| DXJMQ | 32 | 35 | 39 | 44 | 60 | 71 | 83 | 88 | 172 | 263 |
| DXJM | --- | --- | --- | --- | 63 | 76 | 87 | 93 | 177 | 267 |
| DXJ | --- | --- | --- | --- | 58 | 70 | 81 | 87 | 169 | 260 |
| DXVLMQ & DXVHMQ | 33 | 37 | 40 | 48 | 64 | 75 | 87 | 95 | 182 | 273 |
| DXVLM & DXVHM | --- | --- | --- | --- | 67 | 80 | 91 | 100 | 187 | 277 |
| DXVL & DXVH | --- | --- | --- | --- | 62 | 74 | 85 | 94 | 179 | 270 |
| DXFMQ | 32 | 35 | 39 | 44 | 60 | 70 | 87 | 92 | 177 | 278 |
| DXFM | --- | --- | --- | --- | 63 | 75 | 91 | 97 | 182 | 282 |
| DXF | --- | --- | --- | --- | 58 | 69 | 85 | 91 | 174 | 275 |
| DXFEMQ | --- | --- | --- | --- | --- | --- | 72 | 77 | 160 | 233 |
| DXFEM | --- | --- | --- | --- | --- | --- | 73 | 78 | 165 | 238 |
| DXFE | --- | --- | --- | --- | --- | --- | 69 | 74 | 152 | 223 |
| **Hollow Output Shaft** | | | | | | | | | | |
| DXHMQ | 31 | 34 | 37 | 42 | 59 | 65 | 77 | 84 | 165 | 248 |
| DXHM | --- | --- | --- | --- | 60 | 66 | 78 | 85 | 172 | 254 |
| DXH | --- | --- | --- | --- | 54 | 62 | 74 | 81 | 156 | 235 |
| DXFHMQ | 32 | 35 | 39 | 45 | 62 | 69 | 87 | 94 | 180 | 278 |
| DXFHM | --- | --- | --- | --- | 63 | 70 | 88 | 95 | 187 | 284 |
| DXFH | --- | --- | --- | --- | 57 | 66 | 84 | 91 | 171 | 265 |

Δ Weights include oil.

## NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| T/U-Base | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 9 | 14 | 20 |
| J-Base | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 10 | 15 |
| VL/VH-Base | 2 | 3 | 3 | 7 | 7 | 9 | 10 | 13 | 20 | 25 |
| F-Flange (cast Iron) | 1 | 1 | 2 | 3 | 3 | 4 | 10 | 10 | 15 | 30 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 7 | 7 | 7 | 7 | 8 | 8 | 11 | 11 | 14 | 16 |
| 180TC-210TC | --- | --- | --- | --- | 11 | 11 | 11 | 11 | 16 | 18 |
| 250TC | --- | --- | --- | --- | --- | --- | --- | 28 | 30 | 30 |

# ELECTRA-GEAR

## EL Series Weights

ALUMINUM EL SERIES

### EL SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842✢ | EL852✢ | EL860✢ |
| **Solid Output Shaft** | | | | | | | | | | |
| DXMQ | 24 | 28 | 32 | 44 | 51 | 59 | 64 | 126 | 193 | 248 |
| DXM | --- | --- | --- | 46 | 55 | 63 | 67 | 129 | 196 | 251 |
| DX | --- | --- | --- | 43 | 50 | 58 | 63 | 123 | 190 | 246 |
| DXTMQ & DXUMQ | 25 | 30 | 35 | 47 | 55 | 65 | 72 | 133 | 201 | 258 |
| DXTM & DXUM | --- | --- | --- | 49 | 59 | 69 | 75 | 136 | 204 | 261 |
| DXT & DXU | --- | --- | --- | 46 | 54 | 64 | 71 | 130 | 198 | 256 |
| DXJMQ | 25 | 30 | 35 | 47 | 55 | 64 | 69 | 132 | 201 | 258 |
| DXJM | --- | --- | --- | 49 | 59 | 68 | 72 | 135 | 204 | 261 |
| DXJ | --- | --- | --- | 46 | 54 | 63 | 68 | 129 | 198 | 256 |
| DXVLMQ | 26 | 31 | 35 | 47 | 55 | 64 | 69 | 132 | 201 | 258 |
| DXVLM | --- | --- | --- | 49 | 59 | 68 | 72 | 135 | 204 | 261 |
| DXVL | --- | --- | --- | 46 | 54 | 63 | 68 | 129 | 198 | 256 |
| DXFMQ | --- | 30 | 35 | 47 | 54 | 65 | 71 | 134 | 201 | 269 |
| DXFM | --- | --- | --- | 49 | 58 | 69 | 74 | 137 | 204 | 272 |
| DXF | --- | --- | --- | 46 | 53 | 64 | 70 | 131 | 198 | 267 |
| **Hollow Output Shaft** | | | | | | | | | | |
| DXHMQ | 24 | 29 | 32 | 46 | 51 | 60 | 65 | 128 | 193 | 248 |
| DXHM | --- | --- | --- | 47 | 51 | 61 | 66 | 133 | 197 | 251 |
| DXH | --- | --- | --- | 42 | 48 | 57 | 63 | 121 | 183 | 242 |
| DXFHMQ | --- | 31 | 35 | 49 | 54 | 66 | 72 | 136 | 201 | 269 |
| DXFHM | --- | --- | --- | 50 | 54 | 67 | 73 | 141 | 205 | 272 |
| DXFH | --- | --- | --- | 45 | 51 | 63 | 70 | 129 | 191 | 263 |

✢ Primary unit is cast iron. Contact Factory for dimensions.

Δ Weights include oil.

### EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| ABC-Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| T/U-Base | 1 | 2 | 3 | 3 | 4 | 6 | 8 | 7 | 8 | 10 |
| J-Base | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| VL Base | 2 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 10 |
| FR and F-Flange | --- | 2 | 3 | 3 | 3 | 6 | 7 | 8 | 8 | 21 |
| Hollow Shaft Torque Arm Kit | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 |
| **Coupling Input C-Flange Kits** | | | | | | | | | | |
| 48CZ, 56C, 140TC | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 7 | 7 | --- |
| 180TC-210TC | --- | --- | --- | 5 | 5 | 5 | 5 | 8 | 8 | 8 |
| 250TC | --- | --- | --- | --- | --- | --- | 8 | 8 | 8 | 8 |

* Will not fit solid output shaft models.

✪ Will not fit hollow output shaft models.

## DOUBLE REDUCTION • HELICAL – WORM • EXACT RATIO COMBINATIONS

| Total Ratio | Gear Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 813 | | 815 | | 818 | | 821 | | 824 | | 826 | | 830 | |
| | P TX | S 813 | P TX | S 815 | P TX | S 818 | P TX | S 821 | P TX | S 824 | P TX | S 826 | P TX | S 830 |
| **10** | 2.000 | 5 | 2.000 | 5 | 2.000 | 5 | 2.000 | 5 | 2.000 | 5 | 2.000 | 5 | 2.000 | 5 |
| **15** | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 |
| **20** | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 |
| **25** | 5.000 | 5 | 5.000 | 5 | 5.000 | 5 | 5.000 | 5 | 5.000 | 5 | 5.000 | 5 | 5.000 | 5 |
| **30** | 2.000 | 15 | 2.000 | 15 | 2.000 | 15 | 2.000 | 15 | 2.913 | 10 | 2.913 | 10 | 2.913 | 10 |
| **40** | 4.000 | 10 | 4.000 | 10 | 4.000 | 10 | 4.000 | 10 | 4.000 | 10 | 4.000 | 10 | 4.000 | 10 |
| **45** | 2.913 | 15 | 2.913 | 15 | 2.913 | 15 | 2.913 | 15 | 2.913 | 15 | 2.913 | 15 | 2.913 | 15 |
| **50** | 5.000 | 10 | 5.000 | 10 | 5.000 | 10 | 5.000 | 10 | 5.000 | 10 | 5.000 | 10 | 5.000 | 10 |
| **60** | 4.000 | 15 | 4.000 | 15 | 4.000 | 15 | 4.000 | 15 | 4.000 | 15 | 4.000 | 15 | 4.000 | 15 |
| **75** | 5.000 | 15 | 5.000 | 15 | 5.000 | 15 | 5.000 | 15 | 5.000 | 15 | 5.000 | 15 | 5.000 | 15 |
| **80** | 4.000 | 20 | 4.000 | 20 | 4.000 | 20 | 4.000 | 20 | 4.000 | 20 | 4.000 | 20 | 4.000 | 20 |
| **100** | 4.000 | 25 | 4.000 | 25 | 4.000 | 25 | 4.000 | 25 | 4.000 | 25 | 4.000 | 25 | 4.000 | 25 |
| **125** | 5.000 | 25 | 5.000 | 25 | 5.000 | 25 | 5.000 | 25 | 5.000 | 25 | 5.000 | 25 | 5.000 | 25 |
| **150** | 5.000 | 30 | 5.000 | 30 | 5.000 | 30 | 5.000 | 30 | 5.000 | 30 | 5.000 | 30 | 5.000 | 30 |
| **200** | 5.000 | 40 | 5.000 | 40 | 5.000 | 40 | 5.000 | 40 | 5.000 | 40 | 5.000 | 40 | 5.000 | 40 |
| **250** | 5.000 | 50 | 5.000 | 50 | 5.000 | 50 | 5.000 | 50 | 5.000 | 50 | 5.000 | 50 | 5.000 | 50 |
| **300** | 7.182 | 40 | 7.182 | 40 | 7.182 | 40 | 7.182 | 40 | 7.182 | 40 | 5.000 | 60 | 5.000 | 60 |
| **400** | 5.000 | 80 | 5.000 | 80 | 5.000 | 80 | 5.000 | 80 | 7.182 | 60 | 7.182 | 60 | 7.182 | 60 |
| **500** | 5.000 | 100 | 5.000 | 100 | 5.000 | 100 | 5.000 | 100 | 5.000 | 100 | 5.000 | 100 | 5.000 | 100 |
| **600** | 7.182 | 80 | 7.182 | 80 | 7.182 | 80 | 7.182 | 80 | 7.182 | 80 | 7.182 | 80 | 7.182 | 80 |

| Total Ratio | Gear Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 832 | | 842 | | 852 | | 860 | | 870 | | 880 | | 8100 | |
| | P TX | S 832 | P TX3 | S 842 | P TX3 | S 852 | P TX3 | S 860 | P HEL | S 870 | P HEL | S 880 | P HEL | S 8100 |
| **10** | 2.000 | 5.17 | 2.000 | 5.17 | 2.000 | 5.13 | 2.000 | 5 | - | - | - | - | - | - |
| **15** | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | 2.000 | 7.5 | - | - | - | - | - | - |
| **20** | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | 2.000 | 10 | - | - | - | - | - | - |
| **25** | 5.000 | 5.17 | 5.167 | 5.17 | 5.167 | 5.13 | 5.167 | 5 | 5.083 | 5.13 | 4.923 | 5.13 | 5.077 | 5.13 |
| **30** | 2.913 | 10 | 2.000 | 15 | 2.000 | 15 | 2.000 | 15 | - | - | - | - | - | - |
| **37.5** | - | - | - | - | - | - | - | - | 5.083 | 7.40 | 4.923 | 7.40 | 5.077 | 7.33 |
| **40** | 4.000 | 10 | 4.045 | 10 | 4.045 | 10 | 4.045 | 10 | - | - | - | - | - | - |
| **45** | 2.913 | 15 | 2.964 | 15 | 2.964 | 15 | 2.964 | 15 | - | - | - | - | - | - |
| **50** | 5.000 | 10 | 5.167 | 10 | 5.167 | 10 | 5.167 | 10 | 5.083 | 9.75 | 4.923 | 9.75 | 5.077 | 9.75 |
| **60** | 4.000 | 15 | 4.045 | 15 | 4.045 | 15 | 4.045 | 15 | - | - | - | - | - | - |
| **75** | 5.000 | 15 | 7.538 | 10 | 5.167 | 15 | 5.167 | 15 | 5.083 | 14.67 | 4.923 | 14.67 | 5.077 | 14.67 |
| **80** | 4.000 | 20 | 4.045 | 20 | 4.045 | 20 | 4.045 | 20 | - | - | - | - | - | - |
| **100** | 4.000 | 25 | 5.167 | 20 | 5.167 | 20 | 5.167 | 25 | 5.083 | 20.50 | 4.923 | 20.50 | 5.077 | 20.50 |
| **125** | 5.000 | 25 | 5.167 | 25 | 5.167 | 25 | 5.167 | 25 | - | - | - | - | - | - |
| **138** | - | - | - | - | - | - | - | - | 9.414 | 14.67 | 8.908 | 14.67 | 9.492 | 14.67 |
| **150** | 5.000 | 30 | 7.538 | 20 | 7.538 | 20 | 7.538 | 20 | 5.083 | 29.50 | 4.923 | 29.50 | 5.077 | 29.50 |
| **185** | - | - | - | - | - | - | - | - | 9.414 | 20.50 | 8.908 | 20.50 | 9.492 | 20.50 |
| **200** | 5.000 | 40 | 5.167 | 40 | 5.167 | 40 | 5.167 | 40 | 5.083 | 40.00 | 4.923 | 40.00 | 5.077 | 40.00 |
| **210** | - | - | - | - | - | - | - | - | 14.04 | 14.67 | 14.03 | 14.67 | 14.47 | 14.67 |
| **250** | 5.000 | 50 | 5.167 | 50 | 5.167 | 50 | 5.167 | 50 | 25.030 | 9.75 | 25.270 | 9.75 | 24.990 | 9.75 |
| **280** | - | - | - | - | - | - | - | - | 14.040 | 20.50 | 14.030 | 20.50 | 14.470 | 20.50 |
| **300** | 5.000 | 60 | 7.538 | 40 | 7.538 | 40 | 7.538 | 40 | 5.083 | 60.00 | 4.923 | 60.00 | 5.077 | 60.00 |
| **400** | 7.182 | 60 | 5.167 | 80 | 5.167 | 80 | 5.167 | 80 | - | - | - | - | - | - |
| **500** | 5.000 | 100 | 5.167 | 100 | 5.167 | 100 | 5.167 | 100 | - | - | - | - | - | - |
| **600** | 7.182 | 80 | 7.538 | 80 | 7.538 | 80 | 7.538 | 80 | - | - | - | - | - | - |

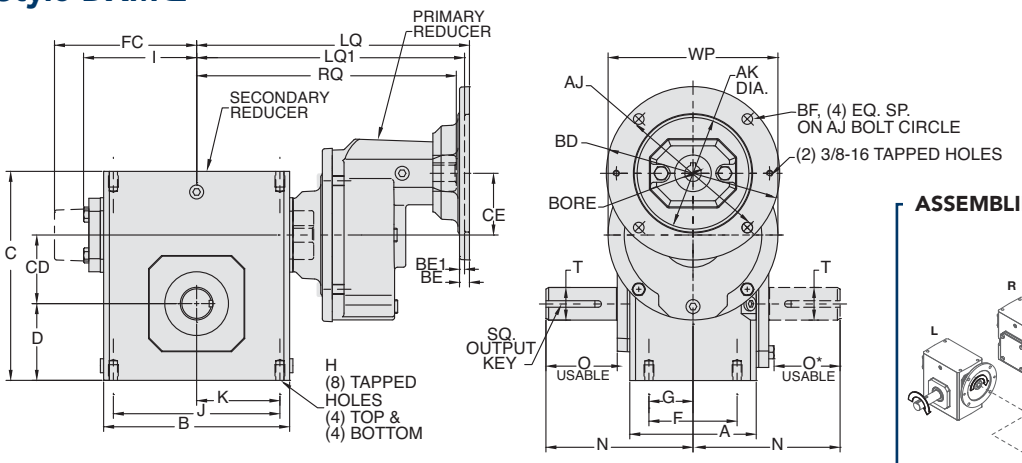
**Note:** Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio
* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
For exact total ratio of the double reduction package, multiply "P" by "S" ratio.

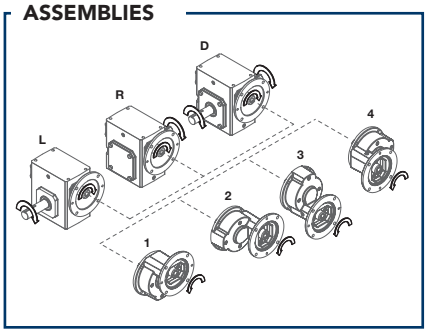
# GR Series Dimensions

## Styles: DXMQ, DXM, DX

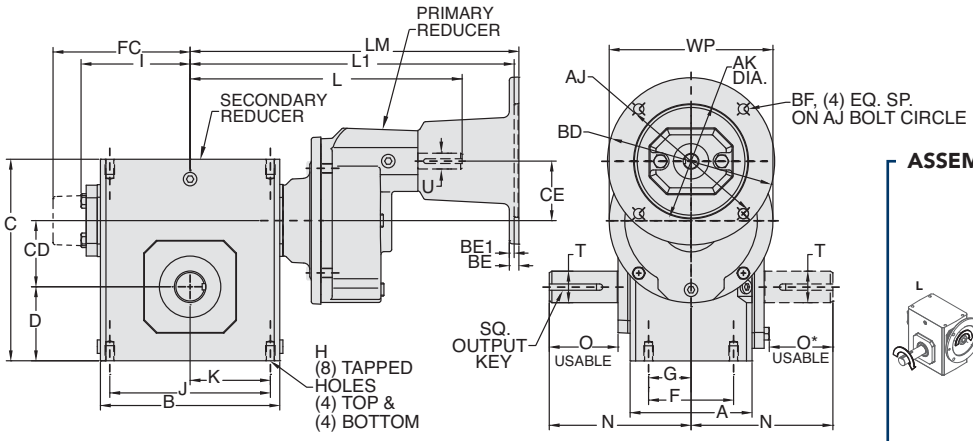
CAST IRON GR SERIES

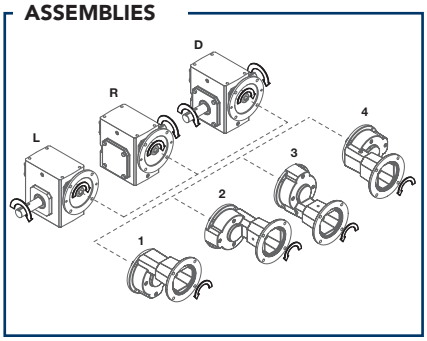
## Style DXMQ



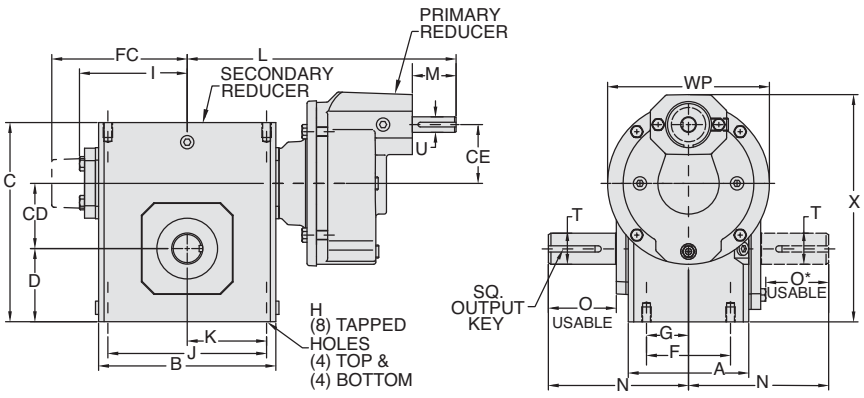



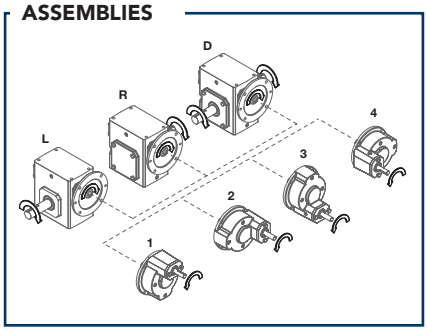

## Style DXM




## Style DX




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | F | FC▼ | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | 2.00 | N/A | 1.00 | 5/16-18 UNC | 0.50 | 2.61 | 3.25 | 1.63 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 6.50 | 6.16 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 3.44 | 4.88 | 5.38 | 1.54 | 1.91 | 1.91 | 2.75 | N/A | 1.38 | 5/16-18 UNC | 0.63 | 3.14 | 4.19 | 2.09 | 8.28 | 1.76 | 4.31 | 2.11 | 1.90 | 6.50 | 6.56 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 3.56 | 5.06 | 5.75 | 1.75 | 1.91 | 2.06 | 2.75 | N/A | 1.38 | 5/16-18 UNC | 0.63 | 3.24 | 4.19 | 2.09 | 8.38 | 1.76 | 4.31 | 2.05 | 1.84 | 6.50 | 6.92 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 3.81 | 5.80 | 6.38 | 2.06 | 1.91 | 2.28 | ▲ | N/A | 1.44 | 3/8-16 UNC | 0.63 | 3.61 | ▲ | 2.50 | 8.75 | 1.76 | 4.68 | 2.29 | 2.08 | 6.50 | 7.45 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 4.06 | 6.12 | 6.94 | 2.38 | 2.36 | 2.50 | 2.88 | N/A | 1.44 | 3/8-16 UNC | 0.69 | 3.77 | 5.00 | 2.50 | 8.92 | 1.76 | 5.14 | 2.66 | 2.44 | 6.50 | 8.45 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 4.84 | 7.12 | 8.00 | 2.63 | 2.36 | 2.94 | 3.38 | N/A | 1.69 | 3/8-16 UNC | 0.69 | 4.34 | 6.38 | 3.19 | 9.48 | 1.76 | 5.63 | 2.73 | 2.52 | 6.50 | 9.13 | ▲ | 0.625 | 3/16 x 1.38 | 1/4 x 1.75 |
| GR830 | 5.25 | 8.12 | 8.88 | 3.00 | 2.36 | 3.25 | 4.00 | N/A | 2.00 | 7/16-14 UNC | 0.88 | 4.84 | 7.00 | 3.50 | 10.24 | 1.76 | 6.75 | 3.60 | 3.36 | 6.50 | 9.82 | 1.250 | 0.625 | 3/16 x 1.38 | 1/4 x 1.75 |
| GR832 | 5.75 | 8.50 | 9.38 | 3.25 | 2.36 | 3.50 | 4.00 | N/A | 2.00 | 7/16-14 UNC | 0.88 | 5.02 | 7.50 | 3.75 | 10.43 | 1.76 | 7.06 | 3.66 | 3.42 | 6.50 | 10.32 | ▲ | 0.625 | 3/16 x 1.38 | 3/8 x 2.25 |
| GR842 | 6.13 | 10.25 | 11.38 | 4.25 | 2.87 | 4.44 | 5.00 | N/A | 2.50 | 5/8-11 UNC | 1.00 | 6.10 | 8.50 | 4.25 | 17.48 | 3.61 | 8.12 | 4.50 | 4.21 | 8.50 | 13.31 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 7.19 | 13.00 | 14.00 | 5.25 | 2.87 | 5.12 | 5.81 | N/A | 2.91 | 5/8-11 UNC | 1.25 | 7.50 | 11.00 | 5.50 | 18.88 | 3.61 | 9.06 | 4.78 | 4.53 | 8.50 | 14.99 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |
| GR860 | 8.13 | 14.25 | 16.50 | 6.00 | 2.87 | 6.50 | 6.38 | 10.24 | 3.19 | 5/8-11 UNC | 1.00 | N/A | 12.75 | 6.38 | 19.60 | 3.61 | 10.00 | 4.65 | 4.65 | 8.50 | 17.12 | 2.500 | 1.250 | 1/4 x 2.00 | 5/8 x 4.00 |
| GR870 | 7.63 | 14.88 | 18.91 | 7.00 | 3.49 | 7.59 | 5.50 | 10.63 | 2.75 | 1-8 UNC | 1.56 | N/A | 12.50 | 6.25 | 19.68 | 2.50 | 11.76 | 5.65 | 5.65 | 10.36 | 21.84 | 2.750 | 1.250 | 1/4 x 2.25** | 5/8 x 4.00** |
| GR880 | 8.63 | 17.00 | 20.96 | 8.00 | 4.07 | 8.86 | 6.50 | 11.93 | 3.25 | 1-8 UNC | 1.66 | N/A | 14.25 | 7.13 | 21.30 | 3.00 | 12.25 | 5.98 | 5.98 | 11.64 | 25.93 | 3.000 | 1.375 | 5/16 x 2.75** | 3/4 x 4.50** |
| GR8100 | 9.53 | 20.88 | 25.47 | 10.00 | 4.90 | 10.36 | 6.88 | 14.34 | 3.44 | 1-1/4 -7 UNC | 2.04 | N/A | 17.75 | 8.88 | 25.78 | 3.50 | 14.75 | 6.76 | 6.76 | 13.85 | 31.35 | 3.750 | 1.500 | 3/8 x 3.25** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | Identical | ✔ | | GRG |
| | | (F)2.88" x (J)5.00" | | | | ✔ | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DX and DXM only
★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
❖ Metric IEC B5 input flange options are available only on quill input styles
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

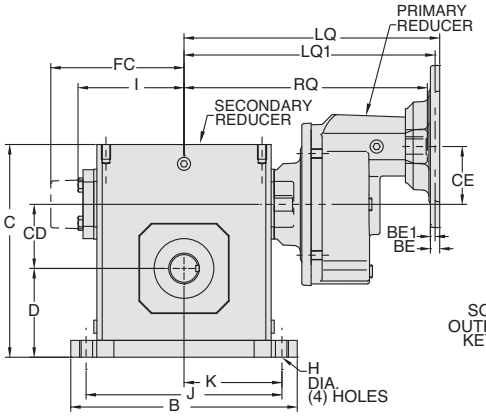
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

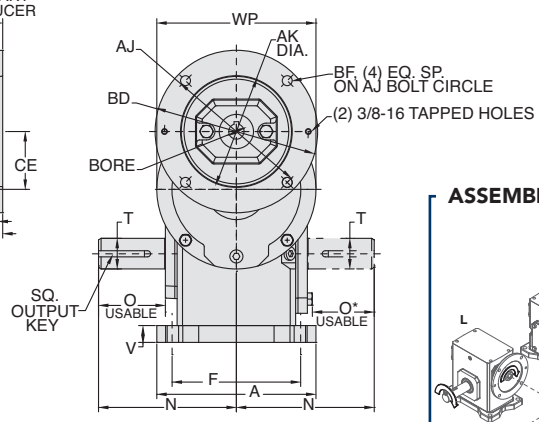
# GR Series Dimensions

## Styles: DXTMQ, DXTM, DXT

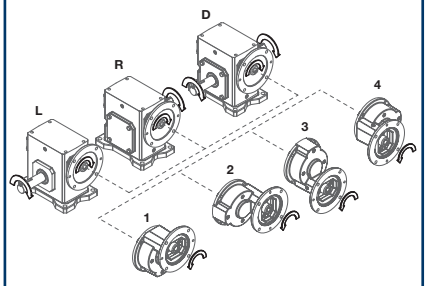
CAST IRON GR SERIES

## Style DXTMQ

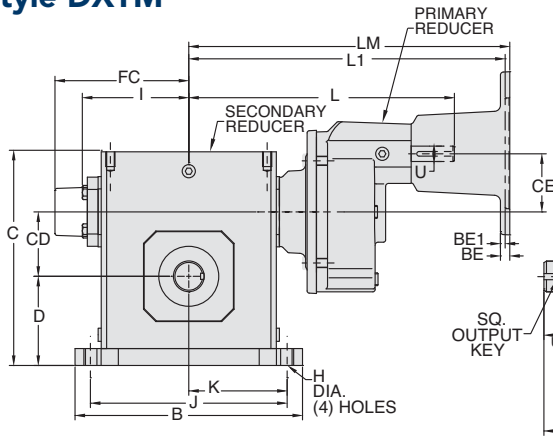


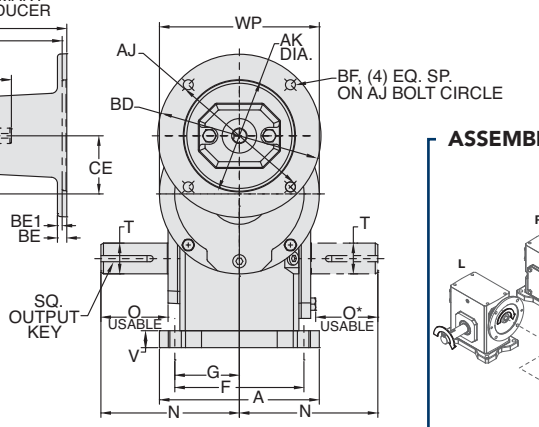




### ASSEMBLIES

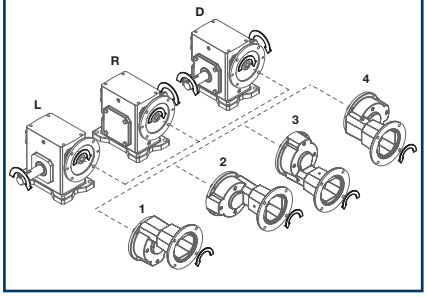



## Style DXTM

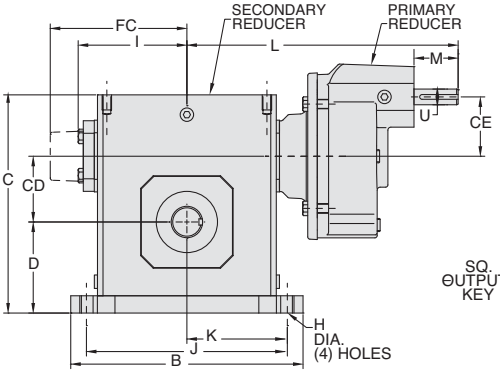


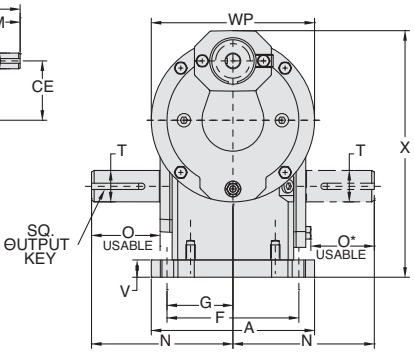




### ASSEMBLIES

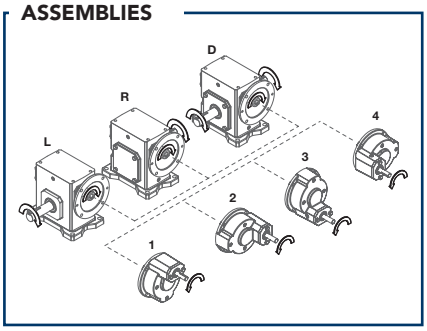



## Style DXT




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.24 | 5.37 | 5.19 | 1.33 | 1.91 | 2.25 | 3.31 | N/A | 1.66 | 0.34 | 2.61 | 4.37 | 2.19 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 0.53 | 6.50 | 6.16 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 5.56 | 6.50 | 5.97 | 1.54 | 1.91 | 2.50 | 4.31 | N/A | 2.16 | 0.41 | 3.14 | 5.25 | 2.63 | 8.28 | 1.76 | 4.31 | 2.11 | 1.90 | 0.59 | 6.50 | 7.15 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 5.75 | 6.99 | 6.44 | 1.75 | 1.91 | 2.75 | 4.50 | N/A | 2.25 | 0.41 | 3.24 | 5.75 | 2.88 | 8.38 | 1.76 | 4.31 | 2.05 | 1.84 | 0.69 | 6.50 | 7.61 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 6.00 | 7.69 | 7.09 | 2.06 | 1.91 | 3.00 | 4.69 | N/A | 2.34 | 0.47 | 3.61 | 6.38 | 3.19 | 8.75 | 1.76 | 4.68 | 2.29 | 2.08 | 0.72 | 6.50 | 8.17 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 6.19 | 8.37 | 7.69 | 2.38 | 2.36 | 3.25 | 4.88 | N/A | 2.44 | 0.49 | 3.77 | 7.06 | 3.53 | 8.92 | 1.76 | 5.14 | 2.66 | 2.44 | 0.75 | 6.50 | 9.20 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 6.50 | 9.25 | 8.75 | 2.63 | 2.36 | 3.69 | 5.25 | N/A | 2.63 | 0.53 | 4.34 | 8.00 | 4.00 | 9.48 | 1.76 | 5.63 | 2.73 | 2.52 | 0.75 | 6.50 | 9.88 | ▲ | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 7.50 | 10.00 | 9.63 | 3.00 | 2.36 | 4.00 | 5.88 | N/A | 2.94 | 0.53 | 4.84 | 8.44 | 4.22 | 10.24 | 1.76 | 6.75 | 3.60 | 3.36 | 0.75 | 6.50 | 10.57 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 7.75 | 11.12 | 10.25 | 3.25 | 2.36 | 4.38 | 6.13 | N/A | 3.06 | 0.53 | 5.02 | 9.50 | 4.75 | 10.43 | 1.76 | 7.06 | 3.66 | 3.42 | 0.81 | 6.50 | 11.20 | ▲ | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 9.75 | 13.24 | 12.38 | 4.25 | 2.87 | 5.44 | 7.63 | N/A | 3.81 | 0.66 | 6.10 | 11.12 | 5.56 | 17.48 | 3.61 | 8.12 | 4.50 | 4.21 | 1.00 | 8.50 | 14.31 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 10.50 | 16.24 | 15.13 | 5.25 | 2.87 | 6.25 | 8.38 | N/A | 4.19 | 0.78 | 7.50 | 14.12 | 7.06 | 18.88 | 3.61 | 9.06 | 4.78 | 4.53 | 1.13 | 8.50 | 16.12 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |
| GR860 | 12.00 | 18.99 | 17.75 | 6.00 | 2.87 | 7.75 | 9.50 | 10.24 | 4.75 | 0.91 | N/A | 16.49 | 8.25 | 19.60 | 3.61 | 10.00 | 4.65 | 4.65 | 1.25 | 8.50 | 18.37 | 2.500 | 1.250 | 1/4 x 2.00 | 5/8 x 4.00 |
| GR870★ | 13.38 | 15.38 | 20.33 | 7.00 | 3.49 | 9.00 | 11.25 | 10.63 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 19.68 | 2.50 | 11.76 | 5.65 | 5.65 | 1.42 | 10.36 | 23.25 | 2.750 | 1.250 | 1/4 x 2.25** | 5/8 x 4.00** |
| GR880★ | 13.50 | 17.37 | 22.61 | 8.00 | 4.07 | 10.50 | 11.50 | 11.93 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 21.30 | 3.00 | 12.25 | 5.98 | 5.98 | 1.65 | 11.64 | 27.57 | 3.000 | 1.375 | 5/16 x 2.75** | 3/4 x 4.50** |
| GR8100★ | 16.88 | 21.14 | 27.12 | 10.00 | 4.90 | 12.00 | 14.00 | 14.34 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 25.78 | 3.50 | 14.75 | 6.76 | 6.76 | 1.65 | 13.85 | 32.99 | 3.750 | 1.500 | 3/8 x 3.25** | 7/8 x 5.00* |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXT and DXTM only.
★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.

❖ Metric IEC B5 input flange options are available only on quill input styles.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

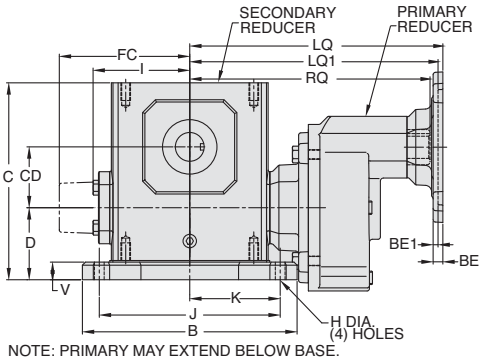
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

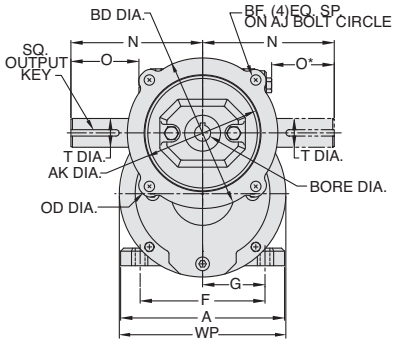
## Styles: DXUMQ, DXUM, DXU

CAST IRON GR SERIES

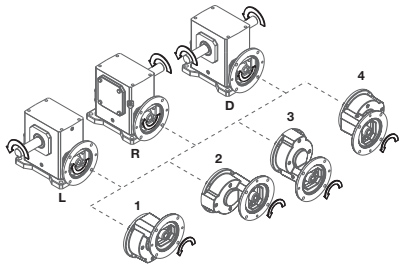
## Style DXUMQ



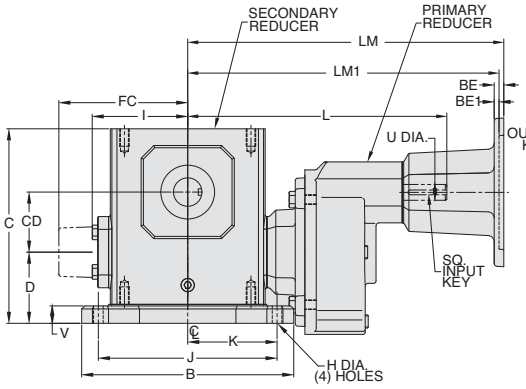

NOTE: PRIMARY MAY EXTEND BELOW BASE.



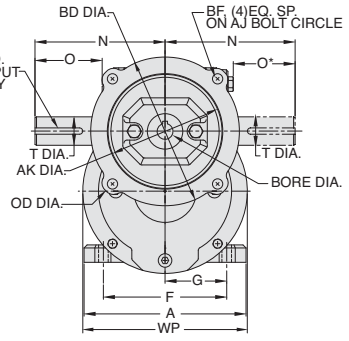

**ASSEMBLIES**



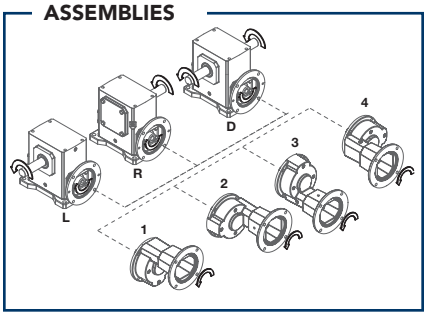

## Style DXUM



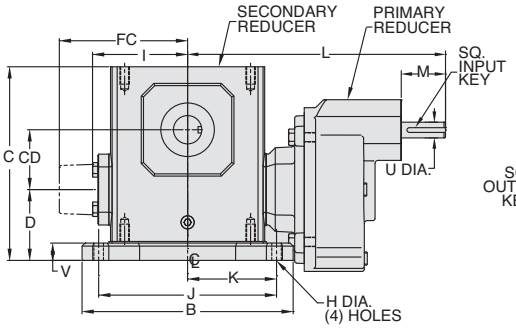

NOTE: PRIMARY MAY EXTEND BELOW BASE.



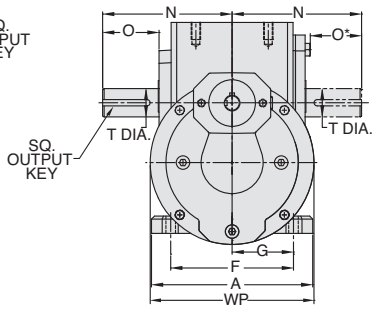

**ASSEMBLIES**



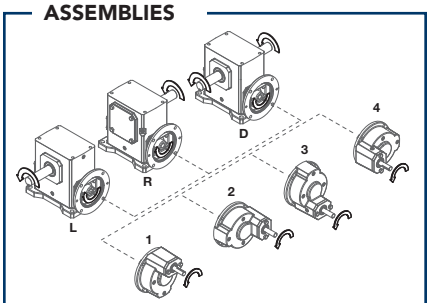

## Style DXU




NOTE: PRIMARY MAY EXTEND BELOW BASE.




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXUMQ, DXUM, DXU DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.24 | 5.37 | 5.19 | 1.33 | 1.91 | 2.25 | 3.31 | N/A | 1.66 | 0.34 | 2.61 | 4.37 | 2.19 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 0.53 | 6.50 | 6.16 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 5.56 | 6.50 | 5.97 | 1.54 | 1.91 | 2.50 | 4.31 | N/A | 2.16 | 0.41 | 3.14 | 5.25 | 2.63 | 8.28 | 1.76 | 4.31 | 2.11 | 1.90 | 0.59 | 6.50 | 7.15 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 5.75 | 6.99 | 6.44 | 1.75 | 1.91 | 2.75 | 4.50 | N/A | 2.25 | 0.41 | 3.24 | 5.75 | 2.88 | 8.38 | 1.76 | 4.31 | 2.05 | 1.84 | 0.69 | 6.50 | 7.61 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 6.00 | 7.69 | 7.09 | 2.06 | 1.91 | 3.00 | 4.69 | N/A | 2.34 | 0.47 | 3.61 | 6.38 | 3.19 | 8.75 | 1.76 | 4.68 | 2.29 | 2.08 | 0.72 | 6.50 | 8.17 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 6.19 | 8.37 | 7.69 | 2.38 | 2.36 | 3.25 | 4.88 | N/A | 2.44 | 0.49 | 3.77 | 7.06 | 3.53 | 8.92 | 1.76 | 5.14 | 2.66 | 2.44 | 0.75 | 6.50 | 9.20 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 6.50 | 9.25 | 8.75 | 2.63 | 2.36 | 3.69 | 5.25 | N/A | 2.63 | 0.53 | 4.34 | 8.00 | 4.00 | 9.48 | 1.76 | 5.63 | 2.73 | 2.52 | 0.75 | 6.50 | 9.88 | ▲ | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 7.50 | 10.00 | 9.63 | 3.00 | 2.36 | 4.00 | 5.88 | N/A | 2.94 | 0.53 | 4.84 | 8.44 | 4.22 | 10.24 | 1.76 | 6.75 | 3.60 | 3.36 | 0.75 | 6.50 | 10.57 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 7.75 | 11.12 | 10.25 | 3.25 | 2.36 | 4.38 | 6.13 | N/A | 3.06 | 0.53 | 5.02 | 9.50 | 4.75 | 10.43 | 1.76 | 7.06 | 3.66 | 3.42 | 0.81 | 6.50 | 11.20 | ▲ | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 9.75 | 13.24 | 12.38 | 4.25 | 2.87 | 5.44 | 7.63 | N/A | 3.81 | 0.66 | 6.10 | 11.12 | 5.56 | 17.48 | 3.61 | 8.12 | 4.50 | 4.21 | 1.00 | 8.50 | 14.31 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 10.50 | 16.24 | 15.13 | 5.25 | 2.87 | 6.25 | 8.38 | N/A | 4.19 | 0.78 | 7.50 | 14.12 | 7.06 | 18.88 | 3.61 | 9.06 | 4.78 | 4.53 | 1.13 | 8.50 | 16.12 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |
| GR860 | 12.00 | 18.99 | 17.75 | 6.00 | 2.87 | 7.75 | 9.50 | 10.24 | 4.75 | 0.91 | N/A | 16.49 | 8.25 | 19.60 | 3.61 | 10.00 | 4.65 | 4.65 | 1.25 | 8.50 | 18.37 | 2.500 | 1.250 | 1/4 x 2.00 | 5/8 x 4.00 |
| GR870★ | 13.38 | 15.38 | 20.33 | 7.00 | 3.49 | 9.00 | 11.25 | 10.63 | 5.63 | 1.13 | N/A | 13.00 | 6.50 | 19.68 | 2.50 | 11.76 | 5.65 | 5.65 | 1.42 | 10.36 | 23.25 | 2.750 | 1.250 | 1/4 x 2.25** | 5/8 x 4.00** |
| GR880★ | 13.50 | 17.37 | 22.61 | 8.00 | 4.07 | 10.50 | 11.50 | 11.93 | 5.75 | 1.13 | N/A | 14.75 | 7.38 | 21.30 | 3.00 | 12.25 | 5.98 | 5.98 | 1.65 | 11.64 | 27.57 | 3.000 | 1.375 | 5/16 x 2.75** | 3/4 x 4.50** |
| GR8100★ | 16.88 | 21.14 | 27.12 | 10.00 | 4.90 | 12.00 | 14.00 | 14.34 | 7.00 | 1.44 | N/A | 17.00 | 8.50 | 25.78 | 3.50 | 14.75 | 6.76 | 6.76 | 1.65 | 13.85 | 32.99 | 3.750 | 1.500 | 3/8 x 3.25** | 7/8 x 5.00* |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXU and DXUM only.
★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.

✣ Primary stage may extend below U-base.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

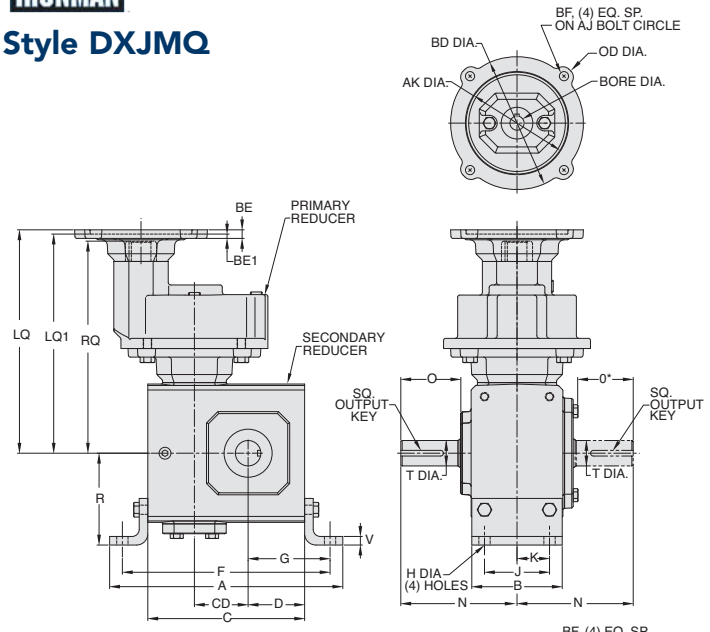
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

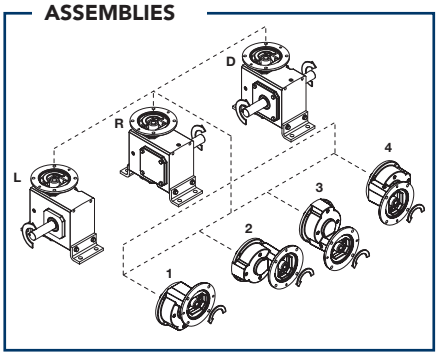
## Styles: DXJMQ, DXJM, DXJ

CAST IRON GR SERIES

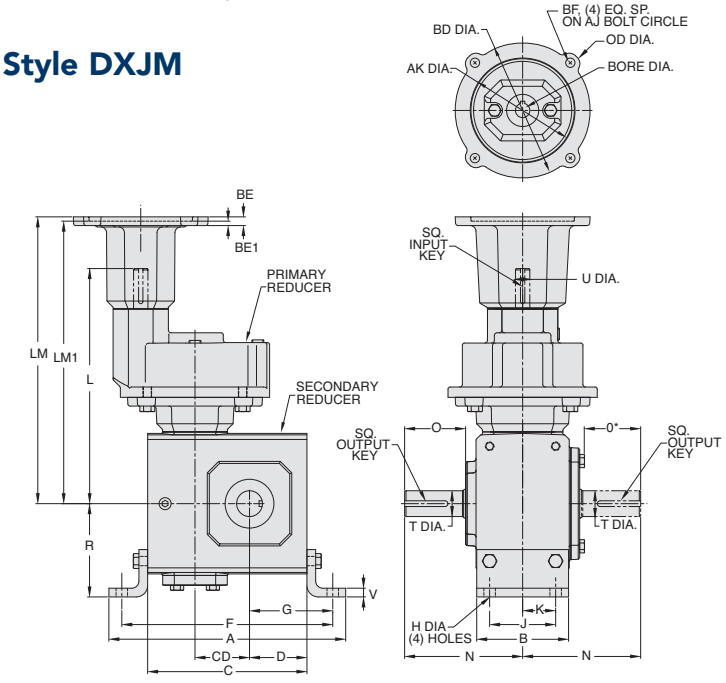
## Style DXJMQ



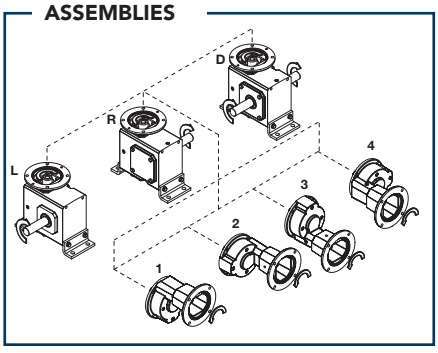

ASSEMBLIES



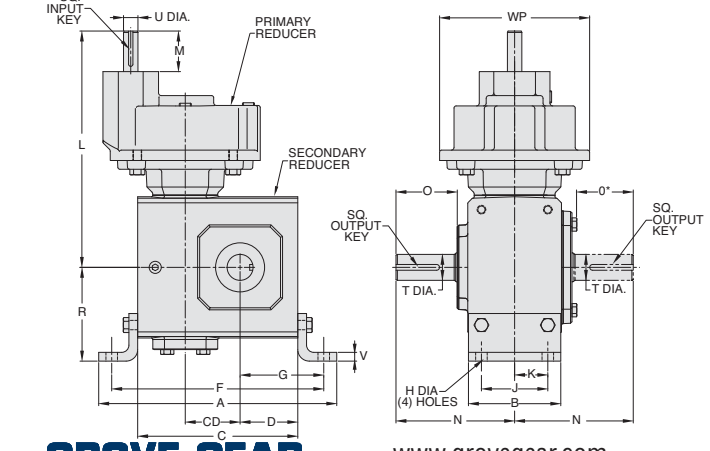

## Style DXJM



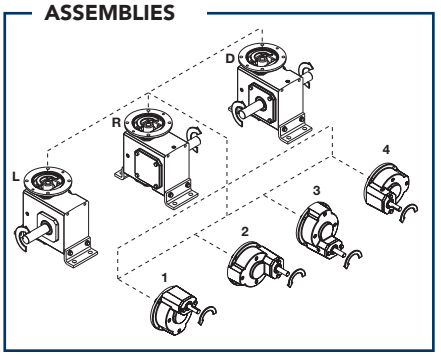

ASSEMBLIES




## Style DXJ




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.






## STYLE DXJMQ, DXJM, DXJ DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | N | O | O* | R | V | WP | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.42 | 2.75 | 4.66 | 1.33 | 1.91 | 1.72 | 6.42 | 2.60 | .38 | 2.00 | 4.37 | 1.00 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 2.94 | 0.25 | 6.50 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 8.14 | 3.50 | 5.38 | 1.54 | 1.91 | 1.91 | 7.08 | 2.76 | .44 | 2.75 | 5.25 | 1.38 | 8.28 | 1.76 | 4.31 | 2.11 | 1.90 | 3.50 | 0.25 | 6.50 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 8.51 | 3.50 | 5.75 | 1.75 | 1.91 | 2.06 | 7.45 - 7.63 | 3.00 | .44 slot | 2.50 - 2.75 | 5.75 | 1.25 - 1.38 | 8.38 | 1.76 | 4.31 | 2.05 | 1.84 | 3.50 | 0.25 | 6.50 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 9.76 | 4.00 | 6.38 | 2.06 | 1.91 | 2.28 | 8.63 | 3.40 | .56 slot | 2.63 - 2.75 | 6.38 | 1.31-1.38 | 8.75 | 1.76 | 4.68 | 2.29 | 2.08 | 4.01 | 0.38 | 6.50 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 10.31 | 4.00 | 6.94 | 2.38 | 2.36 | 2.50 | 9.19 | 3.63 | .69 | 2.88 | 7.06 | 1.44 | 8.92 | 1.76 | 5.14 | 2.66 | 2.44 | 4.06 | 0.38 | 6.50 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 11.62 | 5.00 | 8.00 | 2.63 | 2.36 | 2.94 | 10.38 | 4.13 | .56 | 3.38 | 8.00 | 1.69 | 9.48 | 1.76 | 5.63 | 2.73 | 2.52 | 5.00 | 0.38 | 6.50 | ▲ | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 12.64 | 6.00 | 8.88 | 3.00 | 2.36 | 3.25 | 11.38 | 4.50 | .56 | 3.88 | 8.44 | 1.94 | 10.24 | 1.76 | 6.75 | 3.60 | 3.36 | 5.62 | 0.38 | 6.50 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 13.14 | 6.00 | 9.38 | 3.25 | 2.36 | 3.50 | 11.88 | 4.75 | .56 | 3.88 | 9.50 | 1.94 | 10.43 | 1.76 | 7.06 | 3.66 | 3.42 | 5.63 | 0.38 | 6.50 | ▲ | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 16.38 | 7.00 | 11.38 | 4.25 | 2.87 | 4.44 | 14.88 | 6.19 | .69 | 5.00 | 11.12 | 2.40 | 17.48 | 3.61 | 8.12 | 4.50 | 4.21 | 6.50 | 0.50 | 8.50 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 19.00 | 7.00 | 14.00 | 5.25 | 2.87 | 5.12 | 17.50 | 6.87 | .69 | 5.81 | 14.12 | 2.91 | 18.88 | 3.61 | 9.06 | 4.78 | 4.53 | 7.75 | 0.50 | 8.50 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG |
| | | | | | | | GRL |
| 826 | 1.250" | Identical | Identical | Identical | ✔ | | GRG |
| | 1.125" | | | | | ✔ | GRL |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | ✔ | | GRG |
| | 1.375" | | 5/16 x 2.63 | | | ✔ | GRL |

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

⋆ Applies to double output shaft
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXJ and DXJM only.

❖ Metric IEC B5 input flange options are available only on quill input styles.
✖ Dimensions same for GRG and GRL Series

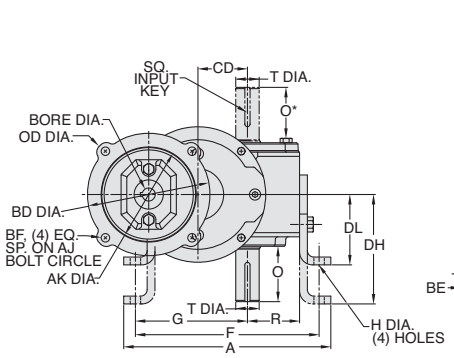
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

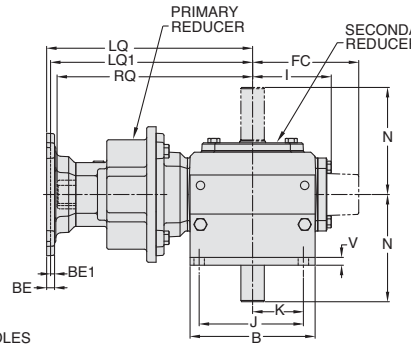
# GR Series Dimensions

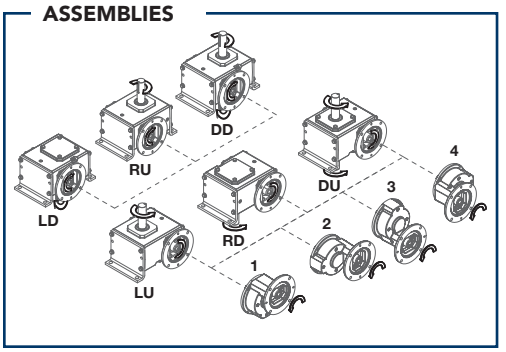
## Styles: DXV_MQ, DXV_M, DXV_

CAST IRON GR SERIES

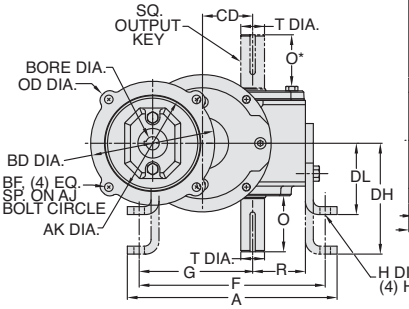
## Style DXV (L or H) MQ

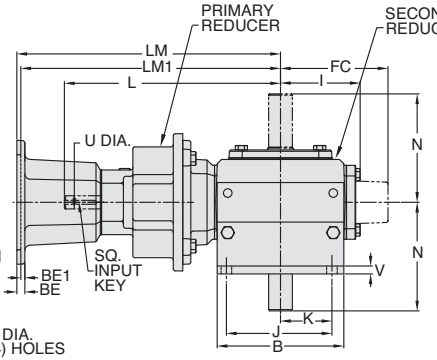


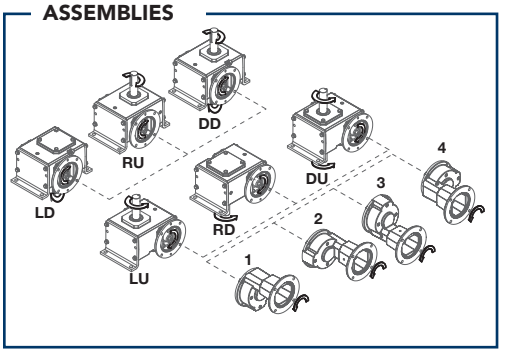



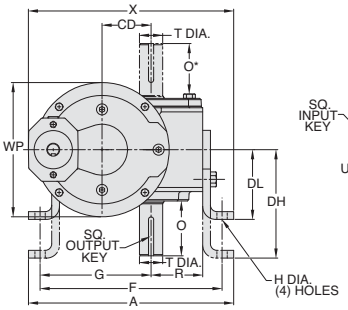

## Style DXV (L or H) M

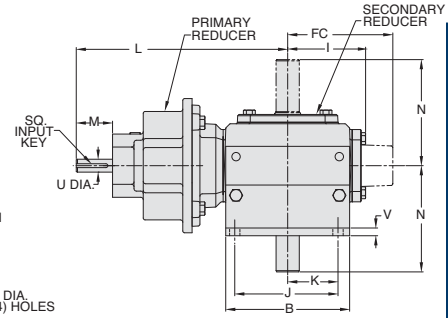


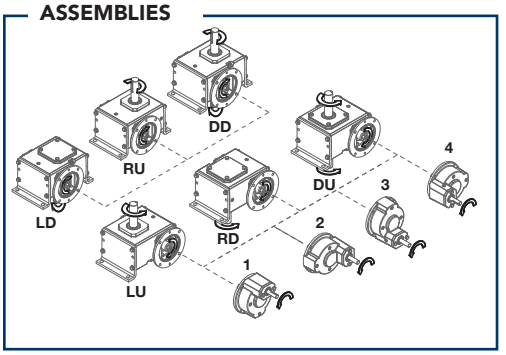




## Style DXV (L or H)




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXV (L or H) MQ, DXV (L or H) M, DXV (L or H) DIMENSIONS (Inches)

| Size | A | B | CD | CE | DL | DH | F | FC▼ | G | H | I | J | K | L | M | N | O | O* | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 7.26 | 4.00 | 1.33 | 1.91 | 2.63 | 3.56 | 6.50 | N/A | 3.86 | 0.38 | 2.61 | 3.00 | 1.50 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 0.25 | 6.50 | 7.46 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 7.88 | 5.00 | 1.54 | 1.91 | 3.00 | 4.38 | 7.00 | N/A | 4.28 | 0.44 | 3.14 | 4.00 | 2.00 | 8.28 | 1.76 | 4.31 | 2.11 | 1.90 | 0.25 | 6.50 | 7.81 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 8.25 | 5.00 | 1.75 | 1.91 | 3.00 | 4.38 | 7.37 | N/A | 4.50 | 0.44 | 3.24 | 4.00 | 2.00 | 8.38 | 1.76 | 4.31 | 2.05 | 1.84 | 0.25 | 6.50 | 8.17 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 9.38 | 6.00 | 2.06 | 1.91 | 3.13 | 4.88 | 8.38 | N/A | 5.09 | 0.50 | 3.61 | 4.88 | 2.44 | 8.75 | 1.76 | 4.68 | 2.29 | 2.08 | 0.38 | 6.50 | 8.95 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 9.94 | 6.00 | 2.38 | 2.36 | 3.38 | 5.25 | 8.81 | N/A | 5.44 | 0.50 | 3.77 | 4.88 | 2.44 | 8.92 | 1.76 | 5.14 | 2.66 | 2.44 | 0.38 | 6.50 | 9.95 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 11.24 | 7.00 | 2.63 | 2.36 | 3.63 | 5.56 | 10.12 | N/A | 6.12 | 0.56 | 4.34 | 5.75 | 2.88 | 9.48 | 1.76 | 5.63 | 2.73 | 2.52 | 0.38 | 6.50 | 10.75 | ▲ | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 12.50 | 8.00 | 3.00 | 2.36 | 3.94 | 5.88 | 11.13 | N/A | 6.75 | 0.56 | 4.84 | 6.00 | 3.00 | 10.24 | 1.76 | 6.75 | 3.60 | 3.36 | 0.38 | 6.50 | 11.63 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 13.00 | 8.50 | 3.25 | 2.36 | 4.69 | 6.25 | 11.88 | N/A | 7.13 | 0.56 | 5.02 | 6.13 | 3.06 | 10.43 | 1.76 | 7.06 | 3.66 | 3.42 | 0.38 | 6.50 | 12.13 | ▲ | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 16.26 | 10.00 | 4.25 | 2.87 | 5.00 | 7.50 | 14.88 | N/A | 8.69 | 0.69 | 6.10 | 7.88 | 3.94 | 17.48 | 3.61 | 8.12 | 4.50 | 4.21 | 0.50 | 8.50 | 15.75 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 19.62 | 13.00 | 5.25 | 2.87 | 5.16 | 9.16 | 18.00 | N/A | 10.88 | 0.78 | 7.50 | 10.00 | 5.00 | 18.88 | 3.61 | 9.06 | 4.78 | 4.53 | 0.50 | 8.50 | 17.80 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |
| GR860 | 23.26 | 14.75 | 6.00 | 2.87 | 7.31 | 9.63 | 20.88 | 10.24 | 12.19 | 0.91 | N/A | 11.76 | 5.88 | 19.60 | 3.61 | 10.00 | 4.65 | 4.65 | 0.50 | 8.50 | 20.50 | 2.500 | 1.250 | 1/4 x 2.00 | 5/8 x 4.00 |
| GR870★ | 26.91 | 14.88 | 7.00 | 3.49 | 7.00 | N/A | 23.99 | 10.63 | 13.87 | 1.13 | N/A | 12.50 | 6.25 | 19.68 | 2.50 | 11.76 | 5.65 | 5.65 | 0.75 | 10.36 | 25.84 | 2.750 | 1.250 | 1/4 x 2.25** | 5/8 x 4.00** |
| GR880★ | 28.96 | 17.00 | 8.00 | 4.07 | 8.00 | N/A | 25.50 | 11.93 | 14.38 | 1.13 | N/A | 14.00 | 7.00 | 21.30 | 3.00 | 12.25 | 5.98 | 5.98 | 0.75 | 11.64 | 29.93 | 3.000 | 1.375 | 5/16 x 2.75** | 3/4 x 4.50** |
| GR8100★ | 37.47 | 20.88 | 10.00 | 4.90 | 9.00 | N/A | 30.75 | 14.34 | 17.76 | 1.44 | N/A | 17.75 | 8.88 | 25.78 | 3.50 | 14.75 | 6.76 | 6.76 | 1.00 | 13.85 | 37.35 | 3.750 | 1.500 | 3/8 x 3.25** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | | GRL | GRG |
| 826 | 1.250" | Identical | Identical | Identical | | | GRG |
| | 1.125" | | | | | GRL | |
| 832 | 1.500" | Identical | 3/8 x 2.63 | Identical | GRG | | |
| | 1.375" | | 5/16 x 2.63 | | | GRL | |

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXV_ and DXV_M only.
★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

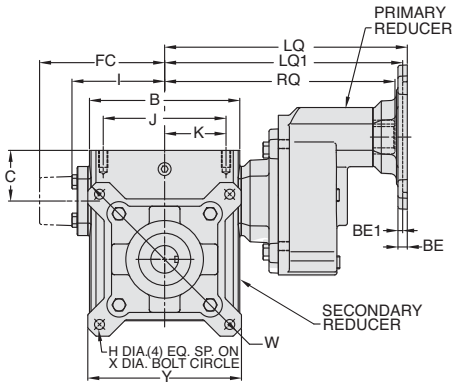
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

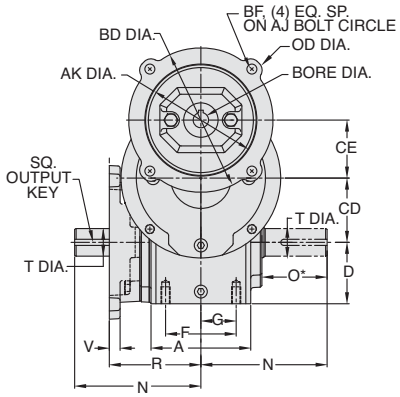
# GR Series Dimensions

## Styles: DXFMQ, DXFM, DXF

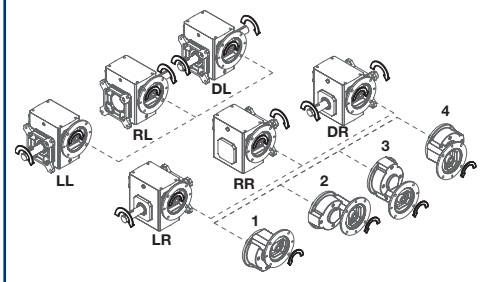
CAST IRON GR SERIES

## Style DXFMQ

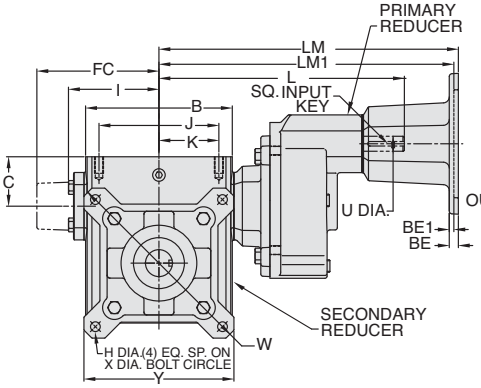


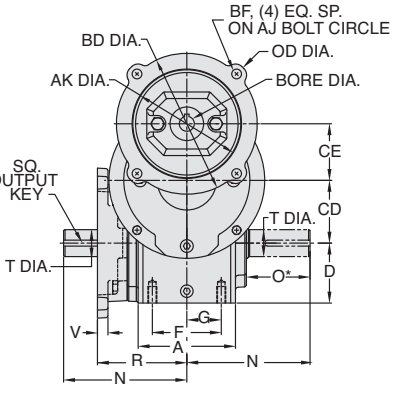




**ASSEMBLIES**

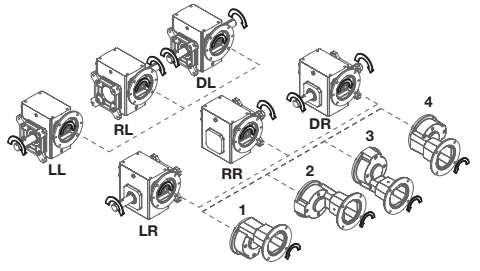



## Style DXFM

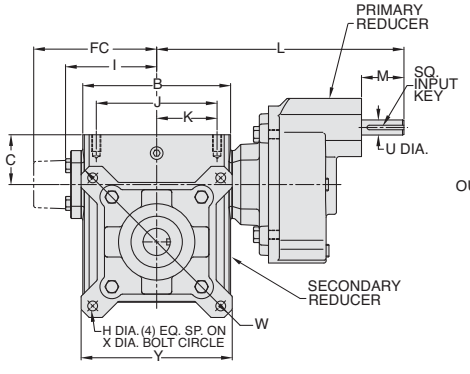


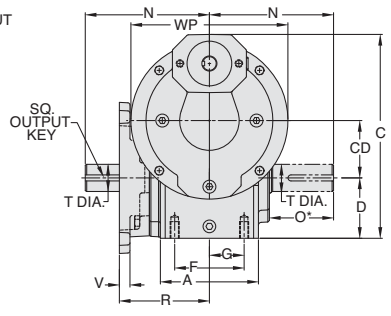




**ASSEMBLIES**

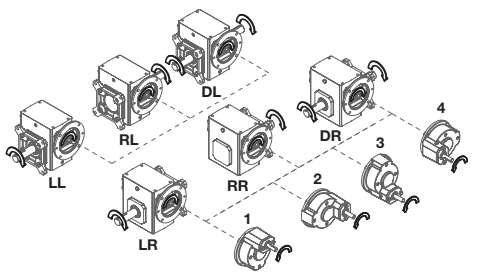



## Style DXF




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

**Sizes 815-8100 output flange must be mounted at Factory on styles FMQ, FM, F.**

## STYLE DXFMQ, DXFM, DXF DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | FC▼ | H | I | L | M | N | O* | V | WP | X | XA | Y | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | N/A | 0.34 | 2.61 | 7.75 | 1.76 | 4.00 | 1.94 | 0.38 | 6.50 | 5.00 | 6.16 | 4.50 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 3.44 | 4.88 | 5.38 | 1.54 | 1.91 | 1.91 | N/A | 0.34 | 3.14 | 8.28 | 1.76 | 4.31 | 1.90 | 0.38 | 6.50 | 5.00 | 6.56 | 4.50 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 3.56 | 5.06 | 5.75 | 1.75 | 1.91 | 2.06 | N/A | 0.34 | 3.24 | 8.38 | 1.76 | 4.31 | 1.84 | 0.38 | 6.50 | 5.88 | 6.92 | 5.00 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 3.81 | 5.80 | 6.38 | 2.06 | 1.91 | 2.28 | N/A | 0.41 | 3.61 | 8.75 | 1.76 | 4.68 | 2.08 | 0.44 | 6.50 | 7.00 | 7.45 | 5.99 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 4.06 | 6.12 | 6.94 | 2.38 | 2.36 | 2.50 | N/A | 0.41 | 3.77 | 8.92 | 1.76 | 5.14 | 2.44 | 0.44 | 6.50 | 7.50 | 8.45 | 6.27 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 4.84 | 7.12 | 8.00 | 2.63 | 2.36 | 2.94 | N/A | 0.41 | 4.34 | 9.48 | 1.76 | 5.63 | 2.52 | 0.50 | 6.50 | 8.00 | 9.13 | 6.67 | ▲ | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 5.25 | 8.12 | 8.88 | 3.00 | 2.36 | 3.25 | N/A | 0.41 | 4.84 | 10.24 | 1.76 | 6.75 | 3.36 | 0.50 | 6.50 | 9.00 | 9.82 | 7.37 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 5.75 | 8.50 | 9.38 | 3.25 | 2.36 | 3.50 | N/A | 0.41 | 5.02 | 10.43 | 1.76 | 7.06 | 3.42 | 0.50 | 6.50 | 9.00 | 10.32 | 7.37 | ▲ | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 6.13 | 10.25 | 11.38 | 4.25 | 2.87 | 4.44 | N/A | 0.56 | 6.10 | 17.48 | 3.61 | 8.12 | 4.21 | 0.62 | 8.50 | 11.50 | 13.31 | 9.65 | 1.875 | 1.250 | 1/4 x 2.00 | 1/2 x 3.06 |
| GR852 | 7.19 | 13.00 | 14.00 | 5.25 | 2.87 | 5.12 | N/A | 0.69 | 7.50 | 18.88 | 3.61 | 9.06 | 4.53 | 0.75 | 8.50 | 14.00 | 14.99 | 11.75 | 2.000 | 1.250 | 1/4 x 2.00 | 1/2 x 3.50 |
| GR860 | 8.13 | 14.25 | 16.50 | 6.00 | 2.87 | 6.50 | 10.24 | 0.69 | N/A | 19.60 | 3.61 | 10.00 | 4.65 | 0.75 | 8.50 | 15.63 | 17.12 | 14.00 | 2.500 | 1.250 | 1/4 x 2.00 | 5/8 x 4.00 |
| GR870★ | 7.63 | 14.88 | 18.91 | 7.00 | 3.49 | 7.59 | 10.63 | 0.78 | N/A | 19.68 | 2.50 | 11.76 | 5.65 | 0.75 | 10.36 | 18.38 | 21.84 | 15.63 | 2.750 | 1.250 | 1/4 x 2.25** | 5/8 x 4.00** |
| GR880★ | 8.63 | 17.00 | 20.96 | 8.00 | 4.07 | 8.86 | 11.93 | 1.03 | N/A | 21.30 | 3.00 | 12.25 | 5.98 | 0.75 | 11.64 | 21.00 | 25.93 | 17.88 | 3.000 | 1.375 | 5/16 x 2.75** | 3/4 x 4.50** |
| GR8100★ | 9.53 | 20.88 | 25.47 | 10.00 | 4.90 | 10.36 | 14.34 | 1.03 | N/A | 25.78 | 3.50 | 14.75 | 6.76 | 1.00 | 13.85 | 25.00 | 31.35 | 21.19 | 3.750 | 1.500 | 3/8 x 3.25** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | Output Key Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 826 | 1.250"<br>1.125" | Identical | Identical | Identical | ✔ | ✔ | GRG<br>GRL |
| 832 | 1.500"<br>1.375" | Identical | 3/8 x 2.63<br>5/16 x 2.63 | Identical | ✔ | ✔ | GRG<br>GRL |

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF❂ |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft
** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXF and DXFM only.
★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
✖ Dimensions same for GRG and GRL Series
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

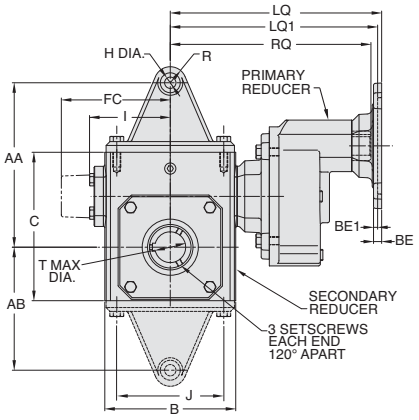
**WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

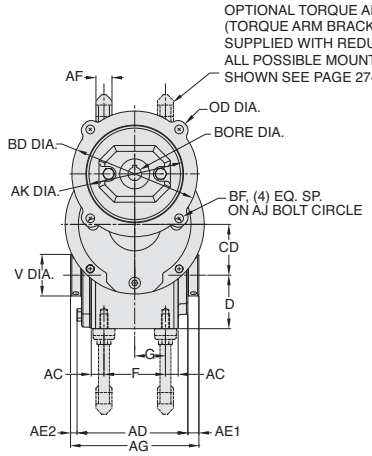
# GR Series Dimensions

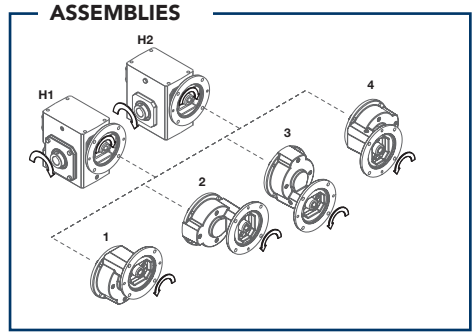
## Styles: DXHMQ, DXHM, DXH

CAST IRON GR SERIES

## Style DXHMQ

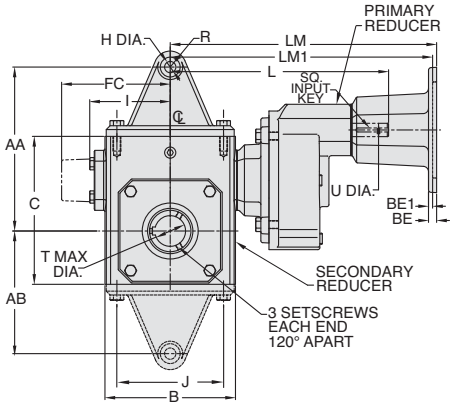


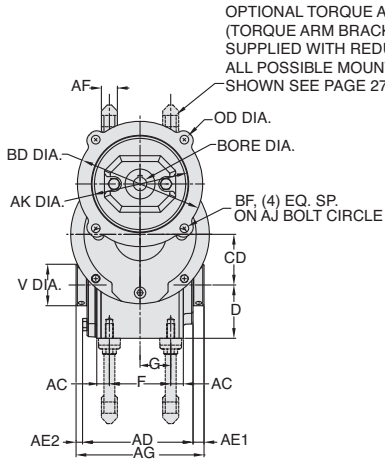



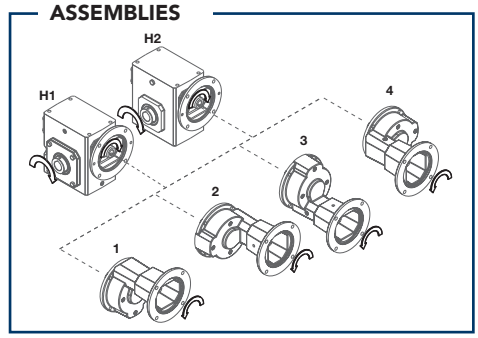




H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DXHM

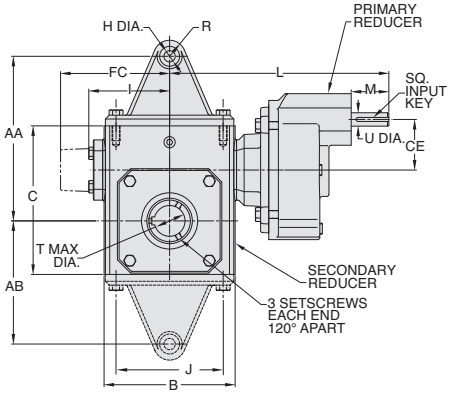


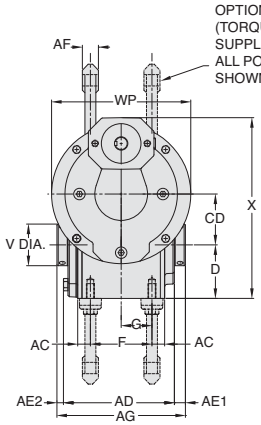



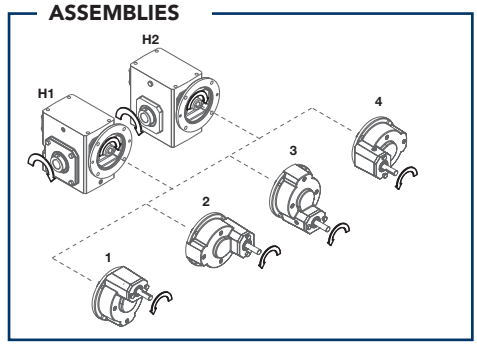




H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DXH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.






## STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

| Size | AA | AB | AC | AD | AE1 | AE2 | AF | AG | B | C | CD | CE | D | F | FC▼ | G | H | I | J | L | M | R | V | WP | X | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 4.19 | 2.97 | 0.41 | 3.90 | 0.53 | 0.32 | 0.75 | 4.75 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | 2.00 | N/A | 1.00 | 0.53 | 2.61 | 3.25 | 7.75 | 1.76 | 0.50 | 1.00 | 6.50 | 6.16 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 5.97 | 4.41 | 0.35 | 4.61 | 0.51 | 0.30 | 0.75 | 5.42 | 5.19 | 5.38 | 1.54 | 1.91 | 1.91 | 2.75 | N/A | 1.38 | 0.53 | 3.14 | 4.19 | 8.28 | 1.76 | 0.75 | 1.00 | 6.50 | 6.56 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 6.19 | 4.56 | 0.41 | 4.73 | 0.49 | 0.28 | 0.75 | 5.50 | 5.19 | 5.75 | 1.75 | 1.91 | 2.06 | 2.75 | N/A | 1.38 | 0.53 | 3.24 | 4.19 | 8.38 | 1.76 | 0.75 | 1.44 | 6.50 | 6.92 | 1.000 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 7.24 | 5.43 | 0.41 | 4.99 | 0.61 | 0.40 | 0.75 | 6.00 | 5.80 | 6.38 | 2.06 | 1.91 | 2.28 | 3.00 | N/A | 1.44 | 0.53 | 3.61 | ▼ | 8.75 | 1.76 | 0.75 | 1.44 | 6.50 | 7.45 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 7.69 | 5.75 | 0.59 | 5.18 | 0.51 | 0.31 | 0.75 | 6.00 | 6.12 | 6.94 | 2.38 | 2.36 | 2.50 | 2.88 | N/A | 1.44 | 0.53 | 3.77 | 5.00 | 8.92 | 1.76 | 0.75 | 1.94 | 6.50 | 8.45 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 8.81 | 6.69 | 0.73 | 6.01 | 0.60 | 0.39 | 0.75 | 7.00 | 7.38 | 8.00 | 2.63 | 2.36 | 2.94 | 3.38 | N/A | 1.69 | 0.53 | 4.34 | 6.33 | 9.48 | 1.76 | 0.75 | 1.94 | 6.50 | 9.13 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 10.63 | 8.25 | 0.63 | 6.53 | 0.60 | 0.36 | 0.75 | 7.50 | 8.12 | 8.88 | 3.00 | 2.36 | 3.25 | 4.00 | N/A | 2.00 | 0.53 | 4.84 | 7.00 | 10.24 | 1.76 | 0.88 | 2.51 | 6.50 | 9.82 | 2.188 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 10.88 | 8.50 | 0.88 | 7.04 | 0.54 | 0.29 | 0.75 | 7.88 | 8.75 | 9.38 | 3.25 | 2.36 | 3.50 | 4.00 | N/A | 2.00 | 0.53 | 5.02 | 7.50 | 10.43 | 1.76 | 0.88 | 2.51 | 6.50 | 10.32 | 2.188 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 11.94 | 9.44 | 0.56 | 7.53 | 0.63 | 0.34 | 0.75 | 8.50 | 10.25 | 11.38 | 4.25 | 2.87 | 4.44 | 5.00 | N/A | 2.50 | 0.53 | 6.10 | 8.50 | 17.48 | 3.61 | 0.75 | 2.75 | 8.50 | 13.31 | 2.188 | 1.250 | 1/4 x 2.50 | 1/2 x 3.06 |
| GR852 | 13.88 | 10.12 | 0.69 | 8.85 | 0.97 | 0.68 | 1.00 | 10.50 | 13.00 | 14.00 | 5.25 | 2.87 | 5.12 | 5.81 | N/A | 2.91 | 0.66 | 7.50 | 11.00 | 18.88 | 3.61 | 1.00 | 4.26 | 8.50 | 14.99 | 3.438 | 1.250 | 1/4 x 3.00 | 1/2 x 3.50 |
| GR860 | 15.00 | 11.50 | 0.88 | 10.52 | 0.52 | 0.52 | 0.38 | 11.50 | 14.50 | 16.50 | 6.00 | 2.87 | 6.50 | 6.38 | 10.24 | 3.19 | 0.66 | N/A | 12.75 | 19.60 | 3.61 | 0.69 | 4.18 | 8.50 | 17.12 | 3.438 | 1.250 | 3/8 x 3.00 | 5/8 x 4.00 |
| GR870★ | N/A | N/A | 1.06 | 11.36 | 1.09 | 1.09 | N/A | 13.50 | 14.88 | 18.91 | 7.00 | 3.49 | 7.59 | 5.50 | 10.63 | 2.75 | N/A | N/A | 12.50 | 19.68 | 2.50 | N/A | 4.92 | 10.36 | 21.84 | 3.938 | 1.250 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880★ | N/A | N/A | 1.06 | 12.48 | 1.03 | 1.03 | N/A | 14.50 | 17.00 | 20.96 | 8.00 | 4.07 | 8.86 | 6.50 | 11.93 | 3.25 | N/A | N/A | 14.25 | 21.30 | 3.00 | N/A | 5.55 | 11.64 | 25.93 | 4.438 | 1.375 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100★ | N/A | N/A | 1.33 | 15.78 | 1.39 | 1.39 | N/A | 18.50 | 20.88 | 25.47 | 10.00 | 4.90 | 10.36 | 6.88 | 14.34 | 3.44 | N/A | N/A | 17.75 | 25.78 | 3.50 | N/A | 6.67 | 13.85 | 31.35 | 5.438 | 1.500 | 1/2 x 3.69** | 7/8 x 5.00** |

▲ See feature comparison chart.

## FEATURE COMPARISON (821)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|
| 821 | Identical | (F)3.00" x (J)4.75" | Identical | ✔ | | GRG |
| | | (F)2.88" x (J)5.00" | | | ✔ | GRL |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

NOTE: Sizes GR870-8100 torque arm not available.

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

- • Max bore dimensions shown. For additional bores available, refer to page 140.
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❊ Style DXH and DXHM only.
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ❖ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Torque arm bracket available separately. Refer to page 274 for kits. If a special bracket is required, refer to Style DXMQ dimensions for mounting pad dimensions on top/bottom of reducer.

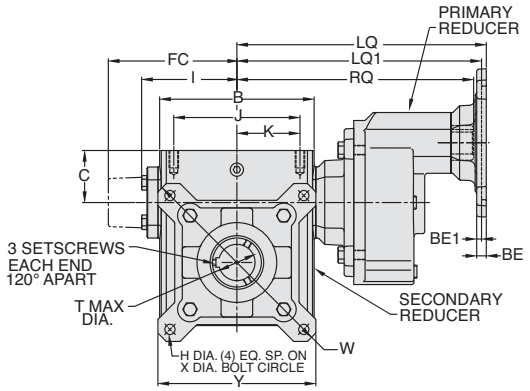
**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

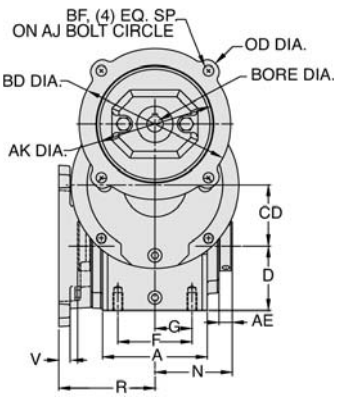
# GR Series Dimensions

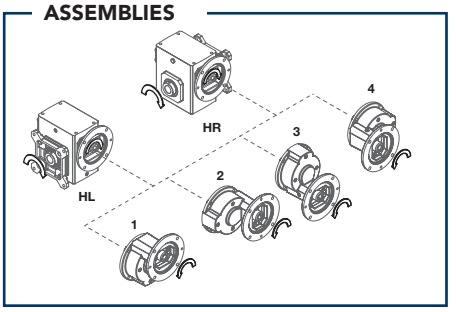
## Styles: DXFHMQ, DXFHM, DXFH

CAST IRON GR SERIES

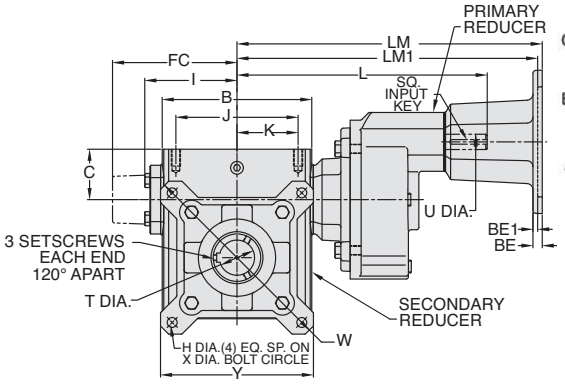
## Style DXFHMQ

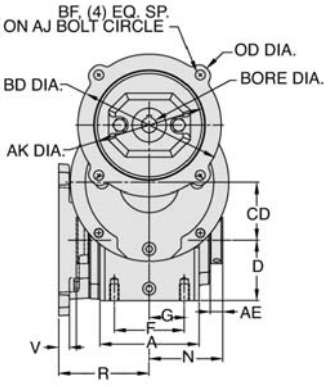


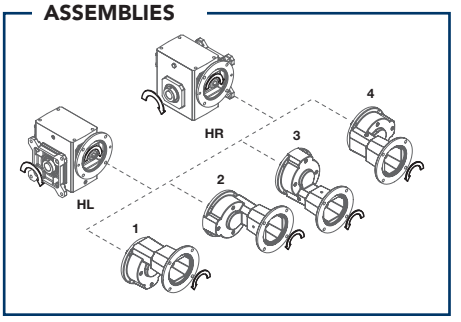



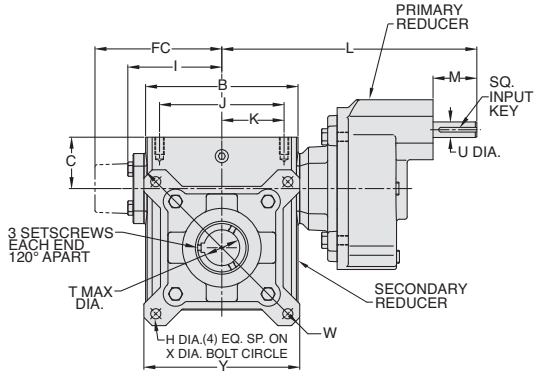

## Style DXFHM

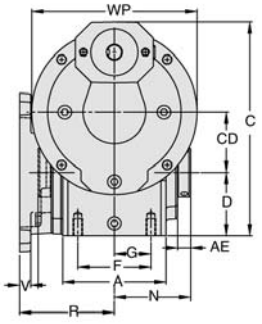


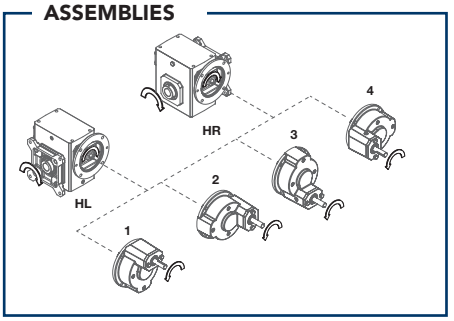




## Style DXFH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXFHMQ, DXFHM, DXFH DIMENSIONS (Inches)

| Size | A | AE | B | C | CD | CE | D | FC▼ | H | I | L | M | N | R | V | W | WP | X | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 2.82 | 0.53 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | N/A | 0.34 | 2.61 | 7.75 | 1.76 | 2.38 | 2.52 | 0.38 | 5.92 | 6.50 | 5.92 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR815 | 3.44 | 0.51 | 4.88 | 5.38 | 1.54 | 1.91 | 1.91 | N/A | 0.34 | 3.14 | 8.28 | 1.76 | 2.71 | 2.87 | 0.38 | 5.88 | 6.50 | 5.88 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| GR818 | 3.56 | 0.49 | 5.06 | 5.75 | 1.75 | 1.91 | 2.06 | N/A | 0.34 | 3.24 | 8.38 | 1.76 | 2.75 | 3.18 | 0.38 | 6.64 | 6.50 | 6.64 | 1.000 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| GR821 | 3.81 | 0.61 | 5.80 | 6.38 | 2.06 | 1.91 | 2.28 | N/A | 0.41 | 3.61 | 8.75 | 1.76 | 3.00 | 3.69 | 0.44 | 7.88 | 6.50 | 7.88 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| GR824 | 4.06 | 0.55 | 6.12 | 6.94 | 2.38 | 2.36 | 2.50 | N/A | 0.41 | 3.77 | 8.92 | 1.76 | 3.00 | 3.73 | 0.44 | 8.39 | 6.50 | 8.39 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR826 | 4.84 | 0.60 | 7.12 | 8.00 | 2.63 | 2.36 | 2.94 | N/A | 0.41 | 4.34 | 9.48 | 1.76 | 3.50 | 3.70 | 0.50 | 8.88 | 6.50 | 8.88 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR830 | 5.25 | 0.60 | 8.12 | 8.88 | 3.00 | 2.36 | 3.25 | N/A | 0.41 | 4.84 | 10.24 | 1.76 | 3.75 | 3.78 | 0.50 | 9.89 | 6.50 | 9.89 | 2.188 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| GR832 | 5.75 | 0.54 | 8.50 | 9.38 | 3.25 | 2.36 | 3.50 | N/A | 0.41 | 5.02 | 10.43 | 1.76 | 3.94 | 4.03 | 0.50 | 9.89 | 6.50 | 9.89 | 2.188 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| GR842 | 6.13 | 0.63 | 10.25 | 11.38 | 4.25 | 2.87 | 4.44 | N/A | 0.56 | 6.10 | 17.48 | 3.61 | 4.25 | 4.56 | 0.62 | 12.95 | 8.50 | 12.95 | 2.188 | 1.250 | 1/4 x 2.50 | 1/2 x 3.06 |
| GR852 | 7.19 | 0.97 | 13.00 | 14.00 | 5.25 | 2.87 | 5.12 | N/A | 0.69 | 7.50 | 18.88 | 3.61 | 5.25 | 5.62 | 0.75 | 15.50 | 8.50 | 15.50 | 3.438 | 1.250 | 1/4 x 3.00 | 1/2 x 3.50 |
| GR860 | 8.13 | 0.52 | 14.25 | 16.50 | 6.00 | 2.87 | 6.50 | 10.24 | 0.69 | N/A | 19.60 | 3.61 | 5.75 | 7.26 | 0.75 | 18.00 | 8.50 | 18.00 | 3.438 | 1.250 | 3/8 x 3.00 | 5/8 x 4.00 |
| GR870★ | 7.63 | 1.09 | 14.88 | 18.91 | 7.00 | 3.49 | 7.59 | 10.63 | 0.78 | N/A | 19.68 | 2.50 | 6.75 | 7.45 | 0.75 | 21.00 | 10.36 | 21.00 | 3.938 | 1.250 | 3/8 x 2.87** | 5/8 x 4.00** |
| GR880★ | 8.63 | 1.03 | 17.00 | 20.96 | 8.00 | 4.07 | 8.86 | 11.93 | 1.03 | N/A | 21.30 | 3.00 | 7.25 | 8.34 | 0.75 | 24.00 | 11.64 | 24.00 | 4.438 | 1.375 | 1/2 x 2.81** | 3/4 x 4.50** |
| GR8100★ | 9.53 | 1.39 | 20.88 | 25.47 | 10.00 | 4.90 | 10.36 | 14.34 | 1.03 | N/A | 25.78 | 3.50 | 9.25 | 9.07 | 1.00 | 29.00 | 13.85 | 29.00 | 5.438 | 1.500 | 1/2 x 3.69** | 7/8 x 5 .00** |

## FEATURE COMPARISON (821, 826, 832)

| Size | Output Shaft Diameter Needed? | Mounting Footprint Needed? | All Other Features | Grove Gear Flexaline Interchange | LEESON IRONMAN Interchange | Replace With Series Code Below: |
|---|---|---|---|---|---|---|
| 821 | Identical | Identical◊ | Identical | ✔ | ✔ | GRG<br>GRL |

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 202-203 (DXMQ, DXM, DX).

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GR813 | 10.0 | N/A | N/A | 8.52 | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| GR815 | 10.53 | N/A | N/A | 9.05 | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| GR818 | 10.63 | N/A | N/A | 9.15 | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| GR821✖ | 11.00 | N/A | N/A | 9.52 | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| GR824 | 11.17 | N/A | N/A | 9.69■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| GR826✖ | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832✖ | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| GR852 | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |
| GR860 | N/A | 22.78 | 22.78 | N/A | 17.09 | 17.09 | 17.65 | N/A | 16.58 | 16.58 | 16.98 |

## NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

- • Max bore dimensions shown. For additional bores available, refer to page 140.
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❊ Style DXFH and DXFHM only.
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

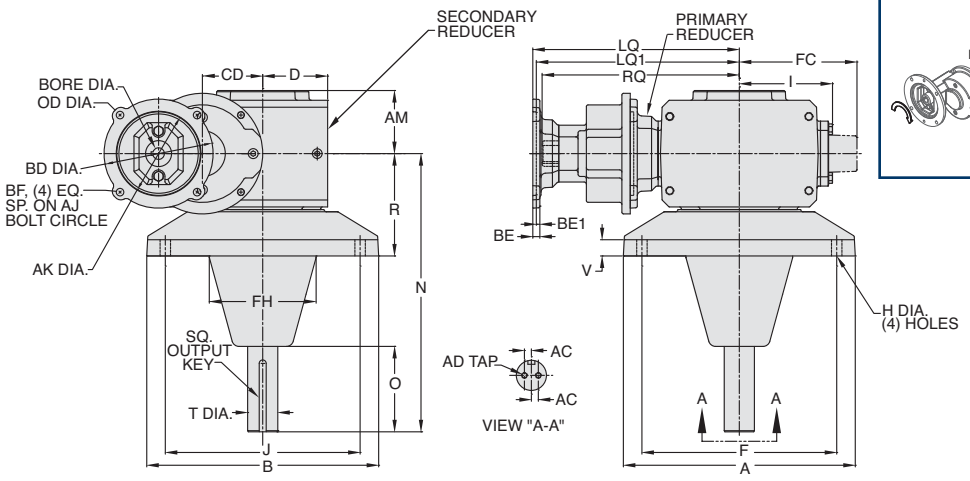
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

# GR Series Dimensions

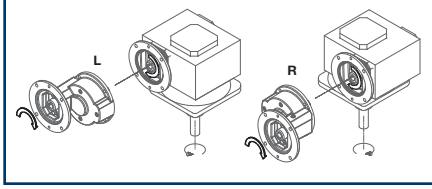
## Styles: DXFEMQ, DXFEM, DXFE

CAST IRON GR SERIES

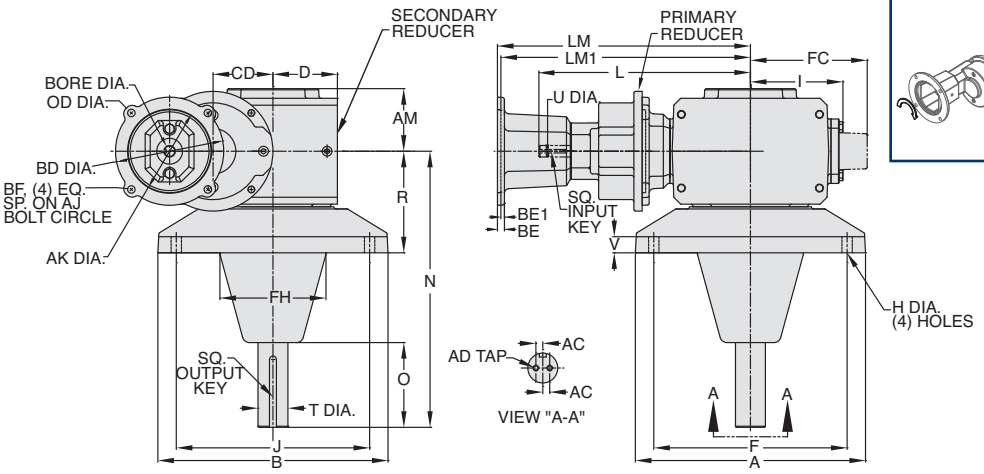
## Style DXFEMQ



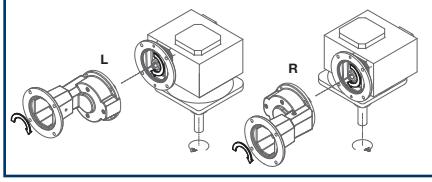

### ASSEMBLIES



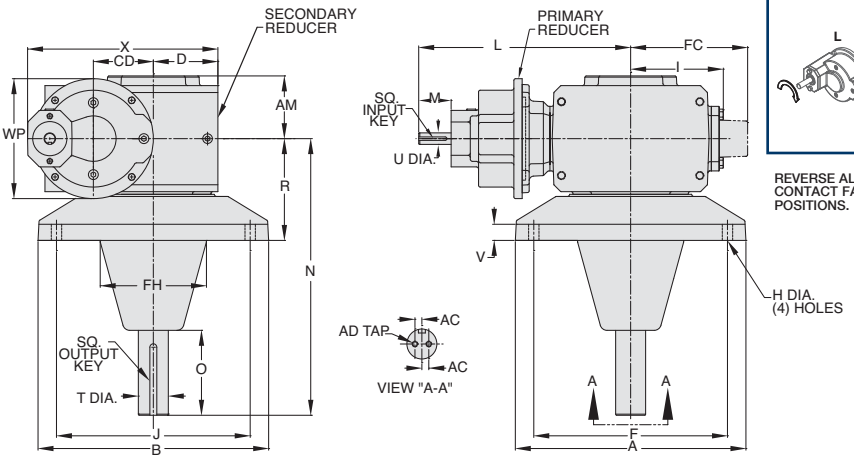

## Style DXFEM



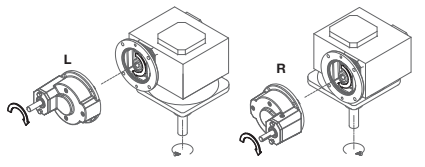

### ASSEMBLIES




## Style DXFE




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXFEMQ, DXFEM, DXFE DIMENSIONS (Inches)

| Size | A | AC | AD | AM | B | CD | D | F | FC▼ | H |
|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 3.15 | 11.00 | 3.00 | 4.60 | 9.00 | N/A | 0.56 |
| GR832 | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 3.40 | 12.50 | 3.25 | 5.52 | 10.50 | N/A | 0.56 |
| GR842 | 14.00 | 0.500 | .31-16 UNC X 1.00 DP | 3.62 | 14.00 | 4.25 | 5.74 | 12.00 | N/A | 0.69 |
| GR852 | 16.00 | 0.750 | .31-16 UNC X 1.00 DP | 4.28 | 16.00 | 5.25 | 6.00 | 14.00 | N/A | 0.81 |
| GR860 | 19.50 | 0.750 | .31-16 UNC X 1.00 DP | 5.28 | 19.50 | 6.00 | 7.00 | 17.00 | 10.24 | 0.88 |
| GR870★ | 22.00 | 1.000 | .31-16 UNC X 1.00 DP | 6.06 | 22.00 | 7.00 | 8.50 | 19.00 | 10.63 | 1.13 |
| GR880★ | 28.00 | 1.062 | .31-11 UNC X 1.50 DP | 6.22 | 28.00 | 8.00 | 8.86 | 24.00 | 11.93 | 1.31 |
| GR8100★ | 32.00 | 1.118 | .31-11 UNC X 1.50 DP | 7.94 | 32.00 | 10.00 | 12.50 | 28.00 | 14.34 | 1.31 |

| Size | I | J | L | M | N | O∋ | R | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | P❊ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GR830 | 4.84 | 9.00 | 10.24 | 1.76 | 14.38 | 4.96 | 3.25 | 0.78 | 6.50 | 9.82 | 1.438 | 0.875 | 3/16 x 3/32 | 3/8 x 3.88 |
| GR832 | 5.02 | 10.50 | 10.43 | 1.76 | 15.00 | 4.63 | 3.50 | 0.88 | 6.50 | 10.32 | 1.625 | 0.875 | 3/16 x 3/32 | 3/8 x 3.69 |
| GR842 | 6.10 | 12.00 | 17.48 | 1.76 | 16.50 | 5.91 | 4.44 | 1.00 | 8.50 | 13.31 | 1.688 | 1.250 | 3/16 x 3/32 | 3/8 x 4.68 |
| GR852 | 7.50 | 14.00 | 18.88 | 1.76 | 16.50 | 5.62 | 5.12 | 1.25 | 8.50 | 14.99 | 2.188 | 1.250 | 3/16 x 3/32 | 1/2 x 4.63 |
| GR860 | N/A | 17.00 | 19.60 | 1.76 | 22.50 | 7.63 | 6.50 | 1.50 | 8.50 | 17.12 | 2.438 | 1.500 | 3/16 x 3/32 | 5/8 x 6.50 |
| GR870★ | N/A | 19.00 | 19.68 | 1.76 | 24.00 | 7.63 | 7.59 | 1.75 | 10.36 | 21.84 | 2.937 | 1.625 | 3/16 x 3/32 | 3/4 x 6.44 |
| GR880★ | N/A | 24.00 | 21.30 | 1.76 | 27.06 | 9.25 | 8.86 | 2.00 | 11.64 | 25.93 | 3.438 | 1.375 | 3/16 x 3/32 | 7/8 x 8.00 |
| GR8100★ | N/A | 28.00 | 25.78 | 1.76 | 29.50 | 9.43 | 10.36 | 2.25 | 13.85 | 31.35 | 3.938 | 2.250 | 3/16 x 3/32 | 1 x 7.75 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| GR830 | 12.49 | N/A | N/A | 11.01■ | N/A | N/A | N/A | 10.62■ | N/A | N/A | N/A |
| GR832 | 12.68 | N/A | N/A | 11.20■ | N/A | N/A | N/A | 10.81■ | N/A | N/A | N/A |
| GR842 | N/A | 19.44 | 20.00 | N/A | 14.05 | 13.75 | 14.31 | N/A | 13.22 | 13.22 | 13.78 |
| GR852 | N/A | 20.84 | 21.40 | N/A | 15.15 | 15.15 | 15.71 | N/A | 14.52 | 14.52 | 15.08 |
| GR860 | N/A | 22.42 | 23.04 | N/A | 15.87 | 15.87 | 16.48 | N/A | 15.23 | 15.23 | 15.23 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| 48CZ | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| 56C | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| 140TC | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
❊ Style DXFE and DXFEM only.
∋ "O" dimension is the minimum dimension to output seal or screw head on sizes GR860-GR8100.

❖ Metric IEC B5 input flange options are available only on quill input styles.
▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

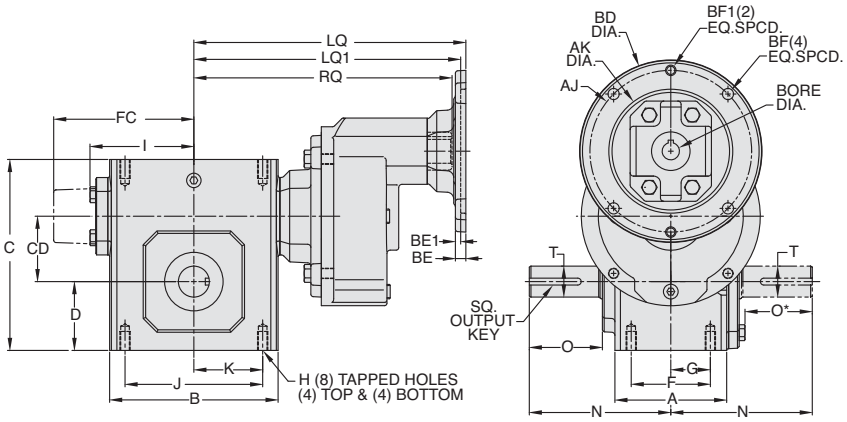
⚠ WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

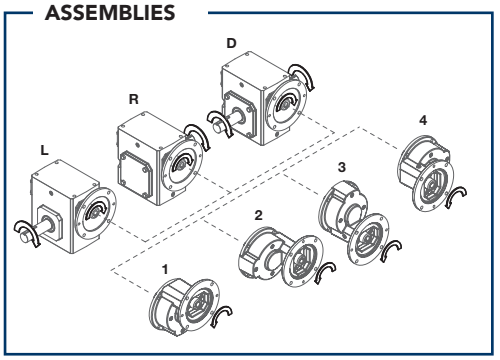
# NH Series Dimensions

## Styles: DXMQ, DXM, DX

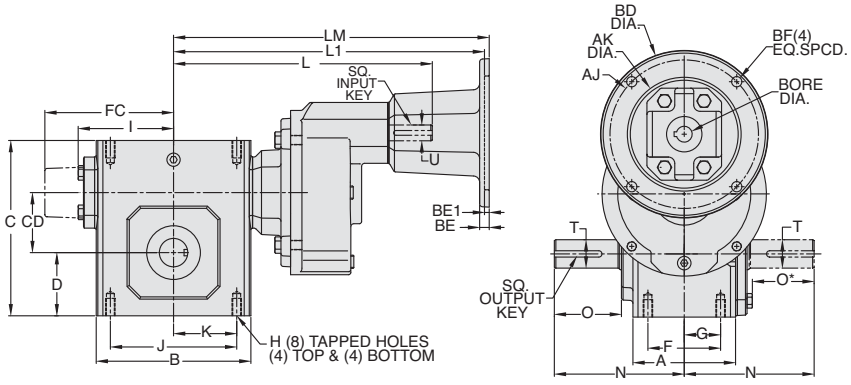
CAST IRON NH SERIES

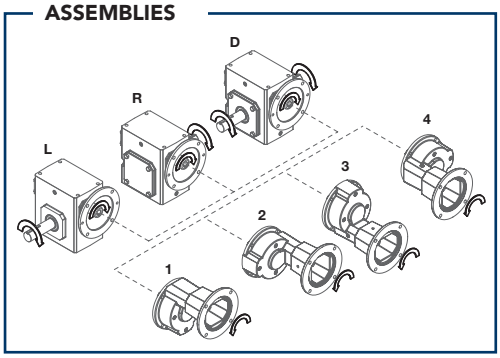
## Style DXMQ



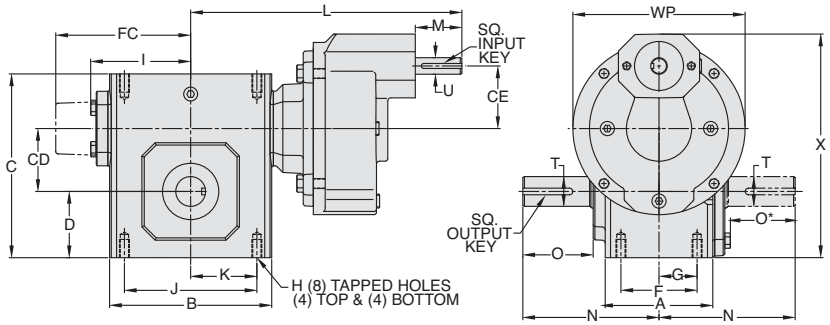



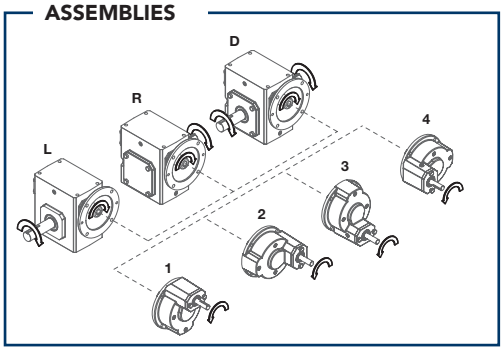

## Style DXM




## Style DX




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# NH Series Dimensions

## Styles: DXMQ, DXM, DX



### STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | D1 | E | F | G | H Tap Size | H Depth | I | J | K | L | M | N | O | O* | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 2.82 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | 2.81 | 2.47 | 2.00 | 1.00 | 5/16-18 UNC | .50 | 2.61 | 3.25 | 1.63 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 6.50 | 6.16 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH815** | 2.57 | 4.06 | 5.00 | 1.54 | 1.91 | 1.91 | 2.81 | 2.47 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.14 | 3.25 | 1.63 | 8.28 | 1.76 | 4.25 | 2.56 | 2.35 | 6.50 | 6.53 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH818** | 2.56 | 4.50 | 5.44 | 1.75 | 1.91 | 2.06 | 2.81 | 2.47 | 1.88 | 0.94 | 5/16-18 UNC | .63 | 3.24 | 3.75 | 1.88 | 8.38 | 1.76 | 4.75 | 2.94 | 2.73 | 6.50 | 6.92 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH821** | 2.50 | 4.50 | 6.00 | 2.06 | 1.91 | 2.28 | 2.81 | 2.47 | 1.88 | 0.94 | 3/8-16 UNC | .63 | 3.61 | 3.25 | 1.63 | 8.75 | 1.76 | 4.34 | 2.66 | 2.45 | 6.50 | 7.48 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH824** | 2.94 | 5.25 | 6.88 | 2.38 | 2.36 | 2.50 | 3.25 | 2.82 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 3.77 | 4.00 | 2.00 | 8.92 | 1.76 | 4.88 | 2.91 | 2.69 | 6.50 | 8.64 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH826** | 2.88 | 5.75 | 7.38 | 2.63 | 2.36 | 2.94 | 3.25 | 2.82 | 2.13 | 1.06 | 3/8-16 UNC | .69 | 4.34 | 4.00 | 2.00 | 9.48 | 1.76 | 5.25 | 3.28 | 3.07 | 6.50 | 9.13 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH830** | 3.12 | 6.62 | 8.25 | 3.00 | 2.36 | 3.25 | 3.25 | 2.82 | 2.38 | 1.19 | 3/8-16 UNC | .75 | 4.84 | 4.63 | 2.31 | 9.98 | 1.76 | 5.77 | 3.56 | 3.31 | 6.50 | 9.95 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH832** | 4.44 | 8.00 | 10.06 | 3.25 | 2.36 | 3.50 | 3.25 | 2.82 | 3.50 | 1.75 | 1/2-13 UNC | 1.00 | 5.02 | 7.00 | 3.50 | 10.17 | 1.76 | 7.03 | 4.24 | 3.99 | 6.50 | 11.01 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **NH842** | 4.75 | 9.75 | 11.50 | 4.25 | 2.87 | 4.44 | 4.25 | 4.03 | 3.75 | 1.88 | 1/2-13 UNC | 1.00 | 6.10 | 7.50 | 3.75 | 9.57 | 3.61 | 7.50 | 3.88 | 3.59 | 8.50 | 13.37 | 1.750 | 1.250 | 1/4 x 2.50 | 3/8 x 2.25 |
| **NH852** | 6.19 | 11.00 | 12.69 | 5.25 | 2.87 | 5.12 | 4.25 | 4.03 | 4.50 | 2.25 | 5/8-11 UNC | 1.25 | 7.50 | 9.00 | 4.50 | 10.88 | 3.61 | 9.00 | 4.72 | 4.47 | 8.50 | 14.75 | 2.000 | 1.250 | 1/4 x 3.00 | 1/2 x 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 10.00 | N/A | N/A | 8.52■ | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| **NH815** | 10.53 | N/A | N/A | 9.05■ | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| **NH818** | 10.63 | N/A | N/A | 9.15■ | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| **NH821** | 11.00 | N/A | N/A | 9.52■ | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| **NH824** | 11.17 | N/A | N/A | 9.96■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| **NH826** | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| **NH830** | 12.23 | N/A | N/A | 10.75■ | N/A | N/A | N/A | 10.36■ | N/A | N/A | N/A |
| **NH832** | 12.42 | N/A | N/A | 10.94■ | N/A | N/A | N/A | 10.55■ | N/A | N/A | N/A |
| **NH842** | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| **NH852** | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **48CZ** | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❊ Style D and DM only

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| HWUF | DXMQ |
| HWUFC | DXM |
| HWU | DX |

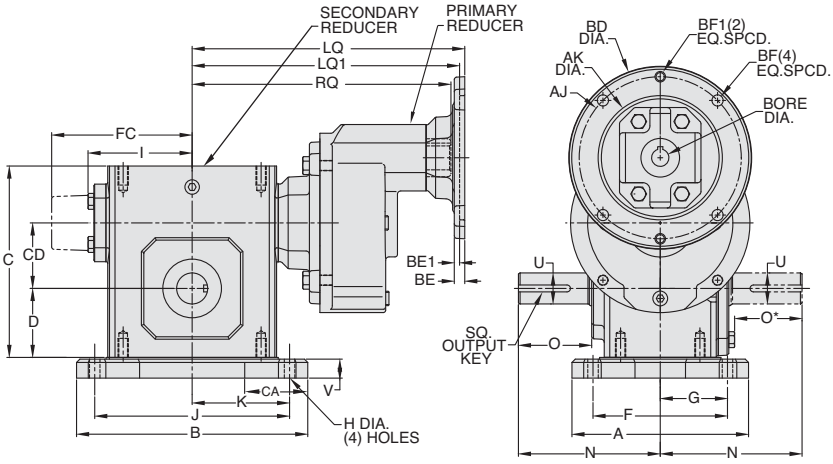
Refer to page 113 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

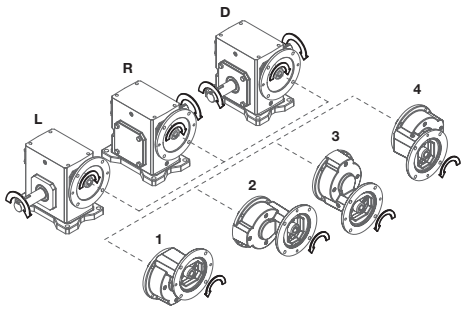
## Styles: DXTMQ, DXTM, DXT

CAST IRON NH SERIES

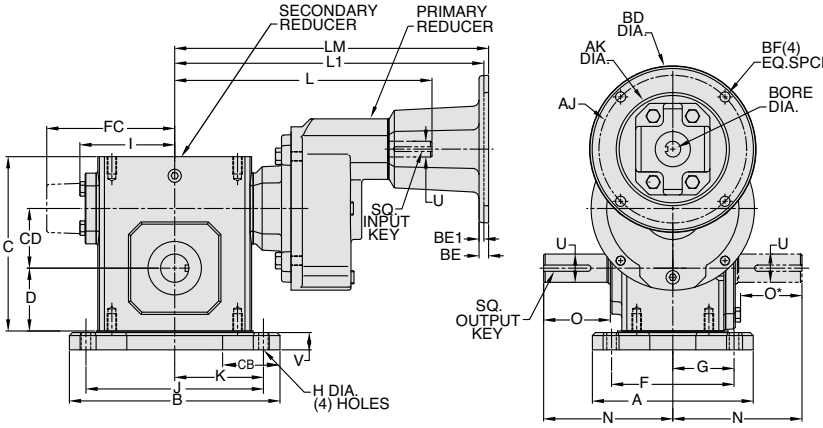
## Style DXTMQ



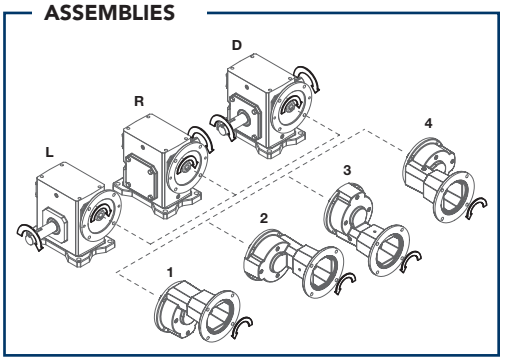

**ASSEMBLIES**



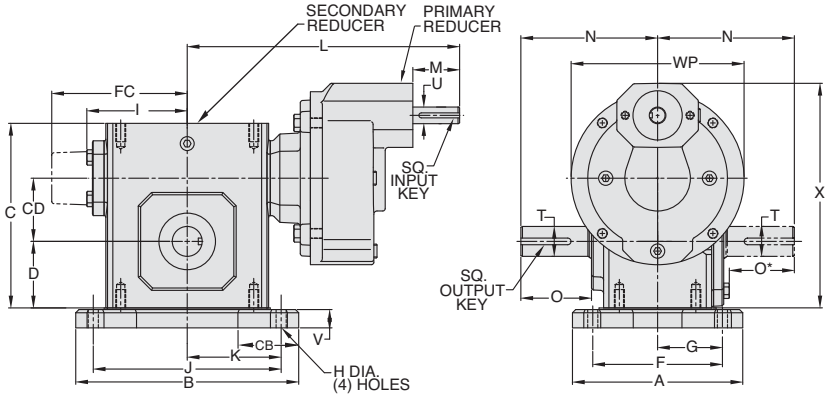

## Style DXTM



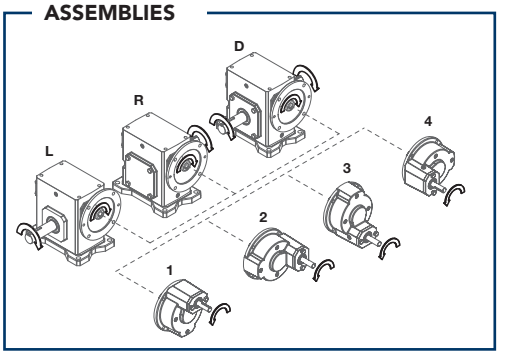

**ASSEMBLIES**




## Style DXT




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# NH Series Dimensions

## Styles: DXTMQ, DXTM, DXT



### STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

| Size | A | B | C | CD | CA | CE | D | D1 | E | F | G | H | I | J | K | L | M | N | O | O* | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 4.00 | 5.01 | 4.97 | 1.33 | 1.50 | 1.91 | 1.72 | 2.81 | 2.47 | 3.25 | 1.63 | 0.28 | 2.61 | 4.25 | 2.13 | 7.75 | 1.76 | 4.00 | 2.16 | 1.94 | 0.31 | 6.50 | 6.47 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH815** | 5.25 | 5.19 | 5.31 | 1.54 | 1.50 | 1.91 | 1.88 | 2.81 | 2.47 | 4.50 | 2.25 | 0.34 | 3.14 | 4.19 | 2.09 | 8.28 | 1.76 | 4.25 | 2.56 | 2.35 | 0.31 | 6.50 | 6.84 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH818** | 4.62 | 5.89 | 5.82 | 1.75 | 1.88 | 1.91 | 2.06 | 2.81 | 2.47 | 3.50 | 1.75 | 0.41 | 3.24 | 4.63 | 2.31 | 8.38 | 1.76 | 4.75 | 2.94 | 2.73 | 0.38 | 6.50 | 7.30 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH821** | 5.25 | 5.19 | 6.31 | 2.06 | 1.50 | 1.91 | 2.31 | 2.81 | 2.47 | 4.50 | 2.25 | 0.34 | 3.61 | 4.19 | 2.09 | 8.75 | 1.76 | 4.34 | 2.66 | 2.45 | 0.31 | 6.50 | 7.79 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH824** | 5.25 | 5.75 | 7.19 | 2.38 | 1.50 | 2.36 | 2.69 | 3.25 | 2.82 | 4.50 | 2.25 | 0.41 | 3.77 | 3.75 | 1.88 | 8.92 | 1.76 | 4.88 | 2.91 | 2.69 | 0.31 | 6.50 | 8.95 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH826** | 6.13 | 6.51 | 7.69 | 2.63 | 2.00 | 2.36 | 2.94 | 3.25 | 2.82 | 4.13 | 2.06 | 0.41 | 4.34 | 4.75 | 2.38 | 9.48 | 1.76 | 5.25 | 3.28 | 3.07 | 0.31 | 6.50 | 9.44 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH830** | 6.13 | 7.74 | 8.56 | 3.00 | 2.25 | 2.36 | 3.38 | 3.25 | 2.82 | 4.13 | 2.06 | 0.41 | 4.84 | 6.00 | 3.00 | 9.98 | 1.76 | 5.77 | 3.56 | 3.31 | 0.31 | 6.50 | 10.26 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH832** | 7.50 | 9.25 | 10.44 | 3.25 | 2.50 | 2.36 | 4.19 | 3.25 | 2.82 | 6.50 | 3.25 | 0.41 | 5.02 | 7.75 | 3.88 | 10.17 | 1.76 | 7.03 | 4.24 | 3.99 | 0.38 | 6.50 | 11.39 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **NH842** | 6.75 | 10.99 | 12.00 | 4.25 | 2.50 | 2.87 | 4.50 | 4.25 | 4.03 | 5.75 | 2.88 | 0.56 | 6.10 | 9.75 | 4.88 | 9.57 | 3.61 | 7.50 | 3.88 | 3.59 | 0.50 | 8.50 | 13.87 | 1.750 | 1.250 | 1/4 x 2.50 | 3/8 x 2.25 |
| **NH852** | 8.25 | 13.24 | 13.82 | 5.25 | 3.00 | 2.87 | 4.88 | 4.25 | 4.03 | 7.00 | 3.50 | 0.69 | 7.50 | 12.00 | 6.00 | 10.88 | 3.61 | 9.00 | 4.72 | 4.47 | 1.13 | 8.50 | 15.88 | 2.000 | 1.250 | 1/4 x 3.00 | 1/2 x 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| **NH813** | 10.00 | N/A | N/A | 8.52■ | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| **NH815** | 10.53 | N/A | N/A | 9.05■ | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| **NH818** | 10.63 | N/A | N/A | 9.15■ | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| **NH821** | 11.00 | N/A | N/A | 9.52■ | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| **NH824** | 11.17 | N/A | N/A | 9.96■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| **NH826** | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| **NH830** | 12.23 | N/A | N/A | 10.75■ | N/A | N/A | N/A | 10.36■ | N/A | N/A | N/A |
| **NH832** | 12.42 | N/A | N/A | 10.94■ | N/A | N/A | N/A | 10.55■ | N/A | N/A | N/A |
| **NH842** | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| **NH852** | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **48CZ** | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

* Applies to double output shaft

◆ Keyway width by depth

■ 48CZ not available

❊ Style DXT and DXTM only

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| HWZF | DXTMQ |
| HWZFC | DXTM |
| HWZ | DXT |

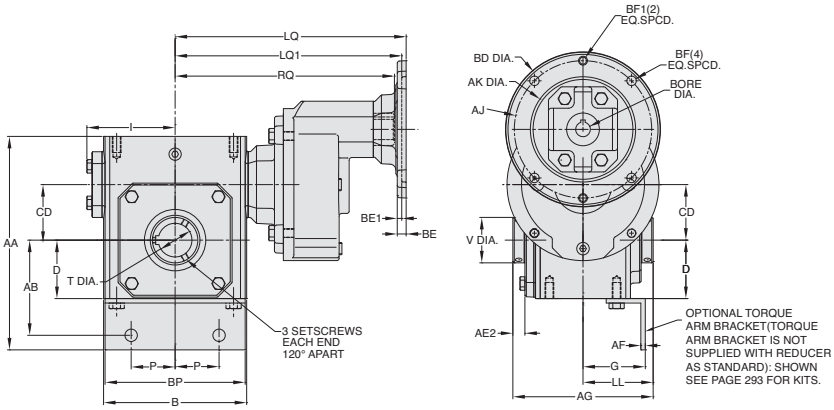
Refer to page 113 for complete interchange guide for original Grove Gear OE Series products.

# NH Series Dimensions

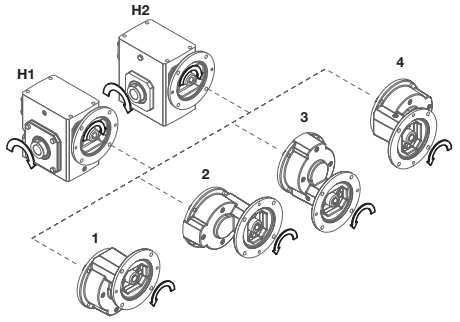
## Styles: DXHMQ, DXHM, DXH

CAST IRON NH SERIES

## Style DXHMQ

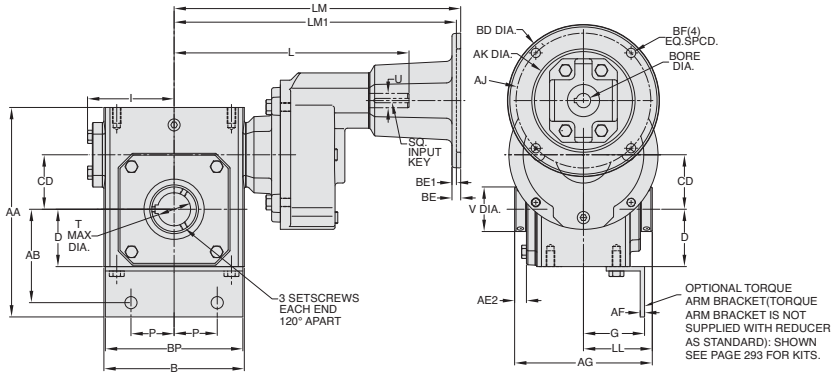



**ASSEMBLIES**

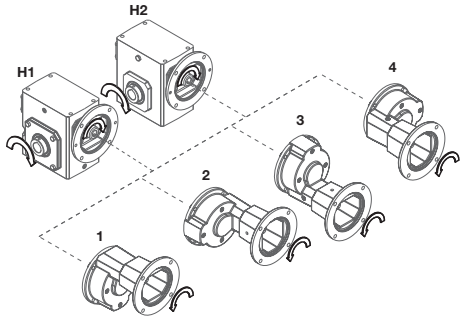



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DXHM

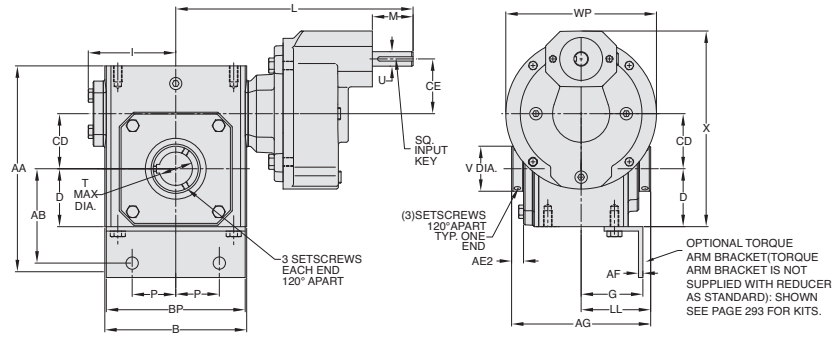



**ASSEMBLIES**

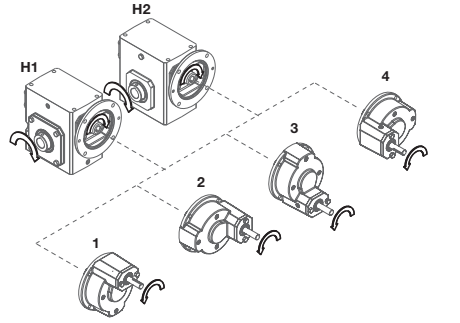



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style DXH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

# NH Series Dimensions

## Styles: DXHMQ, DXHM, DXH



### STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

| Size | AA | AB | AD | AE2 | AF | AG | B | C | CD | CE | D | D1 | E | G | H | I | L | LL | M | P | V | WP | X | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key• |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 6.66 | 3.10 | 3.90 | 0.53 | 0.19 | 4.75 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | 2.81 | 2.47 | 1.88 | 0.53 | 2.61 | 7.75 | 2.38 | 1.76 | 1.38 | 1.00 | 6.50 | 6.47 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH815** | 7.00 | 3.26 | 3.59 | 0.51 | 0.19 | 4.08 | 4.06 | 5.00 | 1.54 | 1.91 | 1.88 | 2.81 | 2.47 | 1.82 | 0.53 | 3.14 | 8.28 | 1.88 | 1.76 | 1.38 | 1.00 | 6.50 | 6.84 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH818** | 7.44 | 3.44 | 3.83 | 0.56 | 0.19 | 4.29 | 4.50 | 5.44 | 1.75 | 1.91 | 2.06 | 2.81 | 2.47 | 1.82 | 0.53 | 3.24 | 8.38 | 1.98 | 1.76 | 1.38 | 1.44 | 6.50 | 7.30 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 3.00 |
| **NH821** | 8.00 | 3.69 | 3.57 | 0.85 | 0.19 | 4.65 | 4.50 | 6.00 | 2.06 | 1.91 | 2.31 | 2.81 | 2.47 | 1.82 | 0.53 | 3.61 | 8.75 | 2.12 | 1.76 | 1.38 | 1.94 | 6.50 | 7.79 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **NH824** | 8.88 | 4.07 | 4.16 | 0.56 | 0.19 | 4.65 | 5.25 | 6.88 | 2.38 | 2.36 | 2.69 | 3.25 | 2.82 | 1.94 | 0.53 | 3.77 | 8.92 | 2.12 | 1.76 | 1.38 | 1.94 | 6.50 | 8.95 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **NH826** | 9.38 | 4.32 | 4.15 | 0.56 | 0.19 | 4.65 | 5.75 | 7.38 | 2.63 | 2.36 | 2.94 | 3.25 | 2.82 | 1.94 | 0.53 | 4.34 | 9.48 | 2.12 | 1.76 | 1.38 | 1.94 | 6.50 | 9.44 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **NH830** | 10.25 | 4.76 | 4.67 | 0.56 | 0.25 | 5.16 | 6.62 | 8.25 | 3.00 | 2.36 | 3.38 | 3.25 | 2.82 | 2.32 | 0.53 | 4.84 | 9.98 | 2.38 | 1.76 | 2.38 | 2.51 | 6.50 | 10.26 | 2.188 | 0.625 | 3/16 x 3/32 | 1/2 x 3.00 |
| **NH832** | 12.06 | 5.57 | 5.83 | 0.57 | 0.25 | 6.31 | 8.00 | 10.06 | 3.25 | 2.36 | 4.19 | 3.25 | 2.82 | 2.87 | 0.53 | 5.02 | 10.17 | 2.95 | 1.76 | 3.51 | 2.51 | 6.50 | 11.39 | 2.188 | 0.625 | 3/16 x 3/32 | 1/2 x 3.00 |
| **NH842** | 14.00 | 6.38 | 7.53 | 0.63 | 0.38 | 8.50 | 9.75 | 11.50 | 4.25 | 2.87 | 4.50 | 4.25 | 4.03 | 3.26 | 0.53 | 6.10 | 9.57 | 4.25 | 3.61 | 3.69 | 2.75 | 8.50 | 13.87 | 2.188 | 1.250 | 1/4 x 2.50 | 1/2 x 3.00 |
| **NH852** | 15.19 | 6.76 | 8.81 | 0.97 | 0.38 | 10.50 | 11.00 | 12.69 | 5.25 | 2.87 | 4.88 | 4.25 | 4.03 | 3.63 | 0.53 | 7.50 | 10.88 | 5.25 | 3.61 | 4.62 | 4.26 | 8.50 | 15.88 | 3.438 | 1.250 | 1/4 x 3.00 | 7/8 x 3.44 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 10.00 | N/A | N/A | 8.52■ | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| **NH815** | 10.53 | N/A | N/A | 9.05■ | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| **NH818** | 10.63 | N/A | N/A | 9.15■ | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| **NH821** | 11.00 | N/A | N/A | 9.52■ | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| **NH824** | 11.17 | N/A | N/A | 9.96■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| **NH826** | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| **NH830** | 12.23 | N/A | N/A | 10.75■ | N/A | N/A | N/A | 10.36■ | N/A | N/A | N/A |
| **NH832** | 12.42 | N/A | N/A | 10.94■ | N/A | N/A | N/A | 10.55■ | N/A | N/A | N/A |
| **NH842** | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| **NH852** | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **48CZ** | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

- Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❊ Style DXH and DXHM only

Torque arm bracket available separately. Refer to page 277 for kits. If a special bracket is required, refer to Style DXMQ dimensions for mounting pad dimensions on top/bottom of reducer.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| HWYF | DXHMQ |
| HWYFC | DXHM |
| HWY | DXH |

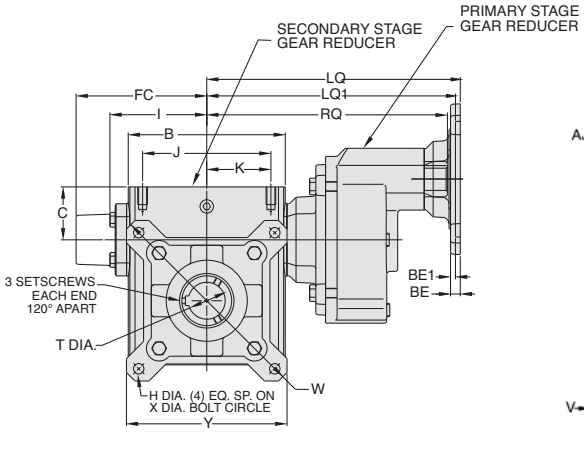
Refer to page 113 for complete interchange guide for original Grove Gear OE Series products.

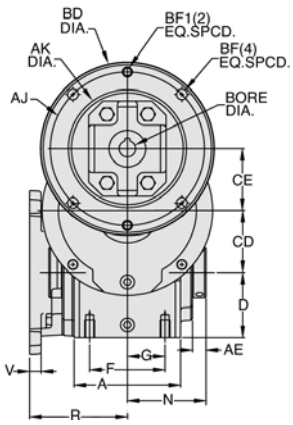
# NH Series Dimensions

## Styles: DXFHMQ, DXFHM, DXFH

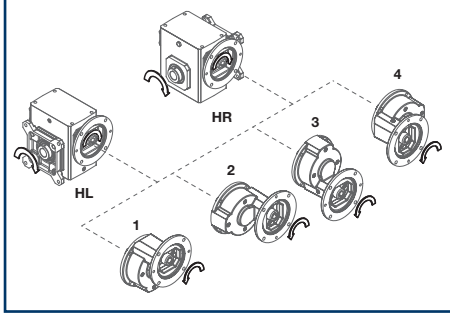
CAST IRON NH SERIES

## Style DXFHMQ

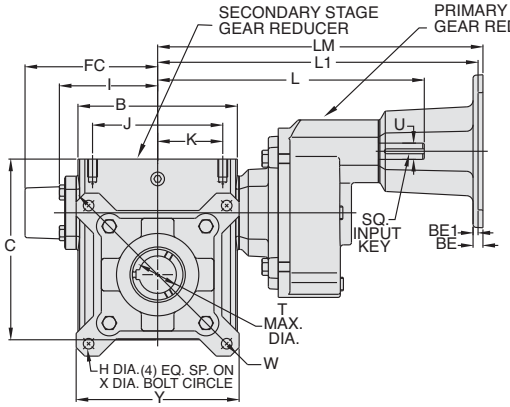


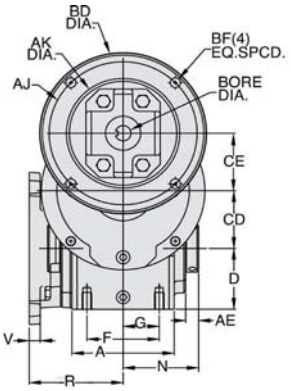




**ASSEMBLIES**

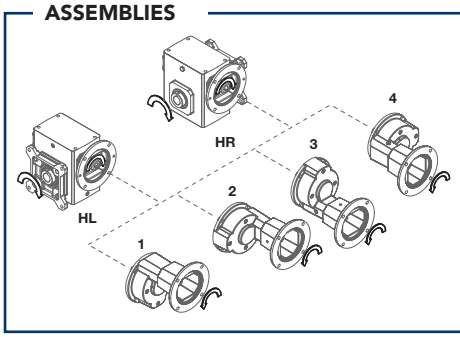



## Style DXFHM

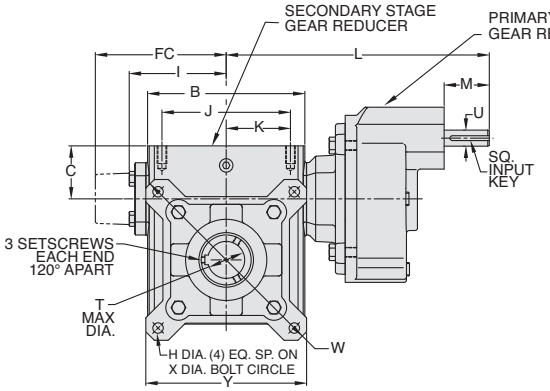


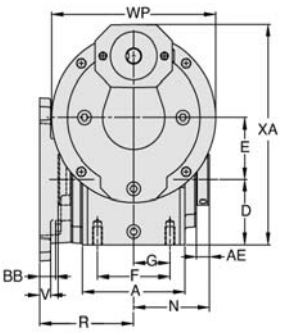




**ASSEMBLIES**

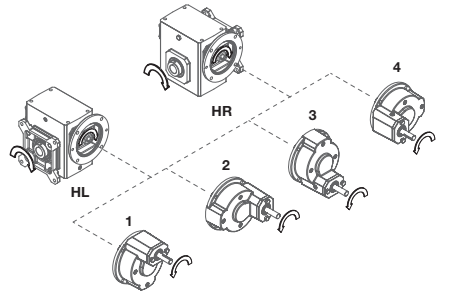



## Style DXFH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# NH Series Dimensions

## Styles: DXFHMQ, DXFHM, DXFH



### STYLE DXFHMQ, DXFHM, DXFH DIMENSIONS (Inches)

| Size | A | AE | B | BL | C | CD | CE | D | D1 | E | H | I | L | M | N | R | V | W | WP | X | XA | Y | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH813** | 2.82 | 0.53 | 3.80 | 0.38 | 4.66 | 1.33 | 1.91 | 1.72 | 2.81 | 2.47 | 0.34 | 2.61 | 7.75 | 1.76 | 2.37 | 2.52 | 1.00 | 5.92 | 6.50 | 5.00 | 6.47 | 4.50 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH815** | 2.57 | 0.51 | 4.06 | 0.38 | 5.00 | 1.54 | 1.91 | 1.88 | 2.81 | 2.47 | 0.34 | 3.14 | 8.28 | 1.76 | 2.20 | 3.50 | 1.00 | 6.79 | 6.50 | 5.88 | 6.84 | 5.12 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH818** | 2.56 | 0.56 | 4.50 | 0.38 | 5.44 | 1.75 | 1.91 | 2.06 | 2.81 | 2.47 | 0.34 | 3.24 | 8.38 | 1.76 | 2.37 | 2.74 | 1.44 | 6.64 | 6.50 | 5.88 | 7.30 | 5.00 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH821** | 2.50 | 0.85 | 4.50 | 0.38 | 6.00 | 2.06 | 1.91 | 2.31 | 2.81 | 2.47 | 0.34 | 3.61 | 8.75 | 1.76 | 2.53 | 3.50 | 1.94 | 7.37 | 6.50 | 6.25 | 7.79 | 5.56 | 0.875 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **NH824** | 2.94 | 0.56 | 5.25 | 0.44 | 6.88 | 2.38 | 2.36 | 2.69 | 3.25 | 2.82 | 0.34 | 3.77 | 8.92 | 1.76 | 2.53 | 3.53 | 1.94 | 8.29 | 6.50 | 7.06 | 8.95 | 6.24 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH826** | 2.88 | 0.56 | 5.75 | 0.50 | 7.38 | 2.63 | 2.36 | 2.94 | 3.25 | 2.82 | 0.34 | 4.34 | 9.48 | 1.76 | 2.53 | 3.62 | 1.94 | 8.90 | 6.50 | 7.63 | 9.44 | 6.68 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH830** | 3.12 | 0.56 | 6.62 | 0.55 | 8.25 | 3.00 | 2.36 | 3.38 | 3.25 | 2.82 | 0.41 | 4.84 | 9.98 | 1.76 | 2.78 | 3.75 | 2.51 | 9.50 | 6.50 | 8.63 | 10.26 | 7.34 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **NH832** | 4.44 | 0.57 | 8.00 | 0.56 | 10.06 | 3.25 | 2.36 | 4.19 | 3.25 | 2.82 | 0.53 | 5.02 | 10.17 | 1.76 | 3.36 | 5.06 | 2.51 | 11.84 | 6.50 | 10.63 | 11.39 | 9.00 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **NH842** | 4.75 | 0.63 | 9.75 | 0.62 | 11.50 | 4.25 | 2.87 | 4.50 | 4.25 | 4.03 | 0.56 | 6.10 | 9.57 | 3.61 | 4.25 | 4.56 | 2.75 | 12.95 | 8.50 | 11.50 | 13.87 | 9.66 | 1.750 | 1.250 | 1/4 x 2.50 | 3/8 x 2.25 |
| **NH852** | 6.19 | 0.97 | 11.00 | 0.75 | 12.69 | 5.25 | 2.87 | 4.88 | 4.25 | 4.03 | 0.69 | 7.50 | 10.88 | 3.61 | 5.25 | 5.62 | 4.26 | 15.50 | 8.50 | 14.00 | 15.88 | 11.76 | 2.000 | 1.250 | 1/4 x 3.00 | 1/2 x 2.50 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56C/ 140TC | 180TC/ 210TC | 250TC | 48CZ/ 56TC/140TC | 180TC | 210TC | 250TC | 48CZ/ 56C/140TC | 180TC | 210TC | 250TC |
| **NH813** | 10.00 | N/A | N/A | 8.52■ | N/A | N/A | N/A | 8.13■ | N/A | N/A | N/A |
| **NH815** | 10.53 | N/A | N/A | 9.05■ | N/A | N/A | N/A | 8.66■ | N/A | N/A | N/A |
| **NH818** | 10.63 | N/A | N/A | 9.15■ | N/A | N/A | N/A | 8.76■ | N/A | N/A | N/A |
| **NH821** | 11.00 | N/A | N/A | 9.52■ | N/A | N/A | N/A | 9.13■ | N/A | N/A | N/A |
| **NH824** | 11.17 | N/A | N/A | 9.96■ | N/A | N/A | N/A | 9.30■ | N/A | N/A | N/A |
| **NH826** | 11.73 | N/A | N/A | 10.25■ | N/A | N/A | N/A | 9.86■ | N/A | N/A | N/A |
| **NH830** | 12.23 | N/A | N/A | 10.75■ | N/A | N/A | N/A | 10.36■ | N/A | N/A | N/A |
| **NH832** | 12.42 | N/A | N/A | 10.94■ | N/A | N/A | N/A | 10.55■ | N/A | N/A | N/A |
| **NH842** | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| **NH852** | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **48CZ** | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

- Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ■ 48CZ not available
- ❊ Style DXFH and DXFHM only

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| HWMF | DXFHMQ |
| HWMFC | DXFHM |
| HMY | DXFH |

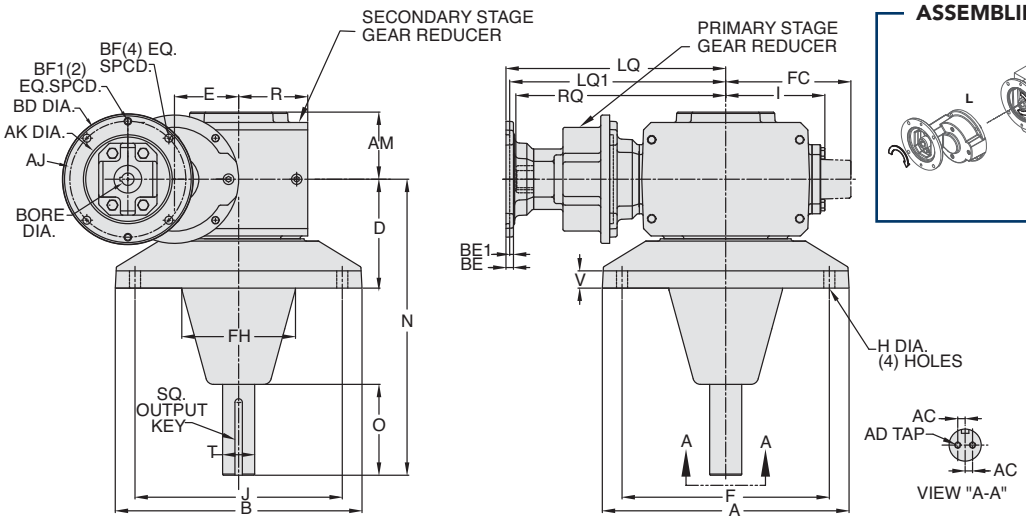
Refer to page 113 for complete interchange guide for original Grove Gear OE Series products.

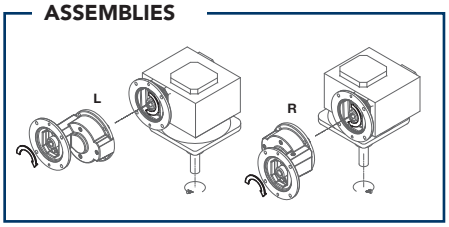
# NH Series Dimensions

## Styles: DXFEMQ, DXFEM, DXFE

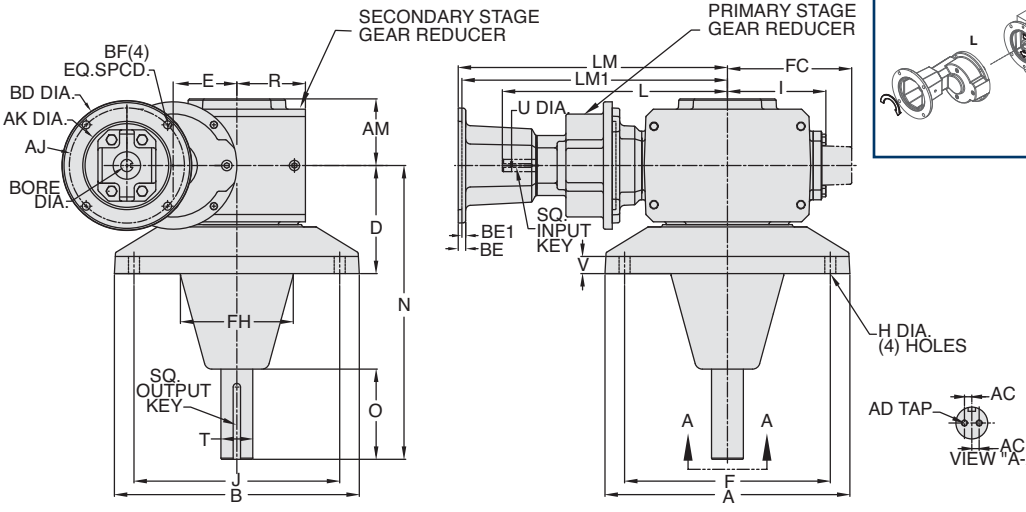
CAST IRON NH SERIES

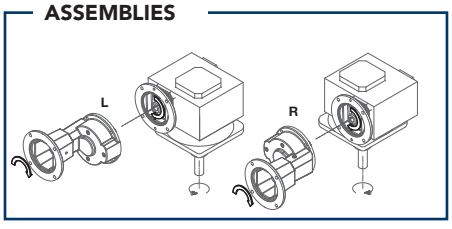
## Style DXFEMQ



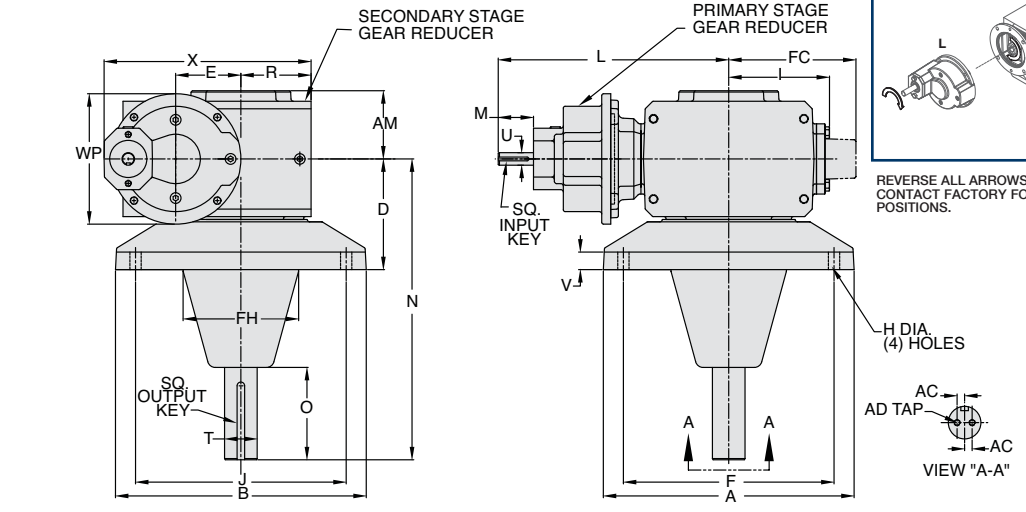



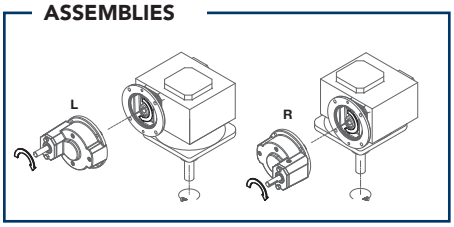

## Style DXFEM




## Style DXFE




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXFHMQ, DXFHM, DXFH DIMENSIONS (Inches)

| Size | A | AC | AD | AM | B | CD | D | F | FH | H | I | L | M | N | O | R | V | WP | X | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key❊ | P** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH830** | 11.00 | 0.375 | .31-18 UNC X 1.00 DP | 2.22 | 11.00 | 3.00 | 3.67 | 9.00 | 5.12 | 0.56 | 4.84 | 9.98 | 1.76 | 2.78 | 4.66 | 3.38 | 0.78 | 6.50 | 8.63 | 1.438 | 0.625 | 3/16 x 3/32 | 3/8 x 3.88 |
| **NH832** | 12.50 | 0.375 | .31-18 UNC X 1.00 DP | 2.79 | 12.50 | 3.25 | 4.91 | 10.50 | 5.75 | 0.56 | 5.02 | 10.17 | 1.76 | 3.36 | 4.63 | 4.19 | 0.88 | 6.50 | 10.63 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 3.69 |
| **NH842** | 14.00 | 0.500 | .38-16 UNC X 1.00 DP | 3.62 | 14.00 | 4.25 | 5.74 | 12.00 | 6.75 | 0.69 | 6.10 | 10.75 | 1.76 | 4.25 | 5.66 | 4.50 | 1.00 | 6.50 | 11.50 | 1.688 | 1.250 | 3/16 x 3/32 | 3/8 x 4.68 |
| **NH852** | 16.00 | 0.750 | .38-16 UNC X 1.00 DP | 4.28 | 16.00 | 5.25 | 6.00 | 14.00 | 8.00 | 0.81 | 7.50 | 12.14 | 1.76 | 5.25 | 5.62 | 4.88 | 1.25 | 6.50 | 14.00 | 2.188 | 1.250 | 3/16 x 3/32 | 1/2 x 4.63 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/ 140TC | L1 180TC/ 210TC | L1 250TC | LQ 48CZ/ 56TC/140TC | LQ1 180TC | LQ1 210TC | LQ1 250TC | RQ 48CZ/ 56C/140TC | RQ 180TC | RQ 210TC | RQ 250TC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NH830** | 12.23 | N/A | N/A | 10.75■ | N/A | N/A | N/A | 10.36■ | N/A | N/A | N/A |
| **NH832** | 12.42 | N/A | N/A | 10.94■ | N/A | N/A | N/A | 10.55■ | N/A | N/A | N/A |
| **NH842** | N/A | 20.66 | 20.66 | N/A | 14.97 | 14.97 | 15.53 | N/A | 14.46 | 14.46 | 14.86 |
| **NH852** | N/A | 22.06 | 22.06 | N/A | 16.37 | 16.37 | 16.93 | N/A | 15.86 | 15.86 | 16.26 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **48CZ** | 3.75 | 3.00 | 4.36 | 0.38 | N/A | 0.500 | 1/8 X 1/16 | 0.28 |
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.625 | 3/8 X 3/16 | 0.53 |

** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
‡ Metric IEC B5 input flange options are available only on quill input styles.
❊ Style DXFE and DXFEM only

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

| Grove Gear OE Series | Grove Gear IRONMAN NH Series |
|---|---|
| HWMF | DXFEMQ |
| HWMFC | DXFEM |
| HMY | DXFE |

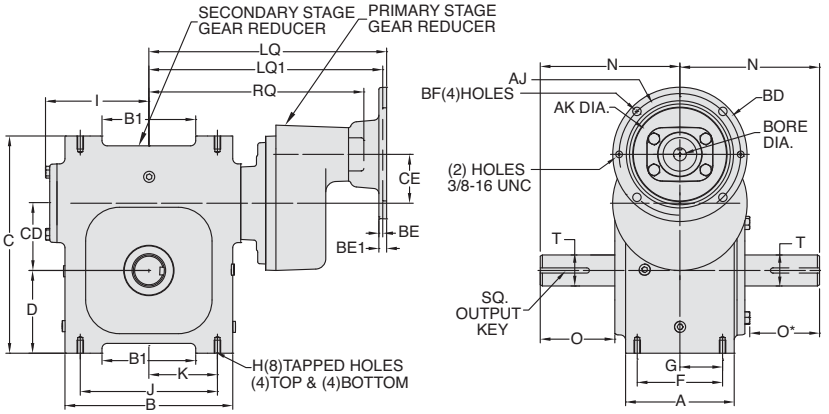
Refer to page 113 for complete interchange guide for original Grove Gear OE Series products.

# ELECTRA-GEAR

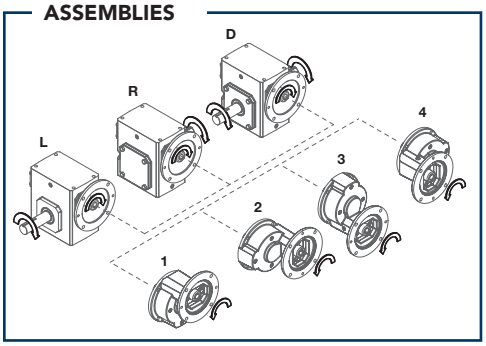
## EL Series
## Dimensions
### Styles: DXMQ, DXM, DX

ALUMINUM EL SERIES

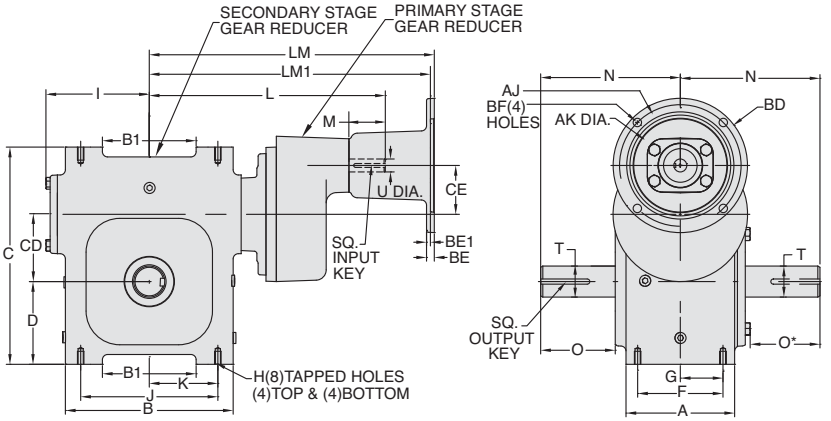
## Style DXMQ



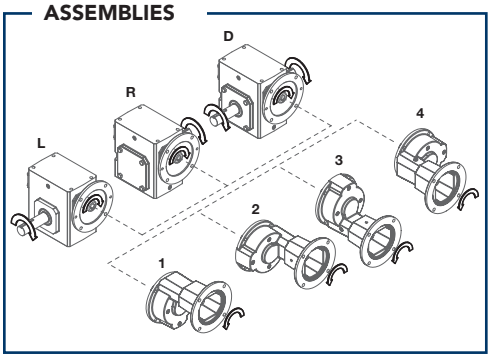

**ASSEMBLIES**



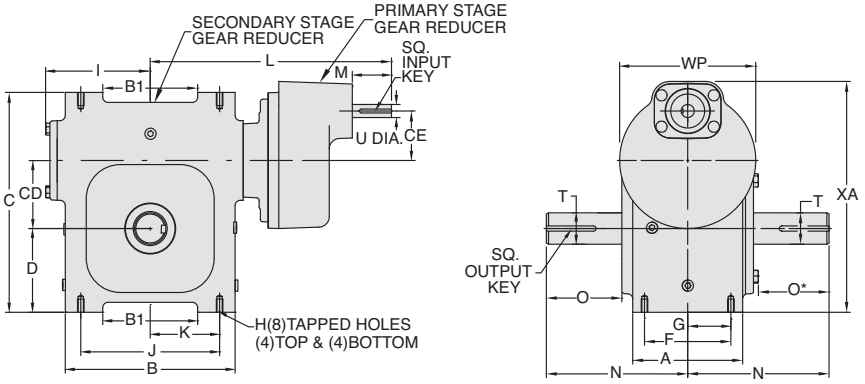

## Style DXM



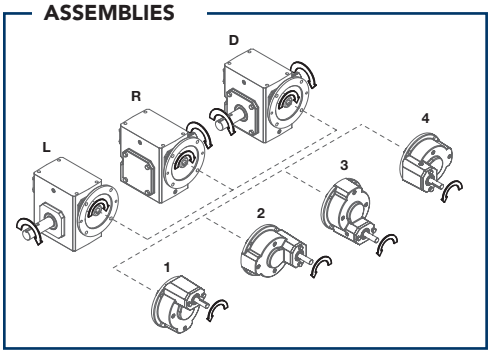

**ASSEMBLIES**




## Style DX




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

| Size | A | B | B1 | C | CD | CE | D | DX | F | G | H Tap Size | H Depth | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 2.82 | 3.80 | -- | 4.66 | 1.33 | 1.91 | 1.72 | -- | 2.00 | 1.00 | 5/16-18 UNC | 0.50 | 2.40 | 3.25 | 1.63 | 8.08 | 1.76 |
| **EL818** | 3.50 | 4.83 | 2.48 | 5.86 | 1.75 | 1.91 | 2.31 | -- | 2.94 | 1.47 | 5/16-18 UNC | 0.63 | 3.03 | 3.69 | 1.84 | 8.71 | 1.76 |
| **EL821** | 3.91 | 5.75 | 2.76 | 6.88 | 2.06 | 1.91 | 2.63 | -- | 3.25 | 1.63 | 3/8-16 UNC | 0.87 | 3.40 | 4.13 | 2.06 | 9.08 | 1.76 |
| **EL824** | 4.06 | 5.86 | -- | 6.94 | 2.38 | 2.36 | 2.50 | -- | 2.88 | 1.44 | 3/8-16 UNC | 0.69 | 3.61 | 5.00 | 2.50 | 9.06 | 1.76 |
| **EL826** | 4.84 | 7.17 | 4.21 | 8.00 | 2.63 | 2.36 | 3.25 | -- | 3.38 | 1.69 | 3/8-16 UNC | 0.69 | 4.17 | 5.00 | 2.50 | 9.62 | 1.76 |
| **EL830** | 5.25 | 8.11 | 4.50 | 8.94 | 3.00 | 2.36 | 3.50 | -- | 4.13 | 2.06 | 3/8-16 UNC | 1.00 | 4.81 | 5.75 | 2.88 | 10.26 | 1.76 |
| **EL832** | 5.25 | 8.11 | 4.53 | 10.50 | 3.25 | 2.36 | 4.00 | -- | 4.13 | 2.06 | 1/2-13 UNC | 1.00 | 5.00 | 6.63 | 3.31 | 10.45 | 1.76 |

| Size | N | O | O* | WP | XA | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.00 | 2.16 | 1.94 | 6.50 | 6.83 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **EL818** | 4.39 | 2.05 | 1.85 | 6.50 | 7.83 | 0.750 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **EL821** | 4.68 | 2.29 | 2.09 | 6.50 | 8.46 | 1.000 | 0.625 | 3/16 x 3/32 | 3/16 x 1.50 |
| **EL824** | 5.14 | 2.66 | 2.46 | 6.50 | 8.65 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **EL826** | 5.63 | 2.73 | 2.53 | 6.50 | 9.65 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **EL830** | 6.75 | 3.60 | 3.37 | 6.50 | 10.27 | 1.500 | 0.625 | 3/16 x 3/32 | 1/4 x 1.75 |
| **EL832** | 6.75 | 3.60 | 3.37 | 6.50 | 11.02 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

* Applies to double output shaft
◆ Keyway width by depth
❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page 202 for GR Series dimensions.

## ELECTRA-GEAR INTERCHANGE GUIDE

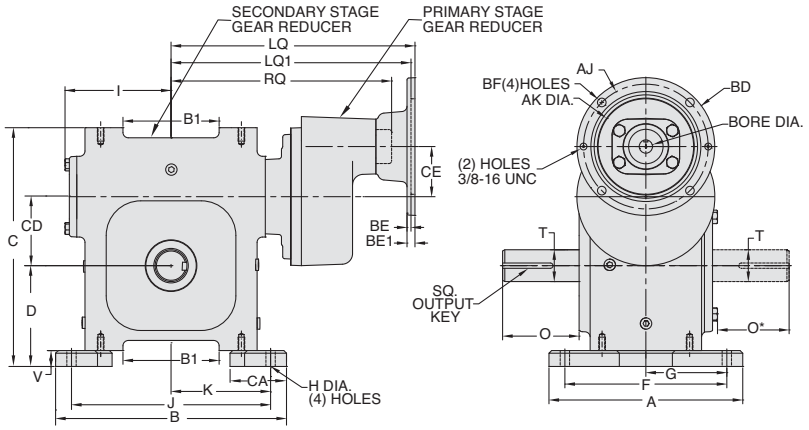
| Original Style | New Style |
|---|---|
| H_MSC or H_MLSC | DXMQ |
| H_MC or H_MLC | DXM |
| H_M or H_ML | DX |

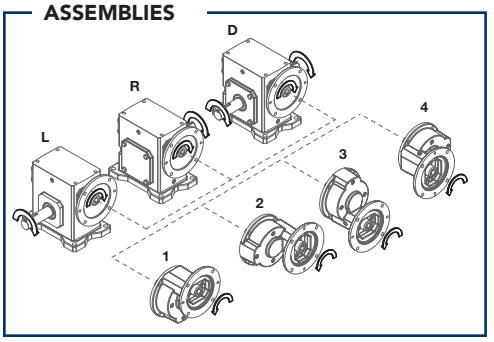
Convert Style DX to motorized coupling input using kits shown on page 278.

# ELECTRA-GEAR
## EL Series
## Dimensions
### Styles: DXTMQ, DXTM, DXT

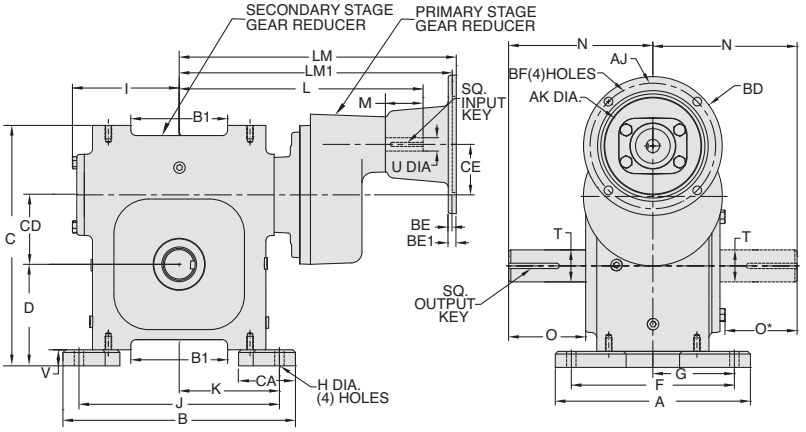
ALUMINUM EL SERIES

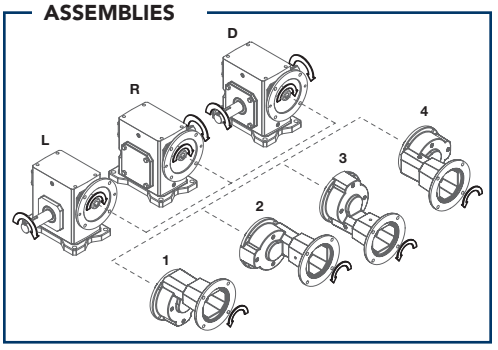
## Style DXTMQ



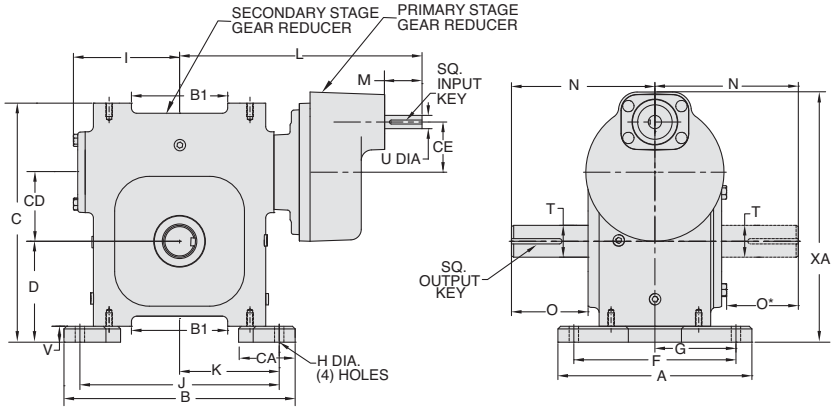



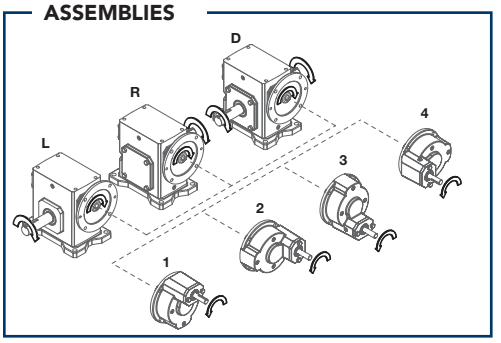

## Style DXTM




## Style DXT




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

| Size | A | B | B1 | C | CD | CA | CE | D | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.06 | 5.13 | -- | 4.66 | 1.33 | 1.56 | 1.91 | 2.25 | 3.31 | 1.66 | 0.34 | 2.40 | 4.38 | 2.19 | 8.08 | 1.76 |
| **EL818** | 5.19 | 6.06 | 2.48 | 5.86 | 1.75 | 2.15 | 1.91 | 2.84 | 4.38 | 2.19 | 0.38 | 3.03 | 5.25 | 2.63 | 8.71 | 1.76 |
| **EL821** | 6.63 | 7.25 | 2.76 | 6.88 | 2.06 | 2.66 | 1.91 | 3.25 | 5.38 | 2.69 | 0.44 | 3.40 | 6.00 | 3.00 | 9.08 | 1.76 |
| **EL824** | 6.38 | 7.69 | -- | 6.94 | 2.38 | 2.59 | 2.36 | 3.25 | 4.88 | 2.44 | 0.47 | 3.61 | 6.19 | 3.09 | 9.06 | 1.76 |
| **EL826** | 6.63 | 8.13 | 4.21 | 8.00 | 2.63 | 2.81 | 2.36 | 3.94 | 5.38 | 2.69 | 0.50 | 4.17 | 6.88 | 3.44 | 9.62 | 1.76 |
| **EL830** | 9.00 | 9.88 | 4.50 | 8.94 | 3.00 | 3.69 | 2.36 | 4.25 | 7.50 | 3.75 | 0.56 | 4.81 | 8.38 | 4.19 | 10.26 | 1.76 |
| **EL832** | 9.13 | 10.88 | 4.53 | 10.50 | 3.25 | 3.69 | 2.36 | 4.75 | 7.63 | 3.82 | 0.56 | 5.00 | 9.38 | 4.69 | 10.45 | 1.76 |

| Size | N | O | O* | V | WP | XA | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.00 | 2.16 | 1.96 | 0.53 | 6.50 | 7.36 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL818** | 4.39 | 2.05 | 1.85 | 0.56 | 6.50 | 8.39 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 4.68 | 2.29 | 2.09 | 0.63 | 6.50 | 9.09 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 5.14 | 2.66 | 2.46 | 0.75 | 6.50 | 9.40 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 5.63 | 2.73 | 2.53 | 0.69 | 6.50 | 10.34 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 6.75 | 3.60 | 3.37 | 0.75 | 6.50 | 11.02 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 6.75 | 3.60 | 3.37 | 0.75 | 6.50 | 11.77 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft
◆ Keyway width by depth
❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 202 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| H_ASC or H_ALSC | DXTMQ |
| H_AC or H_ALC | DXTM |
| H_A or H_AL | DXT |

Convert Style DXT to motorized coupling input using kits shown on page 278.

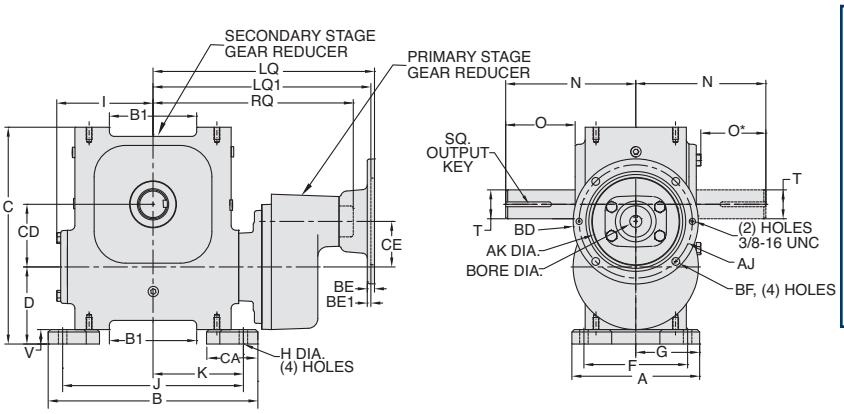
ALUMINUM EL SERIES

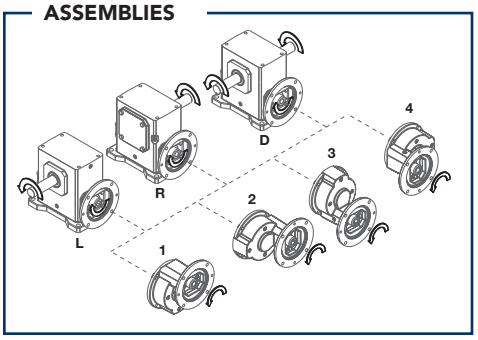
# EL Series Dimensions

## Styles: DXUMQ, DXUM, DXU

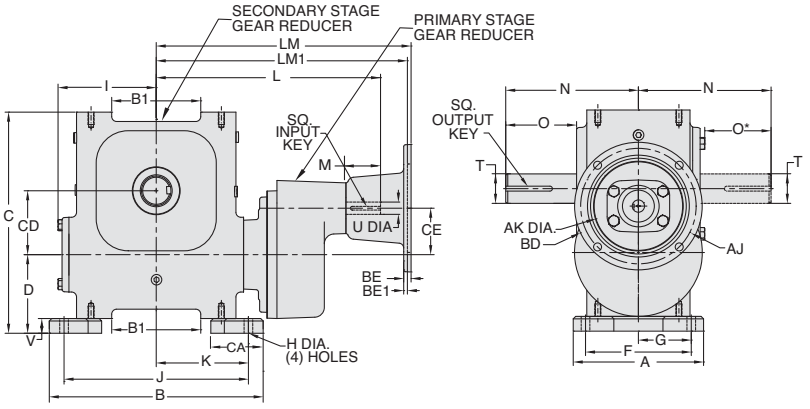


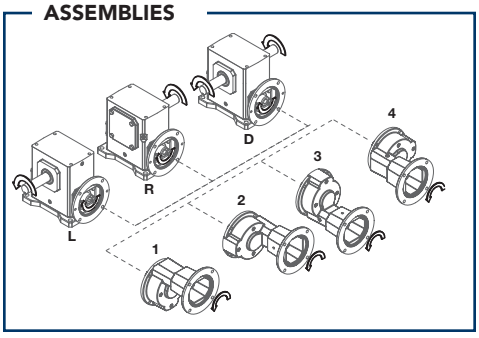
### Style DXUMQ



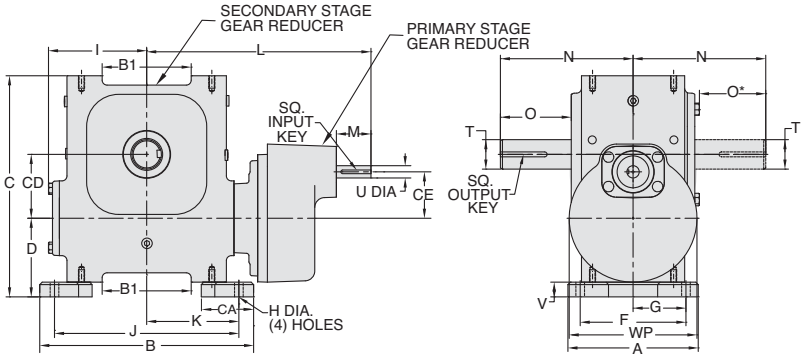



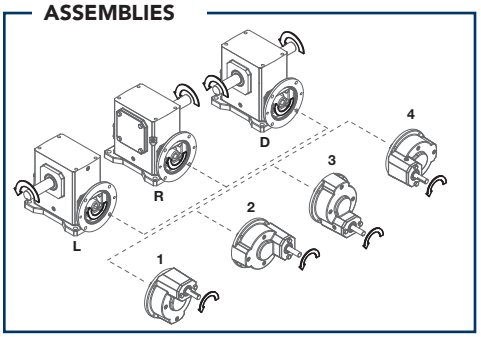

### Style DXUM




### Style DXU




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXUMQ, DXUM, DXU DIMENSIONS (Inches)

| Size | A | B | B1 | C | CD | CA | CE | D | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.06 | 5.13 | -- | 4.66 | 1.33 | 1.56 | 1.91 | 2.25 | 3.31 | 1.66 | 0.34 | 2.40 | 4.38 | 2.19 | 8.08 | 1.76 |
| **EL818** | 5.19 | 6.06 | 2.48 | 5.86 | 1.75 | 2.15 | 1.91 | 2.84 | 4.38 | 2.19 | 0.38 | 3.03 | 5.25 | 2.63 | 8.71 | 1.76 |
| **EL821** | 6.63 | 7.25 | 2.76 | 6.88 | 2.06 | 2.66 | 1.91 | 3.25 | 5.38 | 2.69 | 0.44 | 3.40 | 6.00 | 3.00 | 9.08 | 1.76 |
| **EL824** | 6.38 | 7.69 | -- | 6.94 | 2.38 | 2.59 | 2.36 | 3.25 | 4.88 | 2.44 | 0.47 | 3.61 | 6.19 | 3.09 | 9.06 | 1.76 |
| **EL826** | 6.63 | 8.13 | 4.21 | 8.00 | 2.63 | 2.81 | 2.36 | 3.94 | 5.38 | 2.69 | 0.50 | 4.17 | 6.88 | 3.44 | 9.62 | 1.76 |
| **EL830** | 9.00 | 9.88 | 4.50 | 8.94 | 3.00 | 3.69 | 2.36 | 4.25 | 7.50 | 3.75 | 0.56 | 4.81 | 8.38 | 4.19 | 10.26 | 3.61 |
| **EL832** | 9.13 | 10.88 | 4.53 | 10.50 | 3.25 | 3.69 | 2.36 | 4.75 | 7.63 | 3.82 | 0.56 | 5.00 | 9.38 | 4.69 | 10.45 | 3.61 |

| Size | N | O | O* | V | WP | XA | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.00 | 2.16 | 1.96 | 0.53 | 6.50 | 7.36 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL818** | 4.39 | 2.05 | 1.85 | 0.56 | 6.50 | 8.39 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 4.68 | 2.29 | 2.09 | 0.63 | 6.50 | 9.09 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 5.14 | 2.66 | 2.46 | 0.75 | 6.50 | 9.40 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 5.63 | 2.73 | 2.53 | 0.69 | 6.50 | 10.34 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 6.75 | 3.60 | 3.37 | 0.75 | 6.50 | 11.02 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 6.75 | 3.60 | 3.37 | 0.75 | 6.50 | 11.77 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

* Applies to double output shaft
◆ Keyway width by depth
❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 202 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | DXUMQ |
| STANDARD CATALOGED | DXUM |
| OPTION | DXU |

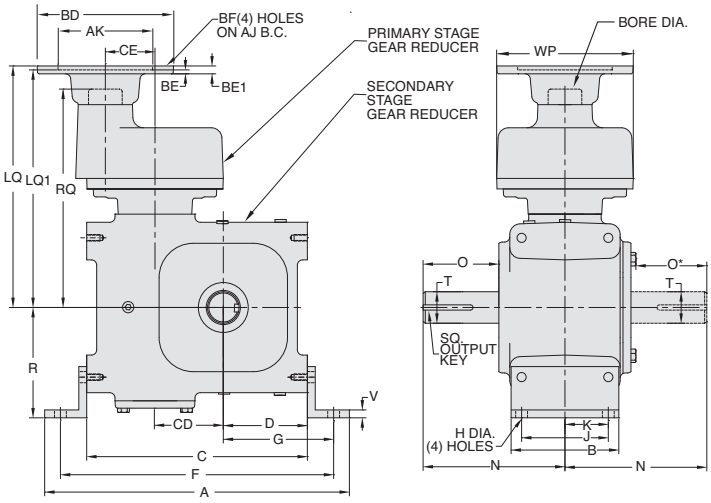
Convert Style DXU to motorized coupling input using kits shown on page 278.

# ELECTRA-GEAR

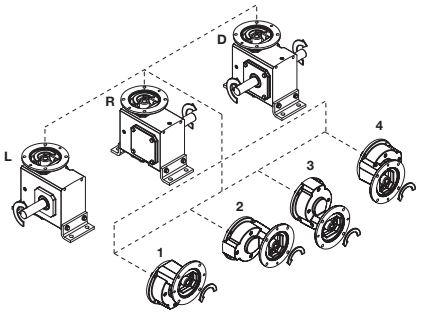
## EL Series
## Dimensions
### Styles: DXJMQ, DXJM, DXJ

ALUMINUM EL SERIES

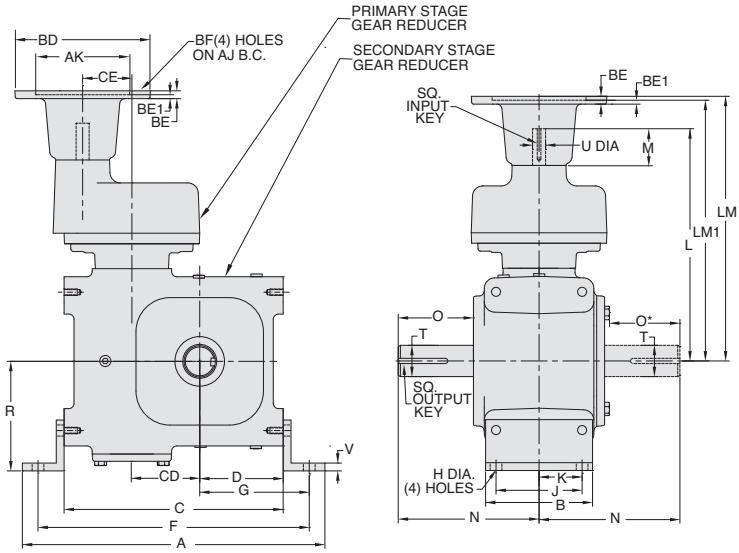
### Style DXJMQ



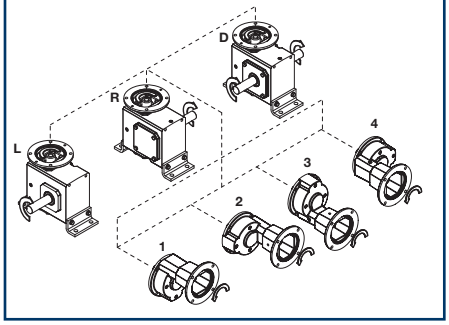

ASSEMBLIES



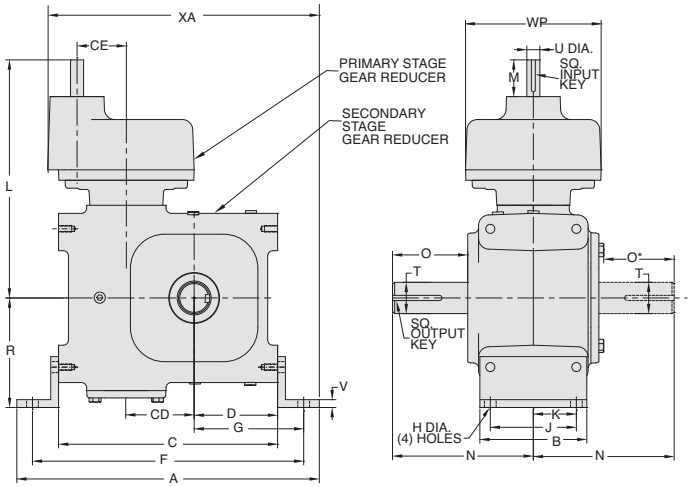

### Style DXJM



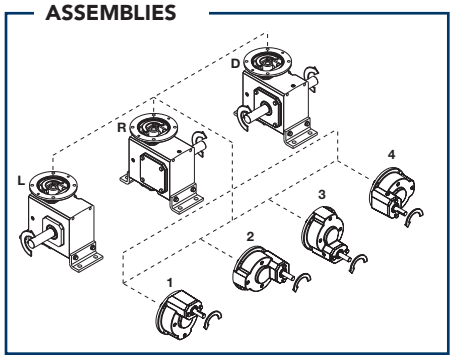

ASSEMBLIES




### Style DXJ




ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXJMQ, DXJM, DXJ DIMENSIONS (Inches)

| Size | A | B | C | CD | CE | D | F | G | H | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 7.16 | 2.91 | 4.66 | 1.33 | 1.91 | 1.72 | 6.41 | 2.60 | 0.34 | 2.00 | 1.00 | 8.08 | 1.76 |
| **EL818** | 8.88 | 3.56 | 5.86 | 1.75 | 1.91 | 2.31 | 7.88 | 3.32 | 0.38 | 2.94 | 1.47 | 8.71 | 1.76 |
| **EL821** | 9.87 | 4.00 | 6.88 | 2.06 | 1.91 | 2.63 | 8.87 | 3.62 | 0.44 | 3.25 | 1.63 | 9.08 | 1.76 |
| **EL824** | 10.31 | 4.00 | 6.94 | 2.38 | 2.36 | 2.50 | 9.19 | 3.63 | 0.47 | 2.88 | 1.44 | 9.06 | 1.76 |
| **EL826** | 12.00 | 4.38 | 8.00 | 2.63 | 2.36 | 3.25 | 10.50 | 4.50 | 0.50 | 3.38 | 1.69 | 9.62 | 1.76 |
| **EL830** | 12.94 | 5.13 | 8.94 | 3.00 | 2.36 | 3.50 | 11.44 | 4.75 | 0.56 | 4.13 | 2.06 | 10.26 | 1.76 |
| **EL832** | 14.50 | 5.13 | 10.50 | 3.25 | 2.36 | 4.00 | 13.00 | 5.25 | 0.56 | 4.13 | 2.06 | 10.45 | 1.76 |

| Size | N | O | O* | R | V | WP | XA | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.00 | 2.16 | 1.96 | 2.94 | 0.53 | 6.50 | 7.36 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL818** | 4.39 | 2.05 | 1.85 | 2.97 | 0.56 | 6.50 | 8.39 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 4.68 | 2.29 | 2.09 | 3.47 | 0.63 | 6.50 | 9.09 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 5.14 | 2.66 | 2.46 | 4.06 | 0.75 | 6.50 | 9.40 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 5.63 | 2.73 | 2.53 | 4.03 | 0.69 | 6.50 | 10.34 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 6.75 | 3.60 | 3.37 | 4.81 | 0.75 | 6.50 | 11.02 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 6.75 | 3.60 | 3.37 | 5.25 | 0.75 | 6.50 | 11.77 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

* Applies to double output shaft
◆ Keyway width by depth
❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 202 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| H_JBSC or H_JBLSC | DXJMQ |
| H_JBC or H_JBC | DXJM |
| H_JB or H_JB | DXJ |

Convert Style DXJ to motorized coupling input using kits shown on page 278.

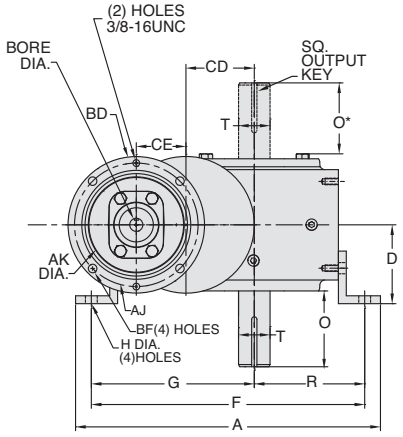
# ELECTRA-GEAR

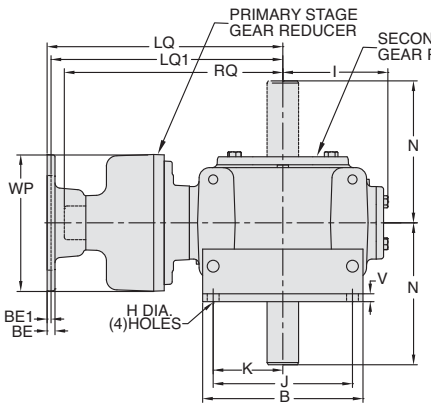
ALUMINUM EL SERIES

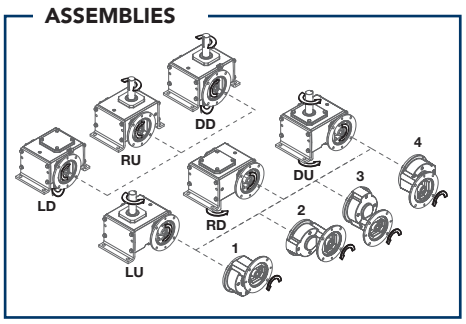
## EL Series Dimensions

### Styles: DXVLMQ, DXVLM, DXVL

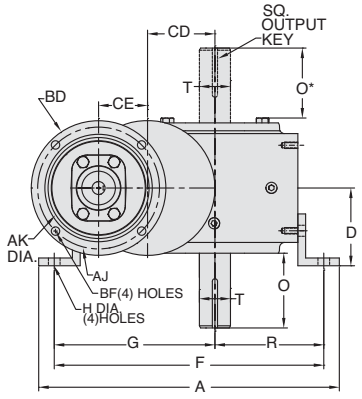
### Style DXVLMQ

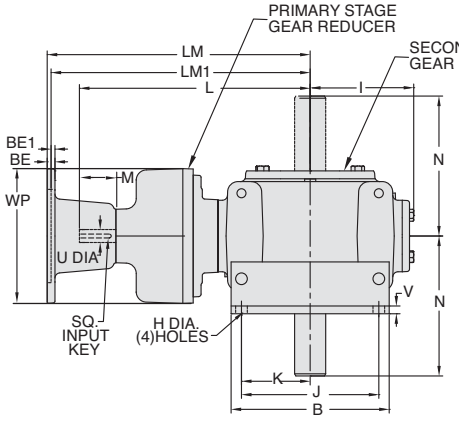


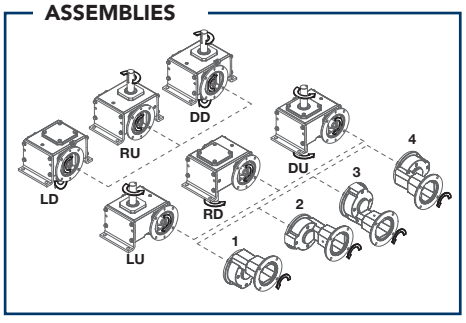



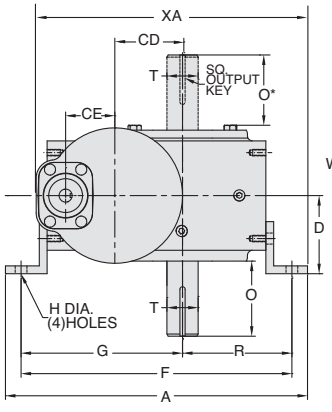

### Style DXVLM

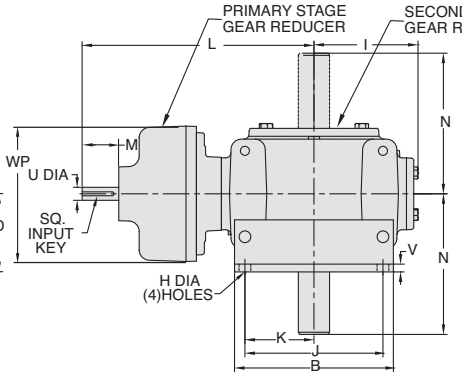


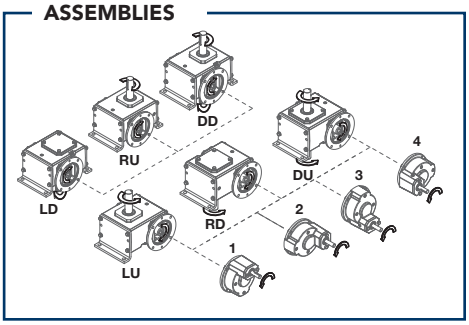




### Style DXVL




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

# EL Series Dimensions

## Styles: DXVLMQ, DXVLM, DXVL

### STYLE DXVLMQ, DXVLM, DXVL DIMENSIONS (Inches)

| Size | A | B | CD | CE | D | F | G | H | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 7.16 | 4.13 | 1.33 | 1.91 | 2.31 | 6.16 | 3.69 | 0.34 | 3.25 | 1.00 | 8.08 | 1.76 |
| **EL818** | 8.88 | 4.25 | 1.75 | 1.91 | 2.28 | 7.88 | 4.57 | 0.38 | 3.69 | 1.47 | 8.71 | 1.76 |
| **EL821** | 9.87 | 4.81 | 2.06 | 1.91 | 2.56 | 8.87 | 5.25 | 0.44 | 4.13 | 1.63 | 9.08 | 1.76 |
| **EL824** | 10.31 | 5.88 | 2.38 | 2.36 | 2.75 | 9.38 | 5.66 | 0.47 | 5.00 | 1.44 | 9.06 | 1.76 |
| **EL826** | 12.00 | 5.88 | 2.63 | 2.36 | 2.81 | 10.50 | 6.00 | 0.50 | 5.00 | 1.69 | 9.62 | 1.76 |
| **EL830** | 12.94 | 6.75 | 3.00 | 2.36 | 3.75 | 11.44 | 6.69 | 0.56 | 5.75 | 2.06 | 10.26 | 1.76 |
| **EL832** | 14.50 | 7.63 | 3.25 | 2.36 | 3.75 | 13.00 | 7.75 | 0.56 | 6.63 | 2.06 | 10.45 | 1.76 |

| Size | N | O | O* | R | V | WP | XA | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 4.00 | 2.16 | 1.96 | 1.72 | 0.19 | 6.50 | 8.08 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL818** | 4.39 | 2.05 | 1.85 | 2.31 | 0.38 | 6.50 | 9.33 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 4.68 | 2.29 | 2.09 | 2.63 | 0.38 | 6.50 | 9.96 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 5.14 | 2.66 | 2.46 | 2.50 | 0.31 | 6.50 | 10.65 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 5.63 | 2.73 | 2.53 | 3.25 | 0.31 | 6.50 | 11.65 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 6.75 | 3.60 | 3.37 | 3.50 | 0.25 | 6.50 | 12.27 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 6.75 | 3.60 | 3.37 | 4.00 | 0.38 | 6.50 | 14.52 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

* Applies to double output shaft

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### EL SERIES MOUNTING DIMENSIONS

– EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

– See page 202 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| H_BSC or H_BLSC | DXVLMQ |
| H_BC or H_BLC | DXVLM |
| H_B or H_BL | DXVL |

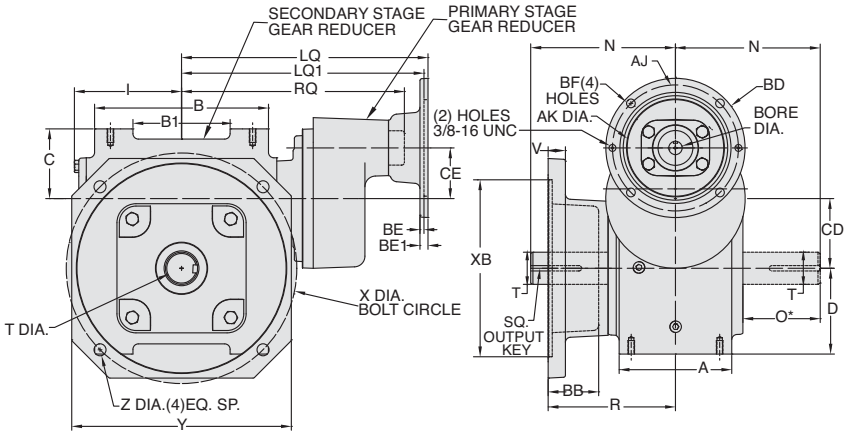
Convert Style DXVL to motorized coupling input using kits shown on page 278.

ALUMINUM EL SERIES

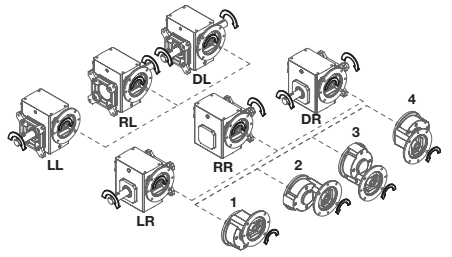
# EL Series Dimensions

## Styles: DXFRMQ, DXFRM, DXFR

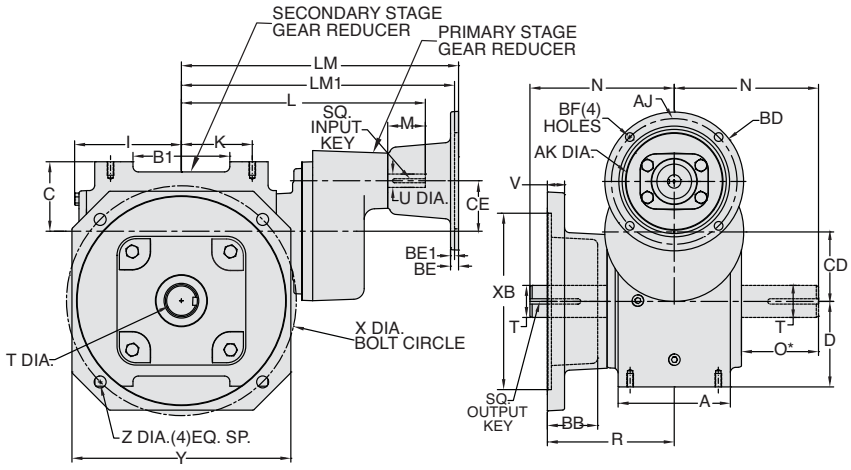
### Style DXFRMQ



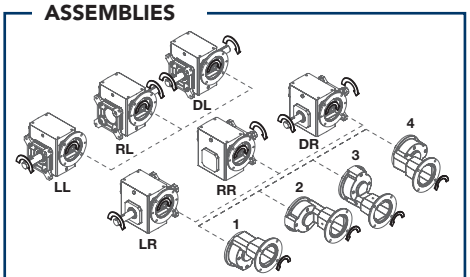

**ASSEMBLIES**



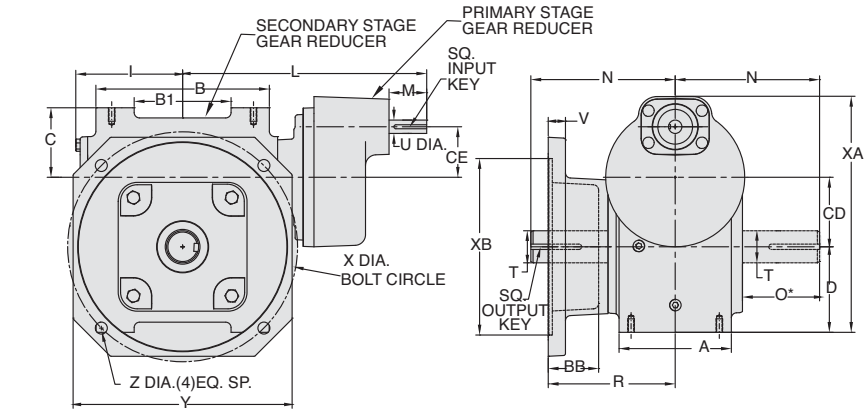

### Style DXFRM



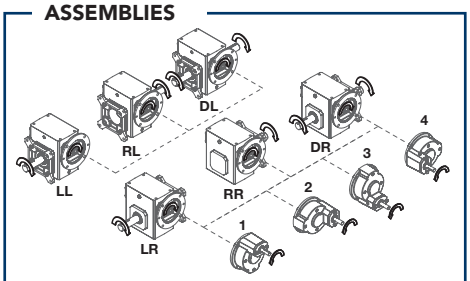

**ASSEMBLIES**




### Style DXFR




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXFRMQ, DXFRM, DXFR DIMENSIONS (Inches)

| Size | A | B | B1 | BB | C | CD | CE | D | I | L | M | N | O* | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL818** | 3.50 | 4.83 | 2.48 | 1.27 | 1.81 | 1.75 | 1.91 | 2.28 | 3.03 | 8.71 | 1.76 | 4.39 | 1.85 | 3.53 |
| **EL821** | 3.91 | 5.75 | 2.76 | 1.51 | 2.19 | 2.06 | 1.91 | 2.56 | 3.40 | 9.08 | 1.76 | 4.68 | 2.09 | 4.25 |
| **EL824** | 4.06 | 5.86 | -- | 1.35 | 2.06 | 2.38 | 2.36 | 2.75 | 3.61 | 9.06 | 1.76 | 5.14 | 2.46 | 4.15 |
| **EL826** | 4.84 | 7.17 | 4.21 | 1.35 | 2.12 | 2.63 | 2.36 | 2.81 | 4.17 | 9.62 | 1.76 | 5.63 | 2.53 | 4.56 |
| **EL830** | 5.25 | 8.11 | 4.50 | 2.36 | 2.44 | 3.00 | 2.36 | 3.75 | 4.81 | 10.26 | 1.76 | 6.75 | 3.37 | 5.75 |
| **EL832** | 5.25 | 8.11 | 4.53 | 2.54 | 3.25 | 3.25 | 2.36 | 3.75 | 5.00 | 10.45 | 1.76 | 6.75 | 3.37 | 5.94 |

| Size | V | WP | X | XA | XB | Y | Z | T +0.000 -0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL818** | 0.38 | 6.50 | 3.13 | 7.83 | - | 4.10 | 0.34 | 0.750 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 0.38 | 6.50 | 6.88 | 8.46 | 6.00 | 6.49 | 0.44 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 0.31 | 6.50 | 7.75 | 8.65 | 6.50 | 6.99 | 0.50 | 1.125 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 0.31 | 6.50 | 7.75 | 9.65 | 6.50 | 6.99 | 0.50 | 1.250 | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 0.25 | 6.50 | 9.13-9.50 ▲ | 10.27 | 8.25 | 8.74 | 0.56 | 1.500 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 0.38 | 6.50 | 9.13-9.50 ▲ | 11.02 | 8.25 | 8.74 | 0.56 | 1.625 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | -- |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | -- |
| **EL824** | 11.31 | -- | 9.83 | 10.83 | 9.44 | 10.63 |
| **EL826** | 11.87 | -- | 10.39 | 11.42 | 10.00 | 11.36 |
| **EL830** | 12.51 | -- | 11.03 | 11.92 | 10.64 | 11.86 |
| **EL832** | 12.70 | -- | 11.22 | 12.10 | 10.83 | 12.05 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

* Applies to double output shaft

▲ Slotted holes

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page 202 for GR Series dimensions.

## ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| NOT A | DXFRMQ |
| STANDARD CATALOGED | DXFRM |
| OPTION | DXFR |

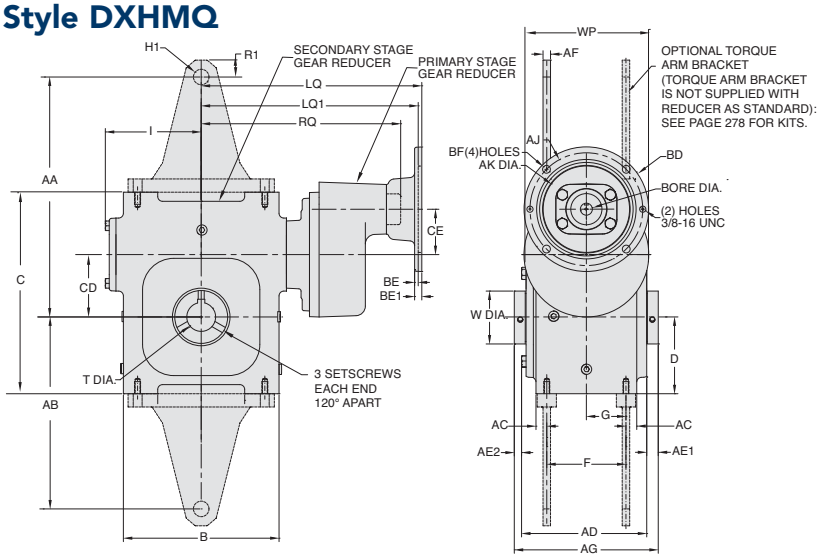
NOTE: New styles are not a direct replacement to orignal ring base.

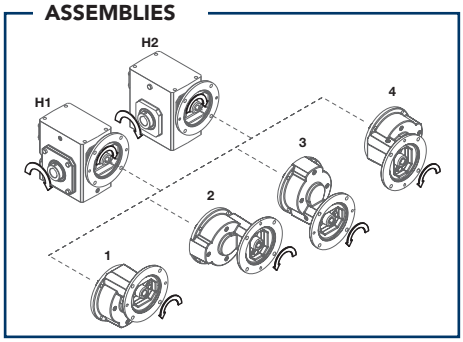
Convert Style DXFR to motorized coupling input using kits shown on page 278.

# ELECTRA-GEAR
## EL Series
## Dimensions
### Styles: DXHMQ, DXHM, DXH

ALUMINUM EL SERIES

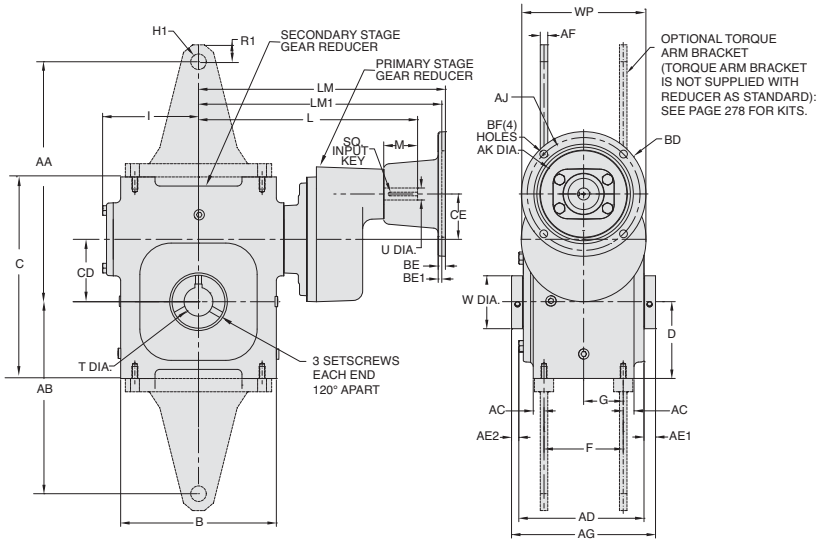
### Style DXHMQ

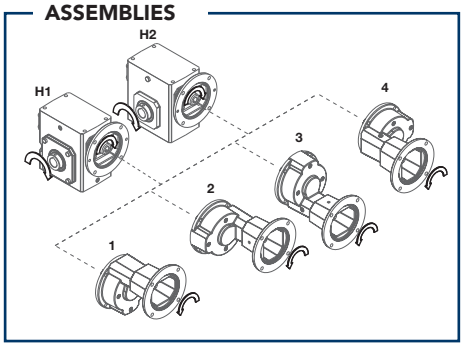



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

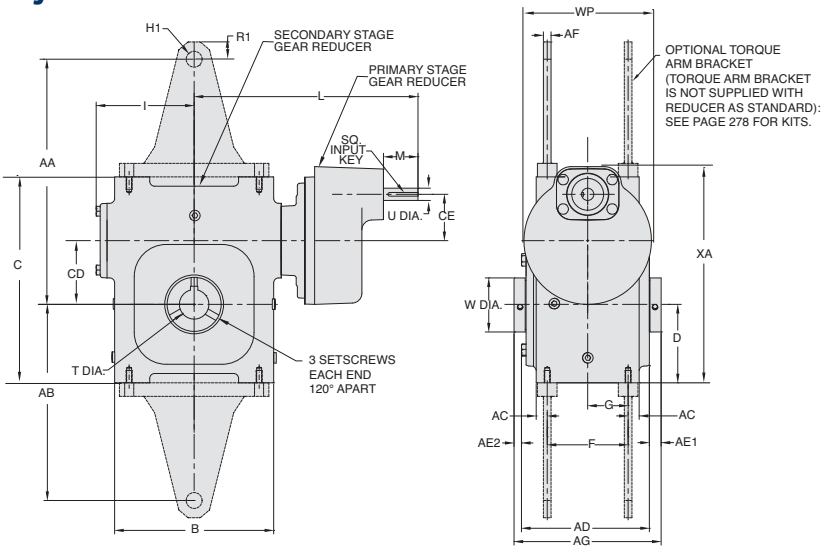
### Style DXHM

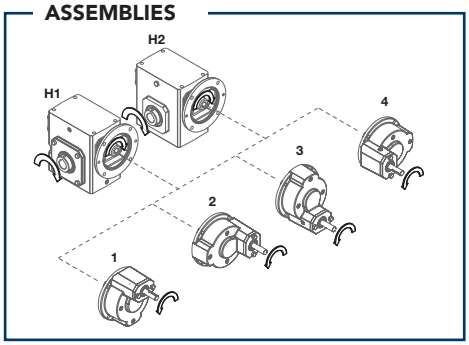



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

### Style DXH




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

| Size | AA | AB | AC | AD | AE1 | AE2 | AF | AG | B | C | CD | CE | D | F | G | H1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | -- | -- | 0.41 | 3.89 | 0.58 | 0.26 | -- | 4.73 | 3.80 | 4.66 | 1.33 | 1.91 | 1.72 | 2.00 | 1.00 | -- |
| **EL818** | 6.25 | 5.00 | 0.28 | 4.72 | 0.49 | 0.29 | 0.69 | 5.50 | 4.83 | 5.86 | 1.75 | 1.91 | 2.31 | 2.94 | 1.47 | 0.53 |
| **EL821** | 7.63 | 6.00 | 0.33 | 4.98 | 0.60 | 0.42 | 0.69 | 6.00 | 5.75 | 6.88 | 2.06 | 1.91 | 2.63 | 3.25 | 1.63 | 0.53 |
| **EL824** | 7.81 | 5.87 | 0.59 | 5.17 | 1.02 | 0.81 | 0.69 | 7.00 | 5.86 | 6.94 | 2.38 | 2.36 | 2.50 | 2.88 | 1.44 | 0.53 |
| **EL826** | 8.50 | 7.00 | 0.73 | 6.00 | 0.60 | 0.40 | 0.69 | 7.00 | 7.17 | 8.00 | 2.63 | 2.36 | 3.25 | 3.38 | 1.69 | 0.53 |
| **EL830** | 9.94 | 8.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 8.94 | 3.00 | 2.36 | 3.50 | 4.13 | 2.06 | 0.53 |
| **EL832** | 12.50 | 10.00 | 0.56 | 6.52 | 0.60 | 0.38 | 0.69 | 7.50 | 8.11 | 10.50 | 3.25 | 2.36 | 4.00 | 4.13 | 2.06 | 0.53 |

| Size | I | L | M | R1 | W | WP | XA | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL813** | 2.40 | 8.08 | 1.76 | - | 1.00 | 6.50 | 6.83 | 0.625 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL818** | 3.03 | 8.71 | 1.76 | 0.66 | 1.44 | 6.50 | 7.83 | 1.000 | 0.625 | 3/16 x 3/32 | 3/16 x 1.38 |
| **EL821** | 3.40 | 9.08 | 1.76 | 0.75 | 1.94 | 6.50 | 8.46 | 1.500* | 0.625 | 3/16 x 3/32 | 1/4 x 1.44 |
| **EL824** | 3.61 | 9.06 | 1.76 | 0.75 | 1.94 | 6.50 | 8.56 | 1.500* | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL826** | 4.17 | 9.62 | 1.76 | 0.75 | 1.94 | 6.50 | 9.65 | 1.500* | 0.625 | 3/16 x 3/32 | 1/4 x 1.62 |
| **EL830** | 4.81 | 10.26 | 1.76 | 0.81 | 2.76 | 6.50 | 10.27 | 2.188 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |
| **EL832** | 5.00 | 10.45 | 1.76 | 0.88 | 2.76 | 6.50 | 11.02 | 2.188 | 0.625 | 3/16 x 3/32 | 3/8 x 2.25 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL813** | 10.33 | -- | 8.85 | -- | 8.46 | 7.47 |
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | 8.10 |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | 8.41 |
| **EL824** | 11.31 | -- | 9.83 | 10.04 | 9.44 | 9.01 |
| **EL826** | 11.87 | -- | 10.39 | 10.60 | 10.00 | 9.57 |
| **EL830** | 12.51 | -- | 11.03 | 11.23 | 10.64 | 10.20 |
| **EL832** | 12.70 | -- | 11.22 | 11.42 | 10.83 | 10.39 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- Max bore dimensions shown. For additional bores available, refer to page 130.
- ◆ Keyway width by depth
- ❊ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

### EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
— See page 202 for GR Series dimensions.

### ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| H_MHSC | DXHMQ |
| H_MHC | DXHM |
| H_MH | DXH |

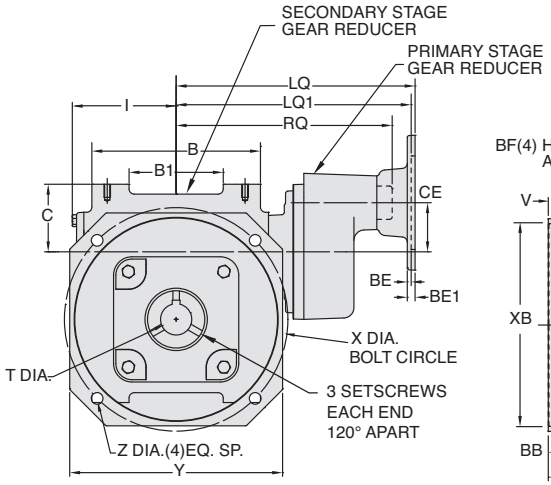
Convert Style DXH to motorized coupling input using kits shown on page 278.

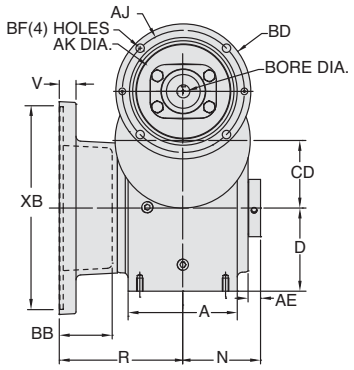
# ELECTRA-GEAR

## EL Series
## Dimensions
### Styles: DXFHMQ, DXFHM, DXFH

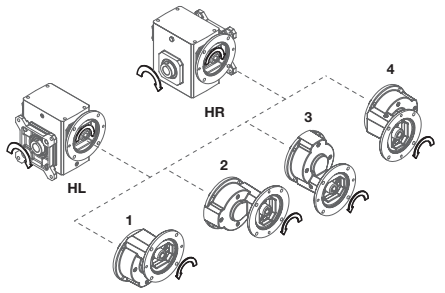
ALUMINUM EL SERIES

### Style DXFHMQ

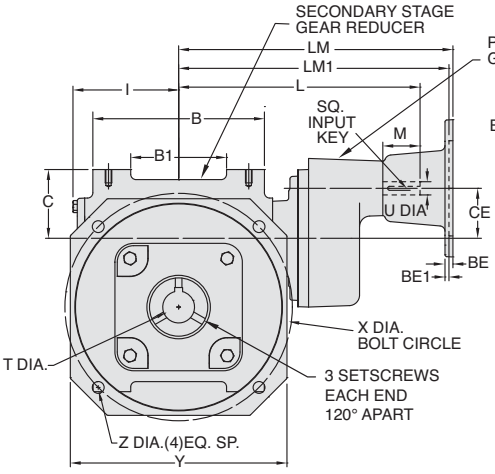


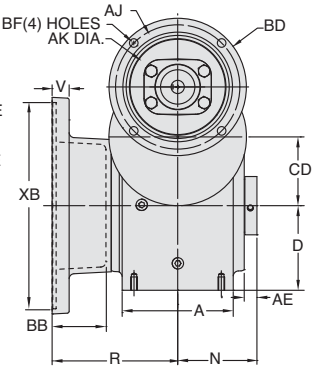




**ASSEMBLIES**

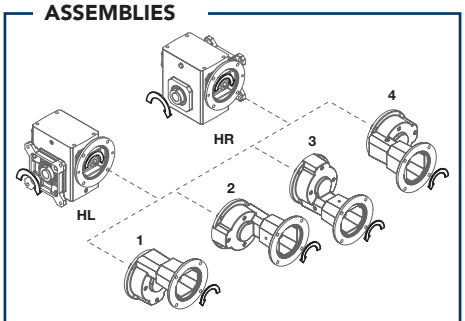



### Style DXFHM

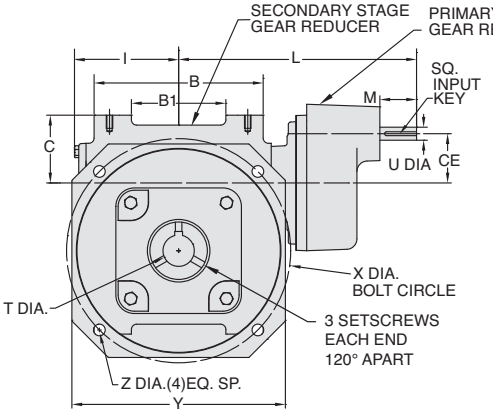


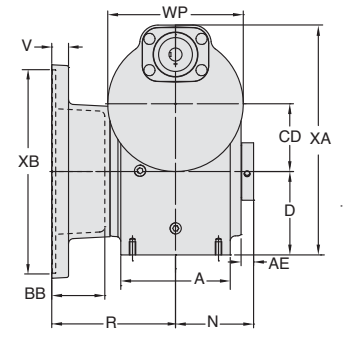




**ASSEMBLIES**

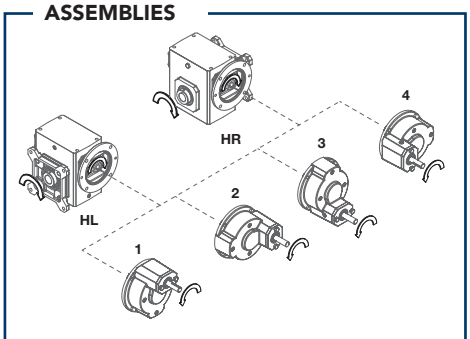



### Style DXFH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

## STYLE DXFHMQ, DXFHM, DXFH DIMENSIONS (Inches)

| Size | A | AE | B | BB | B1 | C | CD | CE | D | I | L | M | N | R | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL818** | 3.50 | 0.49 | 4.83 | 1.27 | 2.48 | 1.81 | 1.75 | 1.91 | 2.31 | 3.03 | 8.71 | 1.76 | 2.75 | 3.53 | 0.38 |
| **EL821** | 3.91 | 0.60 | 5.75 | 1.51 | 2.76 | 2.19 | 2.06 | 1.91 | 2.63 | 3.40 | 9.08 | 1.76 | 2.99 | 4.25 | 0.50 |
| **EL824** | 4.06 | 1.05 | 5.86 | 1.35 | -- | 2.06 | 2.38 | 2.36 | 2.50 | 3.61 | 9.06 | 1.76 | 3.51 | 4.15 | 0.63 |
| **EL826** | 4.84 | 0.60 | 7.17 | 1.35 | 4.21 | 2.12 | 2.63 | 2.36 | 3.25 | 4.17 | 9.62 | 1.76 | 3.19 | 4.56 | 0.63 |
| **EL830** | 5.25 | 0.60 | 8.11 | 2.36 | 4.50 | 2.44 | 3.00 | 2.36 | 3.50 | 4.81 | 10.26 | 1.76 | 3.75 | 5.75 | 0.81 |
| **EL832** | 5.25 | 0.60 | 8.11 | 2.54 | 4.53 | 3.25 | 3.25 | 2.36 | 4.00 | 5.00 | 10.45 | 1.76 | 3.75 | 5.94 | 0.81 |

| Size | W | WP | X | XA | XB | Y | Z | T -0.000 +0.0015 | U +0.000 -0.0015 | Input Key ❊ | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EL818** | 1.44 | 6.50 | 3.13 | 7.83 | - | 4.10 | 0.34 | 1.000 | 0.625 | 3/16 x 3/32 | 1/4 x 3.00 |
| **EL821** | 1.94 | 6.50 | 6.88 | 8.46 | 6.00 | 6.49 | 0.44 | 1.500* | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **EL824** | 1.94 | 6.50 | 7.38 | 8.65 | 6.50 | 6.99 | 0.50 | 1.500* | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **EL826** | 1.94 | 6.50 | 7.38 | 9.65 | 6.50 | 6.99 | 0.50 | 1.500* | 0.625 | 3/16 x 3/32 | 3/8 x 3.00 |
| **EL830** | 2.76 | 6.50 | 9.13-9.50 ▲ | 10.27 | 8.25 | 8.74 | 0.56 | 2.188 | 0.625 | 3/16 x 3/32 | 1/2 x 3.00 |
| **EL832** | 2.76 | 6.50 | 10.75 | 11.02 | 8.25 | 10.24 | 0.56 | 2.188 | 0.625 | 3/16 x 3/32 | 1/2 x 3.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

| Size | LM 56C/140TC | LM1 180TC / 210TC | LQ 56TC/140TC | LQ1 180TC / 210TC | RQ 56C/140TC | RQ 180TC / 210TC |
|---|---|---|---|---|---|---|
| **EL818** | 10.96 | -- | 9.48 | -- | 9.09 | -- |
| **EL821** | 11.33 | -- | 9.85 | -- | 9.46 | -- |
| **EL824** | 11.31 | -- | 9.83 | 10.83 | 9.44 | 10.63 |
| **EL826** | 11.87 | -- | 10.39 | 11.42 | 10.00 | 11.36 |
| **EL830** | 12.51 | -- | 11.03 | 11.92 | 10.64 | 11.86 |
| **EL832** | 12.70 | -- | 11.22 | 12.10 | 10.83 | 12.05 |

### NEMA DIMENSIONS (Inches)

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway◆ | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | .875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 1.375 | 5/16 X 5/32 | 0.53 |

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- Max bore dimensions shown. For additional bores available, refer to page 130.

▲ Slotted holes

◆ Keyway width by depth

❊ Solid input shaft and C-faced coupling input reducers have same input shaft length and key.

**⚠ WARNING** For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

## EL SERIES MOUNTING DIMENSIONS

— EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.

— See page 202 for GR Series dimensions.

## ELECTRA-GEAR INTERCHANGE GUIDE

| Original Style | New Style |
|---|---|
| H_RHSC | DXFHMQ |
| H_RHC | DXFHM |
| H_RH | DXFH |

Convert Style DXFH to motorized coupling input using kits shown on page 278.

# WASHGUARD Gear Reducers & GEAR+MOTOR™

**With gear reducers in epoxy painted cast iron, polished aluminum and stainless steel, Grove Gear offers a solution for any washdown application.**




## CAST IRON WASHGUARD® GEAR REDUCERS

Grove Gear **IRONMAN WASHGUARD®** reducers are designed and built to withstand the rigors of high pressure washdown environments in food service and other wet or humid conditions. A white, food-grade epoxy finish provides superior durability in wet environments and resists caustic cleaning solutions. All standard cast iron products are available enhanced with WASHGUARD® features assuring trouble-free operation.




## ALUMINUM PLATINUM GEAR REDUCERS

**EL Series PLATINUM** aluminum gear reducers are a light weight, yet durable alternative for food processing and washguard environments featuring a smooth, polished and paint-free finish. They are available off-the-shelf or customized to your exact specifications. Available in worm gear reducers, ratio multipliers and small, helical-concentric reducers.




## STAINLESS STEEL GEAR REDUCERS

**Premium WASHGUARD® All-Stainless** reducers offer superior corrosion protection. Our stainless steel housing, shaft, covers and external hardware offer an exceptionally long life. Each reducer comes with USDA H1 synthetic oil, eliminating the need for oil changes. Our premium stainless gear reducers are supplied with 316 grade stainless steel housing and covers. These premium reducers offer superior corrosion protection, and can withstand the harshest conditions. Available in worm gear reducers, ratio multipliers, helical-concentric and helical-bevel reducers.



GEAR+MOTOR™

## Stock GEAR+MOTOR™

Combining Grove Gear built tough, long lasting, energy efficient gear reducers with performance matched LEESON or Lincoln motors, you can maximize system efficiency and rely on unmatched product strength, precision and dependability.

**REFER TO PAGES 258-259 FOR FEATURES**

- Viton® double-lip seals - up to five times more durable than nitrile seals - provide added resistance to chemicals
- Patented Forsheda V-ring on output shaft provides extra protection from contaminants
- O-ring on "flat-faced" input flange provides a positive seal against moisture intrusion
- Food grade white epoxy paint
- Food-Grade Synthetic Lubricant, Mobil PAG 460 or equivalent, meets USDA Class H1 standards

GOOD

- Nine sizes available to 29 HP
- Available in single, double and triple reduction with ratios from 5:1 to 216,000:1
- Worm gear reducers and helical-worm gear reducers
- Clean, polished and paint-free finish
- Lightweight alternative to cast iron
- Lower cost alternative to stainless steel
- Superior corrosion resistance to painted cast iron
- Food-Grade Synthetic Lubricant, Mobil PAG 460 or equivalent, meets USDA Class H1 standards
- Stainless steel shafts and hardware

BETTER

- O-ring on face of input flange provides a positive seal against moisture intrusion
- Stainless steel output shaft
- Stainless steel hardware, including square-head pipe plugs to eliminate particle entrapment in vent locations
- Viton® double-lip shaft seals for superior resistance to chemicals common in washdown applications
- Food-Grade Synthetic Lubricant, Mobil PAG 460 or equivalent, meets USDA Class H1 standards
- Housing and covers are 300 series cast stainless steel to withstand extreme environments

BEST

## Chemical Compatibility Summary

| Material | Reaction Level to Material | | |
|---|---|---|---|
| | Cast Iron | Aluminum | 316 Stainless |
| Ammonia Anhydrous | D | B | A |
| Acetic Acid | D | B | B |
| Arsenic Acid | D | D | A |
| Barium Chloride | C | D | A |
| Barium Sulfate | B | B | B |
| Beer | D | A | A |
| Butter | D | A | A |
| Butyl Alcohol | A | B | C |
| Calcium Chloride | C | D | B |
| Carbonic Acid | D | B | A |
| Catsup | D | D | A |
| Citric Acid | D | C | A |
| Chlorine (Dry) | A | C | A |
| Detergents | N/A | B | A |
| Diethylene Glycol | A | B | A |
| Formaldehyde | D | A | A |
| Grape Juice | D | N/A | A |
| Lactic Acid | D | B | B |
| Mayonaise | D | A | A |
| Nitric Acid (50%) | D | D | A |
| Salad Dressing | D | B | A |
| Soap Solutions | A | C | A |
| Sodium Hydroxide (80%) | D | D | B |
| Sodium Hypochlorite (<20%) | D | D | C |
| Sodium Sulfide | A | C | B |
| Soy Sauce | D | A | A |
| Sulferic Acid (<10%) | C | D | B |
| Sulfer Dioxide | N/A | C | A |
| Tannic Acid | C | C | A |
| Turpentine | A | C | B |
| Vegetable Juice | D | D | A |
| Vinegar | D | D | A |
| Water, Fresh | D | B | A |
| Water, Salt | D | B | B |
| Whey | N/A | B | A |
| Whiskey and Wines | D | C | A |
| Zinc Chloride | D | D | B |
| Zinc Sulfate | D | D | A |

**A** = Excellent
**B** = Good, minor effect
**C** = Fair, moderate affect (not recommended for continuous use)
**D** = Severe effect, not recommended
N/A = Information not available







# WASHGUARD® Gear Reducers Designed For Washdown Duty

## WASHGUARD® Reducer Features

Grove Gear WASHGUARD® gear reducers are designed and built to withstand the rigors of high-pressure washdowns in nearly any severe environment, including: food service, chemical and poultry processing, car washes and more. Built on the foundation of Grove Gear's industrial-duty Grove Gear Ironman™ line, these reducers add exclusive WASHGUARD® All-Stainless features to ensure trouble-free operation.

Combine the gear reducer with a LEESON WASHGUARD® epoxy painted or All-Stainless motor for a Gear+Motor™ that boasts an unmatched ability to thrive under conditions that would quickly destroy most other motors and gear reducers.

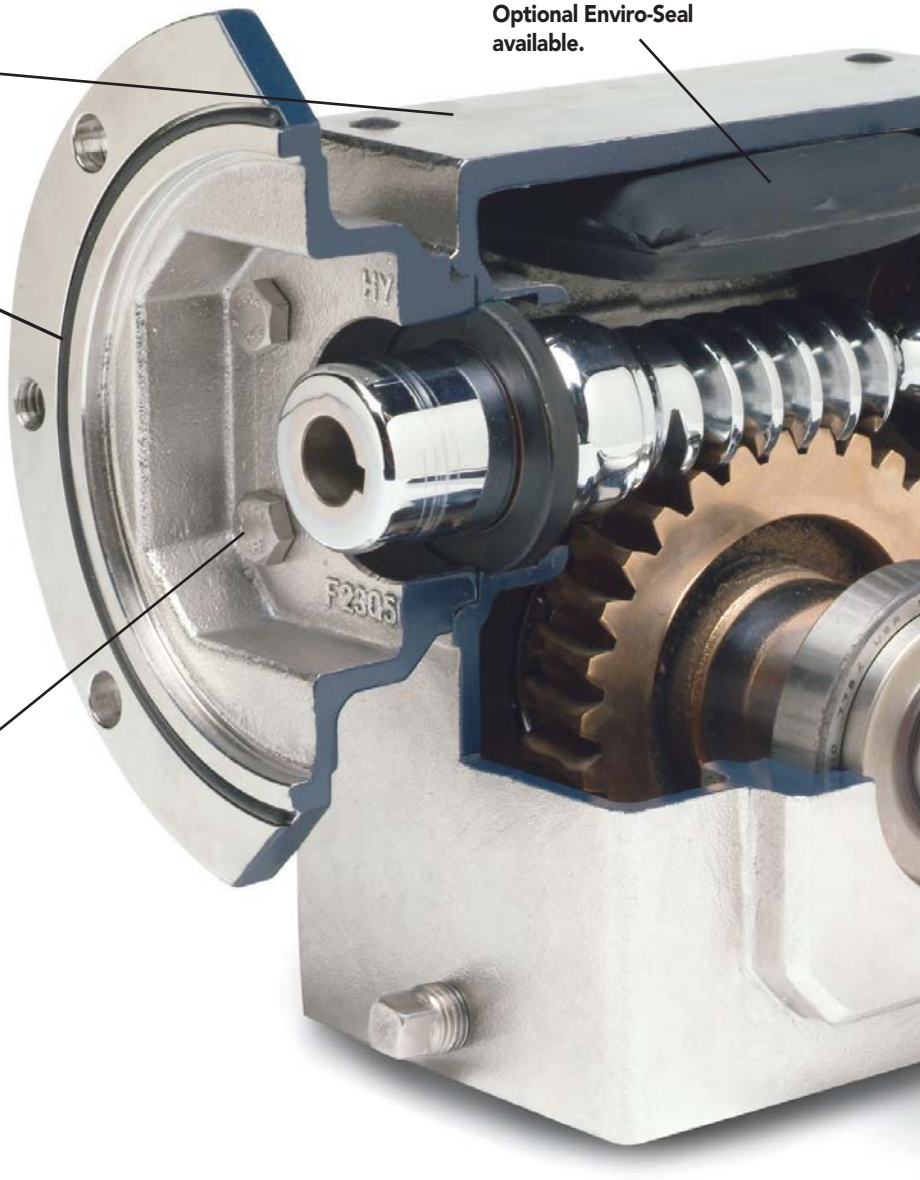
**WASHGUARD® housing options**
- Premium 316 grade stainless steel
- Polished aluminum
- Epoxy painted cast iron

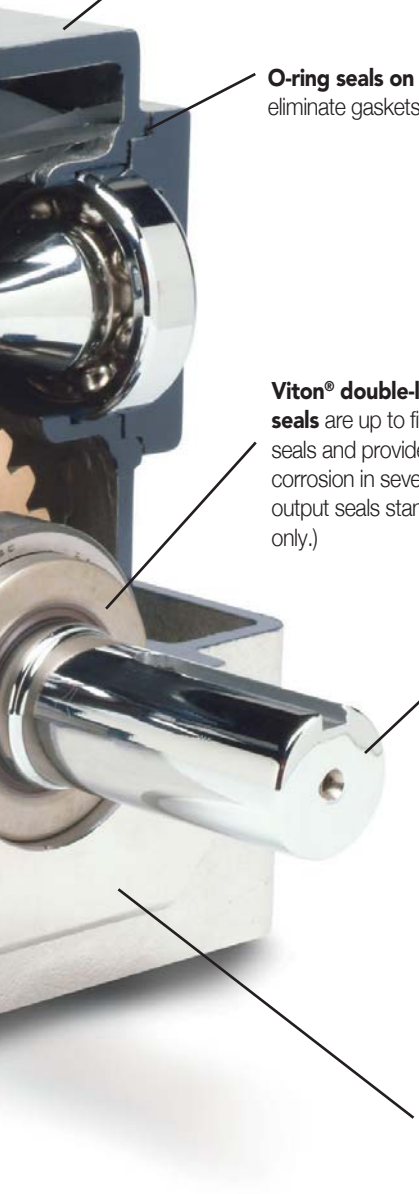
**Optional Enviro-Seal available.**

**O-ring on input flange** provides a positive seal against moisture intrusion.

**All features are found on All-Stainless Steel, PLATINUM aluminum and epoxy painted cast iron gear reducers.**

**Stainless steel assembly hardware** resists corrosion from moisture and chemicals.





**Food-Grade Synthetic Oil** Mobil Glygoyle PAG 460 meets USDA Class H1 standards while providing superior mechanical/thermal performance and extended life.

**O-ring seals on input and output covers** eliminate gaskets, sealants and leaks.

**Viton® double-lip seals** and **Viton® double-lip seals** are up to five times more durable than nitrile seals and provide superior resistance to chemical corrosion in severe applications. (Stainless case output seals standard on All-Stainless reducers only.)

**303 stainless steel output shaft** is corrosion resistant for long life and ease of servicing (stainless steel output shafts are standard for sizes 813-832 and available as an option for sizes 842-860).

**Non-compressible stainless steel shims** keep factory bearing settings constant.




### WASHGUARD®

Combine WASHGUARD® white epoxy gear reducers and WASHGUARD® white epoxy motors.

**Enhanced performance in wet, humid areas.**




### PLATINUM WASHGUARD® with STAINLESS FRAME MOTOR

Combine PLATINUM polished aluminum reducers and paint-free stainless motors.

**Superior, extended life in severe environments.**




### PREMIUM WASHGUARD® ALL-STAINLESS

Combine all-stainless reducers and motors to create a package suitable for nearly any severe duty application.

**Maximum service in critically clean or corrosive environments.**

**Additional WASHGUARD® Products Available**

- Ratio Multipliers
- Double reduction worm reducers
- Size 842-8100 worm reducers
- High efficiency products

GEAR+MOTOR™

# WASHGUARD®
# Maximum Rating Tables
## Size 813 • GR, EL Series

WASHGUARD GR SERIES  PLATINUM EL SERIES

### 813 Series

| Ratio | Input RPM | Output RPM✛ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Style WBMQ Left Hand Catalog No. | Style WBMQ Right Hand Catalog No. | Style WBMQ Double Extension Catalog No. | Style WHMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 1750 | 350.0 | 1.248 | 1.158 | 209 | 56C | **__8133001** | **__8133013** | **__8133025** | **__8133501.10** |
| **7.5** | 1750 | 233.3 | 1.025 | 0.933 | 252 | 56C | **__8133002** | **__8133014** | **__8133026** | **__8133502.10** |
| **10** | 1750 | 175.0 | 0.823 | 0.729 | 263 | 56C | **__8133003** | **__8133015** | **__8133027** | **__8133503.10** |
| **15** | 1750 | 116.7 | 0.642 | 0.541 | 292 | 56C | **__8133004** | **__8133016** | **__8133028** | **__8133504.10** |
| **20** | 1750 | 87.5 | 0.551 | 0.445 | 320 | 56C | **__8133005** | **__8133017** | **__8133029** | **__8133505.10** |
| **25** | 1750 | 70.0 | 0.445 | 0.344 | 309 | 56C | **__8133006** | **__8133018** | **__8133030** | **__8133506.10** |
| **30** | 1750 | 58.3 | 0.395 | 0.290 | 314 | 56C | **__8133007** | **__8133019** | **__8133031** | **__8133507.10** |
| **40** | 1750 | 43.8 | 0.329 | 0.223 | 322 | 56C | **__8133008** | **__8133020** | **__8133032** | **__8133508.10** |
| **50** | 1750 | 35.0 | 0.285 | 0.182 | 327 | 56C | **__8133009** | **__8133021** | **__8133033** | **__8133509.10** |
| **60** | 1750 | 29.2 | 0.246 | 0.145 | 313 | 56C | **__8133010** | **__8133022** | **__8133034** | **__8133510.10** |
| **80** | 1750 | 21.9 | 0.121 | 0.064 | 183 | 56C | **__8133011** | **__8133023** | **__8133035** | **__8133511.10** |
| **100** | 1750 | 17.5 | 0.084 | 0.040 | 143 | 56C | **__8133012** | **__8133024** | **__8133036** | **__8133512.10** |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Contact Factory for other motor flanges available.

✛ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 22-23.

***How To Build a Part Number For Size GR813, EL813***

1. Select partial catalog number from the selection table 2. Replace leading "__" with series code (GR, EL)

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
GR-WBMQ813-10-L-56
GR8133003

# WASHGUARD®
# Maximum Rating Tables
## Size 815 • GR Series





### 815 Series

| Ratio | Input RPM | Output RPM✢ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Style WBMQ Left Hand Catalog No. | Style WBMQ Right Hand Catalog No. | Style WBMQ Double Extension Catalog No. | Style WHMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1750 | 350.0 | 1.939 | 1.794 | 323 | 56C | __8153001 | __8153013 | __8153025 | __8153501.10 |
| | | | | | | 140TC | __8153037 | __8153049 | __8153061 | __8153513.10 |
| 7.5 | 1750 | 233.3 | 1.522 | 1.368 | 370 | 56C | __8153002 | __8153014 | __8153026 | __8153502.10 |
| | | | | | | 140TC | __8153038 | __8153050 | __8153062 | __8153514.10 |
| 10 | 1750 | 175.0 | 1.279 | 1.116 | 402 | 56C | __8153003 | __8153015 | __8153027 | __8153503.10 |
| | | | | | | 140TC | __8153039 | __8153051 | __8153063 | __8153515.10 |
| 15 | 1750 | 116.7 | 1.003 | 0.826 | 446 | 56C | __8153004 | __8153016 | __8153028 | __8153504.10 |
| | | | | | | 140TC | __8153040 | __8153052 | __8153064 | __8153516.10 |
| 20 | 1750 | 87.5 | 0.919 | 0.719 | 518 | 56C | __8153005 | __8153017 | __8153029 | __8153505.10 |
| | | | | | | 140TC | __8153041 | __8153053 | __8153065 | __8153517.10 |
| 25 | 1750 | 70.0 | 0.752 | 0.559 | 503 | 56C | __8153006 | __8153018 | __8153030 | __8153506.10 |
| 30 | 1750 | 58.3 | 0.630 | 0.442 | 478 | 56C | __8153007 | __8153019 | __8153031 | __8153507.10 |
| 40 | 1750 | 43.8 | 0.560 | 0.361 | 520 | 56C | __8153008 | __8153020 | __8153032 | __8153508.10 |
| 50 | 1750 | 35.0 | 0.464 | 0.274 | 494 | 56C | __8153009 | __8153021 | __8153033 | __8153509.10 |
| 60 | 1750 | 29.2 | 0.391 | 0.214 | 462 | 56C | __8153010 | __8153022 | __8153034 | __8153510.10 |
| 80 | 1750 | 21.9 | 0.204 | 0.093 | 269 | 56C | __8153011 | __8153023 | __8153035 | __8153511.10 |
| 100 | 1750 | 17.5 | 0.145 | 0.059 | 213 | 56C | __8153012 | __8153024 | __8153036 | __8153512.10 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

** Size 815 is not available in EL Series.

▲ Contact Factory for other motor flanges available.

✢ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 24-25.

***How To Build a Part Number For Size GR815, EL815***

1. Select partial catalog number from the selection table 2. Replace leading "__" with series code (GR)

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
GR-WBMQ815-10-L-56
GR8153003

# WASHGUARD®
# Maximum Rating Tables
## Size 818 • GR, EL Series

WASHGUARD GR SERIES  PLATINUM EL SERIES

### 818 Series

| Ratio | Input RPM | Output RPM✢ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Style WBMQ Left Hand Catalog No. | Style WBMQ Right Hand Catalog No. | Style WBMQ Double Extension Catalog No. | Style WHMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1750 | 350.0 | 2.600 | 2.422 | 436 | 56C | __8183001 | __8183013 | __8183025 | __8183501.XX |
| | | | | | | 143-5TC | __8183037 | __8183049 | __8183061 | __8183513.XX |
| 7.5 | 1750 | 233.3 | 1.909 | 1.745 | 471 | 56C | __8183002 | __8183014 | __8183026 | __8183502.XX |
| | | | | | | 143-5TC | __8183038 | __8183050 | __8183062 | __8183514.XX |
| 10 | 1750 | 175.0 | 1.625 | 1.466 | 528 | 56C | __8183003 | __8183015 | __8183027 | __8183503.XX |
| | | | | | | 143-5TC | __8183039 | __8183051 | __8183063 | __8183515.XX |
| 15 | 1750 | 116.7 | 1.224 | 1.058 | 571 | 56C | __8183004 | __8183016 | __8183028 | __8183504.XX |
| | | | | | | 143-5TC | __8183040 | __8183052 | __8183064 | __8183516.XX |
| 20 | 1750 | 87.5 | 1.046 | 0.875 | 630 | 56C | __8183005 | __8183017 | __8183029 | __8183505.XX |
| | | | | | | 143-5TC | __8183041 | __8183053 | __8183065 | __8183517.XX |
| 25 | 1750 | 70.0 | 0.884 | 0.715 | 644 | 56C | __8183006 | __8183018 | __8183030 | __818506.XX |
| 30 | 1750 | 58.3 | 0.741 | 0.569 | 614 | 56C | __8183007 | __8183019 | __8183031 | __8183507.XX |
| 40 | 1750 | 43.8 | 0.609 | 0.440 | 634 | 56C | __8183008 | __8183020 | __8183032 | __8183508.XX |
| 50 | 1750 | 35.0 | 0.515 | 0.352 | 634 | 56C | __8183009 | __8183021 | __8183033 | __8183509.XX |
| 60 | 1750 | 29.2 | 0.449 | 0.288 | 623 | 56C | __8183010 | __8183022 | __8183034 | __8183510.XX |
| 80 | 1750 | 21.9 | 0.208 | 0.124 | 356 | 56C | __8183011 | __8183023 | __8183035 | __8183511.XX |
| 100 | 1750 | 17.5 | 0.141 | 0.077 | 277 | 56C | __8183012 | __8183024 | __8183036 | __8183512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Contact Factory for other motor flanges available.

✢ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 26-27.

### *How To Build a Part Number For Size GR818, EL818*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, EL)
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 56C

GR-WBMQ818-10-L-56

GR8183003

**Available bore codes**

| Fraction Size | 5/8" | 11/16" | 3/4" | 7/8" | 1" |
|---|---|---|---|---|---|
| Decimal Size | 0.625 | 0.688 | 0.750 | 0.875 | 1.000 |
| Output Bore Code | 10 | 11 | 12 | 14 | 16 |

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

# WASHGUARD®
# Maximum Rating Tables
## Size 821 • GR, EL Series



### 821 Series

| | | | | | | | Style WBMQ | | | Style WHMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  | | | |
| Ratio | Input RPM | Output RPM✛ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* |
| 5 | 1750 | 350.0 | 3.653 | 3.410 | 614 | 56C | __8213001 | __8213013 | __8213025 | __8213501.XX |
| | | | | | | 143-5TC | __8213037 | __8213049 | __8213061 | __8213513.XX |
| 7.5 | 1750 | 233.3 | 2.793 | 2.562 | 692 | 56C | __8213002 | __8213014 | __8213026 | __8213502.XX |
| | | | | | | 143-5TC | __8213038 | __8213050 | __8213062 | __8213514.XX |
| 10 | 1750 | 175.0 | 2.464 | 2.235 | 805 | 56C | __8213003 | __8213015 | __8213027 | __8213503.XX |
| | | | | | | 143-5TC | __8213039 | __8213051 | __8213063 | __8213515.XX |
| 15 | 1750 | 116.7 | 1.887 | 1.661 | 897 | 56C | __8213004 | __8213016 | __8213028 | __8213504.XX |
| | | | | | | 143-5TC | __8213040 | __8213052 | __8213064 | __8213516.XX |
| 20 | 1750 | 87.5 | 1.584 | 1.338 | 964 | 56C | __8213005 | __8213017 | __8213029 | __8213505.XX |
| | | | | | | 143-5TC | __8213041 | __8213053 | __8213065 | __8213517.XX |
| 25 | 1750 | 70.0 | 1.333 | 1.094 | 985 | 56C | __8213006 | __8213018 | __8213030 | __8213506.XX |
| | | | | | | 143-5TC | __8213042 | __8213054 | __8213066 | __8213518.XX |
| 30 | 1750 | 58.3 | 1.129 | 0.896 | 968 | 56C | __8213007 | __8213019 | __8213031 | __8213507.XX |
| | | | | | | 143-5TC | __8213043 | __8213055 | __8213067 | __8213519.XX |
| 40 | 1750 | 43.8 | 0.916 | 0.674 | 971 | 56C | __8213008 | __8213020 | __8213032 | __8213508.XX |
| 50 | 1750 | 35.0 | 0.769 | 0.539 | 970 | 56C | __8213009 | __8213021 | __8213033 | __8213509.XX |
| 60 | 1750 | 29.2 | 0.674 | 0.435 | 940 | 56C | __8213010 | __8213022 | __8213034 | __8213510.XX |
| 80 | 1750 | 21.9 | 0.304 | 0.190 | 547 | 56C | __8213011 | __8213023 | __8213035 | __8213511.XX |
| 100 | 1750 | 17.5 | 0.217 | 0.122 | 439 | 56C | __8213012 | __8213024 | __8213036 | __8213512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
▲ Contact Factory for other motor flanges available.
✛ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 28-29.

### *How To Build a Part Number For Size GRG821, GRL821, EL821*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GRG, GRL, EL)
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
GRG-WBMQ821-10-L-56, GRG8213003

GRG = GROVE GEAR
- Direct replacement to Grove Gear Flexaline
- Mounting footprint 3.00" x 4.75"
- See pages 52-73 for dimensions

GRL = LEESON IRONMAN BY OHIO GEAR Interchange
- Direct replacement to LEESON IRON-MAN & major brands.
- Mounting footprint 2.88" x 5.00"
- See pages 52-73 for dimensions

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

# WASHGUARD®
# Maximum Rating Tables
## Size 824 • GR, EL Series

WASHGUARD GR SERIES  PLATINUM EL SERIES

### 824 Series



| Ratio | Input RPM | Output RPM✛ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Style WBMQ Left Hand Catalog No. | Style WBMQ Right Hand Catalog No. | Style WBMQ Double Extension Catalog No. | Style WHMQ Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1750 | 350.0 | 5.323 | 4.985 | 898 | 143-5TC | __8243037 | __8243049 | __8243061 | __8243513.XX |
| 7.5 | 1750 | 233.3 | 3.992 | 3.685 | 995 | 143-5TC | __8243038 | __8243050 | __8243062 | __8243514.XX |
| 10 | 1750 | 175.0 | 3.564 | 3.253 | 1172 | 143-5TC | __8243039 | __8243051 | __8243063 | __8243515.XX |
| 15 | 1750 | 116.7 | 2.765 | 2.439 | 1318 | 56C | __8243004 | __8243016 | __8243028 | __8243504.XX |
| | | | | | | 143-5TC | __8243040 | __8243052 | __8243064 | __8243516.XX |
| 20 | 1750 | 87.5 | 2.326 | 1.972 | 1421 | 56C | __8243005 | __8243017 | __8243029 | __8243505.XX |
| | | | | | | 143-5TC | __8243041 | __8243053 | __8243065 | __8243517.XX |
| 25 | 1750 | 70.0 | 1.967 | 1.615 | 1454 | 56C | __8243006 | __8243018 | __8243030 | __8243506.XX |
| | | | | | | 143-5TC | __8243042 | __8243054 | __8243066 | __8243518.XX |
| 30 | 1750 | 58.3 | 1.653 | 1.317 | 1423 | 56C | __8243007 | __8243019 | __8243031 | __8243507.XX |
| | | | | | | 143-5TC | __8243043 | __8243055 | __8243067 | __8243519.XX |
| 40 | 1750 | 43.8 | 1.342 | 0.994 | 1433 | 56C | __8243008 | __8243020 | __8243032 | __8243508.XX |
| | | | | | | 143-5TC | __8243044 | __8243056 | __8243068 | __8243520.XX |
| 50 | 1750 | 35.0 | 1.137 | 0.795 | 1432 | 56C | __8243009 | __8243021 | __8243033 | __8243509.XX |
| | | | | | | 143-5TC | __8243045 | __8243057 | __8243069 | __8243521.XX |
| 60 | 1750 | 29.2 | 0.967 | 0.656 | 1418 | 56C | __8243010 | __8243022 | __8243034 | __8243510.XX |
| 80 | 1750 | 21.9 | 0.455 | 0.288 | 830 | 56C | __8243011 | __8243023 | __8243035 | __8243511.XX |
| 100 | 1750 | 17.5 | 0.307 | 0.180 | 648 | 56C | __8243012 | __8243024 | __8243036 | __8243512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
▲ Contact Factory for other motor flanges available.
✛ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 30-31.

### *How To Build a Part Number For Size GR824, EL824*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, EL)
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 140TC
GR-WBMQ824-10-L-140, GR8243039

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

# WASHGUARD® Maximum Rating Tables

## Size 826 • GR, EL Series



### 826 Series

| | | | | | | | Style WBMQ | | | Style WHMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  | | |  |
| Ratio | Input RPM | Output RPM✢ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* |
| 5 (5.17 actual) | 1750 | 350.0 | 6.693 | 6.276 | 1130 | 143-5TC | __8263037 | __8263049 | __8263061 | __8263513.XX |
| 7.5 | 1750 | 233.3 | 4.956 | 4.571 | 1235 | 143-5TC | __8263038 | __8263050 | __8263062 | __8263514.XX |
| 10 | 1750 | 175.0 | 4.492 | 4.097 | 1475 | 143-5TC | __8263039 | __8263051 | __8263063 | __8263515.XX |
| 15 | 1750 | 116.7 | 3.614 | 3.216 | 1737 | 143-5TC | __8263040 | __8263052 | __8263064 | __8263516.XX |
| 20 | 1750 | 87.5 | 2.965 | 2.549 | 1836 | 56C | __8263005 | __8263017 | __8263029 | __8263505.XX |
| | | | | | | 143-5TC | __8263041 | __8263053 | __8263065 | __8263517.XX |
| 25 | 1750 | 70.0 | 2.487 | 2.076 | 1869 | 56C | __8263006 | __8263018 | __8263030 | __8263506.XX |
| | | | | | | 143-5TC | __8263042 | __8263054 | __8263066 | __8263518.XX |
| 30 | 1750 | 58.3 | 2.145 | 1.743 | 1883 | 56C | __8263007 | __8263019 | __8263031 | __8263507.XX |
| | | | | | | 143-5TC | __8263043 | __8263055 | __8263067 | __8263519.XX |
| 40 | 1750 | 43.8 | 1.695 | 1.287 | 1854 | 56C | __8263008 | __8263020 | __8263032 | __8263508.XX |
| | | | | | | 143-5TC | __8263044 | __8263056 | __8263068 | __8263520.XX |
| 50 | 1750 | 35.0 | 1.420 | 1.023 | 1843 | 56C | __8263009 | __8263021 | __8263033 | __8263509.XX |
| | | | | | | 143-5TC | __8263045 | __8263057 | __8263069 | __8263521.XX |
| 60 | 1750 | 29.2 | 1.216 | 0.835 | 1805 | 56C | __8263010 | __8263022 | __8263034 | __8263510.XX |
| | | | | | | 143-5TC | __8263046 | __8263058 | __8263070 | __8263522.XX |
| 80 | 1750 | 21.9 | 0.577 | 0.379 | 1092 | 56C | __8263011 | __8263023 | __8263035 | __8263511.XX |
| 100 | 1750 | 17.5 | 0.386 | 0.236 | 851 | 56C | __8263012 | __8263024 | __8263036 | __8263512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
▲ Contact Factory for other motor flanges available.
✢ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 32-33.

### *How To Build a Part Number For Size GR826, GRG826, GRL826, EL826*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, GRG, GRL, EL)
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 140TC
GRG-WBMQ826-10-L-140, GRG8263039

GRG = **GROVE GEAR**

- Direct replacement to Grove Gear Flexaline
- 1-1/4" solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = IRONMAN BY OHIO GEAR Interchange

- Direct replacement to LEESON IRON-MAN & major brands.
- Hollow shaft option available
- 1-1/8" solid output shaft diameter

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

# WASHGUARD®
# Maximum Rating Tables
## Size 830 • GR, EL Series

WASHGUARD GR SERIES | PLATINUM EL SERIES

### 830 Series

| Ratio | Input RPM | Output RPM✣ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Style WBMQ | | | Style WHMQ |
| 5 | 1750 | 350.0 | 9.093 | 8.573 | 1544 | 143-5TC | __8303037 | __8303049 | __8303061 | __8303513.XX |
| 7.5 | 1750 | 233.3 | 6.879 | 6.421 | 1734 | 143-5TC | __8303038 | __8303050 | __8303062 | __8303514.XX |
| 10 | 1750 | 175.0 | 6.151 | 5.655 | 2037 | 143-5TC | __8303039 | __8303051 | __8303063 | __8303515.XX |
| 15 | 1750 | 116.7 | 4.843 | 4.311 | 2329 | 143-5TC | __8303040 | __8303052 | __8303064 | __8303516.XX |
| 20 | 1750 | 87.5 | 3.947 | 3.407 | 2454 | 143-5TC | __8303041 | __8303053 | __8303065 | __8303517.XX |
| 25 | 1750 | 70.0 | 3.355 | 2.807 | 2527 | 143-5TC | __8303042 | __8303054 | __8303066 | __8303518.XX |
| 30 | 1750 | 58.3 | 2.879 | 2.332 | 2519 | 143-5TC | __8303043 | __8303055 | __8303067 | __8303519.XX |
| 40 | 1750 | 43.8 | 2.251 | 1.720 | 2477 | 56C | __8303008 | __8303020 | __8303032 | __8303508.XX |
| | | | | | | 143-5TC | __8303044 | __8303056 | __8303068 | __8303520.XX |
| 50 | 1750 | 35.0 | 1.915 | 1.383 | 2490 | 56C | __8303009 | __8303021 | __8303033 | __8303509.XX |
| | | | | | | 143-5TC | __8303045 | __8303057 | __8303069 | __8303521.XX |
| 60 | 1750 | 29.2 | 1.637 | 1.117 | 2413 | 56C | __8303010 | __8303022 | __8303034 | __8303510.XX |
| | | | | | | 143-5TC | __8303046 | __8303058 | __8303070 | __8303522.XX |
| 80 | 1750 | 21.9 | 0.895 | 0.585 | 1684 | 56C | __8303011 | __8303023 | __8303035 | __8303511.XX |
| | | | | | | 143-5TC | __8303047 | __8303059 | __8303071 | __8303523.XX |
| 100 | 1750 | 17.5 | 0.603 | 0.367 | 1321 | 56C | __8303012 | __8303024 | __8303036 | __8303512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
▲ Contact Factory for other motor flanges available.
✣ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 34-35.

### *How To Build a Part Number For Size GR830, EL830*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Series Style WBMQ, 10:1 Left Hand Output, 140TC
GR-WBMQ830-10--140-L, GR8303039

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.250 | 1.500 | 1.625 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

# WASHGUARD® Maximum Rating Tables

## Size 832 • GR, EL Series



### 832 Series

| | | | | | | | Style WBMQ | | | Style WHMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  | | | |
| Ratio | Input RPM | Output RPM✛ | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No.* |
| 5 (5.167 actual) | 1750 | 350.0 | 11.92 | 11.29 | 2033 | 143-5TC | __8323037 | __8323049 | __8323061 | __8323513.XX |
| 7.5 | 1750 | 233.3 | 8.863 | 8.264 | 2232 | 143-5TC | __8323038 | __8323050 | __8323062 | __8323514.XX |
| 10 | 1750 | 175.0 | 8.092 | 7.497 | 2700 | 143-5TC | __8323039 | __8323051 | __8323063 | __8323515.XX |
| 15 | 1750 | 116.7 | 6.127 | 5.516 | 2980 | 143-5TC | __8323040 | __8323052 | __8323064 | __8323516.XX |
| 20 | 1750 | 87.5 | 5.180 | 4.536 | 3267 | 143-5TC | __8323041 | __8323053 | __8323065 | __8323517.XX |
| 25 | 1750 | 70.0 | 4.373 | 3.732 | 3360 | 143-5TC | __8323042 | __8323054 | __8323066 | __8323518.XX |
| 30 | 1750 | 58.3 | 3.619 | 2.986 | 3226 | 143-5TC | __8323043 | __8323055 | __8323067 | __8323519.XX |
| 40 | 1750 | 43.8 | 2.926 | 2.293 | 3303 | 56C | __8323008 | __8323020 | __8323032 | __8323508.XX |
| | | | | | | 143-5TC | __8323044 | __8323056 | __8323068 | __8323520.XX |
| 50 | 1750 | 35.0 | 2.462 | 1.841 | 3315 | 56C | __8323009 | __8323021 | __8323033 | __8323509.XX |
| | | | | | | 143-5TC | __8323045 | __8323057 | __8323069 | __8323521.XX |
| 60 | 1750 | 29.2 | 2.114 | 1.515 | 3274 | 56C | __8323010 | __8323022 | __8323034 | __8323510.XX |
| | | | | | | 143-5TC | __8323046 | __8323058 | __8323070 | __8323522.XX |
| 80 | 1750 | 21.9 | 1.030 | 0.695 | 2000 | 56C | __8323011 | __8323023 | __8323035 | __8323511.XX |
| | | | | | | 143-5TC | __8323047 | __8323059 | __8323071 | __8323523.XX |
| 100 | 1750 | 17.5 | 0.691 | 0.435 | 1567 | 56C | __8323012 | __8323024 | __8323036 | __8323512.XX |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.
▲ Contact Factory for other motor flanges available.
✛ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 38-39.

### *How To Build a Part Number For Size GR832, GRG832, GRL832, EL832*

1. Select partial catalog number from the selection table
2. Replace leading "__" with series code (GR, GRG, GRL, EL)
3. For Hollow output, replace "XX" suffix with bore code.

***Example:***

GR Style WBMQ, 10:1 Left Hand Output, 140TC
GRG-WBMQ832-10-L-140, GRG8323039

GRG = **GROVE GEAR**

- Direct replacement to Grove Gear Flexaline
- 1-1/2" solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = LEESON IRONMAN BY OHIO GEAR Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Hollow shaft option available
- 1-3/8" solid output shaft diameter

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-7/8" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.750 | 1.875 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 35 |

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

# Stainless Steel Maximum Rating Tables

## Size 813

### 813 Series

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | L Assembly Catalog No. | R Assembly Catalog No. | D Assembly Catalog No. | H1 Assembly Catalog No.* | H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Style SBMQ | | | Style SHMQ | Style SHMQ |
| | | | | | | |  | | | | |
| 5 | 2500 | 500.0 | 1.528 | 1.429 | 180 | 56C | S133003700 | S133004900 | S133006100 | S133045710 | S133046910 |
| | 1750 | 350.0 | 1.248 | 1.158 | 209 | | | | | | |
| | 1170 | 234.0 | 0.952 | 0.872 | 235 | | | | | | |
| | 100 | 20.0 | 0.140 | 0.095 | 298 | | | | | | |
| 7.5 | 2500 | 333.3 | 1.281 | 1.178 | 223 | 56C | S133003800 | S133005000 | S133006200 | S133045810 | S133047010 |
| | 1750 | 233.3 | 1.025 | 0.933 | 252 | | | | | | |
| | 1170 | 156.0 | 0.770 | 0.689 | 278 | | | | | | |
| | 870 | 116.0 | 0.615 | 0.540 | 293 | | | | | | |
| | 100 | 13.3 | 0.118 | 0.072 | 339 | | | | | | |
| 10 | 2500 | 250.0 | 1.016 | 0.912 | 230 | 56C | S133003900 | S133005100 | S133006300 | S133045910 | S133047110 |
| | 1750 | 175.0 | 0.823 | 0.729 | 263 | | | | | | |
| | 1170 | 117.0 | 0.626 | 0.543 | 293 | | | | | | |
| | 100 | 10.0 | 0.103 | 0.058 | 363 | | | | | | |
| 15 | 2500 | 166.7 | 0.790 | 0.678 | 257 | 56C | S133004000 | S133005200 | S133006400 | S133046010 | S133047210 |
| | 1750 | 116.7 | 0.642 | 0.541 | 292 | | | | | | |
| | 1170 | 78.0 | 0.491 | 0.402 | 325 | | | | | | |
| | 100 | 6.7 | 0.090 | 0.042 | 401 | | | | | | |
| 20 | 2500 | 125.0 | 0.681 | 0.562 | 283 | 56C | S133004100 | S133005300 | S133006500 | S133046110 | S133047310 |
| | 1750 | 87.5 | 0.551 | 0.445 | 320 | | | | | | |
| | 1170 | 58.5 | 0.422 | 0.328 | 354 | | | | | | |
| | 100 | 5.0 | 0.084 | 0.034 | 431 | | | | | | |
| 25 | 2500 | 100.0 | 0.544 | 0.431 | 272 | 56C | S133004200 | S133005400 | S133006600 | S133046210 | S133047410 |
| | 1750 | 70.0 | 0.445 | 0.344 | 309 | | | | | | |
| | 1170 | 46.8 | 0.344 | 0.255 | 344 | | | | | | |
| | 100 | 4.0 | 0.074 | 0.027 | 423 | | | | | | |
| 30 | 2500 | 83.3 | 0.481 | 0.364 | 276 | 56C | S133004300 | S133005500 | S133006700 | S133046310 | S133047510 |
| | 1750 | 58.3 | 0.395 | 0.290 | 314 | | | | | | |
| | 1170 | 39.0 | 0.308 | 0.215 | 348 | | | | | | |
| | 100 | 3.3 | 0.071 | 0.023 | 429 | | | | | | |
| 40 | 2500 | 62.5 | 0.400 | 0.283 | 285 | 56C | S133004400 | S133005600 | S133006800 | S133046410 | S133047610 |
| | 1750 | 43.8 | 0.329 | 0.223 | 322 | | | | | | |
| | 1170 | 29.3 | 0.258 | 0.165 | 355 | | | | | | |
| | 100 | 2.5 | 0.066 | 0.017 | 432 | | | | | | |
| 50 | 2500 | 50.0 | 0.346 | 0.232 | 292 | 56C | S133004500 | S133005700 | S133006900 | S133046510 | S133047710 |
| | 1750 | 35.0 | 0.285 | 0.182 | 327 | | | | | | |
| | 1170 | 23.4 | 0.224 | 0.133 | 359 | | | | | | |
| | 100 | 2.0 | 0.061 | 0.014 | 431 | | | | | | |
| 60 | 2500 | 41.7 | 0.297 | 0.184 | 279 | 56C | S133004600 | S133005800 | S133007000 | S133046610 | S133047810 |
| | 1750 | 29.2 | 0.246 | 0.145 | 313 | | | | | | |
| | 1170 | 19.5 | 0.195 | 0.107 | 345 | | | | | | |
| | 100 | 1.7 | 0.058 | 0.011 | 415 | | | | | | |
| 80 | 2500 | 31.3 | 0.144 | 0.081 | 163 | 56C | S133004700 | S133005900 | S133007100 | S133046710 | S133047910 |
| | 1750 | 21.9 | 0.121 | 0.064 | 183 | | | | | | |
| | 1170 | 14.6 | 0.096 | 0.047 | 201 | | | | | | |
| | 100 | 1.3 | 0.014 | 0.005 | 237 | | | | | | |
| 100 | 2500 | 25.0 | 0.100 | 0.051 | 128 | 56C | S133004800 | S133006000 | S133007200 | S133046810 | S133048010 |
| | 1750 | 17.5 | 0.084 | 0.040 | 143 | | | | | | |
| | 1170 | 11.7 | 0.067 | 0.029 | 156 | | | | | | |
| | 100 | 1.0 | 0.010 | 0.003 | 184 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| | |
|---|---|
| Fraction Size | 5/8" |
| Decimal Size | 0.625 |
| Output Bore Code | 10 |

# Stainless Steel
# Maximum Rating Tables
## Size 815



### 815 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | Style SBMQ L Assembly Catalog No. | Style SBMQ R Assembly Catalog No. | Style SBMQ D Assembly Catalog No. | Style SHMQ H1 Assembly Catalog No.* | Style SHMQ H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500.0 | 2.310 | 2.151 | 271 | 56C | S153003700 | S153004900 | S153006100 | S153045710 | S153046910 |
| | 1750 | 350.0 | 1.939 | 1.794 | 323 | | | | | | |
| | 1170 | 234.0 | 1.537 | 1.408 | 379 | 143-5TC | S153007300 | S153008500 | S153009700 | S153048110 | S153049310 |
| | 100 | 20.0 | 0.235 | 0.167 | 526 | | | | | | |
| 7.5 | 2500 | 333.3 | 1.785 | 1.619 | 306 | 56C | S153003800 | S153005000 | S153006200 | S153045810 | S153047010 |
| | 1750 | 233.3 | 1.522 | 1.368 | 370 | | | | | | |
| | 1170 | 156.0 | 1.205 | 1.068 | 431 | 143-5TC | S153007400 | S153008600 | S153009800 | S153048210 | S153049410 |
| | 100 | 13.3 | 0.196 | 0.125 | 591 | | | | | | |
| 10 | 2500 | 250.0 | 1.500 | 1.324 | 334 | 56C | S153003900 | S153005100 | S153006300 | S153045910 | S153047110 |
| | 1750 | 175.0 | 1.279 | 1.116 | 402 | | | | | | |
| | 1170 | 117.0 | 1.014 | 0.869 | 468 | 143-5TC | S153007500 | S153008700 | S153009900 | S153048310 | S153049510 |
| | 100 | 10.0 | 0.176 | 0.101 | 639 | | | | | | |
| 15 | 2500 | 166.7 | 1.174 | 0.982 | 371 | 56C | S153004000 | S153005200 | S153006400 | S153046010 | S153047210 |
| | 1750 | 116.7 | 1.003 | 0.826 | 446 | | | | | | |
| | 1170 | 78.0 | 0.800 | 0.643 | 519 | 143-5TC | S153007600 | S153008800 | S153010000 | S153048410 | S153049610 |
| | 100 | 6.7 | 0.155 | 0.075 | 706 | | | | | | |
| 20 | 2500 | 125.0 | 1.077 | 0.860 | 434 | 56C | S153004100 | S153005300 | S153006500 | S153046110 | S153047310 |
| | 1750 | 87.5 | 0.919 | 0.719 | 518 | | | | | | |
| | 1170 | 58.5 | 0.734 | 0.557 | 600 | 143-5TC | S153007700 | S153008900 | S153010100 | S153048510 | S153049710 |
| | 100 | 5.0 | 0.155 | 0.064 | 807 | | | | | | |
| 25 | 2500 | 100.0 | 0.881 | 0.670 | 422 | 56C | S153004200 | S153005400 | S153006600 | S153046210 | S153047410 |
| | 1750 | 70.0 | 0.752 | 0.559 | 503 | | | | | | |
| | 1170 | 46.8 | 0.602 | 0.431 | 580 | 143-5TC | S153007800 | S153009000 | S153010200 | S153048610 | S153049810 |
| | 100 | 4.0 | 0.137 | 0.049 | 775 | | | | | | |
| 30 | 2500 | 83.3 | 0.729 | 0.526 | 398 | 56C | S153004300 | S153005500 | S153006700 | S153046310 | S153047510 |
| | 1750 | 58.3 | 0.630 | 0.442 | 478 | | | | | | |
| | 1170 | 39.0 | 0.510 | 0.344 | 555 | 143-5TC | S153007900 | S153009100 | S153010300 | S153048710 | S153049910 |
| | 100 | 3.3 | 0.124 | 0.040 | 754 | | | | | | |
| 40 | 2500 | 62.5 | 0.649 | 0.432 | 435 | 56C | S153004400 | S153005600 | S153006800 | S153046410 | S153047610 |
| | 1750 | 43.8 | 0.560 | 0.361 | 520 | | | | | | |
| | 1170 | 29.3 | 0.456 | 0.279 | 601 | 143-5TC | S153008000 | S153009200 | S153010400 | S153048810 | S153050010 |
| | 100 | 2.5 | 0.122 | 0.032 | 808 | | | | | | |
| 50 | 2500 | 50.0 | 0.536 | 0.329 | 415 | 56C | S153004500 | S153005700 | S153006900 | S153046510 | S153047710 |
| | 1750 | 35.0 | 0.464 | 0.274 | 494 | | | | | | |
| | 1170 | 23.4 | 0.379 | 0.211 | 569 | 143-5TC | S153008100 | S153009300 | S153010500 | S153048910 | S153050110 |
| | 100 | 2.0 | 0.110 | 0.024 | 760 | | | | | | |
| 60 | 2500 | 41.7 | 0.451 | 0.257 | 389 | 56C | S153004600 | S153005800 | S153007000 | S153046610 | S153047810 |
| | 1750 | 29.2 | 0.391 | 0.214 | 462 | | | | | | |
| | 1170 | 19.5 | 0.321 | 0.165 | 532 | 143-5TC | S153008200 | S153009400 | S153010600 | S153049010 | S153050210 |
| | 100 | 1.7 | 0.099 | 0.019 | 707 | | | | | | |
| 80 | 2500 | 31.3 | 0.219 | 0.109 | 220 | 56C | S153004700 | S153005900 | S153007100 | S153046710 | S153047910 |
| | 1750 | 21.9 | 0.204 | 0.093 | 269 | | | | | | |
| | 1170 | 14.6 | 0.176 | 0.073 | 314 | 143-5TC | S153008300 | S153009500 | S153010700 | S153049110 | S153050310 |
| | 100 | 1.3 | 0.032 | 0.008 | 418 | | | | | | |
| 100 | 2500 | 25.0 | 0.155 | 0.069 | 175 | 56C | S153004800 | S153006000 | S153007200 | S153046810 | S153048010 |
| | 1750 | 17.5 | 0.145 | 0.059 | 213 | | | | | | |
| | 1170 | 11.7 | 0.126 | 0.046 | 248 | 143-5TC | S153008400 | S153009600 | S153010800 | S153049210 | S153050410 |
| | 100 | 1.0 | 0.024 | 0.005 | 328 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| | |
|---|---|
| Fraction Size | 5/8" |
| Decimal Size | 0.625 |
| Output Bore Code | 10 |

# Stainless Steel Maximum Rating Tables

## Size 818

### 818 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | L Assembly Catalog No. | R Assembly Catalog No. | D Assembly Catalog No. | H1 Assembly Catalog No.* | H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Style SBMQ | | | Style SHMQ | Style SHMQ |
| 5 | 2500 | 500.0 | 3.095 | 2.900 | 366 | 56C | S183003700 | S183004900 | S183006100 | S1830457XX | S1830469XX |
| | 1750 | 350.0 | 2.600 | 2.422 | 436 | | | | | | |
| | 1170 | 234.0 | 2.066 | 1.906 | 513 | 143-5TC | S183007300 | S183008500 | S183009700 | S1830481XX | S1830493XX |
| | 100 | 20.0 | 0.312 | 0.228 | 717 | | | | | | |
| 7.5 | 2500 | 333.3 | 2.307 | 2.127 | 402 | 56C | S183003800 | S183005000 | S183006200 | S1830458XX | S1830470XX |
| | 1750 | 233.3 | 1.909 | 1.745 | 471 | | | | | | |
| | 1170 | 156.0 | 1.473 | 1.328 | 537 | 143-5TC | S183007400 | S183008600 | S183009800 | S1830482XX | S1830494XX |
| | 100 | 13.3 | 0.227 | 0.147 | 697 | | | | | | |
| 10 | 2500 | 250.0 | 1.996 | 1.820 | 459 | 56C | S183003900 | S183005100 | S183006300 | S1830459XX | S1830471XX |
| | 1750 | 175.0 | 1.625 | 1.466 | 528 | | | | | | |
| | 1170 | 117.0 | 1.239 | 1.099 | 592 | 143-5TC | S183007500 | S183008700 | S183009900 | S1830483XX | S1830495XX |
| | 100 | 10.0 | 0.196 | 0.118 | 744 | | | | | | |
| 15 | 2500 | 166.7 | 1.485 | 1.301 | 492 | 56C | S183004000 | S183005200 | S183006400 | S1830460XX | S1830472XX |
| | 1750 | 116.7 | 1.224 | 1.058 | 571 | | | | | | |
| | 1170 | 78.0 | 0.945 | 0.799 | 645 | 143-5TC | S183007600 | S183008800 | S183010000 | S1830484XX | S1830496XX |
| | 100 | 6.7 | 0.165 | 0.087 | 823 | | | | | | |
| 20 | 2500 | 125.0 | 1.283 | 1.093 | 551 | 56C | S183004100 | S183005300 | S183006500 | S1830461XX | S1830473XX |
| | 1750 | 87.5 | 1.046 | 0.875 | 630 | | | | | | |
| | 1170 | 58.5 | 0.803 | 0.652 | 702 | 143-5TC | S183007700 | S183008900 | S183010100 | S1830485XX | S1830497XX |
| | 100 | 5.0 | 0.150 | 0.069 | 872 | | | | | | |
| 25 | 2500 | 100.0 | 1.088 | 0.900 | 567 | 56C | S183004200 | S183005400 | S183006600 | S1830462XX | S1830474XX |
| | 1750 | 70.0 | 0.884 | 0.715 | 644 | | | | | | |
| | 1170 | 46.8 | 0.678 | 0.530 | 713 | 143-5TC | S183007800 | S183009000 | S183010200 | S1830486XX | S1830498XX |
| | 100 | 4.0 | 0.135 | 0.055 | 874 | | | | | | |
| 30 | 2500 | 83.3 | 0.892 | 0.702 | 531 | 56C | S183004300 | S183005500 | S183006700 | S1830463XX | S1830475XX |
| | 1750 | 58.3 | 0.741 | 0.569 | 614 | | | | | | |
| | 1170 | 39.0 | 0.580 | 0.428 | 692 | 143-5TC | S183007900 | S183009100 | S183010300 | S1830487XX | S1830499XX |
| | 100 | 3.3 | 0.126 | 0.047 | 880 | | | | | | |
| 40 | 2500 | 62.5 | 0.739 | 0.551 | 556 | 56C | S183004400 | S183005600 | S183006800 | S1830464XX | S1830476XX |
| | 1750 | 43.8 | 0.609 | 0.440 | 634 | | | | | | |
| | 1170 | 29.3 | 0.476 | 0.328 | 706 | 143-5TC | S183008000 | S183009200 | S183010400 | S1830488XX | S1830500XX |
| | 100 | 2.5 | 0.113 | 0.035 | 874 | | | | | | |
| 50 | 2500 | 50.0 | 0.625 | 0.444 | 559 | 56C | S183004500 | S183005700 | S183006900 | S1830465XX | S1830477XX |
| | 1750 | 35.0 | 0.515 | 0.352 | 634 | | | | | | |
| | 1170 | 23.4 | 0.404 | 0.260 | 701 | 143-5TC | S183008100 | S183009300 | S183010500 | S1830489XX | S1830501XX |
| | 100 | 2.0 | 0.103 | 0.027 | 857 | | | | | | |
| 60 | 2500 | 41.7 | 0.542 | 0.363 | 550 | 56C | S183004600 | S183005800 | S183007000 | S1830466XX | S1830478XX |
| | 1750 | 29.2 | 0.449 | 0.288 | 623 | | | | | | |
| | 1170 | 19.5 | 0.354 | 0.213 | 689 | 143-5TC | S183008200 | S183009400 | S183010600 | S1830490XX | S1830502XX |
| | 100 | 1.7 | 0.097 | 0.022 | 842 | | | | | | |
| 80 | 2500 | 31.3 | 0.247 | 0.156 | 314 | 56C | S183004700 | S183005900 | S183007100 | S1830467XX | S1830479XX |
| | 1750 | 21.9 | 0.208 | 0.124 | 356 | | | | | | |
| | 1170 | 14.6 | 0.164 | 0.091 | 392 | 143-5TC | S183008300 | S183009500 | S183010700 | S1830491XX | S1830503XX |
| | 100 | 1.3 | 0.023 | 0.009 | 470 | | | | | | |
| 100 | 2500 | 25.0 | 0.167 | 0.097 | 245 | 56C | S183004800 | S183006000 | S183007200 | S1830468XX | S1830480XX |
| | 1750 | 17.5 | 0.141 | 0.077 | 277 | | | | | | |
| | 1170 | 11.7 | 0.111 | 0.057 | 304 | 143-5TC | S183008400 | S183009600 | S183010800 | S1830492XX | S1830504XX |
| | 100 | 1.0 | 0.016 | 0.006 | 362 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

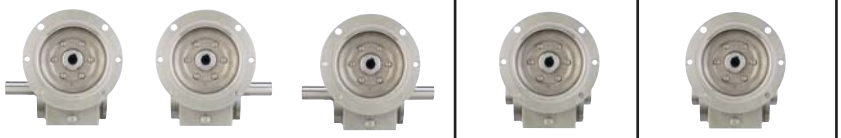
**Available bore codes**

| Fraction Size | 5/8" | 11/16" | 3/4" | 7/8" | 1" |
|---|---|---|---|---|---|
| Decimal Size | 0.625 | 0.688 | 0.750 | 0.875 | 1.000 |
| Output Bore Code | 10 | 11 | 12 | 14 | 16 |

# Stainless Steel
# Maximum Rating Tables
## Size 821



## 821 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | Style SBMQ L Assembly Catalog No. | Style SBMQ R Assembly Catalog No. | Style SBMQ D Assembly Catalog No. | Style SHMQ H1 Assembly Catalog No.* | Style SHMQ H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500.0 | 4.305 | 4.043 | 510 | 56C | S213003700 | S213004900 | S213006100 | S2130457XX | S2130469XX |
| | 1750 | 350.0 | 3.653 | 3.410 | 614 | | | | | | |
| | 1170 | 234.0 | 2.873 | 2.657 | 716 | 143-5TC | S213007300 | S213008500 | S213009700 | S2130481XX | S2130493XX |
| | 100 | 20.0 | 0.433 | 0.310 | 977 | | | | | | |
| 7.5 | 2500 | 333.3 | 3.300 | 3.051 | 577 | 56C | S213003800 | S213005000 | S213006200 | S2130458XX | S2130470XX |
| | 1750 | 233.3 | 2.793 | 2.562 | 692 | | | | | | |
| | 1170 | 156.0 | 2.194 | 1.989 | 804 | 143-5TC | S213007400 | S213008600 | S213009800 | S2130482XX | S2130494XX |
| | 100 | 13.3 | 0.341 | 0.230 | 1089 | | | | | | |
| 10 | 2500 | 250.0 | 2.973 | 2.722 | 686 | 56C | S213003900 | S213005100 | S213006300 | S2130459XX | S2130471XX |
| | 1750 | 175.0 | 2.464 | 2.235 | 805 | | | | | | |
| | 1170 | 117.0 | 1.905 | 1.702 | 917 | 143-5TC | S213007500 | S213008700 | S213009900 | S2130483XX | S2130495XX |
| | 100 | 10.0 | 0.300 | 0.189 | 1192 | | | | | | |
| 15 | 2500 | 166.7 | 2.284 | 2.035 | 769 | 56C | S213004000 | S213005200 | S213006400 | S2130460XX | S2130472XX |
| | 1750 | 116.7 | 1.887 | 1.661 | 897 | | | | | | |
| | 1170 | 78.0 | 1.459 | 1.259 | 1017 | 143-5TC | S213007600 | S213008800 | S213010000 | S2130484XX | S2130496XX |
| | 100 | 6.7 | 0.245 | 0.138 | 1309 | | | | | | |
| 20 | 2500 | 125.0 | 1.914 | 1.642 | 828 | 56C | S213004100 | S213005300 | S213006500 | S2130461XX | S2130473XX |
| | 1750 | 87.5 | 1.584 | 1.338 | 964 | | | | | | |
| | 1170 | 58.5 | 1.229 | 1.012 | 1090 | 143-5TC | S213007700 | S213008900 | S213010100 | S2130485XX | S2130497XX |
| | 100 | 5.0 | 0.226 | 0.111 | 1397 | | | | | | |
| 25 | 2500 | 100.0 | 1.623 | 1.359 | 857 | 56C | S213004200 | S213005400 | S213006600 | S2130462XX | S2130474XX |
| | 1750 | 70.0 | 1.333 | 1.094 | 985 | | | | | | |
| | 1170 | 46.8 | 1.030 | 0.820 | 1104 | 143-5TC | S213007800 | S213009000 | S213010200 | S2130486XX | S2130498XX |
| | 100 | 4.0 | 0.200 | 0.088 | 1386 | | | | | | |
| 30 | 2500 | 83.3 | 1.359 | 1.102 | 833 | 56C | S213004300 | S213005500 | S213006700 | S2130463XX | S2130475XX |
| | 1750 | 58.3 | 1.129 | 0.896 | 968 | | | | | | |
| | 1170 | 39.0 | 0.882 | 0.677 | 1095 | 143-5TC | S213007900 | S213009100 | S213010300 | S2130487XX | S2130499XX |
| | 100 | 3.3 | 0.181 | 0.074 | 1399 | | | | | | |
| 40 | 2500 | 62.5 | 1.096 | 0.829 | 836 | 56C | S213004400 | S213005600 | S213006800 | S2130464XX | S2130476XX |
| | 1750 | 43.8 | 0.916 | 0.674 | 971 | | | | | | |
| | 1170 | 29.3 | 0.722 | 0.509 | 1097 | 143-5TC | S213008000 | S213009200 | S213010400 | S2130488XX | S2130500XX |
| | 100 | 2.5 | 0.167 | 0.056 | 1401 | | | | | | |
| 50 | 2500 | 50.0 | 0.925 | 0.670 | 845 | 56C | S213004500 | S213005700 | S213006900 | S2130465XX | S2130477XX |
| | 1750 | 35.0 | 0.769 | 0.539 | 970 | | | | | | |
| | 1170 | 23.4 | 0.606 | 0.403 | 1086 | 143-5TC | S213008100 | S213009300 | S213010500 | S2130489XX | S2130501XX |
| | 100 | 2.0 | 0.149 | 0.043 | 1359 | | | | | | |
| 60 | 2500 | 41.7 | 0.799 | 0.535 | 809 | 56C | S213004600 | S213005800 | S213007000 | S2130466XX | S2130478XX |
| | 1750 | 29.2 | 0.674 | 0.435 | 940 | | | | | | |
| | 1170 | 19.5 | 0.539 | 0.328 | 1061 | 143-5TC | S213008200 | S213009400 | S213010600 | S2130490XX | S2130502XX |
| | 100 | 1.7 | 0.145 | 0.036 | 1354 | | | | | | |
| 80 | 2500 | 31.3 | 0.357 | 0.236 | 476 | 56C | S213004700 | S213005900 | S213007100 | S2130467XX | S2130479XX |
| | 1750 | 21.9 | 0.304 | 0.190 | 547 | | | | | | |
| | 1170 | 14.6 | 0.241 | 0.141 | 609 | 143-5TC | S213008300 | S213009500 | S213010700 | S2130491XX | S2130503XX |
| | 100 | 1.3 | 0.034 | 0.015 | 743 | | | | | | |
| 100 | 2500 | 25.0 | 0.251 | 0.150 | 379 | 56C | S213004800 | S213006000 | S213007200 | S2130468XX | S2130480XX |
| | 1750 | 17.5 | 0.217 | 0.122 | 439 | | | | | | |
| | 1170 | 11.7 | 0.175 | 0.091 | 491 | 143-5TC | S213008400 | S213009600 | S213010800 | S2130492XX | S2130504XX |
| | 100 | 1.0 | 0.026 | 0.010 | 605 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Stainless Steel Maximum Rating Tables

## Size 824

### 824 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | L Assembly Catalog No. | R Assembly Catalog No. | D Assembly Catalog No. | H1 Assembly Catalog No.* | H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Style SBMQ | | | Style SHMQ | Style SHMQ |
| 5 | 2500 | 500.0 | 6.322 | 5.950 | 750 | 143-5TC | S243003700 | S243004900 | S243006100 | S2430457XX | S2430469XX |
| | 1750 | 350.0 | 5.323 | 4.985 | 898 | | | | | | |
| | 1170 | 234.0 | 4.280 | 3.976 | 1071 | 182-4TC | S243007300 | S243008500 | S243009700 | S2430481XX | S2430493XX |
| | 100 | 20.0 | 0.655 | 0.489 | 1540 | | | | | | |
| 7.5 | 2500 | 333.3 | 4.739 | 4.401 | 832 | 143-5TC | S243003800 | S243005000 | S243006200 | S2430458XX | S2430470XX |
| | 1750 | 233.3 | 3.992 | 3.685 | 995 | | | | | | |
| | 1170 | 156.0 | 3.204 | 2.929 | 1183 | 182-4TC | S243007400 | S243008600 | S243009800 | S2430482XX | S2430494XX |
| | 100 | 13.3 | 0.502 | 0.357 | 1689 | | | | | | |
| 10 | 2500 | 250.0 | 4.199 | 3.862 | 974 | 143-5TC | S243003900 | S243005100 | S243006300 | S2430459XX | S2430471XX |
| | 1750 | 175.0 | 3.564 | 3.253 | 1172 | | | | | | |
| | 1170 | 117.0 | 2.808 | 2.531 | 1364 | 182-4TC | S243007500 | S243008700 | S243009900 | S2430483XX | S2430495XX |
| | 100 | 10.0 | 0.442 | 0.295 | 1857 | | | | | | |
| 15 | 2500 | 166.7 | 3.268 | 2.913 | 1102 | 56C | S243000400 | S243001600 | S243002800 | S2430436XX | S2430448XX |
| | 1750 | 116.7 | 2.765 | 2.439 | 1318 | | | | | | |
| | 1170 | 78.0 | 2.178 | 1.888 | 1526 | 143-5TC | S243004000 | S243005200 | S243006400 | S2430460XX | S2430472XX |
| | 100 | 6.7 | 0.369 | 0.217 | 2056 | | | | | | |
| 20 | 2500 | 125.0 | 2.750 | 2.365 | 1192 | 56C | S243000500 | S243001700 | S243002900 | S2430437XX | S2430449XX |
| | 1750 | 87.5 | 2.326 | 1.972 | 1421 | | | | | | |
| | 1170 | 58.5 | 1.835 | 1.522 | 1640 | 143-5TC | S243004100 | S243005300 | S243006500 | S2430461XX | S2430473XX |
| | 100 | 5.0 | 0.337 | 0.174 | 2193 | | | | | | |
| 25 | 2500 | 100.0 | 2.335 | 1.949 | 1228 | 56C | S243000600 | S243001800 | S243003000 | S2430438XX | S2430450XX |
| | 1750 | 70.0 | 1.967 | 1.615 | 1454 | | | | | | |
| | 1170 | 46.8 | 1.551 | 1.239 | 1669 | 143-5TC | S243004200 | S243005400 | S243006600 | S2430462XX | S2430474XX |
| | 100 | 4.0 | 0.302 | 0.140 | 2205 | | | | | | |
| 30 | 2500 | 83.3 | 1.945 | 1.579 | 1194 | 56C | S243000700 | S243001900 | S243003100 | S2430439XX | S2430451XX |
| | 1750 | 58.3 | 1.653 | 1.317 | 1423 | | | | | | |
| | 1170 | 39.0 | 1.314 | 1.016 | 1642 | 143-5TC | S243004300 | S243005500 | S243006700 | S2430463XX | S2430475XX |
| | 100 | 3.3 | 0.270 | 0.116 | 2197 | | | | | | |
| 40 | 2500 | 62.5 | 1.574 | 1.195 | 1205 | 56C | S243000800 | S243002000 | S243003200 | S2430440XX | S2430452XX |
| | 1750 | 43.8 | 1.342 | 0.994 | 1433 | | | | | | |
| | 1170 | 29.3 | 1.074 | 0.766 | 1650 | 143-5TC | S243004400 | S243005600 | S243006800 | S2430464XX | S2430476XX |
| | 100 | 2.5 | 0.245 | 0.087 | 2198 | | | | | | |
| 50 | 2500 | 50.0 | 1.335 | 0.961 | 1211 | 56C | S243000900 | S243002100 | S243003300 | S2430441XX | S2430453XX |
| | 1750 | 35.0 | 1.137 | 0.795 | 1432 | | | | | | |
| | 1170 | 23.4 | 0.911 | 0.609 | 1641 | 143-5TC | S243004500 | S243005700 | S243006900 | S2430465XX | S2430477XX |
| | 100 | 2.0 | 0.224 | 0.069 | 2163 | | | | | | |
| 60 | 2500 | 41.7 | 1.149 | 0.806 | 1219 | 56C | S243001000 | S243002200 | S243003400 | S2430442XX | S2430454XX |
| | 1750 | 29.2 | 0.967 | 0.656 | 1418 | | | | | | |
| | 1170 | 19.5 | 0.770 | 0.496 | 1604 | 143-5TC | S243004600 | S243005800 | S243007000 | S2430466XX | S2430478XX |
| | 100 | 1.7 | 0.197 | 0.054 | 2054 | | | | | | |
| 80 | 2500 | 31.3 | 0.520 | 0.348 | 701 | 56C | S243001100 | S243002300 | S243003500 | S2430443XX | S2430455XX |
| | 1750 | 21.9 | 0.455 | 0.288 | 830 | | | | | | |
| | 1170 | 14.6 | 0.370 | 0.219 | 946 | | | | | | |
| | 100 | 1.3 | 0.056 | 0.024 | 1202 | | | | | | |
| 100 | 2500 | 25.0 | 0.351 | 0.219 | 551 | 56C | S243001200 | S243002400 | S243003600 | S2430444XX | S2430456XX |
| | 1750 | 17.5 | 0.307 | 0.180 | 648 | | | | | | |
| | 1170 | 11.7 | 0.251 | 0.136 | 735 | | | | | | |
| | 100 | 1.0 | 0.039 | 0.015 | 926 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Stainless Steel
# Maximum Rating Tables
## Size 826



### 826 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | Style SBMQ L Assembly Catalog No. | Style SBMQ R Assembly Catalog No. | Style SBMQ D Assembly Catalog No. | Style SHMQ H1 Assembly Catalog No.* | Style SHMQ H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500.0 | 7.946 | 7.486 | 944 | 143-5TC | S263003700 | S263004900 | S263006100 | S2630457XX | S2630469XX |
| | 1750 | 350.0 | 6.693 | 6.276 | 1130 | | | | | | |
| (5.17 | 1170 | 234.0 | 5.439 | 5.061 | 1363 | 182-4TC | S263007300 | S263008500 | S263009700 | S2630481XX | S2630493XX |
| actual) | 100 | 20.0 | 0.844 | 0.638 | 2010 | | | | | | |
| 7.5 | 2500 | 333.3 | 5.877 | 5.453 | 1031 | 143-5TC | S263003800 | S263005000 | S263006200 | S2630458XX | S2630470XX |
| | 1750 | 233.3 | 4.956 | 4.571 | 1235 | | | | | | |
| | 1170 | 156.0 | 4.018 | 3.671 | 1483 | 182-4TC | S263007400 | S263008600 | S263009800 | S2630482XX | S2630494XX |
| | 100 | 13.3 | 0.640 | 0.458 | 2166 | | | | | | |
| 10 | 2500 | 250.0 | 5.338 | 4.904 | 1236 | 143-5TC | S263003900 | S263005100 | S263006300 | S2630459XX | S2630471XX |
| | 1750 | 175.0 | 4.492 | 4.097 | 1475 | | | | | | |
| | 1170 | 117.0 | 3.579 | 3.226 | 1738 | 182-4TC | S263007500 | S263008700 | S263009900 | S2630483XX | S2630495XX |
| | 100 | 10.0 | 0.572 | 0.386 | 2431 | | | | | | |
| 15 | 2500 | 166.7 | 4.316 | 3.881 | 1468 | 143-5TC | S263004000 | S263005200 | S263006400 | S2630460XX | S2630472XX |
| | 1750 | 116.7 | 3.614 | 3.216 | 1737 | | | | | | |
| | 1170 | 78.0 | 2.821 | 2.468 | 1994 | 182-4TC | S263007600 | S263008800 | S263010000 | S2630484XX | S2630496XX |
| | 100 | 6.7 | 0.467 | 0.279 | 2637 | | | | | | |
| 20 | 2500 | 125.0 | 3.503 | 3.050 | 1538 | 56C | S263000500 | S263001700 | S263002900 | S2630437XX | S2630449XX |
| | 1750 | 87.5 | 2.965 | 2.549 | 1836 | | | | | | |
| | 1170 | 58.5 | 2.339 | 1.970 | 2123 | 143-5TC | S263004100 | S263005300 | S263006500 | S2630461XX | S2630473XX |
| | 100 | 5.0 | 0.419 | 0.226 | 2849 | 182-4TC | S263007700 | S263008900 | S263010100 | S2630485XX | S2630497XX |
| 25 | 2500 | 100.0 | 2.955 | 2.505 | 1579 | 56C | S263000600 | S263001800 | S263003000 | S2630438XX | S2630450XX |
| | 1750 | 70.0 | 2.487 | 2.076 | 1869 | | | | | | |
| | 1170 | 46.8 | 1.957 | 1.594 | 2146 | 143-5TC | S263004200 | S263005400 | S263006600 | S2630462XX | S2630474XX |
| | 100 | 4.0 | 0.370 | 0.180 | 2837 | | | | | | |
| 30 | 2500 | 83.3 | 2.556 | 2.115 | 1600 | 56C | S263000700 | S263001900 | S263003100 | S2630439XX | S2630451XX |
| | 1750 | 58.3 | 2.145 | 1.743 | 1883 | | | | | | |
| | 1170 | 39.0 | 1.687 | 1.332 | 2152 | 143-5TC | S263004300 | S263005500 | S263006700 | S2630463XX | S2630475XX |
| | 100 | 3.3 | 0.335 | 0.149 | 2816 | | | | | | |
| 40 | 2500 | 62.5 | 1.989 | 1.545 | 1558 | 56C | S263000800 | S263002000 | S263003200 | S2630440XX | S2630452XX |
| | 1750 | 43.8 | 1.695 | 1.287 | 1854 | | | | | | |
| | 1170 | 29.3 | 1.354 | 0.993 | 2139 | 143-5TC | S263004400 | S263005600 | S263006800 | S2630464XX | S2630476XX |
| | 100 | 2.5 | 0.299 | 0.113 | 2857 | | | | | | |
| 50 | 2500 | 50.0 | 1.672 | 1.237 | 1560 | 56C | S263000900 | S263002100 | S263003300 | S2630441XX | S2630453XX |
| | 1750 | 35.0 | 1.420 | 1.023 | 1843 | | | | | | |
| | 1170 | 23.4 | 1.135 | 0.784 | 2112 | 143-5TC | S263004500 | S263005700 | S263006900 | S2630465XX | S2630477XX |
| | 100 | 2.0 | 0.269 | 0.088 | 2783 | | | | | | |
| 60 | 2500 | 41.7 | 1.433 | 1.015 | 1536 | 56C | S263001000 | S263002200 | S263003400 | S2630442XX | S2630454XX |
| | 1750 | 29.2 | 1.216 | 0.835 | 1805 | | | | | | |
| | 1170 | 19.5 | 0.973 | 0.637 | 2060 | 143-5TC | S263004600 | S263005800 | S263007000 | S2630466XX | S2630478XX |
| | 100 | 1.7 | 0.245 | 0.071 | 2689 | | | | | | |
| 80 | 2500 | 31.3 | 0.659 | 0.456 | 919 | 56C | S263001100 | S263002300 | S263003500 | S2630443XX | S2630455XX |
| | 1750 | 21.9 | 0.577 | 0.379 | 1092 | | | | | | |
| | 1170 | 14.6 | 0.469 | 0.289 | 1247 | 143-5TC | S263004700 | S263005900 | S263007100 | S2630467XX | S2630479XX |
| | 100 | 1.3 | 0.070 | 0.032 | 1593 | | | | | | |
| 100 | 2500 | 25.0 | 0.441 | 0.286 | 721 | 56C | S263001200 | S263002400 | S263003600 | S2630444XX | S2630456XX |
| | 1750 | 17.5 | 0.386 | 0.236 | 851 | | | | | | |
| | 1170 | 11.7 | 0.314 | 0.179 | 966 | | | | | | |
| | 100 | 1.0 | 0.048 | 0.019 | 1222 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

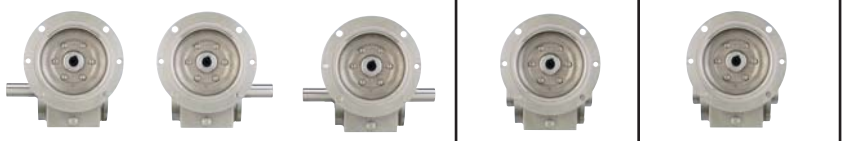
**Available bore codes**

| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# Stainless Steel Maximum Rating Tables

## Size 832

### 832 Series



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Frame | Style SBMQ L Assembly Catalog No. | Style SBMQ R Assembly Catalog No. | Style SBMQ D Assembly Catalog No. | Style SHMQ H1 Assembly Catalog No.* | Style SHMQ H2 Assembly Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 2500 | 500.0 | 10.56 | 10.03 | 1306 | 182-4TC | S323007300 | S323008500 | S323009700 | S3230625XX | S3230637XX |
| | 1750 | 350.0 | 9.135 | 8.611 | 1602 | | | | | | |
| (5.17 | 1170 | 234.0 | 7.694 | 7.172 | 1995 | 213-5TC | S323010900 | S323012100 | S323013300 | S3230649XX | S3230661XX |
| actual) | 100 | 20.0 | 1.289 | 1.097 | 3571 | | | | | | |
| 7.5 | 2500 | 333.3 | 9.053 | 8.527 | 1612 | 182-4TC | S323007400 | S323008600 | S323009800 | S3230626XX | S3230638XX |
| | 1750 | 233.3 | 7.844 | 7.317 | 1976 | | | | | | |
| | 1170 | 156.0 | 6.642 | 6.114 | 2469 | 213-5TC | S323011000 | S323012200 | S323013400 | S3230650XX | S3230662XX |
| | 100 | 13.3 | 1.136 | 0.949 | 4075 | | | | | | |
| 10 | 2500 | 250.0 | 8.232 | 7.701 | 1941 | 143-5TC | S323003900 | S323005100 | S323006300 | S3230603XX | S3230615XX |
| | 1750 | 175.0 | 7.034 | 6.507 | 2343 | | | | | | |
| | 1170 | 117.0 | 5.974 | 5.446 | 2932 | 182-4TC | S323007500 | S323008700 | S323009900 | S3230627XX | S3230639XX |
| | 100 | 10.0 | 0.857 | 0.704 | 4437 | 213-5TC | S323011100 | S323012300 | S323013500 | S3230651XX | S3230663XX |
| 15 | 2500 | 166.7 | 6.161 | 5.603 | 2118 | 143-5TC | S323004000 | S323005200 | S323006400 | S3230604XX | S3230616XX |
| | 1750 | 116.7 | 5.277 | 4.724 | 2551 | | | | | | |
| | 1170 | 78.0 | 4.531 | 3.971 | 3207 | 182-4TC | S323007600 | S323008800 | S323010000 | S3230628XX | S3230640XX |
| | 100 | 6.7 | 0.682 | 0.518 | 4895 | | | | | | |
| 20 | 2500 | 125.0 | 4.836 | 4.306 | 2170 | 143-5TC | S323004100 | S323005300 | S323006500 | S3230605XX | S3230617XX |
| | 1750 | 87.5 | 4.188 | 3.658 | 2633 | | | | | | |
| | 1170 | 58.5 | 3.547 | 3.020 | 3253 | 182-4TC | S323007700 | S323008900 | S323010100 | S3230629XX | S3230641XX |
| | 100 | 5.0 | 0.528 | 0.381 | 4802 | | | | | | |
| 25 | 2500 | 100.0 | 3.977 | 3.468 | 2185 | 143-5TC | S323004200 | S323005400 | S323006600 | S3230606XX | S3230618XX |
| | 1750 | 70.0 | 3.465 | 2.953 | 2658 | | | | | | |
| | 1170 | 46.8 | 2.914 | 2.413 | 3248 | 182-4TC | S323007800 | S323009000 | S323010200 | S3230630XX | S3230642XX |
| | 100 | 4.0 | 0.434 | 0.298 | 4701 | | | | | | |
| 30 | 2500 | 83.3 | 3.452 | 2.903 | 2195 | 143-5TC | S323004300 | S323005500 | S323006700 | S3230607XX | S3230619XX |
| | 1750 | 58.3 | 3.003 | 2.454 | 2651 | | | | | | |
| | 1170 | 39.0 | 2.604 | 2.052 | 3315 | 182-4TC | S323007900 | S323009100 | S323010300 | S3230631XX | S3230643XX |
| | 100 | 3.3 | 0.425 | 0.265 | 5007 | | | | | | |
| 40 | 2500 | 62.5 | 2.669 | 2.157 | 2174 | 56C | S323000800 | S323002000 | S323003200 | S3230584XX | S3230596XX |
| | 1750 | 43.8 | 2.348 | 1.834 | 2641 | | | | | | |
| | 1170 | 29.3 | 2.019 | 1.509 | 3251 | 143-5TC | S323004400 | S323005600 | S323006800 | S3230608XX | S3230620XX |
| | 100 | 2.5 | 0.330 | 0.189 | 4769 | 182-4TC | S323008000 | S323009200 | S323010400 | S3230632XX | S3230644XX |
| 50 | 2500 | 50.0 | 2.152 | 1.674 | 2110 | 56C | S323000900 | S323002100 | S323003300 | S3230585XX | S3230597XX |
| | 1750 | 35.0 | 1.907 | 1.426 | 2568 | | | | | | |
| | 1170 | 23.4 | 1.634 | 1.163 | 3130 | 143-5TC | S323004500 | S323005700 | S323006900 | S3230609XX | S3230621XX |
| | 100 | 2.0 | 0.270 | 0.143 | 4510 | 182-4TC | S323008100 | S323009300 | S323010500 | S3230633XX | S3230645XX |
| 60 | 2500 | 41.7 | 1.764 | 1.323 | 2001 | 56C | S323001000 | S323002200 | S323003400 | S3230586XX | S3230598XX |
| | 1750 | 29.2 | 1.573 | 1.128 | 2437 | | | | | | |
| | 1170 | 19.5 | 1.346 | 0.913 | 2951 | 143-5TC | S323004600 | S323005800 | S323007000 | S3230610XX | S3230622XX |
| | 100 | 1.7 | 0.225 | 0.111 | 4201 | 182-4TC | S323008200 | S323009400 | S323010600 | S3230634XX | S3230646XX |
| 80 | 2500 | 31.3 | 1.122 | 0.796 | 1605 | 56C | S323001100 | S323002300 | S323003500 | S3230587XX | S3230599XX |
| | 1750 | 21.9 | 1.030 | 0.695 | 2000 | | | | | | |
| | 1170 | 14.6 | 0.869 | 0.551 | 2371 | 143-5TC | S323004700 | S323005900 | S323007100 | S3230611XX | S3230623XX |
| | 100 | 1.3 | 0.143 | 0.064 | 3246 | | | | | | |
| 100 | 2500 | 25.0 | 0.754 | 0.503 | 1268 | 56C | S323001200 | S323002400 | S323003600 | S3230588XX | S3230600XX |
| | 1750 | 17.5 | 0.691 | 0.435 | 1567 | | | | | | |
| | 1170 | 11.7 | 0.584 | 0.343 | 1846 | | | | | | |
| | 100 | 1.0 | 0.097 | 0.040 | 2496 | | | | | | |

Consult Factory for other available styles and motor flanges.

* Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

**Available bore codes**

| Fraction Size | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" | 1-5/8" | 1-11/16" | 1-3/4" | 1-15/16" | 2" | 2-3/16" |
|---|---|---|---|---|---|---|---|---|---|---|
| Decimal Size | 1.188 | 1.250 | 1.438 | 1.500 | 1.625 | 1.688 | 1.75 | 1.938 | 2.000 | 2.188 |
| Output Bore Code | 19 | 20 | 23 | 24 | 26 | 27 | 28 | 31 | 32 | 35 |

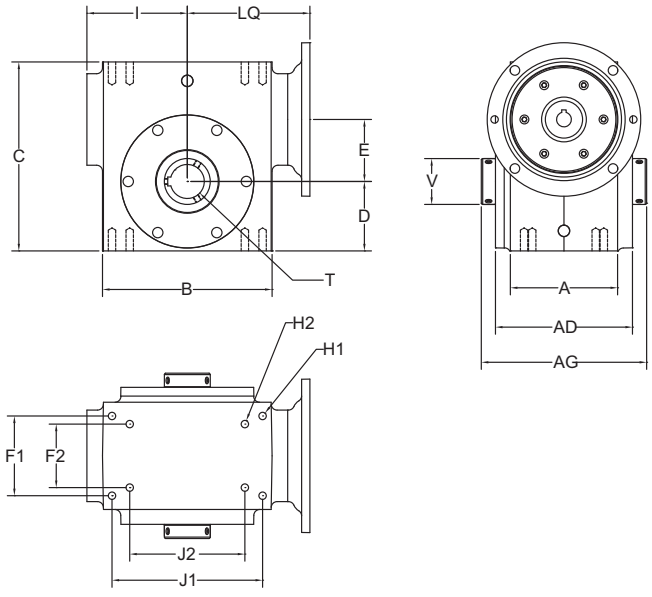
## HMQ Style

| | A | AD | B | C | D | E | F1 | F2 | H1 | H2 | I | J1 | J2 | LQ (56C) | LQ (180TC) | T MAX | T KWY | V | AG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **813** | 2.82 | 3.69 | 3.80 | 4.66 | 1.72 | 1.333 | 2.00 | N/A | 5/16-18 | N/A | 2.38 | 3.25 | N/A | 3.48 | N/A | 0.625 | 3/16 x 3/32 | 1.00 | 4.75 |
| **815** | 3.44 | 4.40 | 4.88 | 5.38 | 1.91 | 1.540 | 2.75 | N/A | 5/16-18 | N/A | 2.91 | 4.19 | N/A | 4.01 | N/A | 0.625 | 3/16 x 3/32 | 1.00 | 5.42 |
| **818** | 3.32 | 4.40 | 5.06 | 5.75 | 2.06 | 1.750 | 2.75 | 1.63 | 5/16-18 | 1/4-20 | 3.01 | 4.19 | 3.13 | 4.11 | N/A | 1.000 | 1/4 x 1/8 | 1.44 | 5.50 |
| **821** | 3.60 | 4.78 | 5.80 | 6.38 | 2.28 | 2.063 | 3.00 | 2.00 | 5/16-18 | 5/16-18 | 3.38 | 4.75 | 4.00 | 4.48 | N/A | 1.500 | 3/8 x 3/16 | 1.94 | 6.00 |
| **824** | 4.06 | 4.97 | 6.12 | 6.94 | 2.50 | 2.375 | 2.88 | N/A | 3/8-16 | N/A | 3.69 | 5.00 | N/A | 4.63 | 5.24 | 1.500 | 3/8 x 3/16 | 1.94 | 6.00 |
| **826** | 4.54 | 5.80 | 7.25 | 8.00 | 2.94 | 2.625 | 3.38 | 2.69 | 3/8-16 | 3/8-16 | 4.25 | 6.38 | 4.88 | 5.19 | 5.80 | 1.500 | 3/8 x 3/16 | 1.94 | 7.00 |
| **832** | 5.45 | 6.80 | 8.50 | 9.38 | 3.50 | 3.250 | 4.00 | 2.75 | 7/16-14 | 1/2-13 | 4.94 | 7.50 | 6.25 | 5.88 | 6.49 | 2.188 | 1/2 x 1/4 | 2.75 | 7.88 |

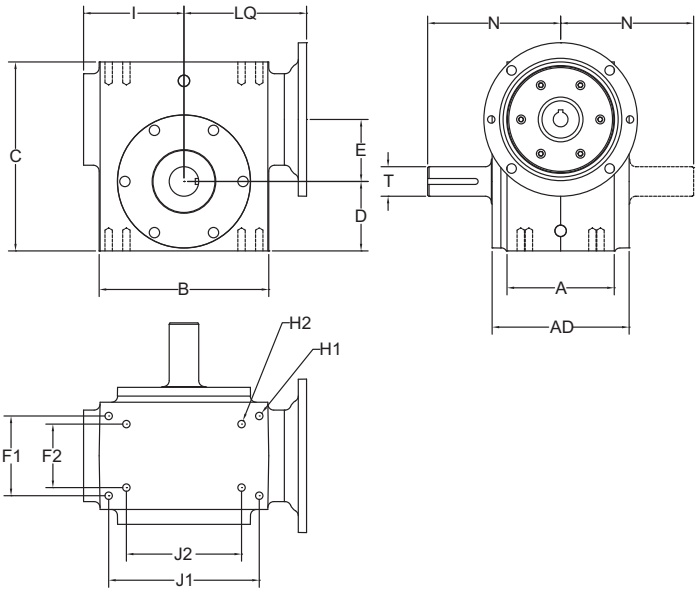
## BMQ Style

| | A | AD | B | C | D | E | F1 | F2 | H1 | H2 | I | J1 | J2 | LQ (56C) | LQ (180TC) | N | O/P Key | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **813** | 2.82 | 3.69 | 3.80 | 4.66 | 1.72 | 1.333 | 2.00 | N/A | 5/16-18 | N/A | 2.38 | 3.25 | N/A | 3.48 | N/A | 4.00 | 3/16 x 1.75 | 0.625 |
| **815** | 3.44 | 4.40 | 4.88 | 5.38 | 1.91 | 1.540 | 2.75 | N/A | 5/16-18 | N/A | 2.91 | 4.19 | N/A | 4.01 | N/A | 4.31 | 3/16 x 1.75 | 0.750 |
| **818** | 3.32 | 4.40 | 5.06 | 5.75 | 2.06 | 1.750 | 2.75 | 1.63 | 5/16-18 | 1/4-20 | 3.01 | 4.19 | 3.13 | 4.11 | N/A | 4.31 | 3/16 x 1.38 | 0.875 |
| **821** | 3.60 | 4.78 | 5.80 | 6.38 | 2.28 | 2.063 | 3.00 | 2.00 | 5/16-18 | 5/16-8 | 3.38 | 4.75 | 4.00 | 4.48 | N/A | 4.68 | 1/4 x 1.45 | 1.000 |
| **824** | 4.06 | 4.97 | 6.12 | 6.94 | 2.50 | 2.375 | 2.88 | N/A | 3/8-16 | N/A | 3.69 | 5.00 | N/A | 4.63 | 5.24 | 5.14 | 1/4 x 1.75 | 1.125 |
| **826** | 4.54 | 5.80 | 7.25 | 8.00 | 2.94 | 2.625 | 3.38 | 2.69 | 3/8-16 | 3/8-16 | 4.25 | 6.38 | 4.88 | 5.19 | 5.80 | 5.63 | 1/4 x 2.00 | 1.250 |
| **832** | 5.45 | 6.80 | 8.50 | 9.38 | 3.50 | 3.250 | 4.00 | 2.75 | 7/16-14 | 1/2-13 | 4.94 | 7.50 | 6.25 | 5.88 | 6.49 | 7.06 | 3/8 x 2.63 | 1.500 |

## HMQ Style




## BMQ Style



# Ratio Multipliers

Dual purpose design can be used as a stand alone single reduction inline reducer or as a bolt-on to the input of any c-faced gear reducer to multiply overall reduction ratio.

## Stainless Steel Ratio Multipliers

Stainless steel ratio multipliers provide superior resistance to corrosion in critical and harsh environments.



### Specifications

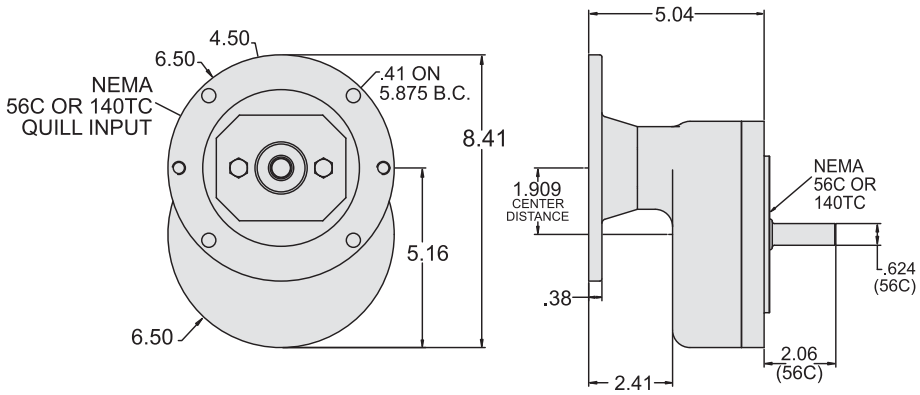
- Available with ratings to 4.7 HP
- Ratios from 2:1 to 7.5:1

### Standard Features

- 316 stainless steel housing
- Factory-filled with premium Mobil Glygoyle 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton® double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C Flange or solid input styles available
- 56C - 140TC input/output
- Helical gearing to optimize system efficiency

STAINLESS GR SERIES

# Stainless TX – Style TXMQ




## Dimensions (inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | OD | BE | BE1 | BF | Input Bore | Input Keyway** | Weight (lbs) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **TXMQ** | 56C | 5.88 | 4.50 | 5.88 | 6.64 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 | 22 |
| | 140TC | 5.88 | 4.50 | 5.88 | 6.64 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 | 22 |

**keyway width by depth

## Available Selections

| Exact Ratio | Motor C-Flange | Output C-Flange | Catalog Number |
|---|---|---|---|
| 2.929 | 56C | 56C | **707702** |
| | 56C | 140TC | **707707** |
| 4.000 | 56C | 56C | **707703** |
| | 56C | 140TC | **707708** |
| | 140TC | 56C | **707713** |
| | 140TC | 140TC | **707718** |
| 5.111 | 56C | 56C | **707704** |
| | 56C | 140TC | **707709** |
| | 140TC | 56C | **707714** |
| | 140TC | 140TC | **707719** |
| 7.461 | 56C | 56C | **707705** |
| | 56C | 140TC | **707710** |
| | 140TC | 56C | **707715** |
| | 140TC | 140TC | **707720** |

# Cast Iron Ratio Multipliers

## TX3

### Standard Features

- Cast iron housing
- Factory-filled with premium Mobil Glygoyle 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton® double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C Flange or solid input styles available
- 180TC to 210TC input/output
- Helical gearing to optimize system efficiency



### Specifications

- Available with ratings to 20 HP
- Ratios from 2:1 to 7.5:1

# Aluminum Ratio Multipliers

Aluminum ratio multipliers are lightweight and a paint-free alternative to cast iron options.

## TX

### Standard Features

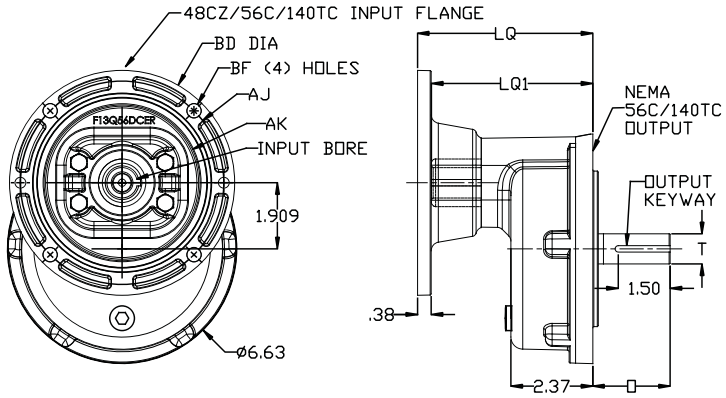
- Aluminum housing
- Factory-filled with premium Mobil Glygoyle 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton® double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C Flange or solid input styles available
- 48C, 56C, 140TC input and 56C/140TC output
- Helical gearing to optimize system efficiency
- EL and GR painted style available



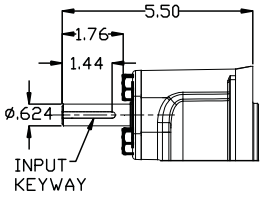
### Specifications

- Available with ratings to 6 HP
- Ratios from 2:1 to 7.2:1.

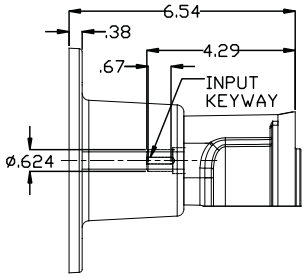
Style TXMQ




Style TX




Style TXM




## Dimensions (inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | BF | LQ | LQ1 | Input Bore Dia. | O | T | Input Keyway | Output Keyway | Weight lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TXMQ, TXM, TX** | 48CZ-56C | 3.75 | 3.00 | 4.21 | 0.28 | 4.80 | 4.41 | 0.500 | 2.06 | 0.625 | 1/8 x 1/16 | 3/16 x 3/32 | 12 |
| | 56C-56C | 5.88 | 4.50 | 6.64 | 0.41 | 5.06 | 4.67 | 0.625 | 2.06 | 0.625 | 3/16 x 3/32 | 3/16 x 3/32 | 12 |
| | 56C-140TC | 5.88 | 4.50 | 6.64 | 0.41 | 5.06 | 4.67 | 0.625 | 2.13 | 0.875 | 3/16 x 3/32 | 3/16 x 3/32 | 12 |
| | 140TC-56C | 5.88 | 4.50 | 6.64 | 0.41 | 5.06 | 4.67 | 0.875 | 2.06 | 0.625 | 3/16 x 3/32 | 3/16 x 3/32 | 12 |
| | 140TC-140TC | 5.88 | 4.50 | 6.64 | 0.41 | 5.06 | 4.67 | 0.875 | 2.13 | 0.875 | 3/16 x 3/32 | 3/16 x 3/32 | 12 |

## Available Selections

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Painted* Catalog No. | Unpainted Catalog No. |
|---|---|---|---|---|---|
| 2.000 | **TXMQ** | 48CZ | 56C | **708200L** | **EL708200** |
| | | 56C | 56C | **708201L** | **EL708201** |
| | | 56C | 143-5TC | **708202L** | **EL708202** |
| | | 143-5TC | 56C | **708203L** | **EL708203** |
| | | 143-5TC | 143-5TC | **708204L** | **EL708204** |
| | **TXM** | 56C | 56C | **708205L** | **EL708205** |
| | | 56C | 143-5TC | **708206L** | **EL708206** |
| | | 143-5TC | 56C | **708207L** | **EL708207** |
| | | 143-5TC | 143-5TC | **708208L** | **EL708208** |
| | **TX** | - | 56C | **708209L** | **EL708209** |
| | | - | 140TC | **708210L** | **EL708210** |
| 2.913 | **TXMQ** | 48CZ | 56C | **708211L** | **EL708211** |
| | | 56C | 56C | **708212L** | **EL708212** |
| | | 56C | 143-5TC | **708213L** | **EL708213** |
| | | 143-5TC | 56C | **708214L** | **EL708214** |
| | | 143-5TC | 143-5TC | **708215L** | **EL708215** |
| | **TXM** | 56C | 56C | **708216L** | **EL708216** |
| | | 56C | 143-5TC | **708217L** | **EL708217** |
| | | 143-5TC | 56C | **708218L** | **EL708218** |
| | | 143-5TC | 143-5TC | **708219L** | **EL708219** |
| | **TX** | - | 56C | **708220L** | **EL708220** |
| | | - | 140TC | **708221L** | **EL708221** |
| 4.000 | **TXMQ** | 48CZ | 56C | **708222L** | **EL708222** |
| | | 56C | 56C | **708223L** | **EL708223** |
| | | 56C | 143-5TC | **708224L** | **EL708224** |
| | | 143-5TC | 56C | **708225L** | **EL708225** |
| | | 143-5TC | 143-5TC | **708226L** | **EL708226** |
| | **TXM** | 56C | 56C | **708227L** | **EL708227** |
| | | 56C | 143-5TC | **708228L** | **EL708228** |
| | | 143-5TC | 56C | **708229L** | **EL708229** |
| | | 143-5TC | 143-5TC | **708230L** | **EL708230** |
| | **TX** | - | 56C | **708231L** | **EL708231** |
| | | - | 140TC | **708232L** | **EL708232** |

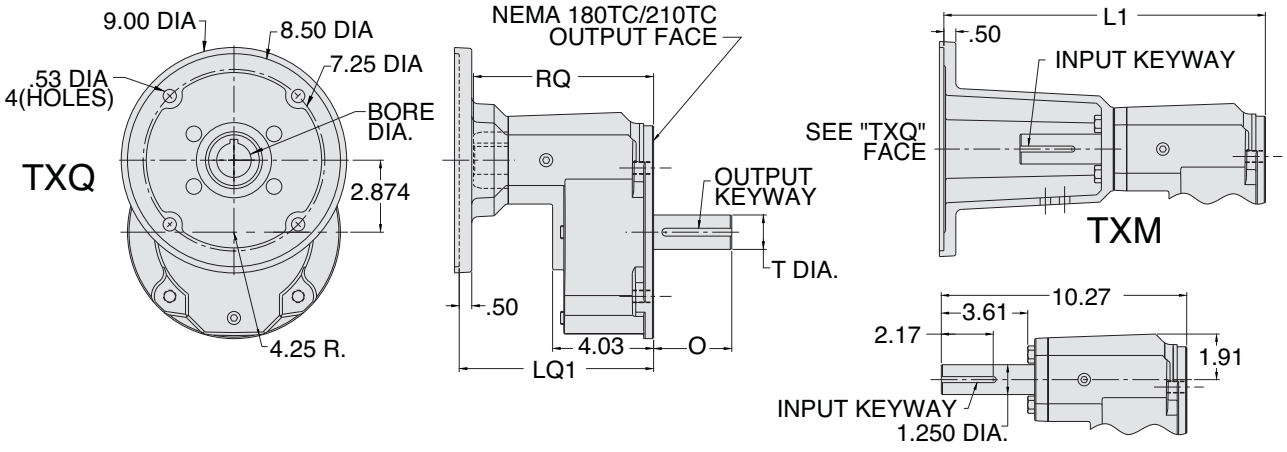
| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Painted* Catalog No. | Unpainted Catalog No. |
|---|---|---|---|---|---|
| 5.000 | **TXMQ** | 48CZ | 56C | **708233L** | **EL708233** |
| | | 56C | 56C | **708234L** | **EL708234** |
| | | 56C | 143-5TC | **708235L** | **EL708235** |
| | | 143-5TC | 56C | **708236L** | **EL708236** |
| | | 143-5TC | 143-5TC | **708237L** | **EL708237** |
| | **TXM** | 56C | 56C | **708238L** | **EL708238** |
| | | 56C | 143-5TC | **708239L** | **EL708239** |
| | | 143-5TC | 56C | **708240L** | **EL708240** |
| | | 143-5TC | 143-5TC | **708241L** | **EL708241** |
| | **TX** | - | 56C | **708242L** | **EL708242** |
| | | - | 140TC | **708243L** | **EL708243** |
| 7.182 | **TXMQ** | 48CZ | 56C | **708244L** | **EL708244** |
| | | 56C | 56C | **708245L** | **EL708245** |
| | | 56C | 143-5TC | **708246L** | **EL708246** |
| | | 143-5TC | 56C | **708247L** | **EL708247** |
| | | 143-5TC | 143-5TC | **708248L** | **EL708248** |
| | **TXM** | 56C | 56C | **708249L** | **EL708249** |
| | | 56C | 143-5TC | **708250L** | **EL708250** |
| | | 143-5TC | 56C | **708251L** | **EL708251** |
| | | 143-5TC | 143-5TC | **708252L** | **EL708252** |
| | **TX** | - | 56C | **708253L** | **EL708253** |
| | | - | 140TC | **708254L** | **EL708254** |

* Standard Grove Gear blue paint

# Dimensions

CAST IRON GR SERIES

## Cast Iron Size 3 – Style TX3




## Dimensions (inches)

TX

| Style | Frame Combinations (Input - Output) | Input Bore | L1 | LQ1 | O | RQ | T +0.000 -0.0015 | Input Keyway* | Output Keyway* | Weight (lbs.) |
|---|---|---|---|---|---|---|---|---|---|---|
| TXMQ, TXM, TX | 180TC - 180TC | 1.125 | 13.45 | 7.76 | 2.62 | 7.25 | 1.125 | .250 x .125 | .250 x .125 x 1.80 | 45 |
| | 210TC - 180TC | 1.375 | 13.45 | 7.76 | 2.62 | 7.25 | 1.125 | .312 x .156** | .250 x .125 x 1.80 | 45 |
| | 250TC - 180TC | 1.625 | 14.01 | 8.32 | 2.62 | 7.65 | 1.125 | .375 x .188** | .250 x .125 x 1.80 | 45 |
| | 180TC - 210TC | 1.125 | 13.45 | 7.76 | 3.12 | 7.25 | 1.375 | .250 x .125 | .312 x .156 x 2.63 | 45 |
| | 210TC - 210TC | 1.375 | 13.45 | 7.76 | 3.12 | 7.25 | 1.375 | .312 x .156** | .312 x .156 x 2.63 | 45 |
| | 250TC - 210TC | 1.625 | 14.01 | 8.32 | 3.12 | 7.65 | 1.375 | .375 x .188** | .312 x .156 x 2.63 | 45 |

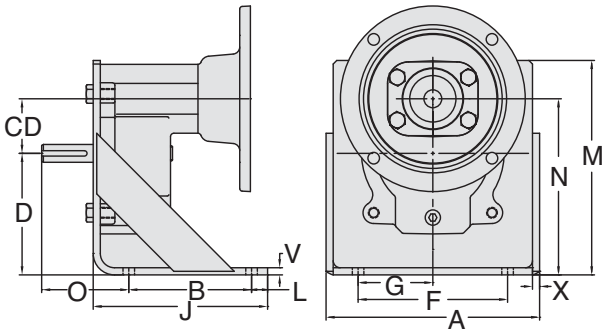
* Keyway width by depth
** Input keyway for styles TXM & TX is .250 x .125

## Available Selections

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|---|---|---|---|---|
| 2.000 | TXMQ | 182-4TC | 182-4TC | **707060L** |
| | | 182-4TC | 213-5TC | **707061L** |
| | | 213-5TC | 213-5TC | **707064L** |
| | | 254-6TC | 213-5TC | **707067L** |
| | TXM | 182-4TC | 182-4TC | **707090L** |
| | | 213-5TC | 213-5TC | **707094L** |
| | | 254-6TC | 213-5TC | **707097L** |
| | TX | -- | 213-5TC | **707121L** |
| 2.964 | TXMQ | 182-4TC | 182-4TC | **707069L** |
| | | 182-4TC | 213-5TC | **707070L** |
| | | 213-5TC | 182-4TC | **707072L** |
| | | 213-5TC | 213-5TC | **707073L** |
| | TXM | 182-4TC | 182-4TC | **707099L** |
| | | 182-4TC | 213-5TC | **707100L** |
| | | 213-5TC | 182-4TC | **707102L** |
| | | 213-5TC | 213-5TC | **707103L** |
| | TX | -- | 182-4TC | **707123L** |
| | | -- | 213-5TC | **707124L** |

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|---|---|---|---|---|
| 4.045 | TXMQ | 182-4TC | 182-4TC | **707075L** |
| | | 182-4TC | 213-5TC | **707076L** |
| | | 213-5TC | 182-4TC | **707078L** |
| | | 213-5TC | 213-5TC | **707079L** |
| | TXM | 182-4TC | 182-4TC | **707105L** |
| | | 182-4TC | 213-5TC | **707106L** |
| | | 213-5TC | 182-4TC | **707108L** |
| | | 213-5TC | 213-5TC | **707109L** |
| | TX | -- | 182-4TC | **707126L** |
| | | -- | 213-5TC | **707127L** |
| 5.167 | TXMQ | 182-4TC | 182-4TC | **707081L** |
| | | 182-4TC | 213-5TC | **707082L** |
| | | 213-5TC | 182-4TC | **707084L** |
| | | 213-5TC | 213-5TC | **707085L** |
| | TXM | 182-4TC | 182-4TC | **707111L** |
| | | 182-4TC | 213-5TC | **707112L** |
| | | 213-5TC | 182-4TC | **707114L** |
| | | 213-5TC | 213-5TC | **707115L** |
| | TX | -- | 182-4TC | **707129L** |
| | | -- | 213-5TC | **707130L** |
| 7.538 | TXMQ | 182-4TC | 182-4TC | **707087L** |
| | TXM | 182-4TC | 182-4TC | **707117L** |
| | TX | -- | 182-4TC | **707132L** |

## Ratio Multiplier Foot Kit for Styles TBX, TBXM, TBXMQ




### Dimensions (inches)

| Size | Output | A | B | CD | D | F | G | H | J | X | L | M | N | O | V | X | Catalog Number | Weight (lbs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TX | 56C | 7.50 | 4.31 | 1.909 | 4.250 | 5.25 | 2.63 | 0.41 | 6.13 | 0.25 | 0.56 | 7.50 | 6.16 | 3.06 | .25 | .25 | **G185655** | 2.0 |
| | 140TC | 7.50 | 4.31 | 1.909 | 4.250 | 5.25 | 2.63 | 0.41 | 6.13 | 0.25 | 0.56 | 7.50 | 6.16 | 3.12 | .25 | .25 | | |
| TX3 | 180TC | 9.50 | 5.25 | 2.874 | 5.000 | 7.00 | 3.50 | 0.53 | 7.38 | 0.25 | 0.63 | 9.44 | 7.88 | 3.88 | .25 | .25 | | |
| | 210TC | 9.50 | 5.25 | 2.874 | 5.000 | 7.00 | 3.50 | 0.53 | 7.38 | 0.25 | 0.63 | 9.44 | 7.88 | 4.38 | .25 | .25 | **G185657** | 3.0 |
| | 250TC | 9.50 | 5.25 | 2.874 | 5.000 | 7.00 | 3.50 | 0.53 | 7.38 | 0.25 | 0.63 | 9.44 | 7.88 | 5.00 | .25 | .25 | | |

NOTE: Foot kit is painted steel construction.

## Maximum Rating Tables

### Stainless TX

| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output TQ. (lb-in.) | Overhung Load (lbs.) |
|---|---|---|---|---|---|---|
| 2.056 | 1750 | 851 | 4.69 | 4.55 | 347 | 222 |
| 2.929 | 1750 | 598 | 3.64 | 3.53 | 384 | 265 |
| 4.000 | 1750 | 438 | 2.91 | 2.82 | 419 | 300 |
| 5.111 | 1750 | 342 | 2.33 | 2.26 | 428 | 300 |
| 7.462 | 1750 | 235 | 1.56 | 1.52 | 419 | 300 |

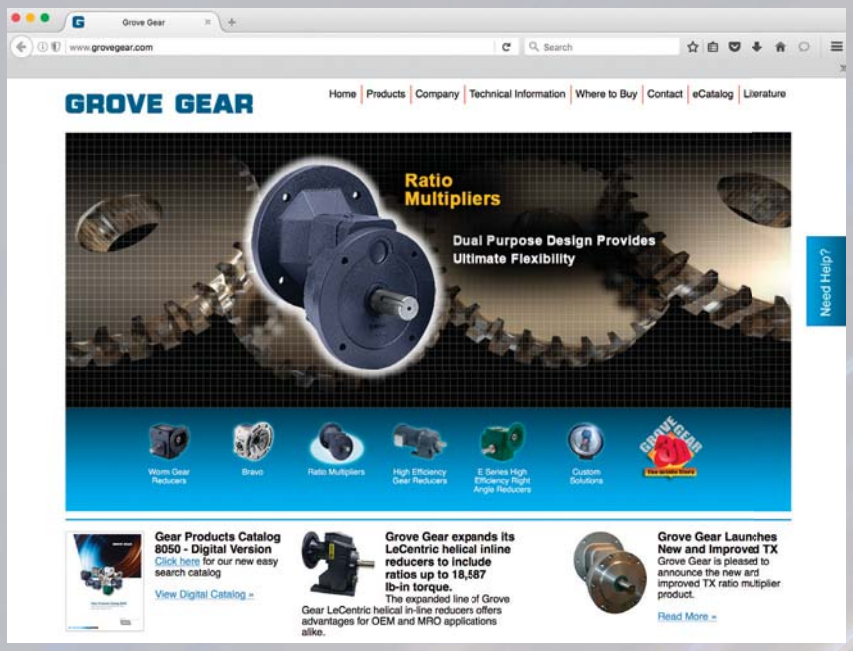
### TX

| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output TQ. (lb-in.) | Overhung Load 56C Output (lbs.) | Overhung Load 140TC Output (lbs.) |
|---|---|---|---|---|---|---|---|
| 2.000 | 1750 | 875 | 6.00 | 5.88 | 424 | 358 | 358 |
| 2.913 | 1750 | 601 | 4.21 | 4.13 | 433 | 375 | 434 |
| 4.000 | 1750 | 438 | 3.63 | 3.55 | 511 | 375 | 455 |
| 5.000 | 1750 | 350 | 3.00 | 2.94 | 529 | 375 | 455 |
| 7.182 | 1750 | 244 | 2.62 | 2.57 | 664 | 375 | 455 |

### TX3

| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output TQ. (lb-in.) | Overhung Load (lbs.) |
|---|---|---|---|---|---|---|
| 2.000 | 1750 | 875 | 20.00 | 19.6 | 1412 | 900 |
| 2.964 | 1750 | 590 | 12.98 | 12.72 | 1357 | 900 |
| 4.045 | 1750 | 433 | 11.35 | 11.13 | 1621 | 900 |
| 5.167 | 1750 | 339 | 10.07 | 9.87 | 1836 | 900 |
| 7.538 | 1750 | 232 | 5.80 | 5.69 | 1544 | 900 |

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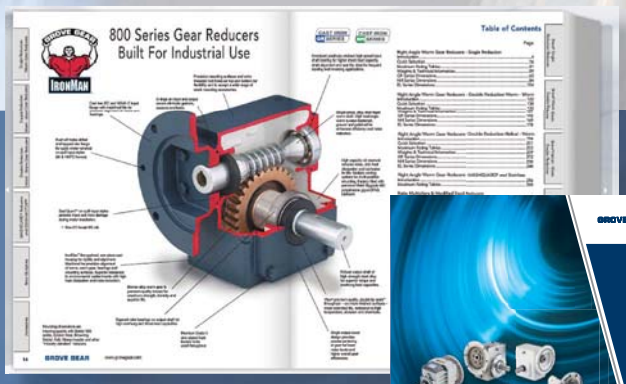
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AVAILABLE OPTIONS:

- Special Paint
- Custom Mounting Brackets/Bases
- Longer/Shorter Shaft Extensions
- Special Shaft Extension Diameters
- Cross-drilled Holes on Shafts
- Custom Ratios
- Stainless-Steel Hollow Output Shafts
- Reduced Backlash Designs





# Modified Stock Gear Reducers

CAST IRON GR SERIES

## STYLE T OR U HORIZONTAL BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185000 | 2 |
| GR815 | G185120 | 3 |
| GR818 | G185005 | 3 |
| GR821 | G185010 | 4 |
| GR824 | G185015 | 4 |
| GR826 | G185020 | 6 |
| GR830 | G185121 | 6 |
| GR832 | G185025 | 9 |
| GR842 | G185030 | 14 |
| GR852 | G185035 | 20 |
| GR860 | G185040 | 31 |
| GR870 | G185189 | 41 |
| GR880 | G185190 | 48 |
| GR8100 | G185191 | 76 |

## STYLE VL & VH VERTICAL OUTPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185002 | 2 |
| GR815 | G185127 | 3 |
| GR818 | G185007 | 3 |
| GR821 | G185012 | 7 |
| GR824 | G185017 | 7 |
| GR826 | G185022 | 9 |
| GR830 | G185128 | 10 |
| GR832 | G185027 | 13 |
| GR842 | ■ | 20 |
| GR852 | ■ | 25 |
| GR860 | ■ | 36 |
| GR870 | ■ | 71 |
| GR880 | ■ | 78 |
| GR8100 | ■ | 156 |

■ VL & VH bases for sizes 842-8100 require grease retainer and zerk fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

** Must designate D or U.

## STYLE J VERTICAL INPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185001 | 1 |
| GR815 | G185122 | 1 |
| GR818 | G185006 | 2 |
| GR821 | G185011 | 3 |
| GR824 | G185016 | 3 |
| GR826 | G185021 | 5 |
| GR830 | G185123 | 6 |
| GR832 | G185124 | 6 |
| GR842 | ◆ | 10 |
| GR852 | ◆ | 15 |

◆ J Brackets for sizes 842-852 require grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

## HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 - 842 | G185152 | 5 |
| GR852 - 860 | G185153 | 5 |

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

## TORQUE ARM BRACKET



| Reducer Size | Accessory▲ Kit Only Catalog No. |
|---|---|
| GR813 | G185450 |
| GR815 | G185451 |
| GR818 | G185451 |
| GRG821 | G185452 |
| GRL821 | G185453 |
| GR824 | G185454 |
| GR826 | G185455 |
| GR830 | G185456 |
| GR832 | G185457 |
| GR842 | G185458 |
| GR852 | G185459 |
| GR860 | G185460 |
| GR870 | -- |
| GR880 | -- |
| GR8100 | -- |

▲ Torque arm bracket mounts to hollow shaft reducer.

## STYLE F OUTPUT FLANGE CAST IRON



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185130** | 1 |
| GR815 | G185131** | 1 |
| GR818 | G185132** | 2 |
| GR821 | G185133** | 3 |
| GR824 | G185134** | 3 |
| GR826 | G185135** | 4 |
| GR830 | G185136** | 10 |
| GR832 | G185137** | 10 |
| GR842 | G185138** | 15 |
| GR852 | G185139** | 30 |
| GR860 | G185140** | 38 |
| GR870 | ** | ** |
| GR880 | ** | ** |
| GR8100 | ** | ** |

** Output flange must be installed at Factory for all solid output shaft reducers (sizes 813-8100). Specify Mod-Squad Service Number for flange when ordering these reducers.

▼ Flange can only mount to "bolted cover side" of hollow reducer on sizes 813-852. Please specify correct mounting assembly with order. Refer to pages 64-65, for assembly positions. Must designate L (left) or R (right).

## STYLE R RISER BLOCK



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR815 | G185141 | 7 |
| GR818 | G185142 | 7 |
| GR821 | G185143 | 9 |
| GR824 | G185144 | 9 |
| GR826 | G185145 | 12 |
| GR830 | G185146 | 15 |
| GR832 | G185147 | 31 |
| GR842 | G185148 | 24 |
| GR852 | G185149 | 15 |

NOTE: Mounting bolts are not included.

## BM STYLE INPUT FLANGE KITS**



| Reducer Size | NEMA Input Frame Size | | | | | |
|---|---|---|---|---|---|---|
| | 48CZ | 56C | 143-5TC | 182-4TC | 213-5TC | 254-6TC |
| GR813 | G185161 | G185090 | -- | -- | -- | -- |
| GR815 | G185162 | G185163 | G185164 | -- | -- | -- |
| GR818 | G185165 | G185091 | G185092 | -- | -- | -- |
| GR821 | G185166 | G185093 | G185094 | -- | -- | -- |
| GR824 | -- | G185095 | G185096 | G185097 | -- | -- |
| GR826 | -- | G185098 | G185099 | G185100 | -- | -- |
| GR830 | -- | G185167 | G185168 | G185169 | -- | -- |
| GR832 | -- | G185101 | G185102 | G185103 | G185170 | -- |
| GR842 | -- | G185171 | G185104 | G185105 | G185106 | G185172 |
| GR852 | -- | -- | G185173 | G185107 | G185108 | G185109 |
| GR860 | -- | -- | -- | G185174 | G185110 | G185111 |

** All kits include flexible coupling.

## DOUBLE REDUCTION ADAPTOR KITS



| Reducer Size | Accessory Kit Only Catalog No. | Primary Unit Size | Secondary Unit Quill Size | Weight (lbs.) |
|---|---|---|---|---|
| GR813 - GR821 | G185150 | 813 | 56C | 3 |

Note: Sizes 824-8100 must be assembled at Factory.

## HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

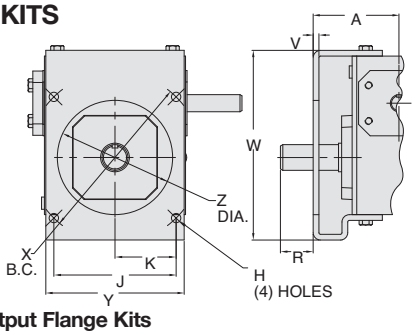
| Series | Accessory Kit Only Catalog No. |
|---|---|
| GR818 | G185154.00 |
| GR821-GR826 | G185155.00 |
| GR830-GR832 | G185156.00 |



This protective cap mounts to integral output side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

## BF STYLE OUTPUT FLANGE KITS






### Style BF Output Flange - Steel

| Series | Accessory Kit Only Catalog No. | Mod-Squad-Service Number Style BF | Weight (lbs) |
|---|---|---|---|
| GR813 | G185004 | BF813GR | 6 |
| GR818 | G185009 | BF818GR | 6 |
| GRL821 | G185014 | BF821GR | 10 |
| GR824 | G185019 | BF824GR | 10 |
| GR826 | G185024 | BF826GR | 13 |

Must designate L (left) or R (right).



### Style BF Output Flange Kits

| Series | A | H | J | K | R | V | W | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|
| 813 | 3.00 | 0.34 | 3.54 | 1.77 | 1.00 | 0.19 | 5.55 | 5.00 | 4.25 | 3.62 |
| 818 | 3.50 | 0.34 | 4.16 | 2.08 | 0.81 | 0.19 | 6.66 | 5.88 | 4.81 | 4.06 |
| 821 | 3.75 | 0.41 | 4.60 | 2.30 | 0.93 | 0.19 | 7.47 | 6.50 | 5.75 | 4.50 |
| 824 | 3.72 | 0.41 | 5.30 | 2.65 | 1.37 | 0.25 | 8.30 | 7.50 | 6.00 | 5.00 |
| 826 | 4.06 | 0.41 | 5.66 | 2.83 | 1.57 | 0.25 | 9.25 | 8.00 | 7.18 | 6.00 |

# Modified Stock Gear Reducers

CAST IRON NH SERIES

## STYLE T OR U HORIZONTAL BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| NH813 | G185200 | 2 |
| NH815 | G185201 | 3 |
| NH818 | G185202 | 3 |
| NH821 | G185203 | 4 |
| NH824 | G185204 | 4 |
| NH826 | G185205 | 6 |
| NH830 | G185206 | 6 |
| NH832 | G185207 | 9 |
| NH842 | G185208 | 14 |
| NH852 | G185209 | 20 |

## STYLE J VERTICAL INPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| NH813 | G185210 | 1 |
| NH815 | G185211 | 1 |
| NH818 | G185212 | 2 |
| NH821 | G185213 | 3 |
| NH824 | G185214 | 3 |
| NH826 | G185215 | 5 |
| NH830 | G185216 | 6 |
| NH832 | G185217 | 6 |
| NH842 | ◆ | 10 |
| NH852 | ◆ | 15 |

◆ J Brackets for sizes 842-852 require NH grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

## STYLE F OUTPUT FLANGE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| NH813 | G185228 | 1 |
| NH815 | G185229** | 1 |
| NH818 | G185230** | 2 |
| NH821 | G185231** | 3 |
| NH824 | G185232** | 3 |
| NH826 | G185233** | 4 |
| NH830 | G185234** | 10 |
| NH832 | G185235** | 10 |
| NH842 | G185236** | 15 |
| NH852 | G185237** | 30 |

** Output flange must be installed at Factory for all solid output shaft reducers (sizes 813-852).Specify Mod-Squad Service Number for flange when ordering these reducers.

▼ Flange can only mount to "bolted cover side" of hollow reducers. Please specify correct mounting assembly with order. Refer to pages 84-85, for assembly positions. Must designate L (left) or R (right).

## STYLE VL & VH VERTICAL OUTPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| NH813 | G185220 | 2 |
| NH815 | G185221 | 3 |
| NH818 | G185222 | 3 |
| NH821 | G185223 | 7 |
| NH824 | G185224 | 7 |
| NH826 | G185225 | 9 |
| NH830 | G185226 | 10 |
| NH832 | G185227 | 13 |
| NH842 | ■ | 20 |
| NH852 | ■ | 25 |

■ VL & VH bases for sizes 842-852 require grease retainer and zerk fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

** Must designate D or U.

## BM STYLE INPUT FLANGE KITS**



| Reducer Size | NEMA Input Frame Size | | | | | |
|---|---|---|---|---|---|---|
| | 48CZ | 56C | 143-5TC | 182-4TC | 213-5TC | 254-6TC |
| NH813 | G185161 | G185090 | -- | -- | -- | -- |
| NH815 | G185162 | G185163 | G185164 | -- | -- | -- |
| NH818 | G185165 | G185091 | G185092 | -- | -- | -- |
| NH821 | G185166 | G185093 | G185094 | -- | -- | -- |
| NH824 | -- | G185095 | G185096 | G185097 | -- | -- |
| NH826 | -- | G185098 | G185099 | G185100 | -- | -- |
| NH830 | -- | G185112 | G185113 | G185114 | G185115 | -- |
| NH832 | -- | G185112 | G185113 | G185114 | G185115 | -- |
| NH842 | -- | G185171 | G185104 | G185105 | G185106 | G185172 |
| NH852 | -- | -- | G185173 | G185107 | G185108 | G185109 |

** All kits include flexible coupling.

## DOUBLE REDUCTION ADAPTOR KITS



| Reducer Size | Accessory Kit Only Catalog No. | Primary Unit Size | Secondary Unit Quill Size | Weight (lbs.) |
|---|---|---|---|---|
| NH813 - NH821 | G185238 | 813 | 56C | 3 |

Note: Sizes 824-8100 must be assembled at Factory.

## HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

| Series | Accessory Kit Only Catalog No. |
|---|---|
| NH818 | G185154.00 |
| NH821-NH826 | G185155.00 |
| NH830-NH832 | G185156.00 |



This protective cap mounts to integral output side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

## HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| NH813-842 | G185152 | 5 |
| NH852 | G185153 | 5 |

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

## TORQUE ARM BRACKET



| Reducer Size | Accessory ▲ Kit Only Catalog No. |
|---|---|
| NH813 | G185450 |
| NH815 | G185464 |
| NH818 | G185463 |
| NH821 | G185465 |
| NH824 | G185466 |
| NH826 | G185467 |
| NH830 | G185468 |
| NH832 | G185469 |
| NH842 | G185470 |
| NH852 | G185471 |

▲ Torque arm bracket mounts to hollow shaft reducer.

# ELECTRA-GEAR
# Modified Stock Gear Reducers

ALUMINUM EL SERIES

## STYLE T OR U HORIZONTAL BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185260 | 1 |
| EL818 | G185261 | 2 |
| EL821 | G185262 | 3 |
| EL824 | G185263 | 3 |
| EL826 | G185264 | 4 |
| EL830 | G185265 | 6 |
| EL832 | G185266 | 8 |
| EL842 | G185267 | 7 |
| EL852 | G185268 | 8 |
| EL860 | G185269 | 10 |

## STYLE J VERTICAL INPUT BASE



(WHITE EPOXY)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185270 | 1 |
| EL818 | G185271 | 2 |
| EL821 | G185272 | 3 |
| EL824 | G185273 | 3 |
| EL826 | G185274 | 4 |
| EL830 | G185275 | 5 |
| EL832 | G185276 | 5 |
| EL842 | ◆ | 6 |
| EL852 | ◆ | 8 |
| EL860 | ◆ | 10 |

◆ J Brackets for sizes 842-852 require grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

## STYLE VL VERTICAL OUTPUT BASE



(WHITE EPOXY)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185278 | 2 |
| EL818 | G185279 | 3 |
| EL821 | G185280 | 3 |
| EL824 | G185281 | 3 |
| EL826 | G185282 | 4 |
| EL830 | G185283 | 5 |
| EL832 | G185284 | 5 |
| EL842 | ■ | 6 |
| EL852 | ■ | 8 |
| EL860 | ■ | 10 |

■ VL bases for sizes 842-852 require grease fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

** Must designate D or U.

## BM STYLE INPUT FLANGE KITS**



| Reducer Size | NEMA Input Frame Size | | | | |
|---|---|---|---|---|---|
| | 56C | 140TC | 180TC | 210TC | 250TC |
| EL813 | G185501 | G185511 | – | – | – |
| EL818 | G185502 | G185512 | – | – | – |
| EL821 | G185502 | G185512 | – | – | – |
| EL842 | G185503 | G185513 | G185523 | G185573 | G185583 |
| EL852 | G185503 | G185513 | G185523 | G185573 | G185583 |

** All kits include flexible coupling

## DOUBLE REDUCTION ADAPTOR KITS



| Reducer Size | Accessory Kit Only Catalog No. | Primary Unit Size | Secondary Unit Quill Size | Weight (lbs.) |
|---|---|---|---|---|
| EL813 - EL821 | G185296 | 813 | 56C | 2 |

Note: Sizes 824-8100 must be assembled at Factory.

## HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813-842 | G185152 | 5 |
| EL852-860 | G185153 | 5 |

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

## TORQUE ARM BRACKET



| Reducer Size | Accessory▲ Kit Only Catalog No. |
|---|---|
| EL813 | – |
| EL818 | G185480 |
| EL821 | G185481 |
| EL824 | G185472 |
| EL826 | G185473 |
| EL830 | G185474 |
| EL832 | G185475 |
| EL842 | G185476 |
| EL852 | G185477 |
| EL860 | G185478 |

▲ Torque arm bracket mounts to hollow shaft reducer.

## STYLE F & FR OUTPUT FLANGE KITS

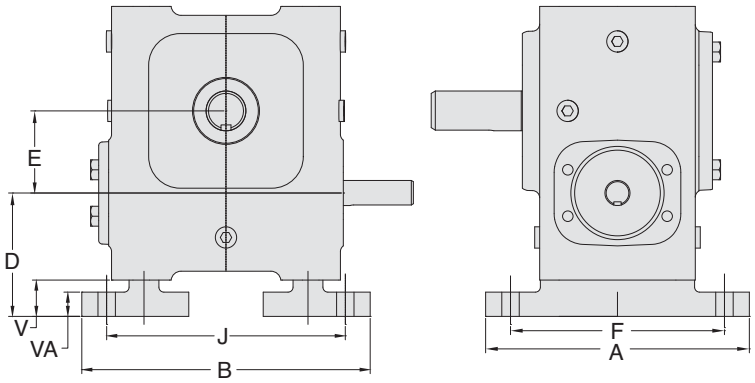


| Reducer Size | Accessory Kit Only Catalog No. Style F Hollow Output Flange | Accessory Kit Only Catalog No. Style FR Solid Output Flange | Weight (lbs) |
|---|---|---|---|
| EL818 | G185287 | G185298 | 2 |
| EL821 | G185288 | G185299 | 3 |
| EL824 | G185289 | G185300 | 3 |
| EL826 | G185289 | G185300 | 3 |
| EL830 | G185291 | G185302 | 6 |
| EL832 | G185291 | G185303 | 7 |
| EL842 | G185293 | G185304 | 8 |
| EL852 | G185294 | G185295 | 8 |
| EL860 | ✦ | ✦ | 21 |

✦ Output flange must be installed at Factory.

## "ABC" Base Kit

**"ABC" base can be mounted on top or bottom of reducer. Please specify mounting position with order.**




### ABC BASE DIMENSIONS

| Size | A | B | CD | D | F | J | V | VA | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 818 | 5.19 | 4.50 | 1.75 | 3.67 | 4.38 | 3.69 | 1.36 | 0.55 | G185620 | 2 |
| 821 | 6.63 | 7.25 | 2.06 | 3.24 | 5.38 | 6.00 | 0.92 | 0.61 | G185621 | 3 |
| 826 | 6.63 | 8.12 | 2.63 | 3.93 | 5.38 | 6.87 | 1.06 | 0.68 | G185622 | 4 |
| 830 | 9.00 | 9.87 | 3.00 | 4.24 | 7.50 | 8.37 | 1.31 | 0.74 | G185623 | 6 |
| 832 | 9.13 | 10.88 | 3.25 | 4.74 | 7.63 | 9.38 | 0.74 | 0.74 | G185624 | 8 |
| 842 | 10.00 | 10.50 | 4.25 | 5.73 | 8.00 | 8.50 | 1.23 | 1.23 | G185625 | 7 |
| 852 | 10.75 | 12.12 | 5.25 | 5.73 | 8.75 | 9.74 | 1.48 | 1.48 | G185626 | 8 |
| 860 | 11.75 | 13.50 | 6.00 | 6.73 | 9.50 | 11.50 | 1.73 | 1.73 | G185627 | 10 |

Foot kit can be mounted on top or bottom of reducer

# Modified Stock Gear Reducer Accessories

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

## BLUE TOUCH-UP PAINT

| Container Size | Catalog No. |
|---|---|
| 16 oz can | G185404 |



## WORM GEAR OIL

| Container Size | Catalog No. |
|---|---|
| Quart | G185405 |




⚠ CAUTION

This oil is standard in all Grove Gear (GR and NH Series) and Electra-Gear (EL Series) worm reducers. It is a synthetic Polyglycol (PAG) blend, only intended for use in worm gear reducers and cannot be mixed with any other oil type.

## NEMA C-FACE QUILL INPUT BUSHINGS



| Frame Conversion | Input Quill Bore Size (inch) | Accessory Kit Only Catalog # |
|---|---|---|
| 180TC to 140TC | 1-1/8 to 7/8 | G175230 |
| 180TC to 56C | 1-1/8 to 5/8 | G175229 |
| 140TC to 56C | 7/8 to 5/8 | G175228 |

Note: Bushing allows multiple NEMA frame motors to mount to a single gearbox by reducing the input quill shaft diameter as noted. Application may also require a different input flange size. Bushings are not intended for use in output bores.

## ONE-WAY POPPET VENT



| Reducer Size | Accessory Kit Only Catalog No. |
|---|---|
| 813 | G185407 |
| 815 | |
| 818 | |
| 821 | |
| 824 | |
| 826 | |
| 830 | |
| 832 | |
| 842 | |
| 852 | G185408 |
| 860 | |
| 870 | G185409 |
| 880 | |
| 8100 | G185410 |

Note: Standard vent is two-way design. Poppet vent is a one-way design, reducing chance of oil vapors escaping into environment. For ultimate protection, refer to the Enviroseal design.

## OIL LEVEL SIGHT GLASS PLUG



| Reducer Size | Accessory Kit Only Catalog No. |
|---|---|
| 813 | G185411 |
| 815 | |
| 818 | |
| 821 | |
| 824 | |
| 826 | |
| 830 | |
| 832 | |
| 842 | |
| 852 | G185412 |
| 860 | |
| 870 | G185413 |
| 880 | |
| 8100 | G185414 |

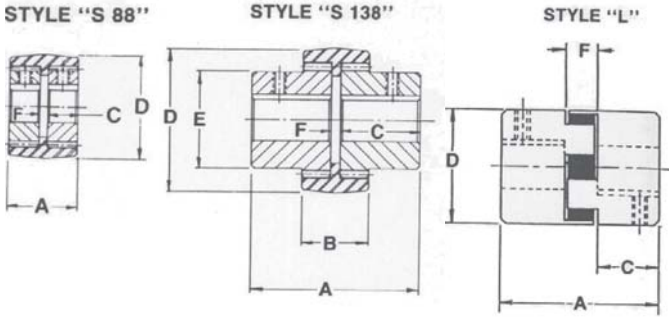
Note: Sight Gage is used to visually check if oil level of gearbox is above or below proper level.

## INPUT COUPLING KITS* • SERIES GR • NH • EL

| Reducer Size | NEMA Input Frame Size | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | | 56C | | 140TC | | 180TC | | 210TC | | 250TC | |
| | Part Number | Style | Part Number | Style | Part Number | Style | Part Number | Style | Part Number | Style | Part Number | Style |
| 813 | 041239 | S88 | 040929 | S88 | 040931 | S88 | -- | -- | -- | -- | -- | -- |
| 815 - 821 | 040929 | S88 | 040932 | S88 | 040934 | S88 | -- | -- | -- | -- | -- | -- |
| 824 - 826 | -- | | 040933 | S88 | 040935 | S88 | 040937 | S138 | -- | -- | -- | -- |
| 830 - 832 | -- | | 040934 | S88 | 040936 | S88 | 040938 | S138 | 040939 | S138 | -- | -- |
| 842 - 852 | -- | | 012230 | S138 | 012231 | S138 | 041067 | S138 | 040941 | S138 | 012410 | M300 |
| 860 | -- | | -- | -- | -- | -- | 013205 | L110 | 013206 | L110 | 013207 | L150 |
| 870 | -- | | -- | -- | -- | -- | 014468 | L110 | 014469 | L110 | 014470 | M300 |
| 880 | -- | | -- | -- | -- | -- | -- | -- | 014471 | L150 | 014472 | M400 |

* Coupling kits include 2 coupling halves, flexible sleeve/element and retaining hardware. All couplings are keyed, not splined.

## COUPLING DIMENSIONS - INCHES




### DIMENSIONS

| Model | A | B | C | D | E | F | Available Sizes |
|---|---|---|---|---|---|---|---|
| S88 | 1.25 | – | .56 | 1.88 | – | .12 | 3/8, 1/2, 5/8, 3/4, 7/8 |
| S138 | 3.36 | 1.25 | 1.62 | 2.88 | 2.00 | .12 | 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4 1-3/8, 1-1/2, 1-5/8, 1-7/8 |
| L-070 | 2.00 | – | .75 | 1.36 | – | .50 | 3/8, 1/2, 5/8 |
| L-150 | 4.50 | – | 1.75 | 3.75 | – | 1.00 | 1-1/4, 1-3/8, 1-5/8, 1-7/8 |

### RATINGS - HP

| Model | RPM 100 | 600 | 900 | 1200 | 1800 | 3600 |
|---|---|---|---|---|---|---|
| S88 | .20 | 1.2 | 1.8 | 2.4 | 3.6 | 7.2 |
| S138 | .60 | 3.6 | 5.4 | 7.2 | 10.8 | 21.6 |
| L-070 | – | – | – | .72 | 1.08 | 2.16 |
| L-150 | – | – | – | 20.4 | 30.6 | 61.2 |

## Enviro-Seal



Note: Enviroseal is standard on all WASHGUARD® / PLATINUM reducers in this catalog.

Note: By adding the "Enviroseal" feature to any standard GR Series reducer, the original "Grove Gold" features are duplicated. This feature can be added to any GR, NH or EL Series worm reducer or ratio multiplier for a "Sealed-For-Life" ventless design. Specify "Envirseal Option" with order.

## INPUT COUPLING SLEEVES** • SERIES GR • NH • EL

| Reducer Size | NEMA Input Frame Size | | | | | |
|---|---|---|---|---|---|---|
| | 48CZ | 56C | 143-5TC | 182-4TC | 213-5TC | 254-6TC |
| 813 | 040699 | 040699 | 040699 | -- | -- | -- |
| 815 - 821 | 040699 | 040699 | 040699 | -- | -- | -- |
| 824 - 826 | -- | 040699 | 040699 | 040792 | -- | -- |
| 830 - 832 | -- | 040699 | 040699 | 040792 | 040792 | -- |
| 842 - 852 | -- | 040792 | 040792 | 040792 | 040792 | 095555B |
| 860 | -- | -- | -- | 013205 | 013205 | 095521 |
| 870 | -- | -- | -- | 013205 | 013205 | 095555B |
| 880 | -- | -- | -- | -- | 095521 | 095561B |

** Includes coupling sleeve only. For complete 3-piece coupling kit, refer to Input Coupling Kits.

# Stock WASHGUARD® Gear Reducer Accessories

WASHGUARD GR SERIES

## WASHGUARD® STYLE T OR U HORIZONTAL BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185045 | 2 |
| GR815 | G185180 | 3 |
| GR818 | G185046 | 3 |
| GR821 | G185047 | 4 |
| GR824 | G185048 | 4 |
| GR826 | G185049 | 6 |
| GR830 | G185181 | 6 |
| GR832 | G185182 | 9 |

Contact Factory for larger sizes

## WASHGUARD® STYLE J VERTICAL INPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185054 | 1 |
| GR815 | G185183 | 1 |
| GR818 | G185055 | 2 |
| GR821 | G185056 | 3 |
| GR824 | G185057 | 3 |
| GR826 | G185058 | 5 |
| GR830 | G185184 | 6 |
| GR832 | G185185 | 6 |

## WASHGUARD® HOLLOW SHAFT TIE ROD KIT



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813-842 | G185088 | 5 |
| GR852-860 | G185089 | 5 |

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

## WASHGUARD® STYLE VL & VH VERTICAL OUTPUT BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185063 | 2 |
| GR815 | G185186 | 3 |
| GR818 | G185064 | 3 |
| GR821 | G185065 | 7 |
| GR824 | G185066 | 7 |
| GR826 | G185067 | 9 |
| GR830 | G185187 | 10 |
| GR832 | G185188 | 13 |

* Style VL and VH mountings use the same base with a different assembly position.
** Must designate D or U.

## WASHGUARD® STYLE F OUTPUT FLANGE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185307 | 1 |
| GR815 | G185308 | 1 |
| GR818 | G185309 | 2 |
| GR821 | G185310 | 3 |
| GR824 | G185311 | 3 |
| GR826 | G185312 | 4 |
| GR830 | G185313 | 10 |
| GR832 | G185314 | 10 |

Contact Factory for larger sizes

▼ Flange can only mount to "bolted cover side" of hollow reducer on sizes 813-852. Please specify correct mounting assembly with order. Refer to pages 64-65, for assembly positions. Must designate L (left) or R (right).

## WASHGUARD® TORQUE ARM BRACKET



| Reducer Size | Accessory ▲ Kit Only Catalog No. |
|---|---|
| GR813 | G185630 |
| GR815 | G185632 |
| GR818 | G185632 |
| GR821 | G185633 |
| GR824 | G185634 |
| GR826 | G185635 |
| GR830 | G185636 |
| GR832 | G185637 |

▲ Torque arm braket mounts to hollow shaft reducer.

## WASHGUARD® HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

| Reducer Size | Accessory Kit Only Catalog No. |
|---|---|
| GR818 | Contact Factory |
| GR821 | |
| GR824 | |
| GR826 | |



This protective cap mounts to integral output side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

## WASHGUARD® STYLE BF OUTPUT FLANGE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| GR813 | G185081 | 2 |
| GR818 | G185082 | 2 |
| GRL821 | G185083 | 3 |
| GR824 | G185084 | 4 |
| GR826 | G185085 | 6 |

Must designate L (left) or R (right).

## PLATINUM SERIES STYLE T OR U HORIZONTAL BASE



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185260P | 1 |
| EL818 | G185261P | 2 |
| EL821 | G185262P | 3 |
| EL824 | G185263P | 3 |
| EL826 | G185264P | 4 |
| EL830 | G185265P | 6 |
| EL832 | G185266P | 8 |

## PLATINUM SERIES STYLE J VERTICAL INPUT BASE*



| Reducer Size | Accessory* Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185270 | 1 |
| EL818 | G185271 | 2 |
| EL821 | G185272 | 3 |
| EL824 | G185273 | 3 |
| EL826 | G185274 | 4 |
| EL830 | G185275 | 5 |
| EL832 | G185276 | 5 |

* Painted white epoxy.

## PLATINUM SERIES STYLE VL VERTICAL OUTPUT BASE*



| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813 | G185278 | 2 |
| EL818 | G185279 | 3 |
| EL821 | G185280 | 3 |
| EL824 | G185281 | 3 |
| EL826 | G185282 | 4 |
| EL830 | G185283 | 6 |
| EL832 | G185284 | 7 |

* Painted white epoxy.
** Must designate D or V.

## STYLE F & FR OUTPUT FLANGE KITS



| Reducer Size | Accessory Kit Only Catalog No. Style F Hollow Output Flange | Accessory Kit Only Catalog No. Style FR Solid Output Flange | Weight (lbs) |
|---|---|---|---|
| EL813 | — | — | — |
| EL818 | G185287P | G185298P | 2 |
| EL821 | G185288P | G185299P | 3 |
| EL824 | G185289P | G185300P | 3 |
| EL826 | G185289P | G185300P | 3 |
| EL830 | G185291P | G185302P | 6 |
| EL832 | G185291P | G185303P | 7 |

## HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

| Reducer Size | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| EL813-842 | G185088 | 5 |
| EL852-860 | G185089 | 5 |

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

## TORQUE ARM BRACKET



| Reducer Size | Accessory Kit Only Catalog No. ▲ |
|---|---|
| EL813 | G185479 |
| EL818 | G185480 |
| EL821 | G185481 |
| EL824 | G185472 |
| EL826 | G185473 |
| EL830 | G185474 |
| EL832 | G185475 |

▲ Torque arm braket mounts to hollow shaft reducer.



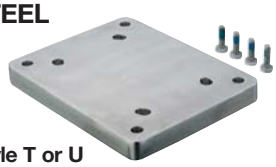
## STAINLESS STEEL ONE-WAY POPPET VENT



| Reducer Size | Accessory Kit Only Catalog No. |
|---|---|
| SS813 | G183407 |
| SS815 | |
| SS818 | |
| SS821 | |
| SS824 | |
| SS826 | |
| SS 832 | |

Note: Standard vent is two-way design. Poppet vent is a one-way design, reducing chance of oil vapors escaping into environment. For ultimate protection, refer to the Enviroseal design.

## STAINLESS STEEL STYLE T OR U HORIZONTAL BASE



Stainless Steel Style T or U Horizontal Base • GR Series

| Reducer Size | Accessory Kit Catalog No. |
|---|---|
| S13 | G185350.00 |
| S15 | G185351.00 |
| S18 | G185352.00 |
| S21 | G185353.00 |
| S24 | G185354.00 |
| S26 | G185355.00 |
| S32 | G185356.00 |

## STAINLESS STEEL STYLE F OUTPUT FLANGE



Stainless Steel Style F Output Flange • GR Series

| Series | Accessory Kit Only Catalog No. |
|---|---|
| S13 | G185667.00 |
| S15 | G185667.00 |
| S18 | G185668.00 |
| S21 | G185669.00 |
| S24 | G185670.00 |
| S26 | G185671.00 |
| S32 | G185672.00 |

▼ Flange can only mount to "bolted cover side" of hollow reducer on sizes 813-852. Please specify correct mounting assembly with order. Refer to pages 74-75, for assembly positions. Must designate L (left) or R (right).

# Bravo! An Alternative For Machine

**Vent Free Design.**** No breather or vents to leak! Factory lubricated for life with premium synthetic Mobil Glygoyle 460 (PAG) lubricant with an operation range of -25°F to +220°F (-32°C to +104°C).

**Single-piece aluminum alloy housing** is vacuum impregnated with Resinol RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

**NEMA C flange** with quill input accepts 56C, 143-5TC and 182-4TC motor frames.
or
**B5 & B14 IEC metric flange** options with quill input accepts D56, D63, D71, D80, D90, D100 and D112 motor frames.



**Bravo,® up to two-thirds lighter and one-third smaller than cast iron reducer of similar center distance!**

**Hollow output shaft mounting** is standard at no extra cost. Reduces total drive envelope size, weight and cost. Solid shaft single and double output is available.

# Designers

Bravo™
ALUMINUM GEAR REDUCERS

**Oversized bearings** support positively-retained, high speed shaft for higher shock load capacity — ideal for frequent starting and reversing applications. Premium, Nitrile® high temperature seals each end.

**Single-piece alloy steel input shaft and worm shaft.** High helix angle worm is case-hardened (Rc 58-60), ground, teeth are profiled and radiused, for noise reduction and enhanced efficiency.

**Bronze alloy worm gear** is centrifugally cast onto an iron hub for maximum strength, lubricity and superior life.

**Oversized bearings** for radial load capability and maximum hollow output shaft diameters.

**Premium, high-temperature** Nitrile® output seals.

**Impregnated and machined bearing caps** with exterior machined surfaces mate to a variety of mounting accessories. Extra-deep thread engagement provided for greater support strength. Zinc plated hardware. No need to remove bearing covers to mount/change accessory kits.

** 512 Series is filled with synthetic oil or equivalent. Operating temperature range of 512 Series is +5°F to +220°F (-15°C to +104°C)

## Start with one of four basic units...

Motorized HMQ



Motorized BMQ



Non-Motorized H

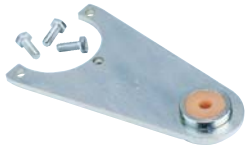


Non-Motorized B



## and add mounting accessories...

Reaction Arm R



Horizontal T Base





FL Flange (Long)



F Flange (Short)

## To create thousands of gear and GEAR+MOTOR™ combinations



www.grovegear.com

GROVE GEAR

# Bravo™ ALUMINUM GEAR REDUCERS Mounting Style Guide

## Hollow Output Shaft Mounted

### MOTORIZED QUILL INPUT

**HMQ**



Ratings: Pages 290-294
Dimensions: Page 296

**RHMQ**



Ratings: Pages 290-294
Dimensions: Page 298

**FHMQ**



Ratings: Pages 290-294
Dimensions: Page 300

### NON-MOTORIZED SOLID INPUT SHAFT

**H**



Ratings: Pages 290-294
Dimensions: Page 296

**RH**



Ratings: Pages 290-294
Dimensions: Page 298

**FH**



Ratings: Pages 290-294
Dimensions: Page 300

## SOLID OUTPUT SHAFT

### MOTORIZED QUILL INPUT

**BMQ**



Ratings: Pages 290-294
Dimensions: Page 297

**RMQ**



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 299

**FMQ**



Ratings: Pages 290-294
Dimensions: Page 301

### NON-MOTORIZED SOLID INPUT SHAFT

**B**



Ratings: Pages 290-294
Dimensions: Page 297

**R**



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 299

**F**



Ratings: Pages 290-294
Dimensions: Page 301

## MOUNTING ACCESSORIES

**Select the appropriate mounting accessories from this wide variety of options.**



**REACTION ARM R**



**F FLANGE**
**(SHORT FLANGE)**

❖ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

## FLHMQ



Ratings: Pages 290-294
Dimensions: Page 302

## THMQ



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 304

## UHMQ



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 306

## JHMQ



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 308

## FLH



Ratings: Pages 290-294
Dimensions: Page 302

## TH



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 304

## UH



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 306

## JH



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 308

## FLMQ



Ratings: Pages 290-294
Dimensions: Page 303

## TMQ



Ratings: Pages 290-294
Dimensions: Page 305

## UMQ



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 309

## JMQ



Ratings: Pages 290-294
Dimensions: Page 309

## FL



Ratings: Pages 290-294
Dimensions: Page 303



**FL FLANGE**
**(LONG FLANGE)**

## T



Ratings: Pages 290-294
Dimensions: Page 305



**HORIZONTAL BASE**
**(WORM OVER ASSEMBLY)**

## U



(❖Non-Standard Option)
Ratings: Pages 290-294
Dimensions: Page 307



**HORIZONTAL BASE**
**(WORM UNDER ASSEMBLY)**

## J



Ratings: Pages 290-294
Dimensions: Page 309



**HORIZONTAL BASE**
**(VERTICAL INPUT SHAFT)**

# Bravo™ ALUMINUM GEAR REDUCERS Model Number System

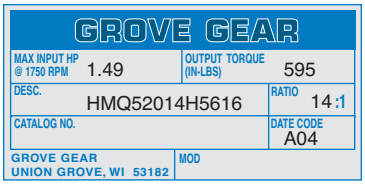
## Grove Gear 500 Series Gear Reducer Model Number Nomenclature

All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

### TYPICAL NAMEPLATE




**Style**

**SOLID OUTPUT SHAFT**
**BMQ** – Motorized, Quill Input
**B** – Non-Flanged

**HOLLOW OUTPUT SHAFT**
**HMQ** – Motorized, Quill Input
**H** – Non-Flanged

**Series**

**ALUMINUM 500 SERIES CENTER DISTANCES**

| Series | Center Distance (Inches) | (mm) |
|---|---|---|
| 512 | 1.18 | 30 |
| 518 | 1.77 | 45 |
| 520 | 1.97 | 50 |
| 525 | 2.48 | 63 |
| 534 | 3.35 | 85 |

**Ratio**

**See Selection Tables on pages 290-294 for all available ratios**

**Output Shaft Orientation**

**L** – Left-hand Output Shaft*
**R** – Right-hand Output Shaft*
**D** – Double Output Shaft
**H** – Hollow Output Shaft

* Viewed from drive end of reducer.

**Motor Flange**

| NEMA Input Flange Code | For NEMA Frame |
|---|---|
| 56 | 56C |
| 140 | 143-5TC |
| 180 | 182-4TC |

| IEC Input Flange Code | For IEC Frame |
|---|---|
| 56B14 | 56B14 |
| 56B5 | 56B5 |
| 63B14 | 63B14 |
| 63B5 | 63B5 |
| 71B14 | 71B14 |
| 71B5 | 71B5 |
| 80B14 | 80B14 |
| 80B5 | 80B5 |
| 90B14 | 90B14 |
| 90B5 | 90B5 |
| 100B14 | 100B14/112B14 |
| 100B5 | 100B5/112B5 |

**Shaft Dimension Code**

**OUTPUT SHAFT DIMENSION CODE**

| Series | NEMA/Inch Options Shaft Dia. | Shaft* Code | IEC/Metric Options Shaft Dia. | Shaft Code |
|---|---|---|---|---|
| 512 | N/A | N/A | 14mm | 14 |
| 518 | 3/4” | 12 | 18mm | 18 |
| 520 | 1” | 16 | 25mm | 25 |
| 525 | 1-1/8” | 18 | 25mm | 25 |
| 534 | 1-1/2” | 24 | 35mm | 35 |

*Shaft Diameter in 1/16ths of an inch.

Diameters and shaft codes of hollow bore styles are identical to those of solid shaft styles. Reducers with NEMA inputs will have inch-dimensioned output shafts and reducers with IEC inputs will have metric dimensioned output shafts as standard.

## Sample Model Number

### Solid Shaft

Motorized Quill Input, Single Reduction Reducer, 1.77” Center Distance, 14:1 Ratio, Left Hand Output Shaft, and 5/8” Input Bore with NEMA 56C Flange.

| BMQ | 518 | 14 | L | 56 | 12 |
|---|---|---|---|---|---|
| Style | Series | Ratio | Mounting Assembly | Motor Input Flange | Shaft Code |

### Hollow Shaft

Motorized Quill Input, Single Reduction Reducer, 1.77” Center Distance, 14:1 Ratio, 3/4” Hollow Output Shaft, and 5/8” Input Bore with NEMA 56C Flange.

| HMQ | 518 | 14 | H | 56 | 12 |
|---|---|---|---|---|---|
| Style | Series | Ratio | Mounting Assembly | Motor Input Flange | Shaft Code |

## How To Use Maximum Rating Tables

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages 290-294.

**BEFORE YOU START:**

**Identify the Service Factor** of the application (see page 417).

**Determine the actual input horsepower** of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

**Determine the output speed (RPM)** required at output shaft of reducer.

**Identify the mounting style** required by your application from the style charts shown on pages 286-287. Note the basic mounting style (BMQ, HMQ, etc.).

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

**1 Find the appropriate Maximum Rating Tables pages** for your basic mounting style. The tables begin on page 290.

**2 Locate the Input RPM and Output RPM columns** on the left side of the table. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

**3 Move across the table to the Input HP column** until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (512, 518, 520, etc.).

**4 Select motor frame size.**

**5 Identify catalog number** of the basic reducer by continuing to the right. See page 288 for detailed information on building an exact model number.

**6 Verify physical dimensions** using the dimensional drawings shown on page 296.

### Maximum Rating Tables
### 518 Series • All Styles

Style BMQ | Style HMQ



| | | | | | | Style BMQ | | | Style HMQ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NEMA C Input Flange* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. |
| 7 | 1750 | 250 | 1.378 | 1.103 | 278 | 56C | W5180031 | W5180041 | W5180051 | W5180071 |
| | 1150 | 164 | 0.950 | 0.760 | 292 | | | | | |
| 10 | 1750 | 175 | 0.981 | 0.775 | 279 | 56C | W5180032 | W5180042 | W5180052 | W5180072 |
| | 1150 | 115 | 0.679 | 0.536 | 294 | | | | | |
| 14 | 1750 | 125 | 0.871 | 0.670 | 338 | 56C | W5180033 | W5180043 | W5180053 | W5180073 |
| | 1150 | 82 | 0.602 | 0.463 | 356 | | | | | |
| 21 | 1750 | 83 | 0.796 | 0.533 | 405 | 56C | W5180034 | W5180044 | W5180054 | |
| | 1150 | 55 | 0.555 | 0.372 | 426 | | | | | |
| 28 | 1750 | 63 | 0.631 | 0.410 | 410 | 56C | W5180035 | W5180045 | W5180055 | |
| | 1150 | 47 | 0.494 | 0.321 | 431 | | | | | |
| 37 | 1750 | 47 | 0.490 | 0.309 | 414 | 56C | W5180036 | W5180046 | W5180056 | |
| | 1150 | 31 | 0.340 | 0.214 | 436 | | | | | |
| 46 | 1750 | 38 | 0.397 | 0.234 | 388 | 56C | W5180037 | W5180047 | W5180057 | |
| | 1150 | 25 | 0.274 | 0.162 | 408 | | | | | |
| 60 | 1750 | 29 | 0.363 | 0.203 | 442 | 56C | W5180038 | W5180048 | W5180058 | W5180078 |
| | 1150 | 19.2 | 0.250 | 0.140 | 465 | | | | | |
| 70 | 1750 | 25.0 | 0.204 | 0.110 | 278 | 56C | W5180039 | W5180049 | W5180059 | W5180079 |
| | 1150 | 16.4 | 0.137 | 0.074 | 292 | | | | | |
| 102 | 1750 | 17.2 | 0.144 | 0.070 | 261 | 56C | W5180040 | W5180050 | W5180060 | W5180080 |
| | 1150 | 11.3 | 0.098 | 0.048 | 275 | | | | | |

* Contact Factory for metric IEC input flange options available.

Style H

# Bravo™ ALUMINUM GEAR REDUCERS — Maximum Rating Tables

## 512 Series • All Styles

### 512 Series • Style BMQ & HMQ • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | IEC Metric Input Flange* | Style BMQ Left Hand Catalog No. | Style BMQ Right Hand Catalog No. | Style BMQ Double Extension Catalog No. | Style HMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 0.764 | 0.611 | 154 | 56B14 | W5120025 | W5120033 | W5120041 | W5120081 |
| | 1150 | 164 | 0.528 | 0.422 | 162 | 63B14 | W5120049 | W5120057 | W5120065 | W5120089 |
| 10 | 1750 | 165 | 0.510 | 0.398 | 152 | 56B14 | W5120026 | W5120034 | W5120042 | W5120082 |
| | 1150 | 108 | 0.353 | 0.275 | 160 | 63B14 | W5120050 | W5120058 | W5120066 | W5120090 |
| 15 | 1750 | 117 | 0.441 | 0.322 | 174 | 56B14 | W5120027 | W5120035 | W5120043 | W5120083 |
| | 1150 | 77 | 0.305 | 0.223 | 183 | 63B14 | W5120051 | W5120059 | W5120067 | W5120091 |
| 20 | 1750 | 92 | 0.386 | 0.270 | 185 | 56B14 | W5120028 | W5120036 | W5120044 | W5120084 |
| | 1150 | 61 | 0.268 | 0.187 | 195 | 63B14 | W5120052 | W5120060 | W5120068 | W5120092 |
| 30 | 1750 | 58 | 0.299 | 0.185 | 200 | 56B14 | W5120029 | W5120037 | W5120045 | W5120085 |
| | 1150 | 38 | 0.206 | 0.128 | 210 | 63B14 | W5120053 | W5120061 | W5120069 | W5120093 |
| 40 | 1750 | 45 | 0.246 | 0.140 | 197 | 56B14 | W5120030 | W5120038 | W5120046 | W5120086 |
| | 1150 | 29 | 0.170 | 0.097 | 207 | 63B14 | W5120054 | W5120062 | W5120070 | W5120094 |
| 61 | 1750 | 29 | 0.168 | 0.084 | 184 | 56B14 | W5120031 | W5120039 | W5120047 | W5120087 |
| | 1150 | 18.9 | 0.116 | 0.058 | 194 | 63B14 | W5120055 | W5120063 | W5120071 | W5120095 |
| 80 | 1750 | 21.9 | 0.106 | 0.051 | 146 | 56B14 | W5120032 | W5120040 | W5120048 | W5120088 |
| | 1150 | 14.4 | 0.073 | 0.035 | 154 | 63B14 | W5120056 | W5120064 | W5120072 | W5120096 |

* Contact Factory for other metric IEC input flange options available.

### 512 Series • Style B & H • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 0.764 | 0.611 | 154 | Contact Factory | | | Contact Factory |
| | 1150 | 164 | 0.528 | 0.422 | 162 | | | | |
| 10 | 1750 | 165 | 0.510 | 0.398 | 152 | Contact Factory | | | Contact Factory |
| | 1150 | 108 | 0.353 | 0.275 | 160 | | | | |
| 15 | 1750 | 117 | 0.441 | 0.322 | 174 | Contact Factory | | | Contact Factory |
| | 1150 | 77 | 0.305 | 0.223 | 183 | | | | |
| 20 | 1750 | 92 | 0.386 | 0.270 | 185 | Contact Factory | | | Contact Factory |
| | 1150 | 61 | 0.268 | 0.187 | 195 | | | | |
| 30 | 1750 | 58 | 0.299 | 0.185 | 200 | Contact Factory | | | Contact Factory |
| | 1150 | 38 | 0.206 | 0.128 | 210 | | | | |
| 40 | 1750 | 44 | 0.246 | 0.140 | 197 | Contact Factory | | | Contact Factory |
| | 1150 | 29 | 0.170 | 0.097 | 207 | | | | |
| 61 | 1750 | 29 | 0.168 | 0.084 | 184 | Contact Factory | | | Contact Factory |
| | 1150 | 18.9 | 0.116 | 0.058 | 194 | | | | |
| 80 | 1750 | 21.9 | 0.106 | 0.051 | 146 | Contact Factory | | | Contact Factory |
| | 1150 | 14.4 | 0.073 | 0.035 | 154 | | | | |

### 518 Series • Style BMQ & HMQ • 1.0 S.F.

Style BMQ | Style HMQ



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Flange* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 1.378 | 1.103 | 278 | 56C | W5180031 | W5180041 | W5180051 | W5180071 |
| | 1150 | 164 | 0.950 | 0.760 | 292 | | | | | |
| 10 | 1750 | 175 | 0.981 | 0.775 | 279 | 56C | W5180032 | W5180042 | W5180052 | W5180072 |
| | 1150 | 115 | 0.679 | 0.536 | 294 | | | | | |
| 14 | 1750 | 125 | 0.871 | 0.670 | 338 | 56C | W5180033 | W5180043 | W5180053 | W5180073 |
| | 1150 | 82 | 0.602 | 0.463 | 356 | | | | | |
| 21 | 1750 | 83 | 0.796 | 0.533 | 405 | 56C | W5180034 | W5180044 | W5180054 | W5180074 |
| | 1150 | 55 | 0.555 | 0.372 | 426 | | | | | |
| 28 | 1750 | 63 | 0.631 | 0.410 | 410 | 56C | W5180035 | W5180045 | W5180055 | W5180075 |
| | 1150 | 47 | 0.494 | 0.321 | 431 | | | | | |
| 37 | 1750 | 47 | 0.490 | 0.309 | 414 | 56C | W5180036 | W5180046 | W5180056 | W5180076 |
| | 1150 | 31 | 0.340 | 0.214 | 436 | | | | | |
| 46 | 1750 | 38 | 0.397 | 0.234 | 388 | 56C | W5180037 | W5180047 | W5180057 | W5180077 |
| | 1150 | 25 | 0.274 | 0.162 | 408 | | | | | |
| 60 | 1750 | 29 | 0.363 | 0.203 | 442 | 56C | W5180038 | W5180048 | W5180058 | W5180078 |
| | 1150 | 19.2 | 0.250 | 0.140 | 465 | | | | | |
| 70 | 1750 | 25.0 | 0.204 | 0.110 | 278 | 56C | W5180039 | W5180049 | W5180059 | W5180079 |
| | 1150 | 16.4 | 0.137 | 0.074 | 292 | | | | | |
| 102 | 1750 | 17.2 | 0.144 | 0.070 | 261 | 56C | W5180040 | W5180050 | W5180060 | W5180080 |
| | 1150 | 11.3 | 0.098 | 0.048 | 275 | | | | | |

* Contact Factory for metric IEC input flange options available.

### 518 Series • Style B & H • 1.0 S.F.

Style B | Style H



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 1.378 | 1.103 | 278 | W5180001 | W5180011 | W5180021 | W5180061 |
| | 1150 | 164 | 0.950 | 0.760 | 292 | | | | |
| 10 | 1750 | 175 | 0.981 | 0.775 | 279 | W5180002 | W5180012 | W5180022 | W5180062 |
| | 1150 | 115 | 0.679 | 0.536 | 294 | | | | |
| 14 | 1750 | 125 | 0.871 | 0.670 | 338 | W5180003 | W5180013 | W5180023 | W5180063 |
| | 1150 | 82 | 0.602 | 0.463 | 356 | | | | |
| 21 | 1750 | 83 | 0.796 | 0.533 | 405 | W5180004 | W5180014 | W5180024 | W5180064 |
| | 1150 | 55 | 0.555 | 0.372 | 426 | | | | |
| 28 | 1750 | 63 | 0.631 | 0.410 | 410 | W5180005 | W5180015 | W5180025 | W5180065 |
| | 1150 | 47 | 0.494 | 0.321 | 431 | | | | |
| 37 | 1750 | 47 | 0.490 | 0.309 | 414 | W5180006 | W5180016 | W5180026 | W5180066 |
| | 1150 | 31 | 0.340 | 0.214 | 436 | | | | |
| 46 | 1750 | 38 | 0.397 | 0.234 | 388 | W5180007 | W5180017 | W5180027 | W5180067 |
| | 1150 | 25 | 0.274 | 0.162 | 408 | | | | |
| 60 | 1750 | 29 | 0.363 | 0.203 | 442 | W5180008 | W5180018 | W5180028 | W5180068 |
| | 150 | 19.2 | 0.250 | 0.140 | 465 | | | | |
| 70 | 1750 | 25.0 | 0.204 | 0.110 | 278 | W5180009 | W5180019 | W5180029 | W5180069 |
| | 1150 | 16.4 | 0.137 | 0.074 | 292 | | | | |
| 102 | 1750 | 17.2 | 0.144 | 0.070 | 261 | W5180010 | W5180020 | W5180030 | W5180070 |
| | 1150 | 11.3 | 0.098 | 0.048 | 275 | | | | |

# Bravo™ ALUMINUM GEAR REDUCERS — Maximum Rating Tables

## 520 Series • All Styles

### 520 Series • Style BMQ & HMQ • 1.0 S.F.

Style BMQ | Style HMQ



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Flange* | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 2.472 | 2.027 | 511 | 56C | W5200034 | W5200045 | W5200056 | W5200078 |
| | 1150 | 164 | 1.707 | 1.400 | 538 | | | | | |
| 10 | 1750 | 175 | 1.961 | 1.569 | 565 | 56C | W5200035 | W5200046 | W5200057 | W5200079 |
| | 1150 | 115 | 1.355 | 1.084 | 594 | | | | | |
| 14 | 1750 | 125 | 1.494 | 1.180 | 595 | 56C | W5200036 | W5200047 | W5200058 | W5200080 |
| | 1150 | 82 | 1.031 | 0.814 | 626 | | | | | |
| 18 | 1750 | 97 | 1.196 | 0.897 | 583 | 56C | W5200037 | W5200048 | W5200059 | W5200081 |
| | 1150 | 64 | 0.830 | 0.622 | 613 | | | | | |
| 26 | 1750 | 67 | 0.889 | 0.613 | 577 | 56C | W5200038 | W5200049 | W5200060 | W5200082 |
| | 1150 | 44 | 0.614 | 0.424 | 607 | | | | | |
| 36 | 1750 | 49 | 0.684 | 0.472 | 607 | 56C | W5200039 | W5200050 | W5200061 | W5200083 |
| | 1150 | 32 | 0.470 | 0.324 | 639 | | | | | |
| 43 | 1750 | 41 | 0.604 | 0.399 | 613 | 56C | W5200040 | W5200051 | W5200062 | W5200084 |
| | 1150 | 27 | 0.419 | 0.276 | 645 | | | | | |
| 60 | 1750 | 29 | 0.486 | 0.282 | 613 | 56C | W5200041 | W5200052 | W5200063 | W5200085 |
| | 1150 | 19.2 | 0.335 | 0.194 | 645 | | | | | |
| 68 | 1750 | 25.7 | 0.420 | 0.239 | 580 | 56C | W5200042 | W5200053 | W5200064 | W5200086 |
| | 1150 | 16.9 | 0.289 | 0.165 | 610 | | | | | |
| 80 | 1750 | 21.9 | 0.368 | 0.199 | 569 | 56C | W5200043 | W5200054 | W5200065 | W5200087 |
| | 1150 | 14.4 | 0.246 | 0.133 | 599 | | | | | |
| 100 | 1750 | 17.5 | 0.295 | 0.147 | 516 | 56C | W5200044 | W5200055 | W5200066 | W5200088 |
| | 1150 | 11.5 | 0.207 | 0.103 | 543 | | | | | |

* Contact Factory for metric IEC input flange options available.

### 520 Series • Style B & H • 1.0 S.F.

Style B | Style H



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Left Hand Catalog No. | Right Hand Catalog No. | Double Extension Catalog No. | Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 2.472 | 2.027 | 511 | W5200001 | W5200012 | W5200023 | W5200067 |
| | 1150 | 164 | 1.707 | 1.400 | 538 | | | | |
| 10 | 1750 | 175 | 1.961 | 1.569 | 565 | W5200002 | W5200013 | W5200024 | W5200068 |
| | 1150 | 115 | 1.355 | 1.084 | 594 | | | | |
| 14 | 1750 | 125 | 1.494 | 1.180 | 595 | W5200003 | W5200014 | W5200025 | W5200069 |
| | 1150 | 82 | 1.031 | 0.814 | 626 | | | | |
| 18 | 1750 | 97 | 1.196 | 0.897 | 583 | W5200004 | W5200015 | W5200026 | W5200070 |
| | 1150 | 64 | 0.830 | 0.622 | 613 | | | | |
| 26 | 1750 | 67 | 0.889 | 0.613 | 577 | W5200005 | W5200016 | W5200027 | W5200071 |
| | 1150 | 44 | 0.614 | 0.424 | 607 | | | | |
| 36 | 1750 | 49 | 0.684 | 0.472 | 607 | W5200006 | W5200017 | W5200028 | W5200072 |
| | 1150 | 32 | 0.470 | 0.324 | 639 | | | | |
| 43 | 1750 | 41 | 0.604 | 0.399 | 613 | W5200007 | W5200018 | W5200029 | W5200073 |
| | 1150 | 27 | 0.419 | 0.276 | 645 | | | | |
| 60 | 1750 | 29 | 0.486 | 0.282 | 613 | W5200008 | W5200019 | W5200030 | W5200074 |
| | 1150 | 19.2 | 0.335 | 0.194 | 645 | | | | |
| 68 | 1750 | 25.7 | 0.420 | 0.239 | 580 | W5200009 | W5200020 | W5200031 | W5200075 |
| | 1150 | 16.9 | 0.289 | 0.165 | 610 | | | | |
| 80 | 1750 | 21.9 | 0.368 | 0.199 | 569 | W5200010 | W5200021 | W5200032 | W5200076 |
| | 1150 | 14.4 | 0.246 | 0.133 | 599 | | | | |
| 100 | 1750 | 17.5 | 0.295 | 0.147 | 516 | W5200011 | W5200022 | W5200033 | W5200077 |
| | 1150 | 11.5 | 0.207 | 0.103 | 543 | | | | |

## 525 Series • Style BMQ & HMQ • 1.0 S.F.



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Flange* | Style BMQ Left Hand Catalog No. | Style BMQ Right Hand Catalog No. | Style BMQ Double Extension Catalog No. | Style HMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 5.24 | 4.35 | 1097 | 56C | W5250034 | W5250045 | W5250056 | W5250111 |
| | 1150 | 164 | 3.62 | 3.01 | 1155 | 140TC | W5250067 | W5250078 | W5250089 | W5250122 |
| 10 | 1750 | 175 | 4.19 | 3.39 | 1222 | 56C | W5250035 | W5250046 | W5250057 | W5250112 |
| | 1150 | 115 | 2.90 | 2.35 | 1287 | 140TC | W5250068 | W5250079 | W5250090 | W5250123 |
| 15 | 1750 | 117 | 2.85 | 2.25 | 1214 | 56C | W5250036 | W5250047 | W5250058 | W5250113 |
| | 1150 | 77 | 1.98 | 1.56 | 1278 | 140TC | W5250069 | W5250080 | W5250091 | W5250124 |
| 19 | 1750 | 92 | 2.24 | 1.75 | 1197 | 56C | W5250037 | W5250048 | W5250059 | W5250114 |
| | 1150 | 61 | 1.56 | 1.22 | 1260 | 140TC | W5250070 | W5250081 | W5250092 | W5250125 |
| 24 | 1750 | 73 | 1.92 | 1.44 | 1246 | 56C | W5250038 | W5250049 | W5250060 | W5250115 |
| | 1150 | 48 | 1.33 | 1.00 | 1312 | 140TC | W5250071 | W5250082 | W5250093 | W5250126 |
| 30 | 1750 | 58 | 1.58 | 1.17 | 1274 | 56C | W5250039 | W5250050 | W5250061 | W5250116 |
| | 1150 | 38 | 1.09 | 0.81 | 1341 | 140TC | W5250072 | W5250083 | W5250094 | W5250127 |
| 36 | 1750 | 49 | 1.46 | 1.00 | 1281 | 56C | W5250040 | W5250051 | W5250062 | W5250117 |
| | 1150 | 32 | 1.01 | 0.68 | 1349 | 140TC | W5250073 | W5250084 | W5250095 | W5250128 |
| 45 | 1750 | 39 | 1.11 | 0.73 | 1182 | 56C | W5250041 | W5250052 | W5250063 | W5250118 |
| | 1150 | 25.6 | 0.78 | 0.51 | 1244 | 140TC | W5250074 | W5250085 | W5250096 | W5250129 |
| 67 | 1750 | 26.1 | 0.73 | 0.44 | 1069 | 56C | W5250042 | W5250053 | W5250064 | W5250119 |
| | 1150 | 17.2 | 0.51 | 0.30 | 1125 | 140TC | W5250075 | W5250086 | W5250097 | W5250130 |
| 80 | 1750 | 21.9 | 0.63 | 0.36 | 1034 | 56C | W5250043 | W5250054 | W5250065 | W5250120 |
| | 1150 | 14.4 | 0.42 | 0.24 | 1089 | 140TC | W5250076 | W5250087 | W5250098 | W5250131 |
| 94 | 1750 | 18.6 | 0.51 | 0.26 | 878 | 56C | W5250044 | W5250055 | W5250066 | W5250121 |
| | 1150 | 12.2 | 0.34 | 0.18 | 924 | 140TC | W5250077 | W5250088 | W5250099 | W5250132 |

* Contact Factory for metric IEC input flange options available.

## 525 Series • Style B & H • 1.0 S.F.

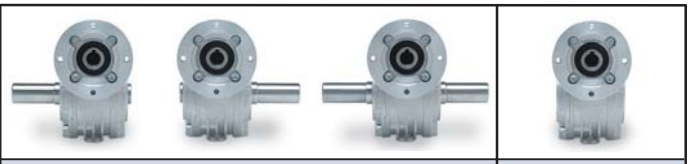


| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 5.24 | 4.35 | 1097 | W5250001 | W5250012 | W5250023 | W5250100 |
| | 1150 | 164 | 3.62 | 3.01 | 1155 | | | | |
| 10 | 1750 | 175 | 4.19 | 3.39 | 1222 | W5250002 | W5250013 | W5250024 | W5250101 |
| | 1150 | 115 | 2.90 | 2.35 | 1287 | | | | |
| 15 | 1750 | 117 | 2.85 | 2.25 | 1214 | W5250003 | W5250014 | W5250025 | W5250102 |
| | 1150 | 77 | 1.98 | 1.56 | 1278 | | | | |
| 19 | 1750 | 92 | 2.24 | 1.75 | 1197 | W5250004 | W5250015 | W5250026 | W5250103 |
| | 1150 | 61 | 1.56 | 1.22 | 1260 | | | | |
| 24 | 1750 | 73 | 1.92 | 1.44 | 1246 | W5250005 | W5250016 | W5250027 | W5250104 |
| | 1150 | 48 | 1.33 | 1.00 | 1312 | | | | |
| 30 | 1750 | 58 | 1.58 | 1.17 | 1274 | W5250006 | W5250017 | W5250028 | W5250105 |
| | 1150 | 38 | 1.09 | 0.81 | 1341 | | | | |
| 36 | 1750 | 49 | 1.46 | 1.00 | 1281 | W5250007 | W5250018 | W5250029 | W5250106 |
| | 1150 | 32 | 1.01 | 0.68 | 1349 | | | | |
| 45 | 1750 | 39 | 1.11 | 0.73 | 1182 | W5250008 | W5250019 | W5250030 | W5250107 |
| | 1150 | 25.6 | 0.78 | 0.51 | 1244 | | | | |
| 67 | 1750 | 26.1 | 0.73 | 0.44 | 1069 | W5250009 | W5250020 | W5250031 | W5250108 |
| | 1150 | 17.2 | 0.51 | 0.30 | 1125 | | | | |
| 80 | 1750 | 21.9 | 0.63 | 0.36 | 1034 | W5250010 | W5250021 | W5250032 | W5250109 |
| | 1150 | 14.4 | 0.42 | 0.24 | 1089 | | | | |
| 94 | 1750 | 18.6 | 0.51 | 0.26 | 878 | W5250011 | W5250022 | W5250033 | W5250110 |
| | 1150 | 12.2 | 0.34 | 0.18 | 924 | | | | |

# Bravo™ ALUMINUM GEAR REDUCERS — Maximum Rating Tables

## 534 Series • All Styles

### 534 Series • BMQ & HMQ • 1.0 S.F.



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | NEMA C Input Flange* | Style BMQ Left Hand Catalog No. | Style BMQ Right Hand Catalog No. | Style BMQ Double Extension Catalog No. | Style HMQ Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 8.26 | 7.27 | 1832 | 180TC | W5340109 | W5340121 | W5340133 | W5340181 |
| | 1150 | 164 | 5.70 | 5.02 | 1929 | | | | | |
| 10 | 1750 | 175 | 7.62 | 6.10 | 2196 | 140TC | W5340074 | W5340086 | W5340098 | W5340170 |
| | 1150 | 115 | 5.27 | 4.22 | 2312 | 180TC | W5340110 | W5340122 | W5340134 | W5340182 |
| 14 | 1750 | 125 | 5.91 | 4.61 | 2323 | 140TC | W5340075 | W5340087 | W5340099 | W5340171 |
| | 1150 | 82 | 4.08 | 3.18 | 2446 | 180TC | W5340111 | W5340123 | W5340135 | W5340183 |
| 20 | 1750 | 88 | 3.91 | 3.09 | 2212 | 140TC | W5340076 | W5340088 | W5340100 | W5340172 |
| | 1150 | 58 | 2.71 | 2.14 | 2329 | 180TC | W5340112 | W5340124 | W5340136 | W5340184 |
| 28 | 1750 | 63 | 3.37 | 2.53 | 2528 | 140TC | W5340078 | W5340090 | W5340102 | W5340174 |
| | 1150 | 41 | 2.31 | 1.73 | 2661 | 180TC | W5340114 | W5340126 | W5340138 | W5340186 |
| 38 | 1750 | 46 | 2.34 | 1.66 | 2279 | 56C | W5340043 | W5340055 | W5340067 | W5340163 |
| | 1150 | 30 | 1.61 | 1.14 | 2399 | 140TC | W5340079 | W5340091 | W5340103 | W5340175 |
| 52 | 1750 | 34 | 1.82 | 1.20 | 2229 | 56C | W5340045 | W5340057 | W5340069 | W5340165 |
| | 1150 | 22.1 | 1.24 | 0.82 | 2347 | 140TC | W5340081 | W5340093 | W5340105 | W5340177 |
| 67 | 1750 | 26.1 | 1.56 | 1.01 | 2458 | 56C | W5340046 | W5340058 | W5340070 | W5340166 |
| | 1150 | 17.2 | 1.07 | 0.70 | 2588 | 140TC | W5340082 | W5340094 | W5340106 | W5340178 |
| 96 | 1750 | 18.2 | 0.99 | 0.52 | 1735 | 56C | W5340048 | W5340060 | W5340072 | W5340168 |
| | 1150 | 12.0 | 0.66 | 0.35 | 1827 | 140TC | W5340084 | W5340096 | W5340108 | W5340180 |

* Contact Factory for additional NEMA and metric IEC input flange options available.

### 534 Series • Styles B & H • 1.0 S.F.



| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 8.26 | 7.27 | 1832 | W5340001 | W5340013 | W5340025 | W5340145 |
| | 1150 | 164 | 5.70 | 5.02 | 1929 | | | | |
| 10 | 1750 | 175 | 7.62 | 6.10 | 2196 | W5340002 | W5340014 | W5340026 | W5340146 |
| | 1150 | 115 | 5.27 | 4.22 | 2312 | | | | |
| 14 | 1750 | 125 | 5.91 | 4.61 | 2323 | W5340003 | W5340015 | W5340027 | W5340147 |
| | 1150 | 82 | 4.08 | 3.18 | 2446 | | | | |
| 20 | 1750 | 88 | 3.91 | 3.09 | 2212 | W5340004 | W5340016 | W5340028 | W5340148 |
| | 1150 | 58 | 2.71 | 2.14 | 2329 | | | | |
| 28 | 1750 | 63 | 3.37 | 2.53 | 2528 | W5340006 | W5340018 | W5340030 | W5340150 |
| | 1150 | 41 | 2.31 | 1.73 | 2661 | | | | |
| 38 | 1750 | 46 | 2.34 | 1.66 | 2279 | W5340007 | W5340019 | W5340031 | W5340151 |
| | 1150 | 30 | 1.61 | 1.14 | 2399 | | | | |
| 52 | 1750 | 34 | 1.82 | 1.20 | 2229 | W5340009 | W5340021 | W5340033 | W5340153 |
| | 1150 | 22.1 | 1.24 | 0.82 | 2347 | | | | |
| 67 | 1750 | 26.1 | 1.56 | 1.01 | 2458 | W5340010 | W5340022 | W5340034 | W5340154 |
| | 1150 | 17.2 | 1.07 | 0.70 | 2588 | | | | |
| 96 | 1750 | 18.2 | 0.99 | 0.52 | 1735 | W5340012 | W5340024 | W5340036 | W5340156 |
| | 1150 | 12.0 | 0.66 | 0.35 | 1827 | | | | |

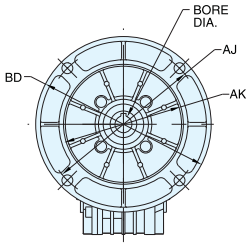
## SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size 512 | 518 | 520 | 525 | 534 | Reducer Style | Reducer Size 512 | 518 | 520 | 525 | 534 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Solid Output Shaft Models** | | | | | | **Hollow Output Shaft Models** | | | | | |
| BMQ | 3 | 7 | 9 | 14 | 29 | HMQ | 3 | 6 | 7 | 12 | 24 |
| B | 3 | 6 | 9 | 14 | 27 | H | 3 | 5 | 7 | 12 | 22 |
| TMQ, UMQ, JMQ | 5 | 9 | 11 | 17 | 34 | THMQ, UHMQ JHMQ | 5 | 8 | 9 | 15 | 29 |
| T, U, J | 5 | 8 | 11 | 17 | 32 | TH, UH, JH | 5 | 7 | 9 | 15 | 27 |
| FMQ, RMQ | 4 | 8 | 10 | 16 | 32 | FHMQ, RHMQ | 4 | 7 | 8 | 14 | 27 |
| F, R | 4 | 7 | 10 | 16 | 30 | FH, RH | 4 | 6 | 8 | 14 | 25 |
| FLMQ | 4 | 9 | 11 | 17 | 34 | FLHMQ | 4 | 8 | 9 | 15 | 29 |
| FL | 4 | 8 | 11 | 17 | 32 | FLH | 4 | 7 | 9 | 15 | 27 |

Δ Weights include grease and oil.

## REDUCER ACCESSORIES • APPROXIMAT WEIGHTS (LBS.)

| Accessory | Reducer Size 512 | 518 | 520 | 525 | 534 |
|---|---|---|---|---|---|
| T/U - Base | 2 | 2 | 2 | 3 | 5 |
| J - Base | 2 | 2 | 2 | 3 | 5 |
| F - Flange | 1 | 1 | 1 | 2 | 3 |
| FL - Flange | 1 | 2 | 2 | 3 | 5 |
| R - Reaction Arm | 1 | 1 | 1 | 2 | 3 |




## SINGLE REDUCTION • MOTOR FRAME COMBINATIONS

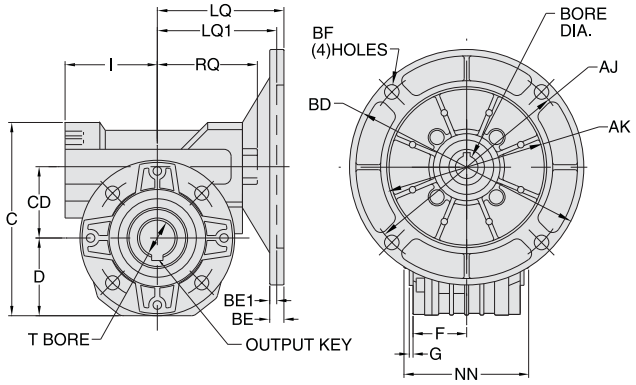
| Reducer Size | NEMA or IEC Frame Size | Dimensions - Inches (MM) AK | AJ | BD | Bore Dia. | Available Ratios 10 | 15 | 20 | 30 | 40 | 61 | 80 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | IEC 56B5 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (9) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| | IEC 56B14 | 1.97 (50) | 2.56 (65) | 3.15 (80) | (9) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | . | . | . | . | . | . | . | | | | |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | . | . | . | . | . | . | . | | | | |
| | | | | | | **7** | **10** | **14** | **21** | **28** | **37** | **46** | **60** | **70** | **102** | |
| **518** | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | . | . | . | . | . | . | . | . | . | . | |
| | IEC 56B14 | 1.97 (50) | 2.56 (65) | 3.15 (80) | (9) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | . | . | . | . | . | . | . | . | . | . | |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | . | . | . | . | . | . | . | . | . | . | |
| | | | | | | **7** | **10** | **14** | **18** | **26** | **36** | **43** | **60** | **68** | **80** | **100** |
| **520** | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | . | . | . | . | . | . | . | . | . | . | . |
| | IEC 56B14 | 1.97 (50) | 2.56 (65) | 3.15 (80) | (9) | | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | ■ | ■ | ■ | ■ | ■ | . | . | . | . | . | . |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | ■ | ■ | ■ | ■ | ■ | . | . | . | . | . | . |
| | IEC 80B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (19) | . | . | . | . | . | | | | | | |
| | IEC 80B14 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (19) | . | . | . | . | . | | | | | | |
| | | | | | | **7** | **10** | **15** | **19** | **24** | **30** | **36** | **45** | **67** | **80** | **94** |
| **525** | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | NEMA 140TC | 4.50 | 5.88 | 6.50 | 0.875 | . | . | . | . | . | . | . | . | . | . | . |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | | | | | | | | ■ | ■ | ■ | ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | IEC 80B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (19) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | . | . | . | . |
| | IEC 80B14 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (19) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | . | . | . | . |
| | IEC 90B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (24) | . | . | . | . | . | . | . | | | | |
| | IEC 90B14 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (24) | . | . | . | . | . | . | . | | | | |
| | | | | | | **7** | **10** | **14** | **20** | **28** | **38** | **52** | **67** | **96** | | |
| **534** | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| | NEMA 140TC | 4.50 | 5.88 | 6.50 | 0.875 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| | NEMA 180TC | 8.50 | 7.25 | 9.00 | 1.125 | . | . | . | . | . | . | . | . | . | | |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | | | | | | ■ | ■ | ■ | ■ | | |
| | IEC 80B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (19) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| | IEC 80B14 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (19) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| | IEC 90B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (24) | ■ | ■ | ■ | ■ | ■ | . | . | . | . | | |
| | IEC 90B14 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (24) | ■ | ■ | ■ | ■ | ■ | . | . | . | . | | |
| | IEC 100/112 B5 | 7.09 (180) | 8.46 (215) | 9.84 (250) | (28) | . | . | . | . | . | | | | | | |
| | IEC 100/112 B14 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (28) | . | . | . | . | . | | | | | | |

• Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

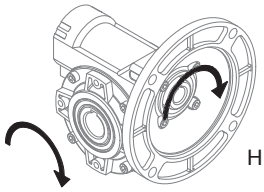
■ Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style HMQ




**ASSEMBLIES**



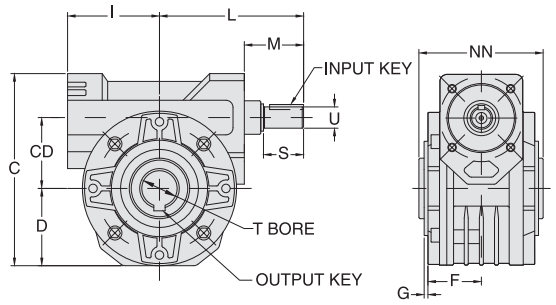

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE HMQ DIMENSIONS - Inches (MM)

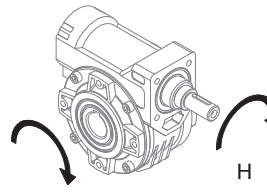
| Series | C | CD | D | F | G | I | LQ* 56/140 | LQ1* 180 | NN | RQ | T* +0.0015 -0.0000 | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.54 | 1.18 | 1.54 | 1.18 | 0.08 | 1.81 | * | N/A | 2.16 | 2.21 | (14) ● | (5) ● |
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.33 | N/A | 2.56 | 2.60 | 0.750 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 3.51 | N/A | 3.19 | 2.83 | 1.000 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 4.08 | N/A | 4.72 | 3.58 | 1.125 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 4.83 | 5.35 | 5.31 | 4.33 | 1.500 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

## Style H




**ASSEMBLIES**



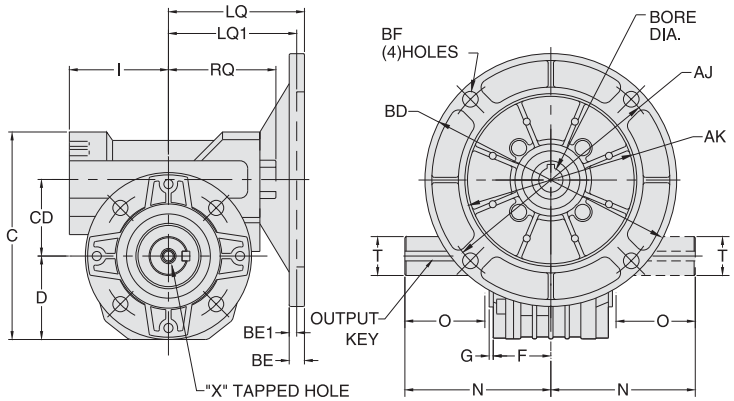

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE H DIMENSIONS** - Inches

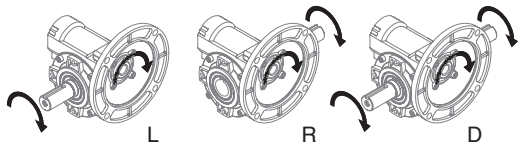
| Series | C | CD | D | F | G | I | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 4.11 | 1.74 | 3.19 | 1.18 | 1.000 | 0.625 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 5.43 | 2.24 | 4.72 | 1.75 | 1.125 | 0.750 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 6.38 | 2.52 | 5.31 | 1.75 | 1.500 | 0.875 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style BMQ




**ASSEMBLIES**



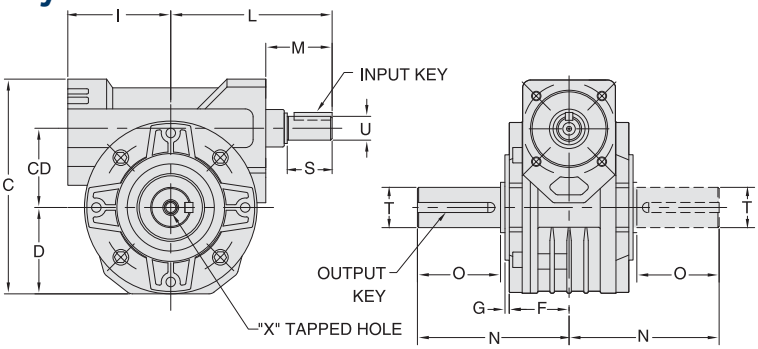

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE BMQ DIMENSIONS - Inches (MM)

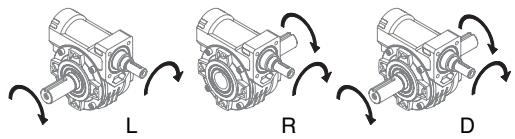
| Series | C | CD | D | F | G | I | LQ* 56/140 | LQ1* 180 | N | O* | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.54 | 1.18 | 1.54 | 1.18 | 0.08 | 1.81 | * | N/A | 2.48 | 1.01 | 2.21 | (14)✿ | N/A | N/A | (5) ✿ |
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.33 | N/A | 2.97 | 1.26 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 3.51 | N/A | 3.94 | 2.05 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 4.08 | N/A | 4.85 | 2.36 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 4.83 | 5.35 | 5.55 | 2.36 | 4.33 | 1.500 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

## Style B




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE B DIMENSIONS** - Inches

| Series | C | CD | D | F | G | I | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 4.11 | 1.74 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 5.43 | 2.24 | 4.85 | 2.36 | 1.75 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 6.38 | 2.52 | 5.55 | 2.36 | 1.75 | 1.500 | 0.875 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

# Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

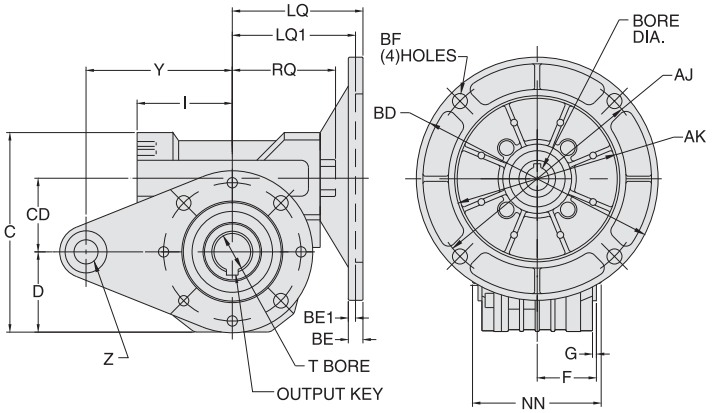
### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

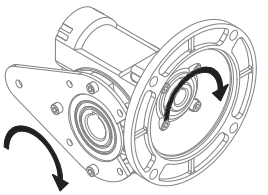
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style RHMQ




**ASSEMBLIES**



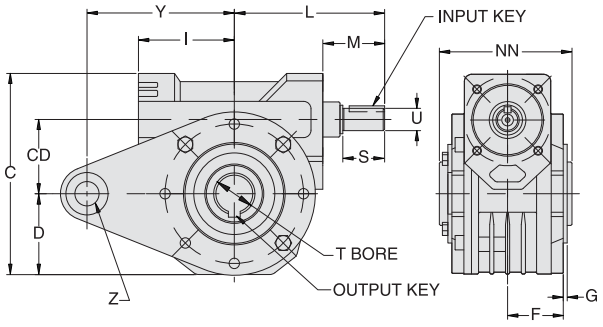

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE RHMQ DIMENSIONS - Inches (MM)

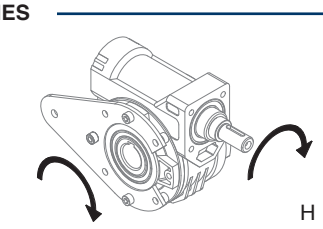
| Series | C | CD | D | F | G | I | LQ* 56/140 | LQ1* 180 | NN | RQ | T* +0.0015 -0.0000 | Y | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.54 | 1.18 | 1.54 | 1.18 | 0.08 | 1.81 | * | N/A | 2.16 | 2.21 | (14)● | 3.94 | 0.315 | (5)● |
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.33 | N/A | 2.56 | 2.60 | 0.750 | 3.94 | 0.315 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 3.51 | N/A | 3.19 | 2.83 | 1.000 | 3.94 | 0.315 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 4.08 | N/A | 4.72 | 3.58 | 1.125 | 5.91 | 0.394 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 4.83 | 5.35 | 5.31 | 4.33 | 1.500 | 7.87 | 0.787 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

## Style RH




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

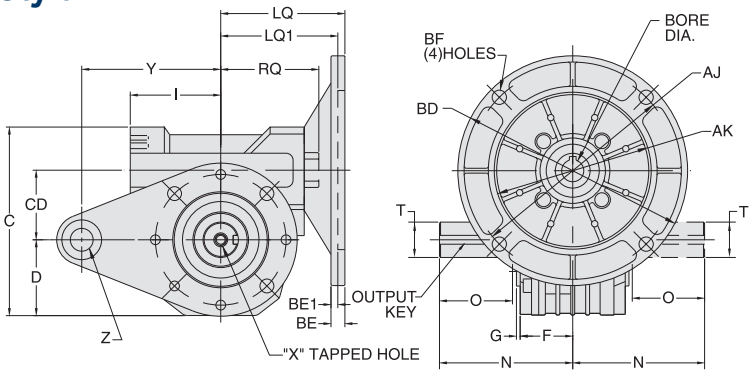
### STYLE RH DIMENSIONS** - Inches

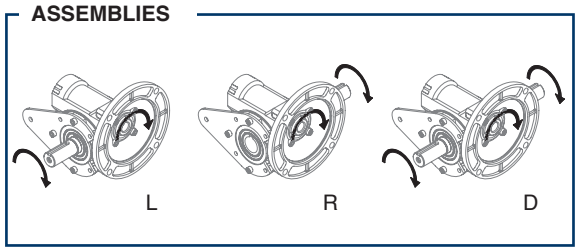
| Series | C | CD | D | F | G | I | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | Y | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 3.94 | 0.315 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 4.11 | 1.74 | 3.19 | 1.18 | 1.000 | 0.625 | 3.94 | 0.315 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 5.43 | 2.24 | 4.72 | 1.75 | 1.125 | 0.750 | 5.91 | 0.394 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 6.38 | 2.52 | 5.31 | 1.75 | 1.500 | 0.875 | 7.87 | 0.787 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

**REFER TO PAGE 348 FOR DETAILED DIMENSIONS OF REACTION ARM.**

## Style RMQ



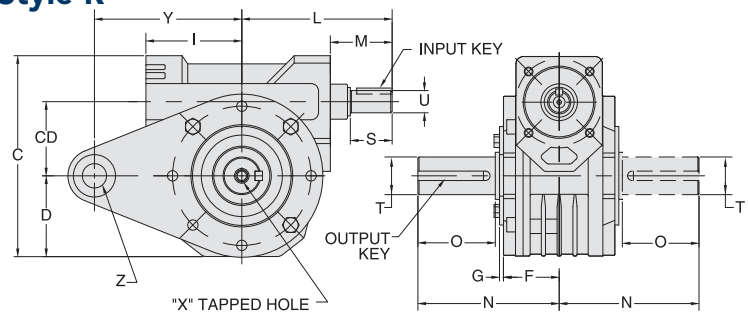

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

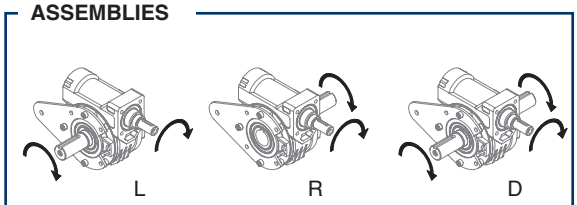
### STYLE RMQ DIMENSIONS - Inches (MM)

| Series | C | CD | D | F | G | I | LQ* 56/140 | LQ1* 180 | N | O* | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Y | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.54 | 1.18 | 1.54 | 1.18 | 0.08 | 1.81 | * | N/A | 2.48 | 1.01 | 2.21 | (14)✿ | N/A | N/A | 3.94 | 0.315 | (5)✿ |
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.33 | N/A | 2.97 | 1.26 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3.94 | 0.315 | 3/16 x 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 3.51 | N/A | 3.94 | 2.05 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 3.94 | 0.315 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 4.08 | N/A | 4.85 | 2.36 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 5.91 | 0.394 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 4.83 | 5.35 | 5.55 | 2.36 | 4.33 | 1.500 | 5/16-18 UNC | 0.75 | 7.87 | 0.787 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

## Style R




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE R DIMENSIONS** - Inches

| Series | C | CD | D | F | G | I | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Y | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.93 | 1.38 | 0.08 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3.94 | 0.315 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 2.15 | 1.50 | 0.12 | 2.56 | 4.11 | 1.74 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3.94 | 0.315 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 2.76 | 1.77 | 0.19 | 3.11 | 5.43 | 2.24 | 4.85 | 2.36 | 1.75 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 5.91 | 0.394 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 3.72 | 2.52 | 0.14 | 3.86 | 6.38 | 2.52 | 5.55 | 2.36 | 1.75 | 1.500 | 0.875 | 5/16-18 UNC | 0.75 | 7.87 | 0.787 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | (standard for metric units) | | | |
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

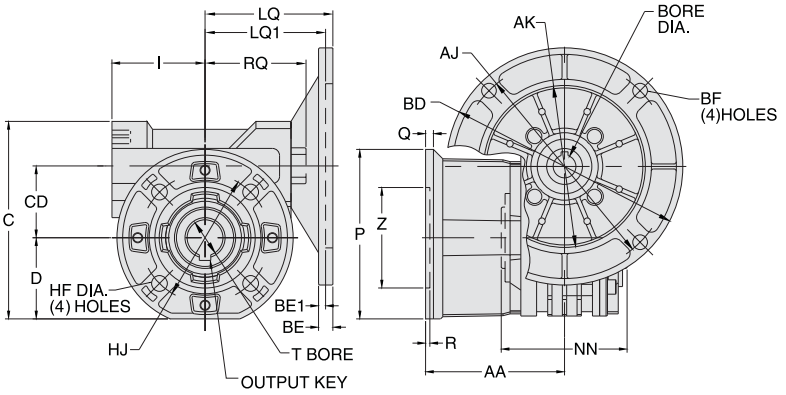
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

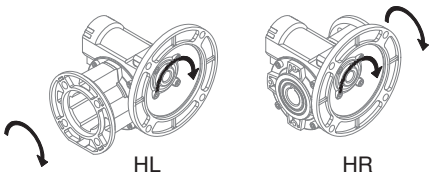
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style FHMQ




**ASSEMBLIES**



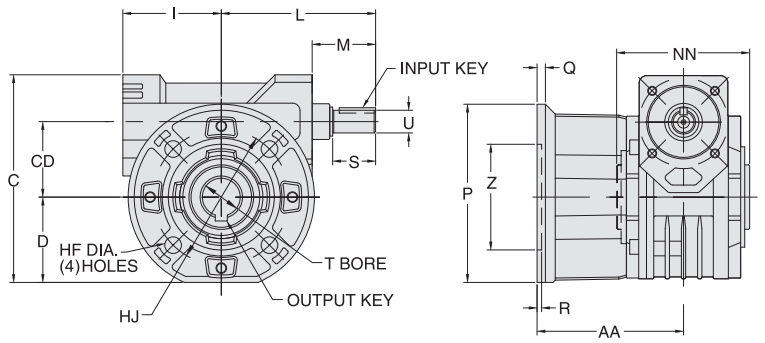

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FHMQ DIMENSIONS - Inches (MM)

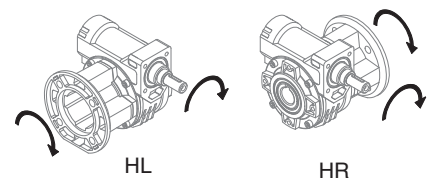
| Series | AA | C | CD | D | HF | HJ | I | LQ* 56/140 | LQ1* 180 | NN | P | Q | R | RQ +0.0015 -0.0000 | T* | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 1.99 | 3.54 | 1.18 | 1.54 | 0.276 | 2.68 | 1.81 | * | N/A | 2.16 | 3.15 | 0.24 | 0.236 | 2.21 | (14)_ | 1.968 | (5) _ |
| **518** | 2.38 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.33 | N/A | 2.56 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 3.51 | N/A | 3.19 | 4.84 | 0.47 | 0.354 | 2.83 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 4.08 | N/A | 4.72 | 6.89 | 0.51 | 0.276 | 3.58 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 4.83 | 5.35 | 5.31 | 8.07 | 0.63 | 0.197 | 4.33 | 1.500 | 5.984 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style FH




**ASSEMBLIES**



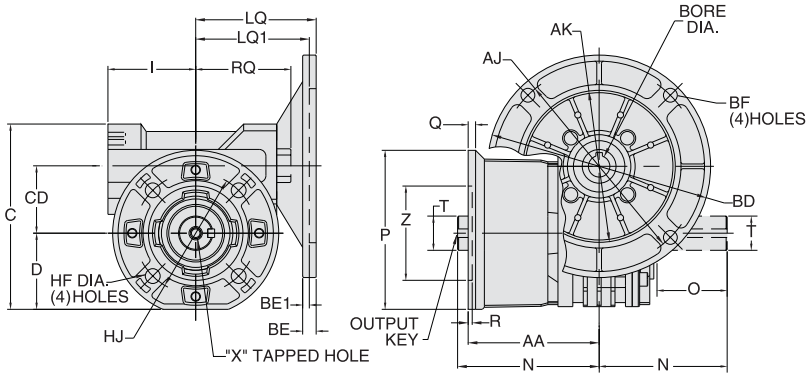

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FH DIMENSIONS** - Inches

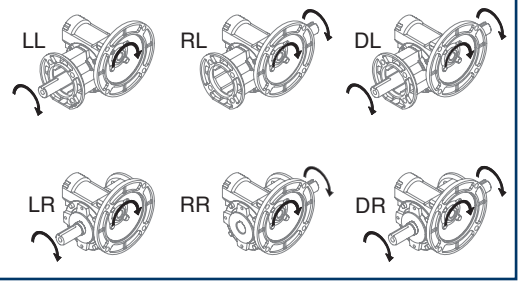
| Series | AA | C | CD | D | HF | HJ | I | L | M | NN | P | Q | R | S +0.0015 -0.0000 | T +0.000 -0.001 | U | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.86 | 1.67 | 2.56 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 4.11 | 1.74 | 3.19 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 5.43 | 2.24 | 4.72 | 6.89 | 0.51 | 0.276 | 1.75 | 1.125 | 0.750 | 4.528 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 6.38 | 2.52 | 5.31 | 8.07 | 0.63 | 0.197 | 1.75 | 1.500 | 0.875 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style FMQ




### ASSEMBLIES



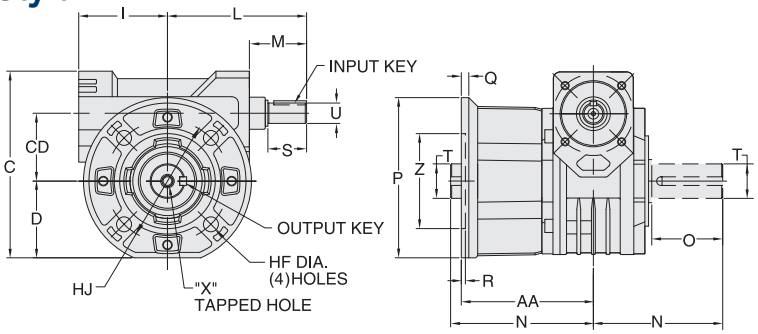

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FMQ DIMENSIONS - Inches (MM)

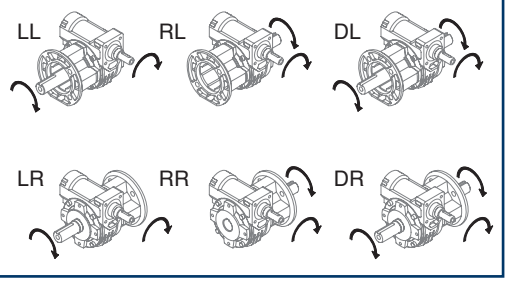
| Series | AA | C | CD | D | I | HF | HJ | LQ* 56/140 | LQ1* 180 | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 1.99 | 3.54 | 1.18 | 1.54 | 1.81 | 0.276 | 2.68 | * | N/A | 2.48 | 1.01 | 3.15 | 0.24 | 0.236 | 2.21 | (14)✿ | N/A | N/A | 1.968 | (5)✿ |
| **518** | 2.38 | 4.76 | 1.77 | 1.93 | 2.16 | 0.335 | 3.43 | 3.33 | N/A | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 2.15 | 2.56 | 0.413 | 3.54 | 3.51 | N/A | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 2.76 | 3.11 | 0.413 | 5.91 | 4.08 | N/A | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 3.72 | 3.86 | 0.512 | 6.93 | 4.83 | 5.35 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 4.33 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

## Style F




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE F DIMENSIONS** - Inches

| Series | AA | C | CD | D | HF | HJ | I | L | M | N | O | P | Q | R | S +0.000 -0.001 | T +0.000 -0.001 | U | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 4.11 | 1.74 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 5.43 | 2.24 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.75 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 6.38 | 2.52 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.75 | 1.500 | 0.875 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

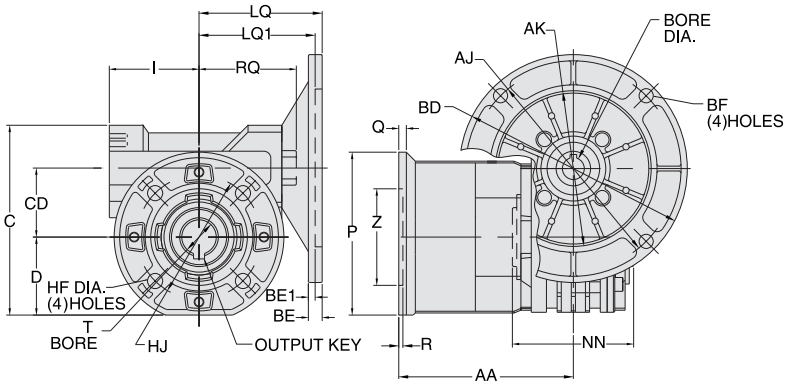
### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

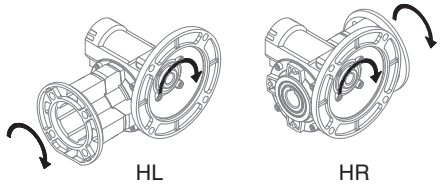
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style FLHMQ




**ASSEMBLIES**



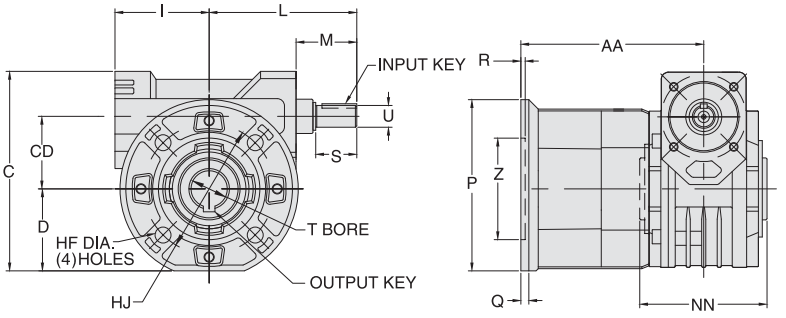

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FLHMQ DIMENSIONS - Inches (MM)

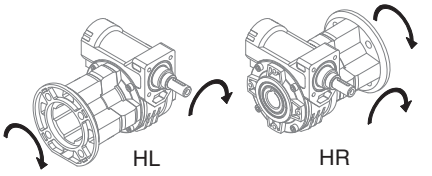
| Series | AA | C | CD | D | HF | HJ | I | LQ* 56/140 | LQ1* 180 | NN | P | Q | R | RQ | T* +0.0015 -0.0000 | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 2.19 | 3.54 | 1.18 | 1.54 | 0.335 | 3.43 | 1.81 | * | N/A | 2.16 | 4.33 | 0.24 | 0.236 | 2.21 | (14)● | 2.362 | (5)● |
| **518** | 3.56 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.33 | N/A | 2.56 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 3.51 | N/A | 3.19 | 4.84 | 0.47 | 0.354 | 2.83 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 4.08 | N/A | 4.72 | 6.89 | 0.51 | 0.276 | 3.58 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 4.83 | 5.35 | 5.31 | 8.07 | 0.63 | 0.197 | 4.33 | 1.500 | 5.984 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style FLH




**ASSEMBLIES**



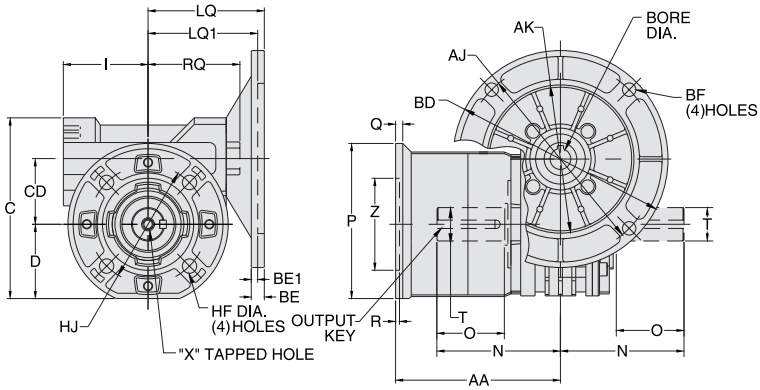

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FLH DIMENSIONS** - Inches

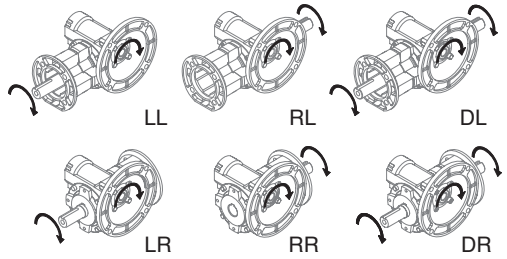
| Series | AA | C | CD | D | HF | HJ | I | L | M | NN | P | Q | R | S +0.0015 -0.0000 | T +0.000 -0.001 | U | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.86 | 1.67 | 2.56 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 4.11 | 1.74 | 3.19 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 5.43 | 2.24 | 4.72 | 6.89 | 0.51 | 0.276 | 1.75 | 1.125 | 0.750 | 4.528 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 6.38 | 2.52 | 5.31 | 8.07 | 0.63 | 0.197 | 1.75 | 1.500 | 0.875 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style FLMQ




### ASSEMBLIES



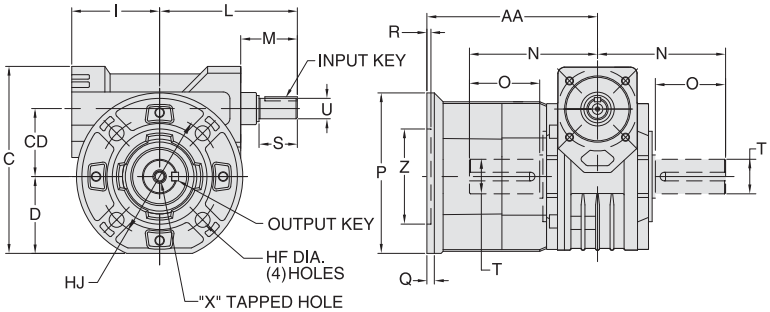

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FLMQ DIMENSIONS - Inches (MM)

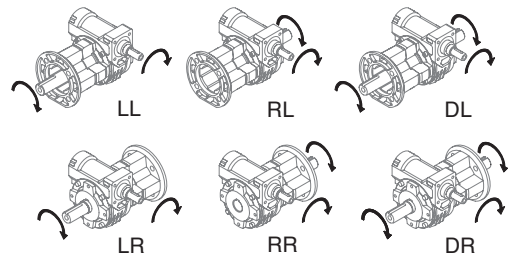
| Series | AA | C | CD | D | I | HF | HJ | LQ* 56/140 | LQ1* 180 | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 2.19 | 3.54 | 1.18 | 1.54 | 1.81 | 0.335 | 3.43 | * | N/A | 2.48 | 1.01 | 4.33 | 0.24 | 0.236 | 2.21 | (14)✿ | N/A | N/A | 2.362 | (5)✿ |
| **518** | 3.56 | 4.76 | 1.77 | 1.93 | 2.16 | 0.335 | 3.43 | 3.33 | N/A | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 2.15 | 2.56 | 0.413 | 3.54 | 3.51 | N/A | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 2.76 | 3.11 | 0.413 | 5.91 | 4.08 | N/A | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 3.72 | 3.86 | 0.512 | 6.93 | 4.83 | 5.35 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 4.33 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

## Style FL




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE FL DIMENSIONS** - Inches

| Series | AA | C | CD | D | HF | HJ | I | L | M | N | O | P | Q | R | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.93 | 0.335 | 3.43 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 2.15 | 0.413 | 3.54 | 2.56 | 4.11 | 1.74 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 2.76 | 0.413 | 5.91 | 3.11 | 5.43 | 2.24 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.75 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 3.72 | 0.512 | 6.93 | 3.86 | 6.38 | 2.52 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.75 | 1.500 | 0.875 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Motor Mounting Dimensions

### NEMA MOTOR MOUNTING DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/33 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

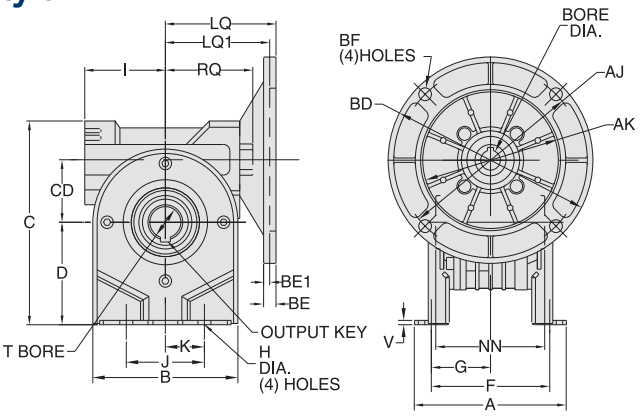
### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ (standard for metric units) | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

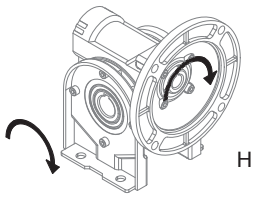
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style THMQ




**ASSEMBLIES**



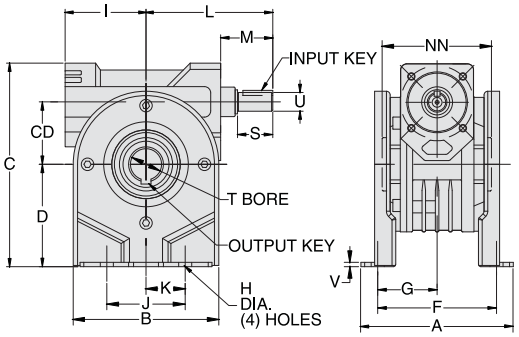

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE THMQ DIMENSIONS - Inches (MM)

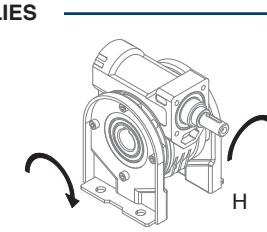
| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 4.17 | 1.18 | 2.17 | 2.60 | 1.30 | 0.256 | 1.81 | 1.97 | 0.99 | * | N/A | 2.16 | 2.21 | (14)● | 0.12 | (5)● |
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.33 | N/A | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 3.51 | N/A | 3.19 | 2.83 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 4.08 | N/A | 4.72 | 3.58 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 4.83 | 5.35 | 5.31 | 4.33 | 1.500 | 0.20 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

## Style TH




**ASSEMBLIES**



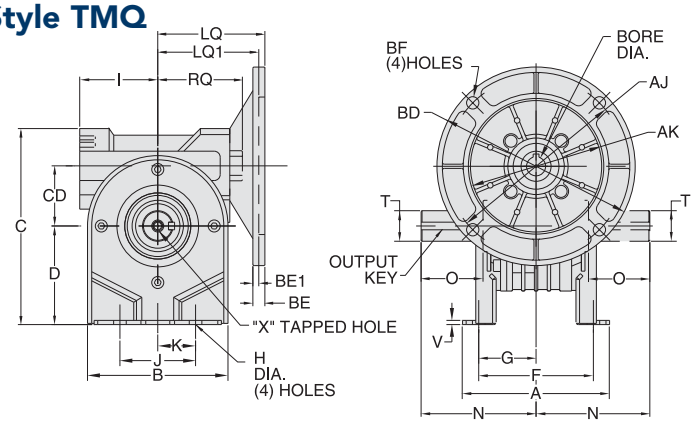

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE TH DIMENSIONS** - Inches

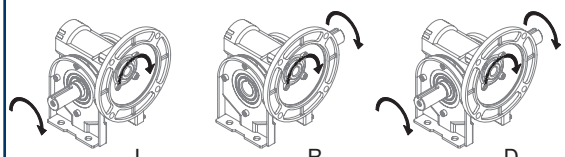
| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 4.11 | 1.74 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 5.43 | 2.24 | 4.72 | 1.75 | 1.125 | 0.750 | 0.16 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 6.38 | 2.52 | 5.31 | 1.75 | 1.500 | 0.875 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style TMQ




### ASSEMBLIES

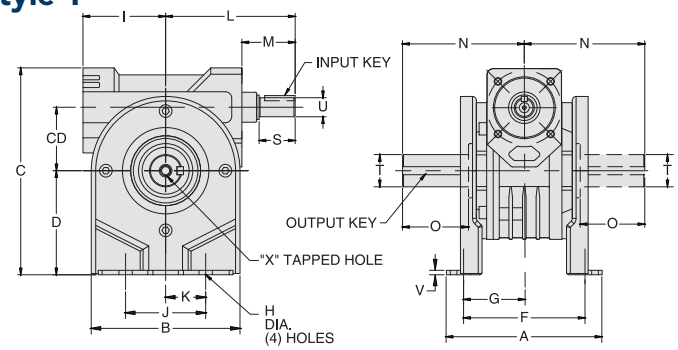



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE TMQ DIMENSIONS - Inches (MM)

| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | N | O | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 4.17 | 1.18 | 2.17 | 2.60 | 1.30 | 0.256 | 1.81 | 1.97 | 0.99 | * | N/A | 2.48 | 1.01 | 2.21 | (14)✿ | 0.12 | N/A | N/A | (5)✿ |
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.33 | N/A | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 3.51 | N/A | 3.94 | 2.05 | 2.83 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 4.08 | N/A | 4.85 | 2.36 | 3.58 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 4.83 | 5.35 | 5.55 | 2.36 | 4.33 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

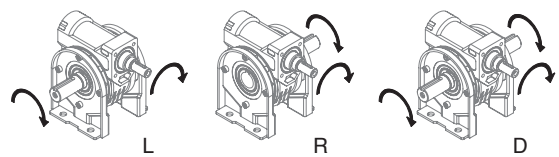
## Style T




✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE T DIMENSIONS** - Inches

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | N | O | S +0.000 -0.001 | T +0.000 -0.001 | U | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 4.11 | 1.74 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 5.43 | 2.24 | 4.85 | 2.36 | 1.75 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 6.38 | 2.52 | 5.55 | 2.36 | 1.75 | 1.500 | 0.875 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

# Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ | O (standard for metric units) | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.

▲ Keyway width by depth

❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)

◆ Dimensions are maximum (B5 and B14 options)

◊ B14 option not available

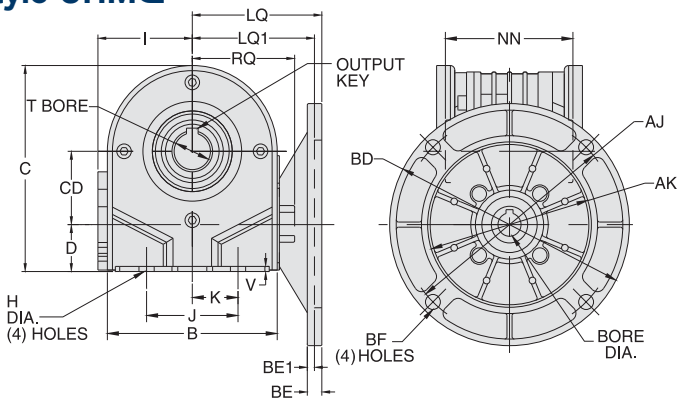
❑ B5 Option not available

■ Also applies to frame size D112MD

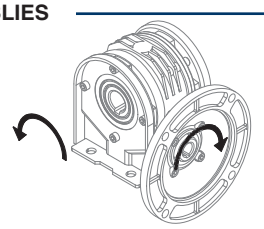
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style UHMQ




**ASSEMBLIES**



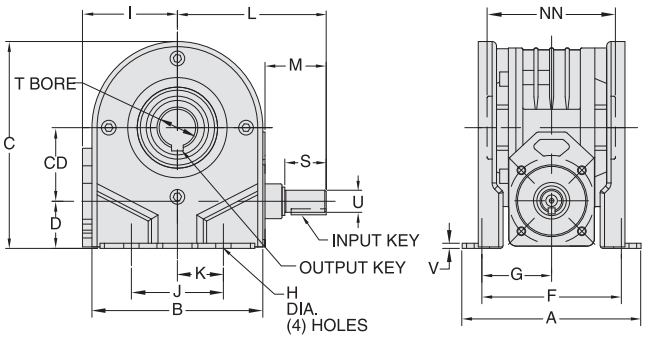

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE UHMQ DIMENSIONS - Inches (MM)

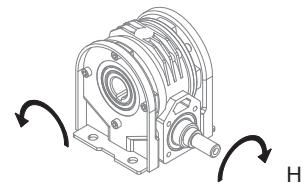
| Series | A^ | B | C | CD | D | F^ | G^ | H | I | J | K | LQ* 56/140 | LQ1* 180 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 3.70 | 1.18 | 0.98 | 2.60 | 1.30 | 0.256 | 1.81 | 1.97 | 0.99 | * | N/A | 2.16 | 2.21 | (14)● | 0.12 | (5)● |
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.33 | N/A | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 3.51 | N/A | 3.19 | 2.83 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 4.08 | N/A | 4.72 | 3.58 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 4.83 | 5.35 | 5.31 | 4.33 | 1.500 | 0.20 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.
^ Refer to style UH for reference to this dimension.

## Style UH




**ASSEMBLIES**



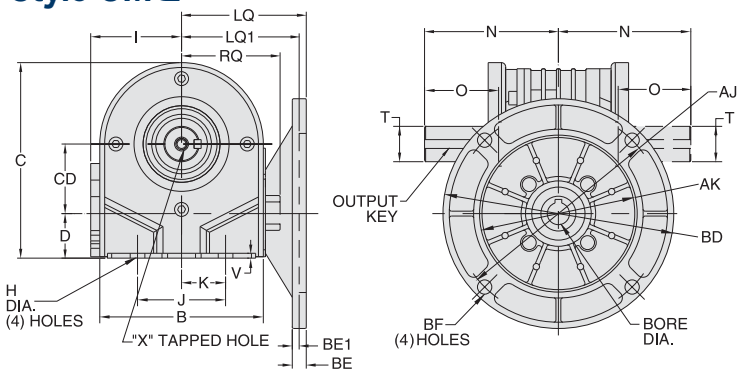

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE UH DIMENSIONS** - Inches

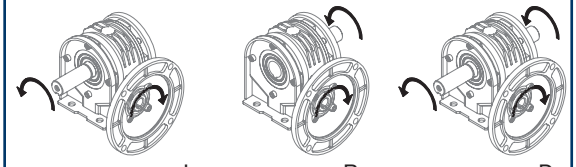
| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 4.11 | 1.74 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 5.43 | 2.24 | 4.72 | 1.75 | 1.125 | 0.750 | 0.16 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 6.38 | 2.52 | 5.31 | 1.75 | 1.500 | 0.875 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style UMQ




**ASSEMBLIES**



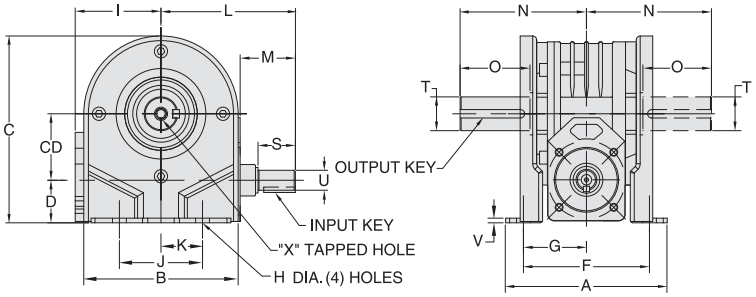

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE UMQ DIMENSIONS - Inches (MM)

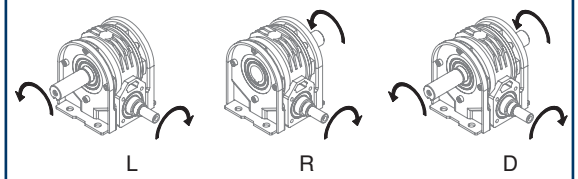
| Series | A^ | B | C | CD | D | F^ | G^ | H | I | J | K | LQ* 56/140 | LQ1* 180 | N | O | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 3.70 | 1.18 | 0.98 | 2.60 | 1.30 | 0.256 | 1.81 | 1.97 | 0.99 | * | N/A | 2.48 | 1.01 | 2.21 | (14)✿ | 0.12 | N/A | N/A | (5)✿ |
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.33 | N/A | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 3.51 | N/A | 3.94 | 2.05 | 2.83 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 4.08 | N/A | 4.85 | 2.36 | 3.58 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 4.83 | 5.35 | 5.55 | 2.36 | 4.33 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.
^ Refer to style U for reference to this dimension.

## Style U




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE U DIMENSIONS** - Inches

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 4.11 | 1.74 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 5.43 | 2.24 | 4.85 | 2.36 | 1.75 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 6.38 | 2.52 | 5.55 | 2.36 | 1.75 | 1.500 | 0.875 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

# Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

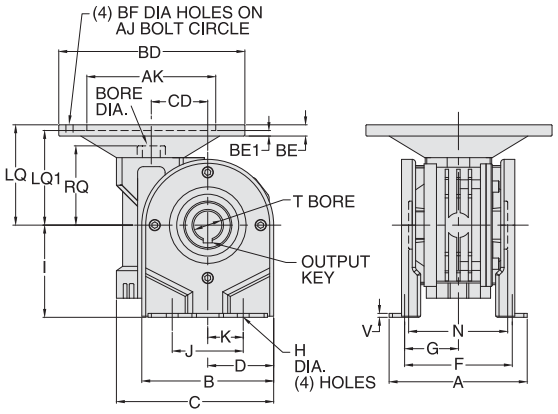
### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ (standard for metric units) | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

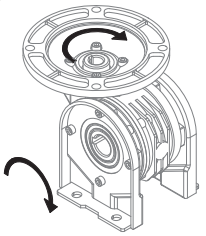
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style JHMQ




**ASSEMBLIES**



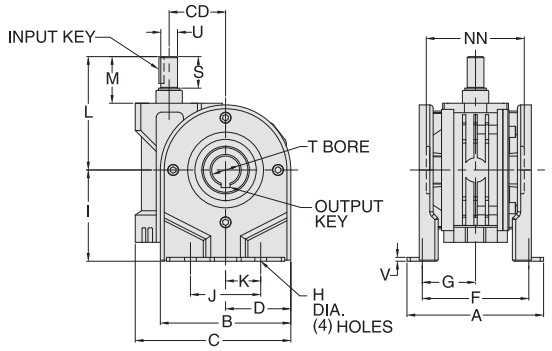

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE JHMQ DIMENSIONS - Inches (MM)

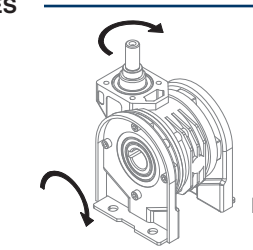
| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 3.54 | 1.18 | 1.54 | 2.60 | 1.30 | 0.256 | 2.16 | 1.97 | 0.99 | * | N/A | 2.16 | 2.21 | (14)● | 0.12 | (5)● |
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 3.33 | N/A | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 3.51 | N/A | 3.19 | 2.83 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 4.08 | N/A | 4.72 | 3.58 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 4.83 | 5.35 | 5.31 | 4.33 | 1.500 | 0.20 | 3/8 X 2.00 |

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

## Style JH




**ASSEMBLIES**



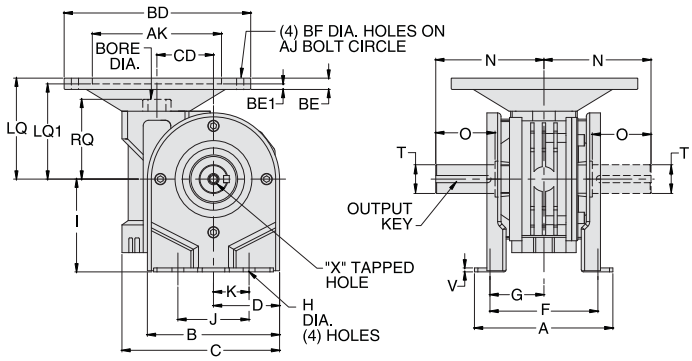

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

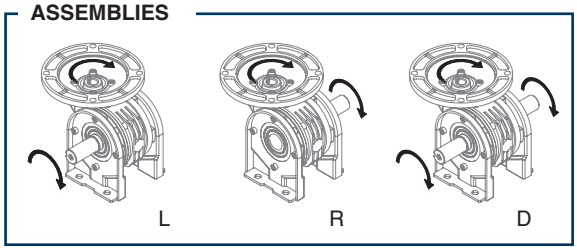
### STYLE JH DIMENSIONS** - Inches

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 4.11 | 1.74 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 5.43 | 2.24 | 4.72 | 1.75 | 1.125 | 0.750 | 0.16 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 6.38 | 2.52 | 5.31 | 1.75 | 1.500 | 0.875 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Style JMQ



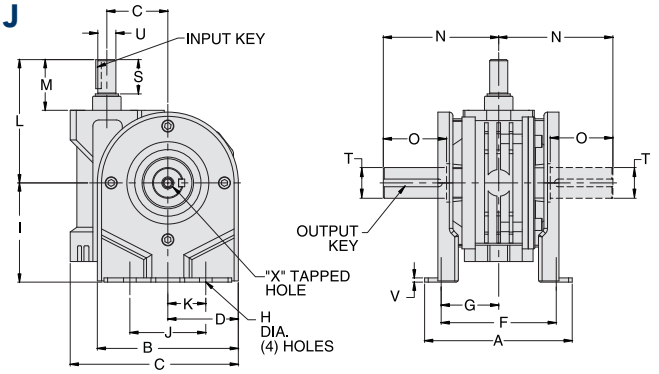

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

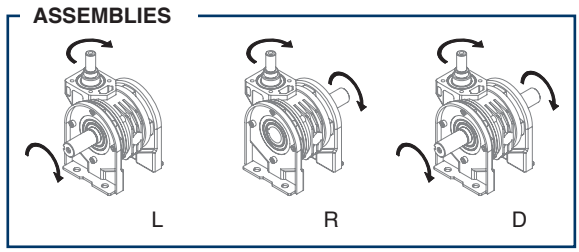
### STYLE JMQ DIMENSIONS - Inches (MM)

| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | N | O | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.43 | 3.07 | 3.54 | 1.18 | 1.54 | 2.60 | 1.30 | 0.256 | 2.16 | 1.97 | 0.99 | * | N/A | 2.48 | 1.01 | 2.21 | (14)✿ | 0.12 | N/A | N/A | (5)✿ |
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 3.33 | N/A | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 3.51 | N/A | 3.94 | 2.05 | 2.83 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 4.08 | N/A | 4.85 | 2.36 | 3.58 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 4.83 | 5.35 | 5.55 | 2.36 | 4.33 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

✿ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

## Style J




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE J DIMENSIONS** - Inches

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 4.11 | 1.74 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 5.43 | 2.24 | 4.85 | 2.36 | 1.75 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 x 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 6.38 | 2.52 | 5.55 | 2.36 | 1.75 | 1.500 | 0.875 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

** Series 512 is available in this style. Contact Factory for details

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ1◆ IEC B5 & B14 Options D56D | D63D | D71D | D80D | D90D | D100LD■ | T ✓ | O (standard for metric units) | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

# Bravo™ ALUMINUM GEAR REDUCERS Mounting Style Guide

## Hollow Output Shaft Mounted

### MOTORIZED QUILL INPUT

**DHMQ**



Ratings: Pages 313-314
Dimensions: Page 316

**DRHMQ**



Ratings: Pages 313-314
Dimensions: Page 364

**DFHMQ**



Ratings: Pages 313-314
Dimensions: Page 318

### NON-MOTORIZED SOLID INPUT SHAFT

**DH**



Ratings: Pages 3313-314
Dimensions: Page 316

**DRH**



Ratings: Pages 313-314
Dimensions: Page 364

**DFH**



Ratings: Pages 3313-314
Dimensions: Page 318

## Solid Output Shaft

### MOTORIZED QUILL INPUT

**DMQ**



Ratings: Pages 313-314
Dimensions: Page 317

**DRMQ**



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 364

**DFMQ**



Ratings: Pages 313-314
Dimensions: Page 319

### NON-MOTORIZED SOLID INPUT SHAFT

**D**



Ratings: Pages 313-314
Dimensions: Page 317

**DR**



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 364

**DF**



Ratings: Pages 313-314
Dimensions: Page 319

## Mounting Accessories

**Select the appropriate mounting accessories from this wide variety of options.**



**REACTION ARM R**



**F FLANGE**
**(SHORT FLANGE)**

❖ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

## DFLHMQ



Ratings: Pages 313-314
Dimensions: Page 320

## DTHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 322

## DUHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 324

## DJHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 326

## DFLH



Ratings: Pages 313-314
Dimensions: Page 320

## DTH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 322

## DUH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 324

## DJH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 326

## DFLMQ



Ratings: Pages 313-314
Dimensions: Page 321

## DTMQ



Ratings: Pages 313-314
Dimensions: Page 323

## DUMQ



Ratings: Pages 313-314
Dimensions: Page 325

## DJMQ



Ratings: Pages 313-314
Dimensions: Page 327

## DFL



Ratings: Pages 313-314
Dimensions: Page 321



**FL FLANGE**
**(LONG FLANGE)**

## DT



Ratings: Pages 313-314
Dimensions: Page 323



**HORIZONTAL BASE**
**(WORM OVER ASSEMBLY)**

## DU



Ratings: Pages 313-314
Dimensions: Page 325



**HORIZONTAL BASE**
**(WORM UNDER ASSEMBLY)**

## DJ



Ratings: Pages 313-314
Dimensions: Page 327



**HORIZONTAL BASE**
**(VERTICAL INPUT SHAFT)**

# Bravo™ ALUMINUM GEAR REDUCERS — Double Reduction • Worm - Worm Model Number System

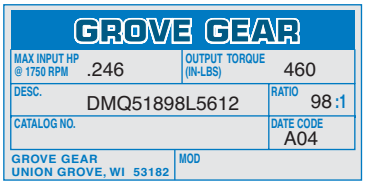
## Grove Gear 500 Series Gear Reducer Model Number Nomenclature

All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

### TYPICAL NAMEPLATE




**Style**

**SOLID OUTPUT SHAFT**
**DMQ** – Motorized, Quill Input
**D** – Non-Flanged

**HOLLOW OUTPUT SHAFT**
**DHMQ** – Motorized, Quill Input
**DH** – Non-Flanged

**Series**

**ALUMINUM 500 SERIES CENTER DISTANCES**

| Series | Center Distance (Inches) | (mm) |
|---|---|---|
| 518 | 1.77 | 45 |
| 520 | 1.97 | 50 |
| 525 | 2.48 | 63 |
| 534 | 3.35 | 85 |

**Ratio**

**See Selection Tables on pages 313-314 for all available ratios**

**Output Shaft Orientation**

**L** – Left-hand Output Shaft*
**R** – Right-hand Output Shaft*
**D** – Double Output Shaft
**H** – Hollow Output Shaft
* Viewed from drive end of reducer.

**Mounting Assembly**

**Assembly numbers 1-6 are available. Refer to dimensional layout on pages 316-327.**

**Motor Flange**

| NEMA Input Flange Code | For NEMA Frame |
|---|---|
| 56 | 56C |
| 140 | 143-5TC |

| IEC Input Flange Code | For IEC Frame |
|---|---|
| 56B14 | 56B14 |
| 63B14 | 63B14 |
| 63B5 | 63B5 |
| 71B14 | 71B14 |
| 71B5 | 71B5 |

**Shaft Dimension Code**

**OUTPUT SHAFT DIMENSION CODE ▲**

| Series | NEMA/Inch Options Shaft Dia. | Shaft* Code | IEC/Metric Options Shaft Dia. | Shaft Code |
|---|---|---|---|---|
| 518 | 3/4" | 12 | 18mm | 18 |
| 520 | 1" | 16 | 25mm | 25 |
| 525 | 1-1/8" | 18 | 25mm | 25 |
| 534 | 1-1/2" | 24 | 35mm | 35 |

*Shaft Diameter in 1/16ths of an inch.
▲ Diameters and shaft codes of hollow bore styles are identical to those of solid shaft styles. Reducers with NEMA inputs will have inch dimensioned output shafts and reducers with IEC inputs will have metric dimensioned output shafts as standard.

## Sample Model Number

### Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 3600:1 Ratio, Left Hand Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

| DMQ | 518 | 3600 | L | 1 | 56 | 12 |
|---|---|---|---|---|---|---|
| Style | Series | Ratio | Output Shaft | Mounting Assembly Flange | Motor Input | Shaft Code |

### Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 3600:1 Ratio, 3/4" Hollow Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

| DHMQ | 518 | 3600 | H | 1 | 56 | 12 |
|---|---|---|---|---|---|---|
| Style | Series | Ratio | Output Shaft | Mounting Assembly | Motor Input Flange | Shaft Code |





### 518 Series • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 70 | 1750 | 25.00 | 0.332 | 0.182 | 460 |
| | 1150 | 16.43 | 0.230 | 0.126 | 485 |
| 98 | 1750 | 17.86 | 0.246 | 0.130 | 460 |
| | 1150 | 11.73 | 0.170 | 0.090 | 485 |
| 147 | 1750 | 11.90 | 0.190 | 0.095 | 504 |
| | 1150 | 7.82 | 0.132 | 0.066 | 531 |
| 210 | 1750 | 8.33 | 0.139 | 0.067 | 504 |
| | 1150 | 5.48 | 0.096 | 0.046 | 531 |
| 294 | 1750 | 5.95 | 0.106 | 0.048 | 504 |
| | 1150 | 3.91 | 0.073 | 0.033 | 531 |
| 441 | 1750 | 3.97 | 0.088 | 0.032 | 504 |
| | 1150 | 2.61 | 0.061 | 0.022 | 531 |
| 588 | 1750 | 2.98 | 0.072 | 0.024 | 504 |
| | 1150 | 1.96 | 0.050 | 0.017 | 531 |
| 777 | 1750 | 2.25 | 0.060 | 0.018 | 504 |
| | 1150 | 1.48 | 0.042 | 0.012 | 531 |
| 966 | 1750 | 1.81 | 0.054 | 0.014 | 504 |
| | 1150 | 1.19 | 0.037 | 0.010 | 531 |
| 1288 | 1750 | 1.36 | 0.045 | 0.011 | 504 |
| | 1150 | 0.893 | 0.031 | 0.008 | 531 |
| 1702 | 1750 | 1.03 | 0.037 | 0.008 | 504 |
| | 1150 | 0.676 | 0.026 | 0.006 | 531 |
| 2220 | 1750 | 0.788 | 0.030 | 0.006 | 504 |
| | 1150 | 0.518 | 0.021 | 0.004 | 531 |
| 3600 | 1750 | 0.486 | 0.018 | 0.004 | 460 |
| | 1150 | 0.319 | 0.012 | 0.002 | 485 |

### 520 Series • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 70 | 1750 | 25.00 | 0.573 | 0.309 | 780 |
| | 1150 | 16.43 | 0.396 | 0.214 | 821 |
| 98 | 1750 | 17.86 | 0.425 | 0.221 | 780 |
| | 1150 | 11.73 | 0.294 | 0.153 | 821 |
| 140 | 1750 | 12.50 | 0.305 | 0.158 | 799 |
| | 1150 | 8.21 | 0.211 | 0.110 | 841 |
| 182 | 1750 | 9.62 | 0.259 | 0.122 | 799 |
| | 1150 | 6.32 | 0.179 | 0.084 | 841 |
| 260 | 1750 | 6.73 | 0.198 | 0.085 | 799 |
| | 1150 | 4.42 | 0.137 | 0.059 | 841 |
| 364 | 1750 | 4.81 | 0.145 | 0.061 | 799 |
| | 1150 | 3.16 | 0.100 | 0.042 | 841 |
| 546 | 1750 | 3.21 | 0.107 | 0.041 | 799 |
| | 1150 | 2.11 | 0.074 | 0.028 | 841 |
| 676 | 1750 | 2.59 | 0.091 | 0.033 | 799 |
| | 1150 | 1.70 | 0.063 | 0.023 | 841 |
| 962 | 1750 | 1.82 | 0.072 | 0.023 | 799 |
| | 1150 | 1.20 | 0.050 | 0.016 | 841 |
| 1260 | 1750 | 1.39 | 0.065 | 0.018 | 799 |
| | 1150 | 0.913 | 0.045 | 0.012 | 841 |
| 1591 | 1750 | 1.10 | 0.056 | 0.014 | 799 |
| | 1150 | 0.723 | 0.039 | 0.010 | 841 |
| 2220 | 1750 | 0.788 | 0.045 | 0.009 | 757 |
| | 1150 | 0.518 | 0.031 | 0.007 | 797 |
| 3600 | 1750 | 0.486 | 0.028 | 0.006 | 757 |
| | 1150 | 0.319 | 0.019 | 0.004 | 797 |

**WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE 312.**

# Bravo™ ALUMINUM GEAR REDUCERS — Maximum Rating Tables

## 525 & 534 Series • All Stock Styles





### 525 Series • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 70 | 1750 | 25.00 | 1.396 | 0.768 | 1935 |
| | 1150 | 16.43 | 0.966 | 0.531 | 2037 |
| 105 | 1750 | 16.67 | 0.948 | 0.512 | 1935 |
| | 1150 | 10.95 | 0.655 | 0.354 | 2037 |
| 150 | 1750 | 11.67 | 0.689 | 0.358 | 1935 |
| | 1150 | 7.67 | 0.477 | 0.248 | 2037 |
| 210 | 1750 | 8.33 | 0.556 | 0.256 | 1935 |
| | 1150 | 5.48 | 0.385 | 0.177 | 2037 |
| 300 | 1750 | 5.83 | 0.426 | 0.179 | 1935 |
| | 1150 | 3.83 | 0.295 | 0.124 | 2037 |
| 420 | 1750 | 4.17 | 0.328 | 0.128 | 1935 |
| | 1150 | 2.74 | 0.227 | 0.089 | 2037 |
| 630 | 1750 | 2.78 | 0.259 | 0.085 | 1935 |
| | 1150 | 1.83 | 0.179 | 0.059 | 2037 |
| 840 | 1750 | 2.08 | 0.206 | 0.064 | 1935 |
| | 1150 | 1.37 | 0.143 | 0.044 | 2037 |
| 1110 | 1750 | 1.58 | 0.162 | 0.049 | 1935 |
| | 1150 | 1.04 | 0.112 | 0.034 | 2037 |
| 1380 | 1750 | 1.27 | 0.139 | 0.039 | 1935 |
| | 1150 | 0.833 | 0.096 | 0.027 | 2037 |
| 1800 | 1750 | 0.972 | 0.115 | 0.030 | 1935 |
| | 1150 | 0.639 | 0.079 | 0.021 | 2037 |
| 2160 | 1750 | 0.810 | 0.096 | 0.025 | 1935 |
| | 1150 | 0.532 | 0.066 | 0.017 | 2037 |
| 4020 | 1750 | 0.435 | 0.064 | 0.013 | 1935 |
| | 1150 | 0.286 | 0.044 | 0.009 | 2037 |

### 534 Series • 1.0 S.F.

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 70 | 1750 | 25.00 | 1.577 | 0.899 | 2266 |
| | 1150 | 16.43 | 1.091 | 0.622 | 2386 |
| 98 | 1750 | 17.86 | 1.127 | 0.642 | 2266 |
| | 1150 | 11.73 | 0.779 | 0.444 | 2386 |
| 140 | 1750 | 12.50 | 0.920 | 0.534 | 2690 |
| | 1150 | 8.21 | 0.636 | 0.369 | 2832 |
| 196 | 1750 | 8.93 | 0.733 | 0.381 | 2690 |
| | 1150 | 5.87 | 0.507 | 0.264 | 2832 |
| 280 | 1750 | 6.25 | 0.798 | 0.375 | 3784 |
| | 1150 | 4.11 | 0.553 | 0.260 | 3983 |
| 392 | 1750 | 4.46 | 0.609 | 0.268 | 3784 |
| | 1150 | 2.93 | 0.421 | 0.185 | 3983 |
| 588 | 1750 | 2.98 | 0.484 | 0.179 | 3784 |
| | 1150 | 1.96 | 0.335 | 0.124 | 3983 |
| 784 | 1750 | 2.23 | 0.394 | 0.134 | 3784 |
| | 1150 | 1.47 | 0.273 | 0.093 | 3983 |
| 1036 | 1750 | 1.69 | 0.307 | 0.101 | 3784 |
| | 1150 | 1.11 | 0.213 | 0.070 | 3983 |
| 1288 | 1750 | 1.36 | 0.272 | 0.082 | 3784 |
| | 1150 | 0.893 | 0.188 | 0.056 | 3983 |
| 1680 | 1750 | 1.04 | 0.181 | 0.053 | 3186 |
| | 1150 | 0.685 | 0.126 | 0.036 | 3354 |
| 2280 | 1750 | 0.768 | 0.144 | 0.039 | 3186 |
| | 1150 | 0.504 | 0.099 | 0.027 | 3354 |
| 3120 | 1750 | 0.561 | 0.113 | 0.028 | 3186 |
| | 1150 | 0.369 | 0.079 | 0.020 | 3354 |

**WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE 312.**

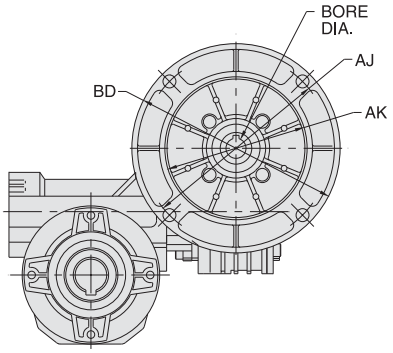
## DOUBLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size 518 | 520 | 525 | 534 | Reducer Style | Reducer Size 518 | 520 | 525 | 534 |
|---|---|---|---|---|---|---|---|---|---|
| Solid Output Shaft Models | | | | | Hollow Output Shaft Models | | | | |
| DMQ | 13 | 15 | 20 | 35 | DHMQ | 12 | 13 | 18 | 30 |
| D | 12 | 15 | 20 | 33 | DH | 11 | 13 | 18 | 28 |
| DTMQ, DUMQ | 15 | 17 | 23 | 40 | DTHMQ, DUHMQ | 14 | 15 | 21 | 35 |
| DT, DU | 14 | 17 | 23 | 38 | DTH, DUH | 13 | 15 | 21 | 33 |
| DJMQ | 15 | 17 | 23 | 40 | DJHMQ | 14 | 15 | 21 | 35 |
| DJ | 14 | 17 | 23 | 38 | DJH | 13 | 15 | 21 | 33 |
| DFMQ | 14 | 16 | 22 | 38 | DFHMQ | 13 | 14 | 20 | 33 |
| DF | 13 | 16 | 22 | 36 | DFH | 12 | 14 | 20 | 31 |
| DFLMQ | 15 | 17 | 23 | 40 | DFLHMQ | 14 | 15 | 21 | 35 |
| DFL | 14 | 17 | 23 | 38 | DFLH | 13 | 15 | 21 | 33 |
| DRMQ | 14 | 16 | 22 | 38 | DRHMQ | 13 | 14 | 20 | 33 |
| DR | 13 | 16 | 22 | 36 | DRH | 12 | 14 | 20 | 31 |

Δ Weights include grease and oil.

## REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size 518 | 520 | 525 | 534 |
|---|---|---|---|---|
| T/U - Base | 2 | 2 | 3 | 5 |
| J - Base | 2 | 2 | 3 | 5 |
| F - Flange | 1 | 1 | 2 | 3 |
| FL - Flange | 2 | 2 | 3 | 5 |
| R - Reaction Arm | 1 | 1 | 2 | 3 |




## DOUBLE REDUCTION • MOTOR FRAME COMBINATIONS

| NEMA or IEC Frame Size | Dimensions - Inches (MM) AK | AJ | BD | Bore Dia. | Reducer Size 518 | 520 | 525 | 534 |
|---|---|---|---|---|---|---|---|---|
| NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | ● | ● | ● | ● |
| IEC 56B14 | 1.97 (50) | 2.56 (65) | 3.15 (80) | (9) | ■ | ■ | ■ | ■ |
| IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ | ■ | ■ | ■ |
| IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ | ■ | ■ | ■ |
| IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | ● | ● | ● | ● |
| IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | ● | ● | ● | ● |

● Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.
■ Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

## DOUBLE REDUCTION • WORM-WORM • EXACT RATIO COMBINATIONS

### 518

| TOTAL RATIO | P 518 | S 518 |
|---|---|---|
| **70** | 7 | 10 |
| **98** | 7 | 14 |
| **147** | 21 | 7 |
| **210** | 21 | 10 |
| **294** | 21 | 14 |
| **441** | 21 | 21 |
| **588** | 21 | 28 |
| **777** | 21 | 37 |
| **966** | 46 | 21 |
| **1288** | 46 | 28 |
| **1702** | 46 | 37 |
| **2220** | 60 | 37 |
| **3600** | 60 | 60 |

### 520

| TOTAL RATIO | P 518 | S 520 |
|---|---|---|
| **70** | 7 | 10 |
| **98** | 7 | 14 |
| **140** | 10 | 14 |
| **182** | 7 | 26 |
| **260** | 10 | 26 |
| **364** | 14 | 26 |
| **546** | 21 | 26 |
| **676** | 26 | 26 |
| **962** | 37 | 26 |
| **1260** | 21 | 60 |
| **1591** | 37 | 43 |
| **2220** | 37 | 60 |
| **3600** | 60 | 60 |

### 525

| TOTAL RATIO | P 518 | S 525 |
|---|---|---|
| **70** | 7 | 10 |
| **105** | 7 | 15 |
| **150** | 10 | 15 |
| **210** | 7 | 30 |
| **300** | 10 | 30 |
| **420** | 14 | 30 |
| **630** | 21 | 30 |
| **840** | 28 | 30 |
| **1110** | 37 | 30 |
| **1380** | 46 | 30 |
| **1800** | 60 | 30 |
| **2160** | 60 | 36 |
| **4020** | 67 | 60 |

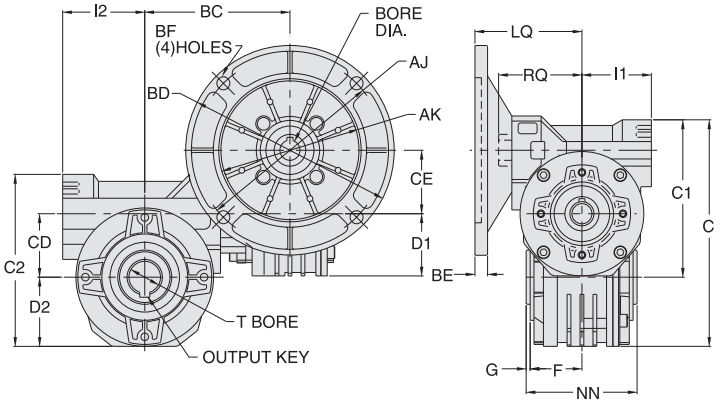
### 534

| TOTAL RATIO | P 518 | S 534 |
|---|---|---|
| **70** | 7 | 10 |
| **98** | 7 | 14 |
| **140** | 7 | 20 |
| **196** | 7 | 28 |
| **280** | 10 | 28 |
| **392** | 14 | 28 |
| **588** | 21 | 28 |
| **784** | 28 | 28 |
| **1036** | 37 | 28 |
| **1288** | 46 | 28 |
| **1680** | 60 | 28 |
| **2280** | 60 | 38 |
| **3120** | 60 | 52 |

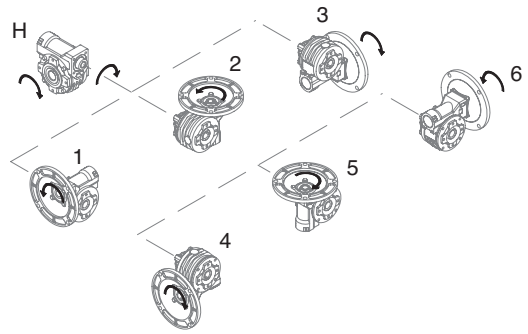
P = Primary stage reducer ratio
S = Secondary stage reducer ratio

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DHMQ




**ASSEMBLIES**



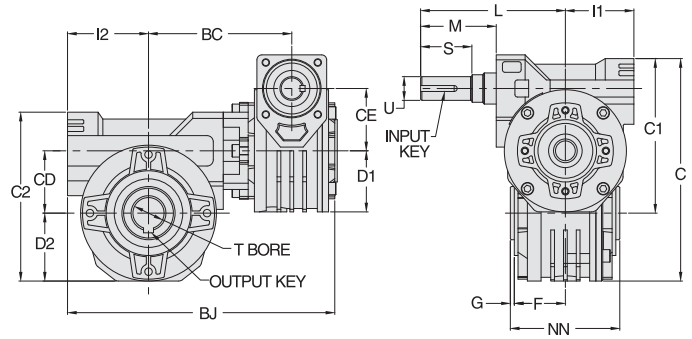

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DHMQ DIMENSIONS - Inches

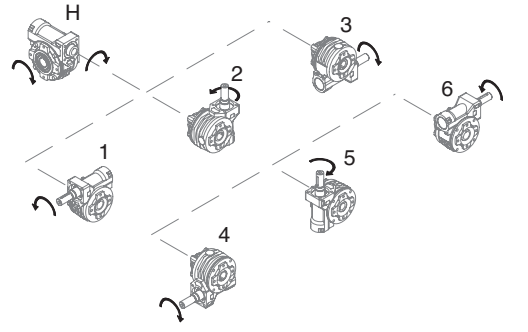
| Series | BC | C | C1 | C2 | CD | CE | D1 | D2 | F | G | I1 | I2 | LQ* 56C | NN | RQ | T* +0.0015 -0.0000 | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 1.38 | 0.08 | 2.16 | 2.16 | 3.33 | 2.56 | 2.60 | 0.750 | 3/16 X 1.00 |
| **520** | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 1.50 | 0.12 | 2.16 | 2.56 | 3.33 | 3.19 | 2.60 | 1.000 | 1/4 X 1.62 |
| **525** | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 1.77 | 0.19 | 2.16 | 3.11 | 3.33 | 4.72 | 2.60 | 1.125 | 1/4 X 2.00 |
| **534** | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 2.52 | 0.14 | 2.16 | 3.86 | 3.33 | 5.31 | 2.60 | 1.500 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DH




**ASSEMBLIES**

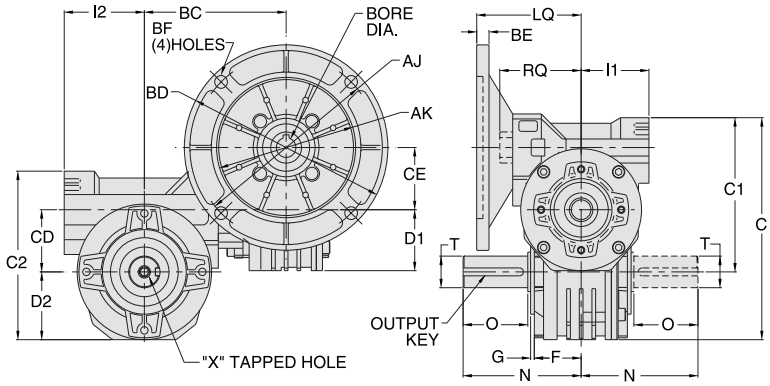



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

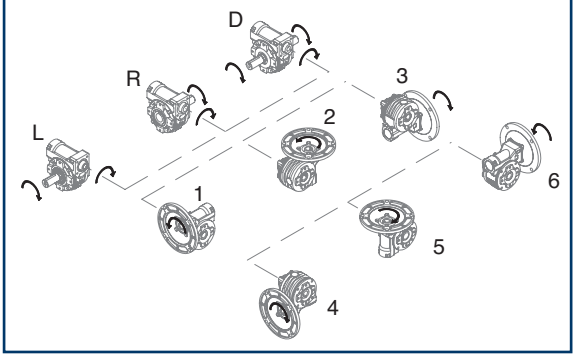
### STYLE DH DIMENSIONS - Inches

| Series | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | F | G | I1 | I2 | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 1.38 | 0.08 | 2.16 | 2.16 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 1.50 | 0.12 | 2.16 | 2.56 | 3.86 | 1.67 | 3.19 | 1.18 | 1.000 | 0.625 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 1.77 | 0.19 | 2.16 | 3.11 | 3.86 | 1.67 | 4.72 | 1.18 | 1.125 | 0.625 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 2.52 | 0.14 | 2.16 | 3.86 | 3.86 | 1.67 | 5.31 | 1.18 | 1.500 | 0.625 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DMQ




**ASSEMBLIES**



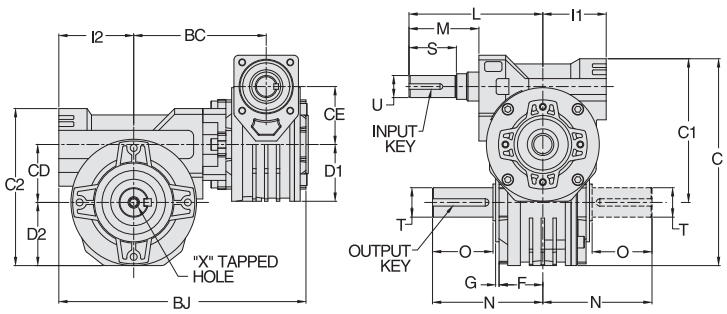

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DMQ DIMENSIONS - Inches

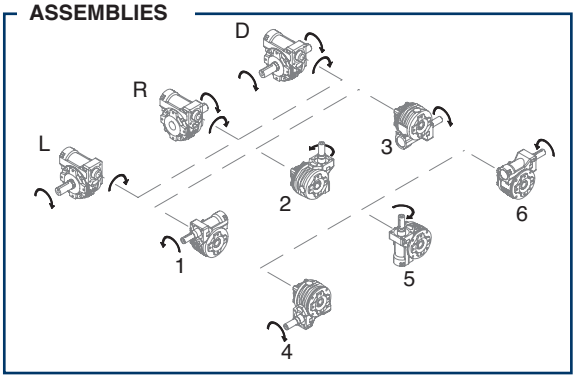
| Series | BC | C | C1 | C2 | CD | CE | D1 | D2 | F | G | I1 | I2 | LQ* 56C | N | O* | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 1.38 | 0.08 | 2.16 | 2.16 | 3.33 | 2.97 | 1.26 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 1.50 | 0.12 | 2.16 | 2.56 | 3.33 | 3.94 | 2.05 | 2.60 | 1.000 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 1.77 | 0.19 | 2.16 | 3.11 | 3.33 | 4.85 | 2.36 | 2.60 | 1.125 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 2.52 | 0.14 | 2.16 | 3.86 | 3.33 | 5.55 | 2.36 | 2.60 | 1.500 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style D




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE D DIMENSIONS - Inches

| Series | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | F | G | I1 | I2 | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 1.38 | 0.08 | 2.16 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 1.50 | 0.12 | 2.16 | 2.56 | 3.86 | 1.67 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 1.77 | 0.19 | 2.16 | 3.11 | 3.86 | 1.67 | 4.85 | 2.36 | 1.18 | 1.125 | 0.625 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 2.52 | 0.14 | 2.16 | 3.86 | 3.86 | 1.67 | 5.55 | 2.36 | 1.18 | 1.500 | 0.625 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

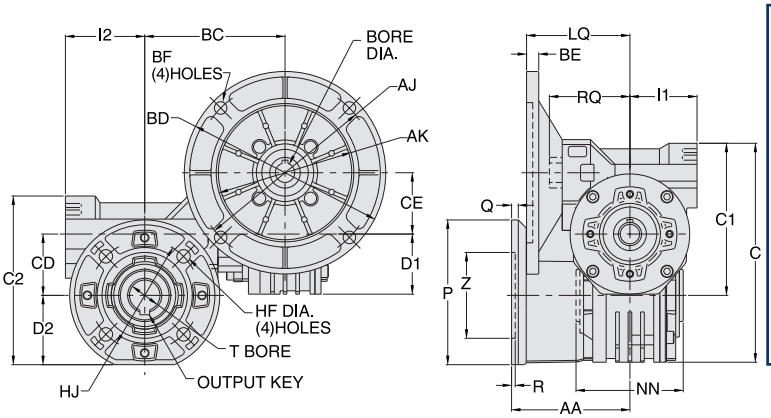
### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | LQ◆ D63D | LQ◆ D71D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

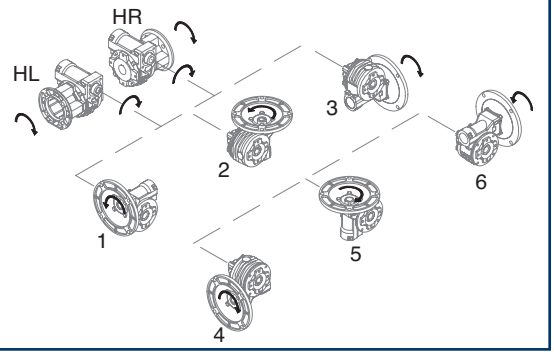
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)
◆ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DFHMQ




**ASSEMBLIES**



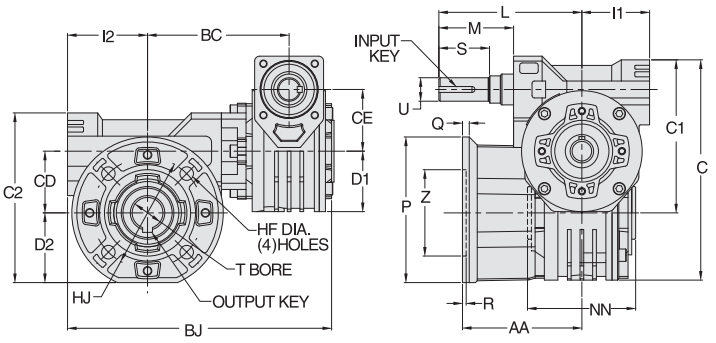

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DFHMQ DIMENSIONS - Inches

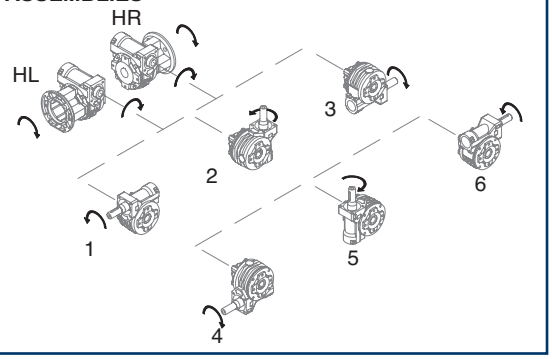
| Series | AA | BC | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | LQ* 56C | NN | P | Q | R | RQ | T* +0.0015 -0.0000 | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.33 | 2.56 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 3.35 | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.33 | 3.19 | 4.84 | 0.47 | 0.354 | 2.60 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.33 | 4.72 | 6.89 | 0.51 | 0.276 | 2.60 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.33 | 5.31 | 8.07 | 0.63 | 0.197 | 2.60 | 1.500 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DFH




**ASSEMBLIES**

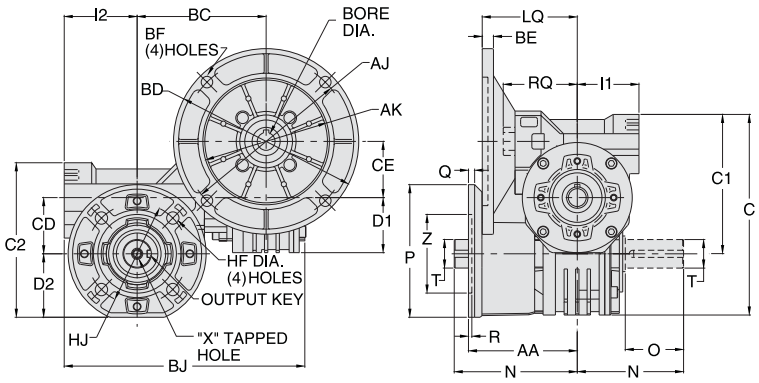



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

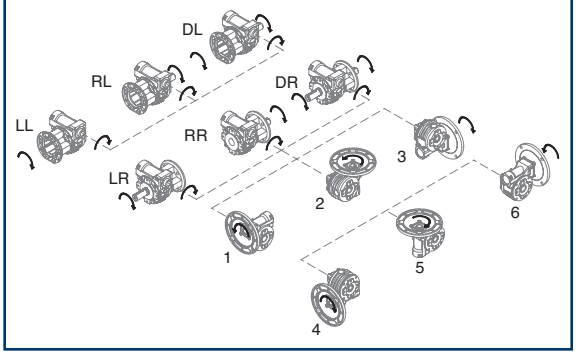
### STYLE DFH DIMENSIONS - Inches

| Series | AA | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | L | M | NN | P | Q | R | S | T +0.0015 -0.0000 | U +0.000 -0.001 | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.86 | 1.67 | 2.56 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 3.35 | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.86 | 1.67 | 3.19 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 3.39 | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.86 | 1.67 | 4.72 | 6.89 | 0.51 | 0.276 | 1.18 | 1.125 | 0.625 | 4.528 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 4.25 | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.86 | 1.67 | 5.31 | 8.07 | 0.63 | 0.197 | 1.18 | 1.500 | 0.625 | 5.984 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DFMQ




### ASSEMBLIES



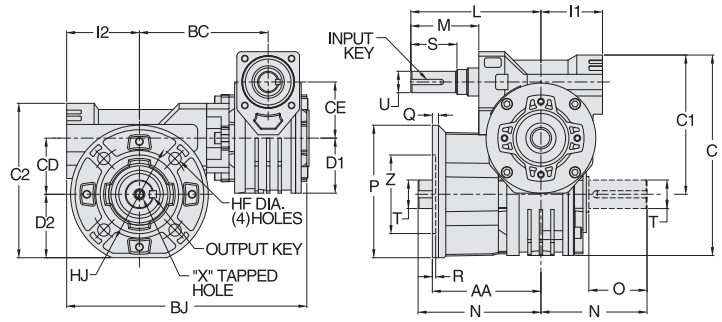

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DFMQ DIMENSIONS - Inches

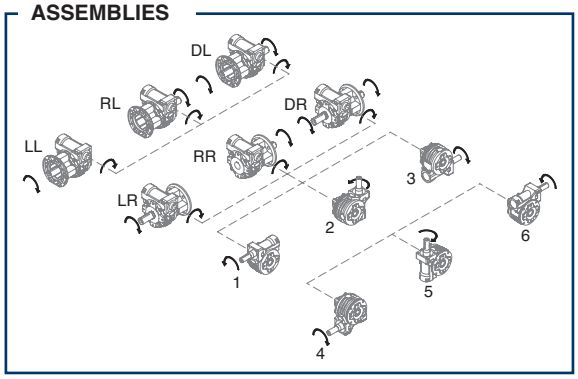
| Series | AA | BC | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | LQ* 56C | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.33 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 3.35 | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.33 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 2.60 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.33 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 2.60 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.33 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 2.60 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DF




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DF DIMENSIONS - Inches

| Series | AA | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | L | M | N | O | P | Q | R | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 3.35 | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.86 | 1.67 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 3.39 | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.86 | 1.67 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.18 | 1.125 | 0.625 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 4.25 | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.86 | 1.67 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.18 | 1.500 | 0.625 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | LQ◆ IEC B5 & B14 Options D63D | LQ◆ IEC B5 & B14 Options D71D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

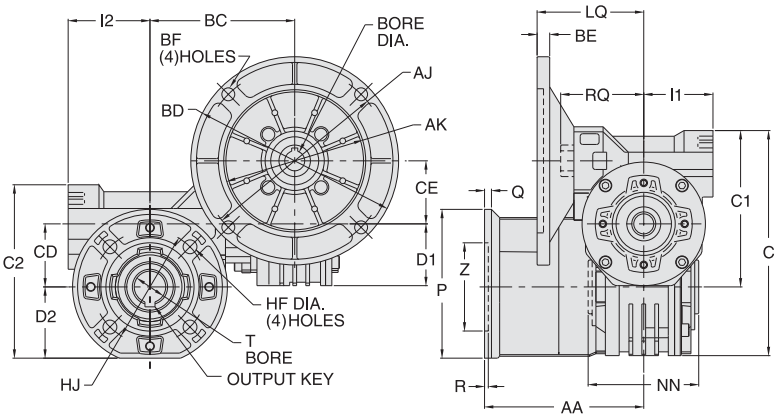
| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

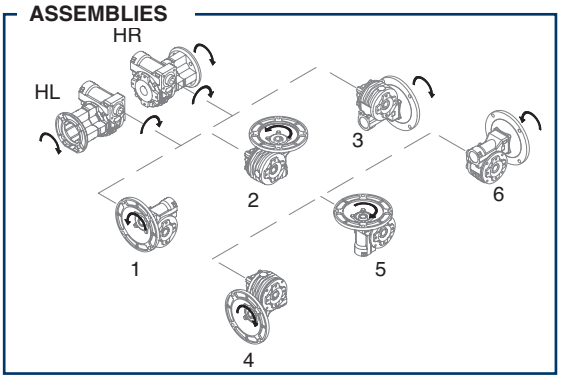
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)
◆ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

Bravo™ ALUMINUM GEAR REDUCERS

# Dimensions

## Style DFLHMQ



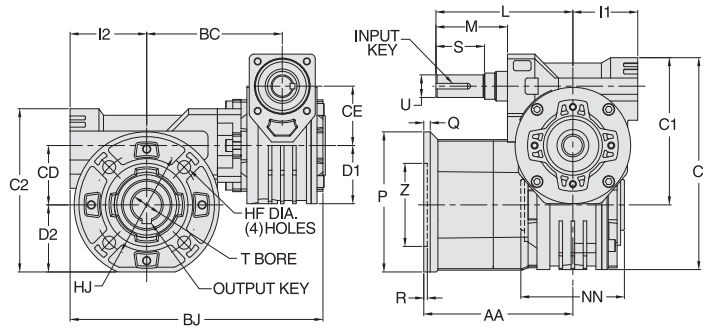

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

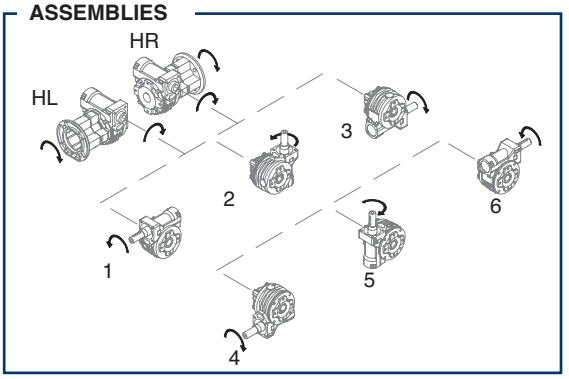
### STYLE DFLHMQ DIMENSIONS - Inches

| Series | AA | BC | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | LQ* 56C | NN | P | Q | R | RQ | T* +0.0015 -0.0000 | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.33 | 2.56 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 4.51 | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.33 | 3.19 | 4.84 | 0.47 | 0.354 | 2.60 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.33 | 4.72 | 6.89 | 0.51 | 0.276 | 2.60 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.33 | 5.31 | 8.07 | 0.63 | 0.197 | 2.60 | 1.500 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DFLH



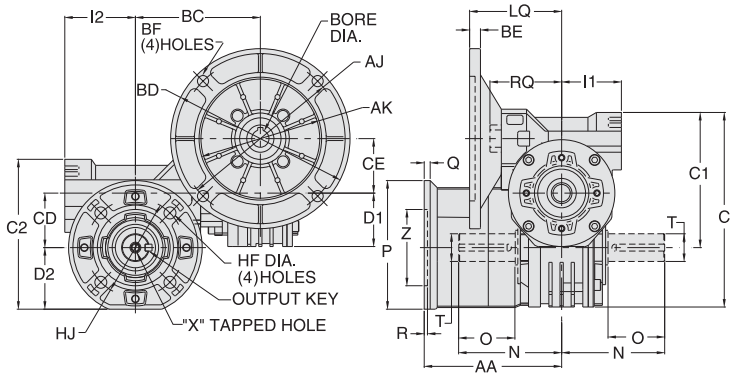



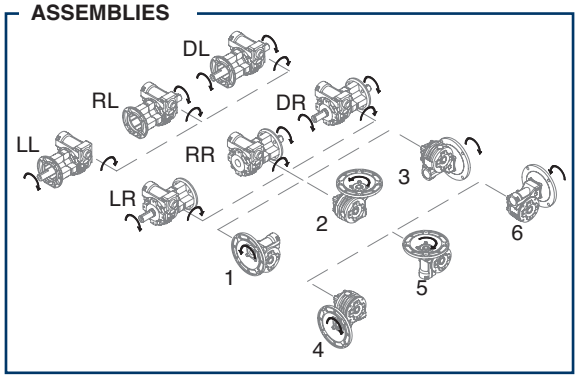

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DFLH DIMENSIONS - Inches

| Series | AA | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | L | M | NN | P | Q | R | S | T +0.0015 -0.0000 | U +0.000 -0.001 | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.86 | 1.67 | 2.56 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.51 | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.86 | 1.67 | 3.19 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 4.57 | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.86 | 1.67 | 4.72 | 6.89 | 0.51 | 0.276 | 1.18 | 1.125 | 0.625 | 4.528 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 5.85 | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.86 | 1.67 | 5.31 | 8.07 | 0.63 | 0.197 | 1.18 | 1.500 | 0.625 | 5.984 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DFLMQ



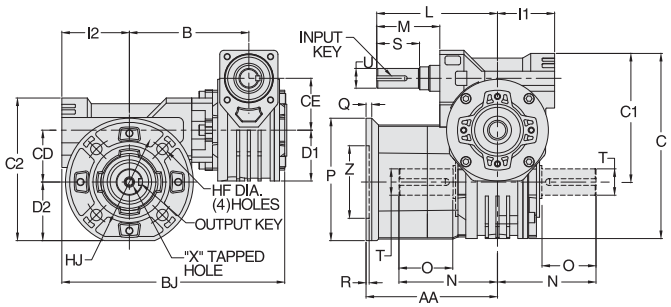

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

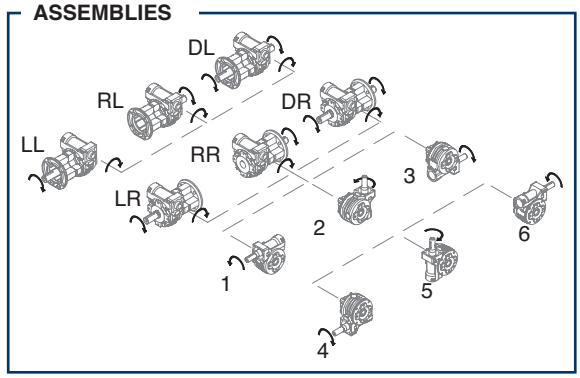
### STYLE DFLMQ DIMENSIONS - Inches

| Series | AA | BC | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | LQ* 56C | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.35 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.33 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 4.51 | 4.53 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.33 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 2.60 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 5.75 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.33 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 2.60 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 6.76 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.33 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 2.60 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DFL




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DFL DIMENSIONS - Inches

| Series | AA | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | HF | HJ | I1 | I2 | L | M | N | O | P | Q | R | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.35 | 7.90 | 6.42 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 0.335 | 3.43 | 2.16 | 2.16 | 3.86 | 1.67 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.51 | 4.53 | 8.47 | 7.30 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 0.413 | 3.54 | 2.16 | 2.56 | 3.86 | 1.67 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 4.57 | 5.75 | 10.24 | 9.17 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 0.413 | 5.91 | 2.16 | 3.11 | 3.86 | 1.67 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.18 | 1.125 | 0.625 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 5.85 | 6.76 | 12.01 | 12.00 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 0.512 | 6.93 | 2.16 | 3.86 | 3.86 | 1.67 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.18 | 1.500 | 0.625 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | LQ◆ D63D | LQ◆ D71D | T H7 | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|
| | | | | (standard for metric units) | | | |
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

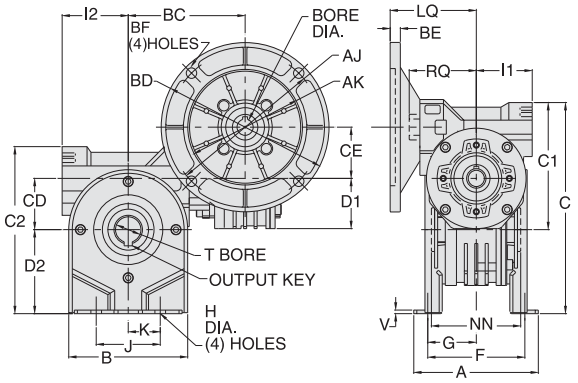
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

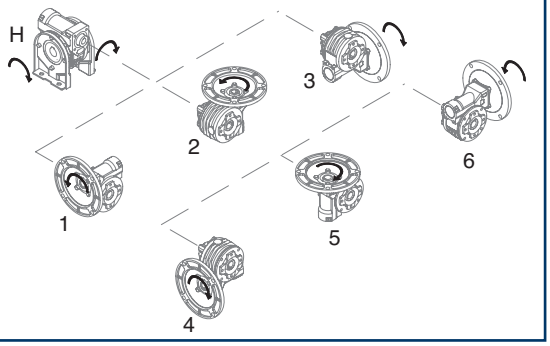
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)
◆ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DTHMQ




**ASSEMBLIES**



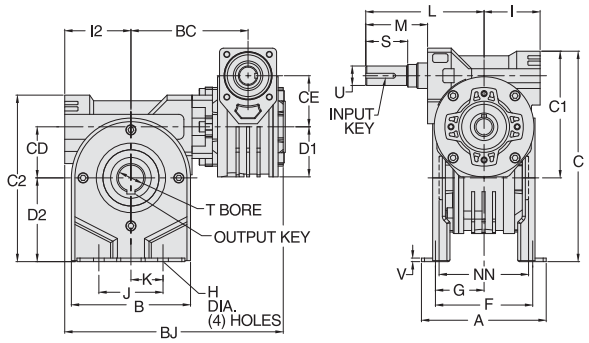

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DTHMQ DIMENSIONS - Inches

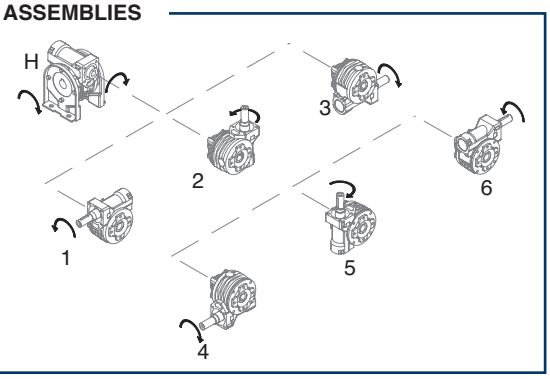
| Series | A | B | BC | C | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.32 | 4.76 | 5.67 | 1.77 | 1.77 | 1.93 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.33 | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.38 | 4.76 | 6.42 | 1.97 | 1.77 | 1.93 | 3.23 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.33 | 3.19 | 2.60 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.35 | 4.76 | 7.87 | 2.48 | 1.77 | 1.93 | 3.94 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.33 | 4.72 | 2.60 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.86 | 4.76 | 11.02 | 3.35 | 1.77 | 1.93 | 5.59 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.33 | 5.31 | 2.60 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DTH




**ASSEMBLIES**

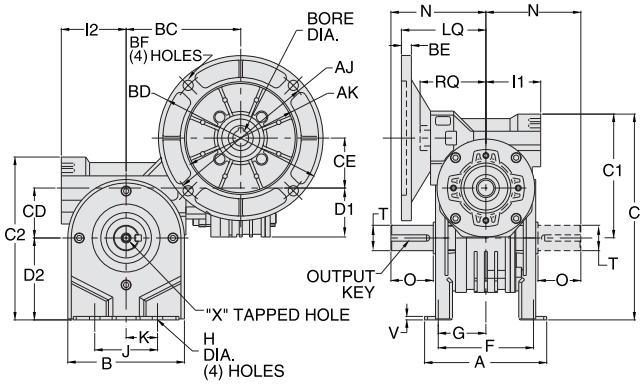



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

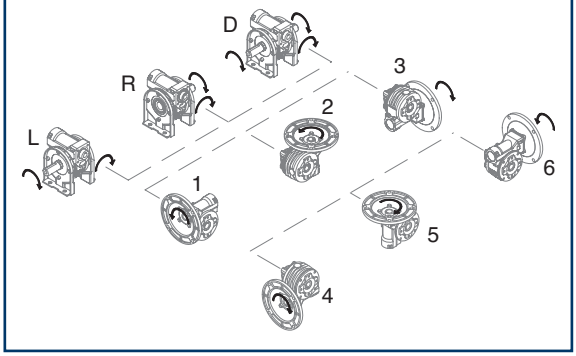
### STYLE DTH DIMENSIONS - Inches

| Series | A | B | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.90 | 7.32 | 4.76 | 5.67 | 1.77 | 1.77 | 1.93 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.47 | 8.38 | 4.76 | 6.42 | 1.97 | 1.77 | 1.93 | 3.23 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.86 | 1.67 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.24 | 10.35 | 4.76 | 7.87 | 2.48 | 1.77 | 1.93 | 3.94 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.86 | 1.67 | 4.72 | 1.18 | 1.125 | 0.625 | 0.16 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 12.01 | 13.86 | 4.76 | 11.02 | 3.35 | 1.77 | 1.93 | 5.59 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.86 | 1.67 | 5.31 | 1.18 | 1.500 | 0.625 | 0.20 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DTMQ




### ASSEMBLIES



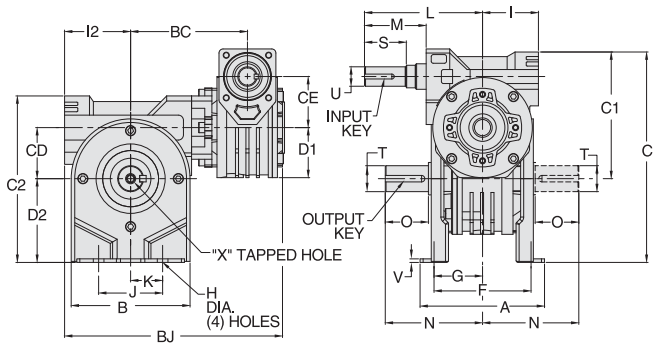

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DTMQ DIMENSIONS - Inches

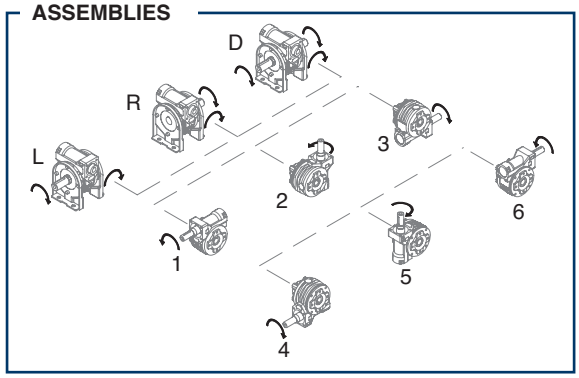
| Series | A | B | BC | C | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.32 | 4.76 | 5.67 | 1.77 | 1.77 | 1.93 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.33 | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.38 | 4.76 | 6.42 | 1.97 | 1.77 | 1.93 | 3.23 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.33 | 3.94 | 2.05 | 2.60 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.35 | 4.76 | 7.87 | 2.48 | 1.77 | 1.93 | 3.94 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.33 | 4.85 | 2.36 | 2.60 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.86 | 4.76 | 11.02 | 3.35 | 1.77 | 1.93 | 5.59 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.33 | 5.55 | 2.36 | 2.60 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DT




### ASSEMBLIES




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DT DIMENSIONS - Inches

| Series | A | B | BC | BJ | C | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.90 | 7.32 | 4.76 | 5.67 | 1.77 | 1.77 | 1.93 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.47 | 8.38 | 4.76 | 6.42 | 1.97 | 1.77 | 1.93 | 3.23 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.86 | 1.67 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.24 | 10.35 | 4.76 | 7.87 | 2.48 | 1.77 | 1.93 | 3.94 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.86 | 1.67 | 4.85 | 2.36 | 1.18 | 1.125 | 0.625 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 12.01 | 13.86 | 4.76 | 11.02 | 3.35 | 1.77 | 1.93 | 5.59 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.86 | 1.67 | 5.55 | 2.36 | 1.18 | 1.500 | 0.625 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | LQ◆ D63D | LQ◆ D71D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

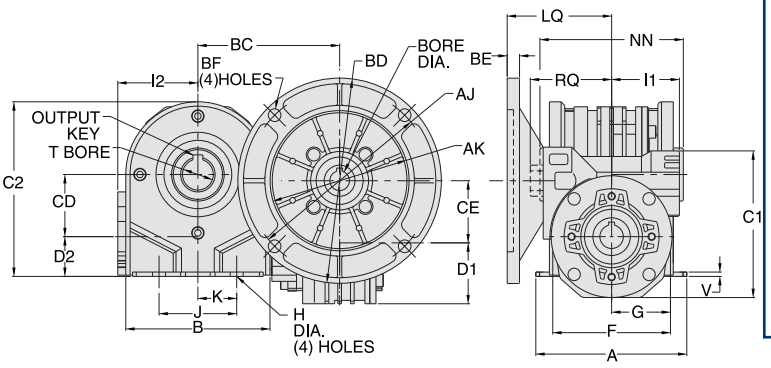
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

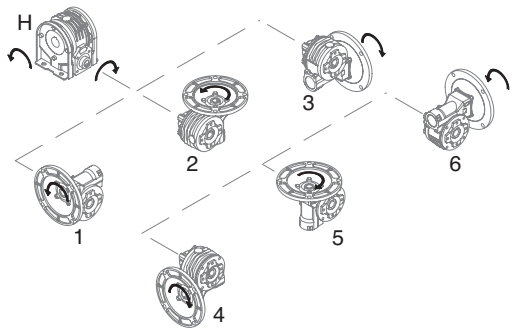
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)
◆ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DUHMQ




**ASSEMBLIES**



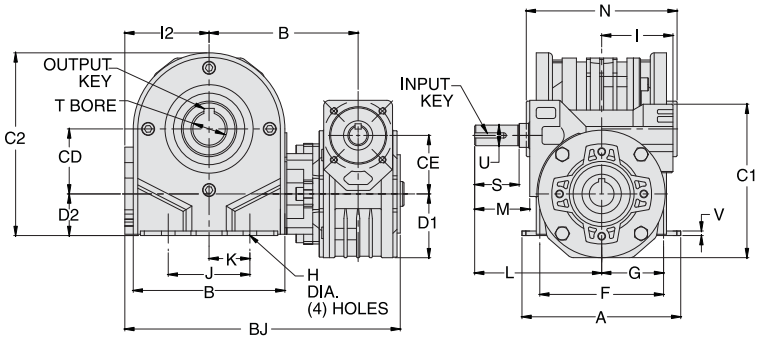

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DUHMQ DIMENSIONS - Inches

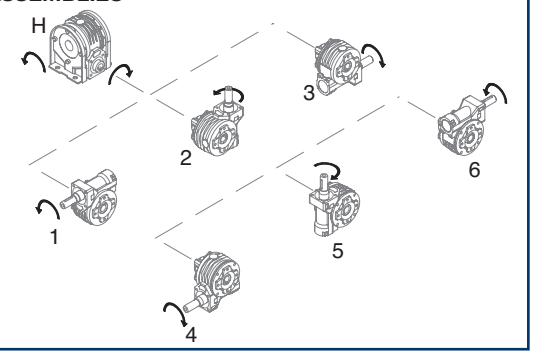
| Series | A | B | BC | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.33 | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 4.76 | 5.45 | 1.97 | 1.77 | 1.93 | 1.26 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.33 | 3.19 | 2.60 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 1.45 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.33 | 4.72 | 2.60 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 4.76 | 9.31 | 3.35 | 1.77 | 1.93 | 2.24 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.33 | 5.31 | 2.60 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DUH




**ASSEMBLIES**

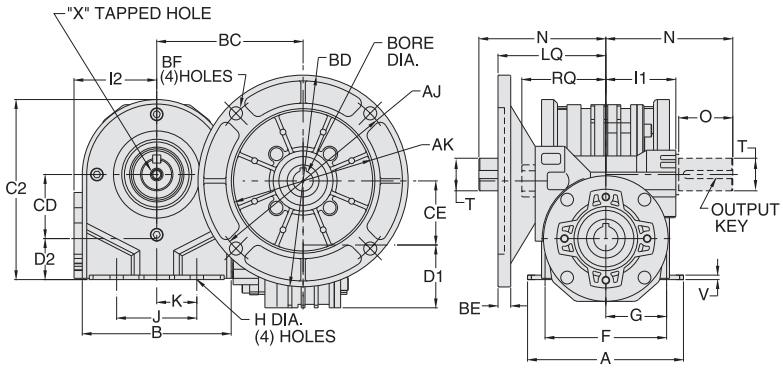



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

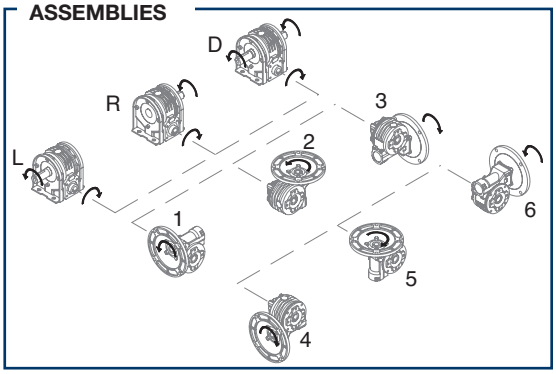
### STYLE DUH DIMENSIONS - Inches

| Series | A | B | BC | BJ | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.90 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.47 | 4.76 | 5.45 | 1.97 | 1.77 | 1.93 | 1.26 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.86 | 1.67 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.24 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 1.45 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.86 | 1.67 | 4.72 | 1.18 | 1.125 | 0.625 | 0.16 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 12.01 | 4.76 | 9.31 | 3.35 | 1.77 | 1.93 | 2.24 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.86 | 1.67 | 5.31 | 1.18 | 1.500 | 0.625 | 0.20 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DUMQ




**ASSEMBLIES**



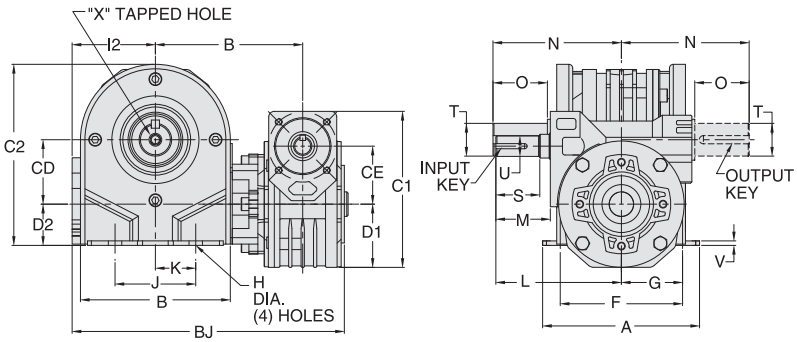

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DUMQ DIMENSIONS - Inches

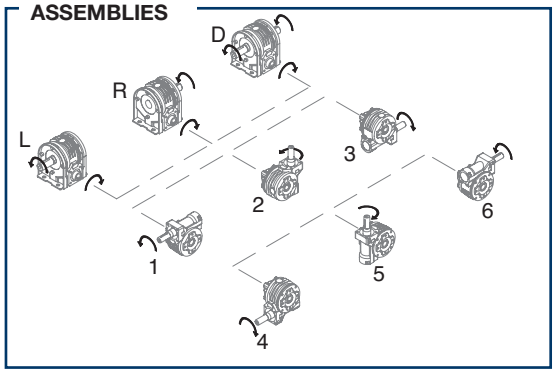
| Series | A | B | BC | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 4.76 | 1.77 | 1.77 | 1.93 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.33 | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 5.45 | 1.97 | 1.77 | 1.93 | 1.26 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.33 | 3.94 | 2.05 | 2.60 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 6.69 | 2.48 | 1.77 | 1.93 | 1.45 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.33 | 4.85 | 2.36 | 2.60 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 9.31 | 3.35 | 1.77 | 1.93 | 2.24 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.33 | 5.55 | 2.36 | 2.60 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DU




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DU DIMENSIONS - Inches

| Series | A | B | BC | BJ | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I2 | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 7.90 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 8.47 | 4.76 | 5.45 | 1.97 | 1.77 | 1.93 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 3.86 | 1.67 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 10.24 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 3.86 | 1.67 | 4.85 | 2.36 | 1.18 | 1.125 | 0.625 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 12.01 | 4.76 | 9.31 | 3.35 | 1.77 | 1.93 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 3.86 | 1.67 | 5.55 | 2.36 | 1.18 | 1.500 | 0.625 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | LQ◆ IEC B5 & B14 Options D63D | LQ◆ IEC B5 & B14 Options D71D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.

▲ Keyway width by depth

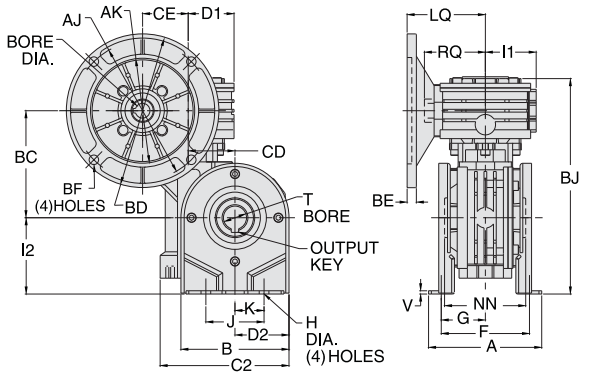
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)

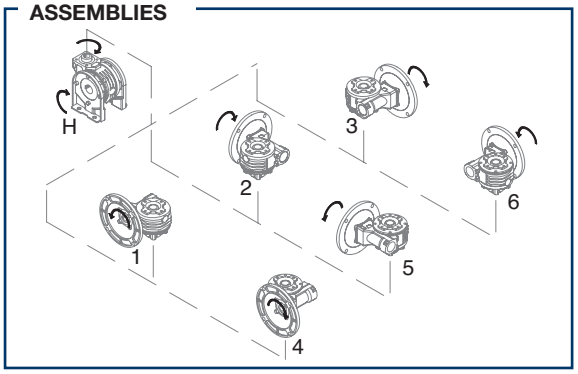
◆ Dimensions are maximum (B5 and B14 options)

■ B5 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DJHMQ



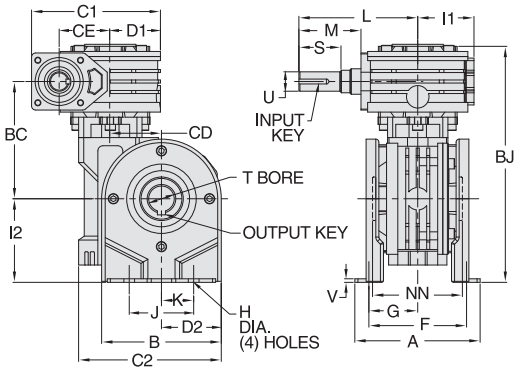

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

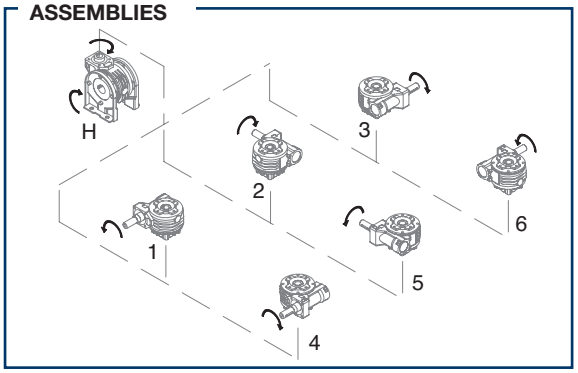
### STYLE DJHMQ DIMENSIONS - Inches

| Series | A | B | BC | BJ | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 8.57 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 3.17 | 1.59 | 0.413 | 2.16 | 2.83 | 1.97 | 0.99 | 3.33 | 2.56 | 2.60 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 9.13 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 3.94 | 1.97 | 0.413 | 2.16 | 3.22 | 2.48 | 1.24 | 3.33 | 3.19 | 2.60 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 11.07 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 4.35 | 2.18 | 0.413 | 2.16 | 3.94 | 3.74 | 1.87 | 3.33 | 4.72 | 2.60 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.74 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 5.71 | 2.86 | 0.413 | 2.16 | 5.59 | 5.51 | 2.76 | 3.33 | 5.31 | 2.60 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DJH



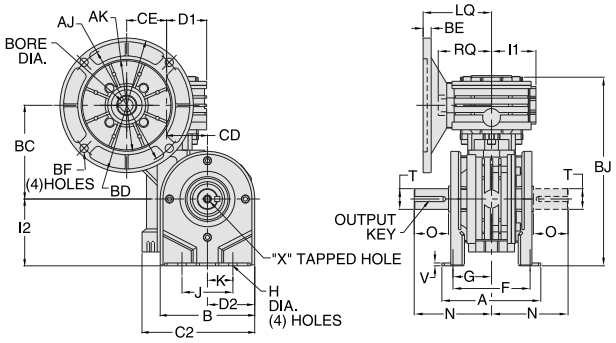




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

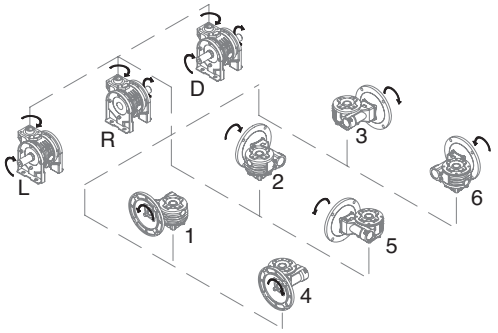
### STYLE DJH DIMENSIONS - Inches

| Series | A | B | BC | BJ | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 8.57 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 3.17 | 1.59 | 0.413 | 2.16 | 2.16 | 1.97 | 0.99 | 3.86 | 1.67 | 2.56 | 1.18 | 0.750 | 0.625 | 0.12 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 9.13 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 3.94 | 1.97 | 0.413 | 2.16 | 2.56 | 2.48 | 1.24 | 3.86 | 1.67 | 3.19 | 1.18 | 1.000 | 0.625 | 0.14 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 11.07 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 4.35 | 2.18 | 0.413 | 2.16 | 3.11 | 3.74 | 1.87 | 3.86 | 1.67 | 4.72 | 1.18 | 1.125 | 0.625 | 0.16 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.74 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 5.71 | 2.86 | 0.413 | 2.16 | 3.86 | 5.51 | 2.76 | 3.86 | 1.67 | 5.31 | 1.18 | 1.500 | 0.625 | 0.20 | 3/16 X 1.00 | 3/8 X 2.00 |

## Style DJMQ




**ASSEMBLIES**



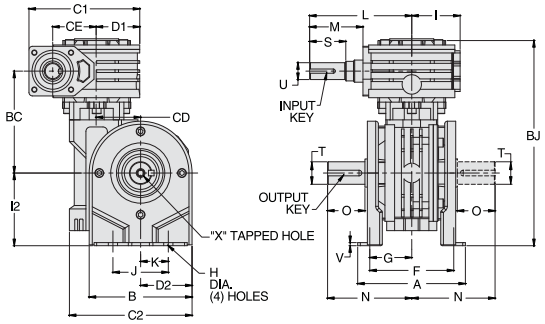

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DJMQ DIMENSIONS - Inches

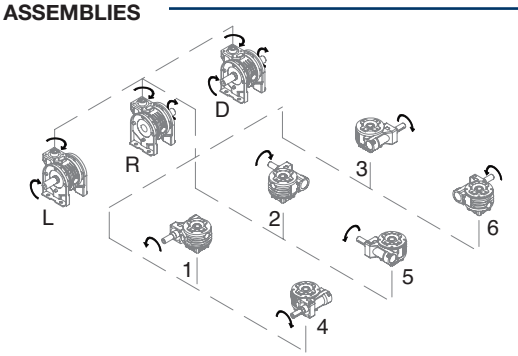
| Series | A | B | BC | BJ | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | LQ* 56C | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 8.57 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 3.17 | 1.59 | 0.413 | 2.16 | 2.83 | 1.97 | 0.99 | 3.33 | 2.97 | 1.26 | 2.60 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 9.13 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 3.94 | 1.97 | 0.413 | 2.16 | 3.22 | 2.48 | 1.24 | 3.33 | 3.94 | 2.05 | 2.60 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 11.07 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 4.35 | 2.18 | 0.413 | 2.16 | 3.94 | 3.74 | 1.87 | 3.33 | 4.85 | 2.36 | 2.60 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.74 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 5.71 | 2.86 | 0.413 | 2.16 | 5.59 | 5.51 | 2.76 | 3.33 | 5.55 | 2.36 | 2.60 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DJ




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DJ DIMENSIONS - Inches

| Series | A | B | BC | BJ | C1 | C2 | CD | CE | D1 | D2 | F | G | H | I1 | I2 | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.35 | 8.57 | 4.76 | 4.76 | 1.77 | 1.77 | 1.93 | 1.93 | 3.17 | 1.59 | 0.413 | 2.16 | 2.83 | 1.97 | 0.99 | 3.86 | 1.67 | 2.97 | 1.26 | 1.18 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.00 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 4.53 | 9.13 | 4.76 | 5.33 | 1.97 | 1.77 | 1.93 | 2.15 | 3.94 | 1.97 | 0.413 | 2.16 | 3.22 | 2.48 | 1.24 | 3.86 | 1.67 | 3.94 | 2.05 | 1.18 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 5.75 | 11.07 | 4.76 | 6.69 | 2.48 | 1.77 | 1.93 | 2.76 | 4.35 | 2.18 | 0.413 | 2.16 | 3.94 | 3.74 | 1.87 | 3.86 | 1.67 | 4.85 | 2.36 | 1.18 | 1.125 | 0.625 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 6.76 | 13.74 | 4.76 | 9.15 | 3.35 | 1.77 | 1.93 | 3.72 | 5.71 | 2.86 | 0.413 | 2.16 | 5.59 | 5.51 | 2.76 | 3.86 | 1.67 | 5.55 | 2.36 | 1.18 | 1.500 | 0.625 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.00 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | 0.625 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D56D■ | D63D | D71D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|
| **518** | 74❖ | 74❖ | 74 | 18 | 32 | 75 | 6 |
| **520** | 74❖ | 74❖ | 74 | 25 | 52 | 100 | 8 |
| **525** | 74❖ | 74❖ | 74 | 25 | 60 | 123 | 8 |
| **534** | 74❖ | 74❖ | 74 | 35 | 60 | 141 | 10 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D56D** | N/A | N/A | N/A | N/A | N/A | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(All)
◆ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Mounting Style Guide

## Hollow Output Shaft Mounted

### MOTORIZED QUILL INPUT

**DXHMQ**



Ratings: Pages 313-314
Dimensions: Page 334

**DXRHMQ**



Ratings: Pages 313-314
Dimensions: Page 348

**DXFHMQ**



Ratings: Pages 313-314
Dimensions: Page 336

### NON-MOTORIZED SOLID INPUT SHAFT

**DXH**



Ratings: Pages 313-314
Dimensions: Page 334

**DXRH**



Ratings: Pages 313-314
Dimensions: Page 348

**DXFH**



Ratings: Pages 313-314
Dimensions: Page 336

## Solid Output Shaft

### MOTORIZED QUILL INPUT

**DXMQ**



Ratings: Pages 313-314
Dimensions: Page 335

**DXRMQ**



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 348

**DXFMQ**



Ratings: Pages 313-314
Dimensions: Page 337

### NON-MOTORIZED SOLID INPUT SHAFT

**DX**



Ratings: Pages 313-314
Dimensions: Page 335

**DXR**



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 348

**DXF**



Ratings: Pages 313-314
Dimensions: Page 337

## Mounting Accessories

**Select the appropriate mounting accessories from this wide variety of options.**



**REACTION ARM R**



**F FLANGE (SHORT FLANGE)**

❖ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

## DXFLHMQ



Ratings: Pages 313-314
Dimensions: Page 338

## DXTHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 340

## DXUHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 342

## DXJHMQ



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 344

## DXFLH



Ratings: Pages 313-314
Dimensions: Page 338

## DXTH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 340

## DXUH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 342

## DXJH



(❖Non-Standard Option)
Ratings: Pages 313-314
Dimensions: Page 344

## DXFLMQ



Ratings: Pages 313-314
Dimensions: Page 339

## DXTMQ



Ratings: Pages 313-314
Dimensions: Page 3341

## DXUMQ



Ratings: Pages 313-314
Dimensions: Page 343

## DXJMQ



Ratings: Pages 313-314
Dimensions: Page 345

## DXFL



Ratings: Pages 313-314
Dimensions: Page 339



**FL FLANGE**
**(LONG FLANGE)**

## DXT



Ratings: Pages 313-314
Dimensions: Page 341



**HORIZONTAL BASE**
**(WORM OVER ASSEMBLY)**

## DXU



Ratings: Pages 313-314
Dimensions: Page 343



**HORIZONTAL BASE**
**(WORM UNDER ASSEMBLY)**

## DXJ



Ratings: Pages 313-314
Dimensions: Page 345



**HORIZONTAL BASE**
**(VERTICAL INPUT SHAFT)**

# Bravo™ ALUMINUM GEAR REDUCERS Double Reduction • Helical - Worm Model Number System

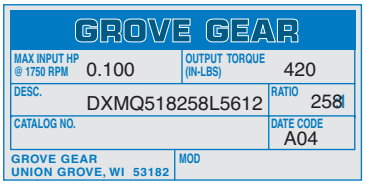
## Grove Gear 500 Series Gear Reducer Model Number Nomenclature

All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

## TYPICAL NAMEPLATE




**Style**

**SOLID OUTPUT SHAFT**
**DXMQ** – Motorized, Quill Input
**DX** – Non-Flanged

**HOLLOW OUTPUT SHAFT**
**DXHMQ** – Motorized, Quill Input
**DXH** – Non-Flanged

**Series**

**ALUMINUM 500 SERIES CENTER DISTANCES**

| Series | Center Distance (Inches) | (mm) |
|---|---|---|
| 518 | 1.77 | 45 |
| 520 | 1.97 | 50 |
| 525 | 2.48 | 63 |
| 534 | 3.35 | 85 |

**Ratio**

**See Selection Tables on pages 331-332 for all available ratios**

**Output Shaft Orientation**

**L** – Left-hand Output Shaft*
**R** – Right-hand Output Shaft*
**D** – Double Output Shaft
**H** – Hollow Output Shaft
* Viewed from drive end of reducer.

**Motor Flange**

| NEMA Input Flange Code | For NEMA Frame |
|---|---|
| 56 | 56C |
| 140 | 143-5TC |

| IEC Input Flange Code | For IEC Frame |
|---|---|
| 63B14 | 63B14 |
| 63B5 | 63B5 |
| 71B14 | 71B14 |
| 71B5 | 71B5 |
| 80B14 | 80B14 |
| 80B5 | 80B5 |
| 90B14 | 90B14 |
| 90B5 | 90B5 |

**Shaft Dimension Code**

**OUTPUT SHAFT DIMENSION CODE ▲**

| Series | NEMA/Inch Options Shaft Dia. | Shaft* Code | IEC/Metric Options Shaft Dia. | Shaft Code |
|---|---|---|---|---|
| 518 | 3/4” | 12 | 18mm | 18 |
| 520 | 1” | 16 | 25mm | 25 |
| 525 | 1-1/8” | 18 | 25mm | 25 |
| 534 | 1-1/2” | 24 | 35mm | 35 |

*Shaft Diameter in 1/16ths of an inch.
▲ Diameters and shaft codes of hollow bore styles are identical to those of solid shaft styles. Reducers with NEMA inputs will have inch dimensioned output shafts and reducers with IEC inputs will have metric dimensioned output shafts as standard.

## Sample Model Number

### Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77” Center Distance, 258:1 Ratio, Left Hand Output Shaft, and 5/8” Input Bore with NEMA 56C Flange.

| DXMQ | 518 | 258 | L | 56 | 12 |
|---|---|---|---|---|---|
| Style | Series | Ratio | Output Shaft | Motor Input | Shaft Code |

### Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77” Center Distance, 258:1 Ratio, 3/4” Hollow Output Shaft, and 5/8” Input Bore with NEMA 56C Flange.

| DXHMQ | 518 | 258 | H | 56 | 12 |
|---|---|---|---|---|---|
| Style | Series | Ratio | Output Shaft | Motor Input Flange | Shaft Code |



### 518 Series • 1.0 S.F.

| Exact Ratio* | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 30.1 | 1750 | 58.1 | 0.523 | 0.387 | 420 |
| | 1150 | 38.2 | 0.363 | 0.269 | 443 |
| 43 | 1750 | 40.7 | 0.377 | 0.271 | 420 |
| | 1150 | 26.7 | 0.261 | 0.188 | 443 |
| 60.2 | 1750 | 29.07 | 0.323 | 0.194 | 420 |
| | 1150 | 19.10 | 0.224 | 0.134 | 443 |
| 90.3 | 1750 | 19.38 | 0.227 | 0.129 | 420 |
| | 1150 | 12.74 | 0.157 | 0.090 | 443 |
| 120.4 | 1750 | 14.53 | 0.183 | 0.097 | 420 |
| | 1150 | 9.55 | 0.127 | 0.067 | 443 |
| 159.1 | 1750 | 11.00 | 0.150 | 0.073 | 420 |
| | 1150 | 7.23 | 0.104 | 0.051 | 443 |
| 197.8 | 1750 | 8.85 | 0.125 | 0.059 | 420 |
| | 1150 | 5.81 | 0.087 | 0.041 | 443 |
| 258 | 1750 | 6.78 | 0.100 | 0.045 | 420 |
| | 1150 | 4.46 | 0.070 | 0.031 | 443 |
| 301 | 1750 | 5.81 | 0.068 | 0.027 | 294 |
| | 1150 | 3.82 | 0.047 | 0.019 | 310 |
| 438.6 | 1750 | 3.99 | 0.052 | 0.019 | 294 |
| | 1150 | 2.62 | 0.036 | 0.013 | 310 |

* Contact Factory for additional ratio options available.

### 520 Series • 1.0 S.F.

| Exact Ratio* | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 30.1 | 1750 | 58.1 | 0.714 | 0.543 | 589 |
| | 1150 | 38.2 | 0.494 | 0.376 | 620 |
| 43 | 1750 | 40.7 | 0.507 | 0.380 | 589 |
| | 1150 | 26.7 | 0.350 | 0.263 | 620 |
| 60.2 | 1750 | 29.1 | 0.394 | 0.272 | 589 |
| | 1150 | 19.1 | 0.272 | 0.188 | 620 |
| 77.4 | 1750 | 22.61 | 0.396 | 0.241 | 673 |
| | 1150 | 14.86 | 0.274 | 0.167 | 708 |
| 111.8 | 1750 | 15.65 | 0.274 | 0.167 | 673 |
| | 1150 | 10.29 | 0.189 | 0.116 | 708 |
| 154.8 | 1750 | 11.30 | 0.215 | 0.121 | 673 |
| | 1150 | 7.43 | 0.149 | 0.083 | 708 |
| 184.9 | 1750 | 9.46 | 0.180 | 0.088 | 589 |
| | 1150 | 6.22 | 0.125 | 0.061 | 620 |
| 258 | 1750 | 6.78 | 0.135 | 0.063 | 589 |
| | 1150 | 4.46 | 0.093 | 0.044 | 620 |
| 292.4 | 1750 | 5.98 | 0.109 | 0.048 | 504 |
| | 1150 | 3.93 | 0.075 | 0.033 | 531 |
| 344 | 1750 | 5.09 | 0.068 | 0.027 | 336 |
| | 1150 | 3.34 | 0.047 | 0.019 | 354 |
| 430 | 1750 | 4.07 | 0.060 | 0.022 | 336 |
| | 1150 | 2.67 | 0.042 | 0.015 | 354 |

* Contact Factory for additional ratio options available.

**WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE 330.**

# Bravo™ ALUMINUM GEAR REDUCERS

## Maximum Rating Tables

### 525 & 534 Series • All Stock Styles





### 525 Series • 1.0 S.F.

| Exact Ratio* | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 29.5 | 1750 | 59.4 | 1.767 | 1.307 | 1387 |
| | 1150 | 39.0 | 1.221 | 0.903 | 1460 |
| 37.2 | 1750 | 47.0 | 1.417 | 1.034 | 1387 |
| | 1150 | 30.9 | 0.981 | 0.716 | 1460 |
| 46.5 | 1750 | 37.6 | 1.340 | 0.938 | 1572 |
| | 1150 | 24.7 | 0.927 | 0.649 | 1655 |
| 55.8 | 1750 | 31.4 | 1.224 | 0.783 | 1572 |
| | 1150 | 20.6 | 0.845 | 0.541 | 1655 |
| 69.8 | 1750 | 25.09 | 1.026 | 0.626 | 1572 |
| | 1150 | 16.49 | 0.710 | 0.433 | 1655 |
| 87.8 | 1750 | 19.94 | 0.731 | 0.526 | 1664 |
| | 1150 | 13.10 | 0.506 | 0.364 | 1752 |
| 110.9 | 1750 | 15.78 | 0.595 | 0.417 | 1664 |
| | 1150 | 10.37 | 0.412 | 0.288 | 1752 |
| 138.6 | 1750 | 12.63 | 0.505 | 0.333 | 1664 |
| | 1150 | 8.30 | 0.350 | 0.231 | 1752 |
| 166.3 | 1750 | 10.52 | 0.463 | 0.278 | 1664 |
| | 1150 | 6.91 | 0.320 | 0.192 | 1752 |
| 207.9 | 1750 | 8.42 | 0.359 | 0.198 | 1480 |
| | 1150 | 5.53 | 0.249 | 0.137 | 1558 |
| 309.5 | 1750 | 5.65 | 0.260 | 0.133 | 1480 |
| | 1150 | 3.72 | 0.180 | 0.092 | 1558 |
| 369.6 | 1750 | 4.73 | 0.236 | 0.111 | 1480 |
| | 1150 | 3.11 | 0.164 | 0.077 | 1558 |
| 434.3 | 1750 | 4.03 | 0.166 | 0.070 | 1093 |
| | 1150 | 2.65 | 0.115 | 0.048 | 1151 |

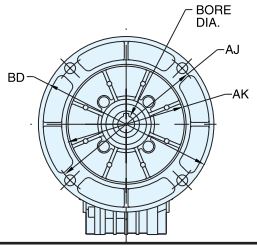
* Contact Factory for additional ratio options available.

### 534 Series • 1.0 S.F.

| Exact Ratio* | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) |
|---|---|---|---|---|---|
| 32.3 | 1750 | 54.1 | 3.207 | 2.309 | 2690 |
| | 1150 | 35.6 | 2.221 | 1.599 | 2831 |
| 46.2 | 1750 | 37.9 | 2.311 | 1.618 | 2690 |
| | 1150 | 24.9 | 1.598 | 1.118 | 2831 |
| 58.9 | 1750 | 29.7 | 2.247 | 1.506 | 3195 |
| | 1150 | 19.5 | 1.553 | 1.041 | 3363 |
| 80.6 | 1750 | 21.71 | 1.804 | 1.101 | 3195 |
| | 1150 | 14.27 | 1.248 | 0.761 | 3363 |
| 103.9 | 1750 | 16.85 | 1.311 | 0.787 | 2943 |
| | 1150 | 11.07 | 0.907 | 0.544 | 3098 |
| 129.4 | 1750 | 13.53 | 1.053 | 0.632 | 2943 |
| | 1150 | 8.89 | 0.728 | 0.437 | 3098 |
| 175.6 | 1750 | 9.97 | 0.844 | 0.532 | 3363 |
| | 1150 | 6.55 | 0.584 | 0.368 | 3540 |
| 240.2 | 1750 | 7.28 | 0.696 | 0.369 | 3195 |
| | 1150 | 4.79 | 0.482 | 0.256 | 3363 |
| 309.5 | 1750 | 5.65 | 0.551 | 0.286 | 3195 |
| | 1150 | 3.72 | 0.382 | 0.198 | 3363 |
| 422.1 | 1750 | 4.15 | 0.373 | 0.194 | 2943 |
| | 1150 | 2.72 | 0.257 | 0.134 | 3098 |
| 443.5 | 1750 | 3.95 | 0.351 | 0.158 | 2522 |
| | 1150 | 2.59 | 0.242 | 0.109 | 2653 |
| 604.8 | 1750 | 2.89 | 0.289 | 0.116 | 2522 |
| | 1150 | 1.90 | 0.200 | 0.080 | 2653 |

* Contact Factory for additional ratio options available.

**WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE 330.**




## DOUBLE REDUCTION • HELICAL/WORM • MOTOR FRAME COMBINATIONS

| Reducer Size | NEMA or IEC Frame Size | Dimensions - Inches (MM) AK | AJ | BD | Bore Dia. | Available Ratios |
|---|---|---|---|---|---|---|
| 518 | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | 30.1 43 60.2 90.3 120.4 159.1 197.8 258 301 438.6 |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | • • • • • • • • • • |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | • • • • • • • • • • |
| | | | | | | 30.1 43 60.2 77.4 111.8 154.8 184.9 258 292.4 344 430 |
| 520 | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | • • • • • • • • • • • |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | • • • • • • • • • • • |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | • • • • • • • • • • • |
| | | | | | | 29.5 37.2 46.5 55.8 69.8 87.8 110.9 138.6 166.3 207.9 309.5 369.6 434.3 |
| 525 | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | NEMA 140TC | 4.50 | 5.88 | 6.50 | 0.875 | • • • • • • • • • • • • • |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 63B14 | 2.36 (60) | 2.95 (75) | 3.54 (90) | (11) | ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | ■ ■ ■ ■ ■ ■ ■ • • • • • • |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | ■ ■ ■ ■ ■ ■ ■ • • • • • • |
| | IEC 80B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (19) | ■ ■ ■ ■ ■ • • |
| | IEC 80B14 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (19) | ■ ■ ■ ■ ■ • • |
| | IEC 90B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (24) | • • • • • |
| | IEC 90B14 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (24) | • • • • • |
| | | | | | | 32.3 46.2 58.9 80.6 103.9 129.4 175.6 240.2 309.5 422.1 443.5 604.8 |
| 534 | NEMA 56C | 4.50 | 5.88 | 6.50 | 0.625 | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | NEMA 140TC | 4.50 | 5.88 | 6.50 | 0.875 | • • • • • • • • • • • • |
| | IEC 63B5 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (11) | ■ ■ ■ ■ ■ ■ |
| | IEC 71B5 | 4.33 (110) | 5.12 (130) | 6.30 (160) | (14) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 71B14 | 2.76 (70) | 3.35 (85) | 4.13 (105) | (14) | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ |
| | IEC 80B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (19) | ■ ■ ■ ■ ■ • • • • • • • • |
| | IEC 80B14 | 3.15 (80) | 3.94 (100) | 4.72 (120) | (19) | ■ ■ ■ ■ ■ • • • • • • • • |
| | IEC 90B5 | 5.12 (130) | 6.50 (165) | 7.87 (200) | (24) | • • • • • |
| | IEC 90B14 | 3.74 (95) | 4.53 (115) | 5.51 (140) | (24) | • • • • • |

• Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

■Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

## DOUBLE REDUCTION • HELICAL/WORM • EXACT RATIO COMBINATIONS

### 518

| TOTAL RATIO | P HELICAL | S 518 |
|---|---|---|
| 30.1 | 4.3 | 7 |
| 43 | 4.3 | 10 |
| 60.2 | 4.3 | 14 |
| 90.3 | 4.3 | 21 |
| 120.4 | 4.3 | 28 |
| 159.1 | 4.3 | 37 |
| 197.8 | 4.3 | 46 |
| 258 | 4.3 | 60 |
| 301 | 4.3 | 70 |
| 438.6 | 4.3 | 102 |

### 520

| TOTAL RATIO | P HELICAL | S 520 |
|---|---|---|
| 30.1 | 4.3 | 7 |
| 43 | 4.3 | 10 |
| 60.2 | 4.3 | 14 |
| 77.4 | 4.3 | 18 |
| 111.8 | 4.3 | 26 |
| 154.8 | 4.3 | 36 |
| 184.9 | 4.3 | 43 |
| 258 | 4.3 | 60 |
| 292.4 | 4.3 | 68 |
| 344 | 4.3 | 80 |
| 430 | 4.3 | 100 |

### 525

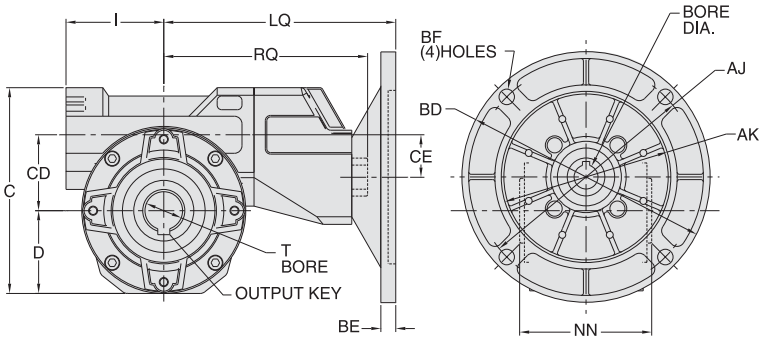
| TOTAL RATIO | P HELICAL | S 525 |
|---|---|---|
| 29.5 | 1.55 | 19 |
| 37.2 | 1.55 | 24 |
| 46.5 | 1.55 | 30 |
| 55.8 | 1.55 | 36 |
| 69.8 | 1.55 | 45 |
| 87.8 | 4.62 | 19 |
| 110.9 | 4.62 | 24 |
| 138.6 | 4.62 | 30 |
| 166.3 | 4.62 | 36 |
| 207.9 | 4.62 | 45 |
| 309.5 | 4.62 | 67 |
| 369.6 | 4.62 | 80 |
| 434.3 | 4.62 | 94 |

### 534

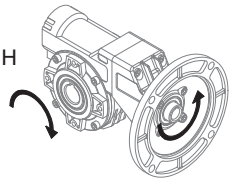
| TOTAL RATIO | P HELICAL | S 534 |
|---|---|---|
| 32.3 | 4.62 | 7 |
| 46.2 | 4.62 | 10 |
| 58.9 | 1.55 | 38 |
| 80.6 | 1.55 | 52 |
| 103.9 | 1.55 | 67 |
| 129.4 | 4.62 | 28 |
| 175.6 | 4.62 | 38 |
| 240.2 | 4.62 | 52 |
| 309.5 | 4.62 | 67 |
| 422.1 | 6.3 | 67 |
| 443.5 | 4.62 | 96 |
| 604.8 | 6.3 | 96 |

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXHMQ




**ASSEMBLIES**



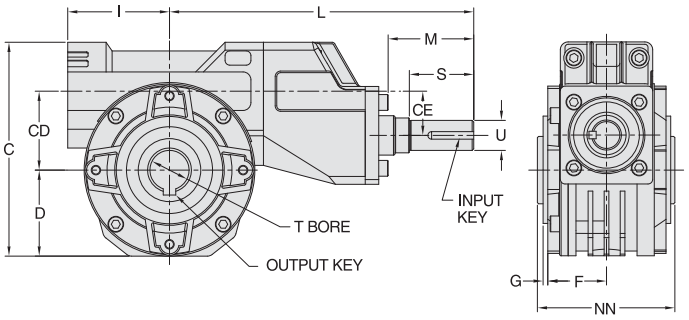

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXHMQ DIMENSIONS - Inches

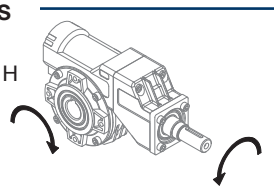
| Series | C | CD | CE | D | F^ | G^ | I | LQ* 56/140 | NN | RQ | T* +0.0015 -0.0000 | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.10 | 1.93 | 1.38 | 0.08 | 2.16 | 6.23 | 2.56 | 5.59 | 0.750 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 1.10 | 2.15 | 1.50 | 0.12 | 2.56 | 6.41 | 3.19 | 5.77 | 1.000 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 1.50 | 2.76 | 1.77 | 0.19 | 3.11 | 7.17 | 4.72 | 6.49 | 1.125 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 1.50 | 3.72 | 2.52 | 0.14 | 3.86 | 7.84 | 5.31 | 7.42 | 1.500 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.
^ Refer to Style DXH for reference to this dimension.

## Style DXH




**ASSEMBLIES**

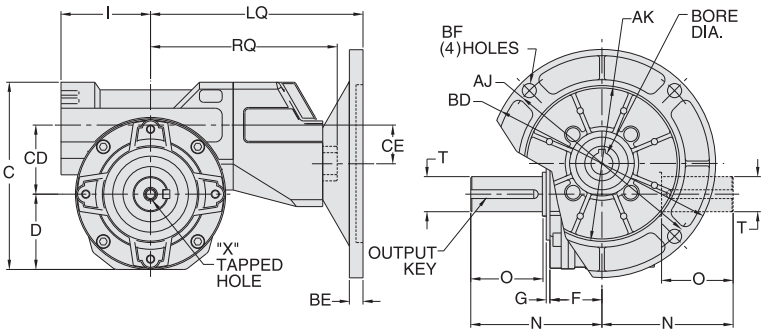


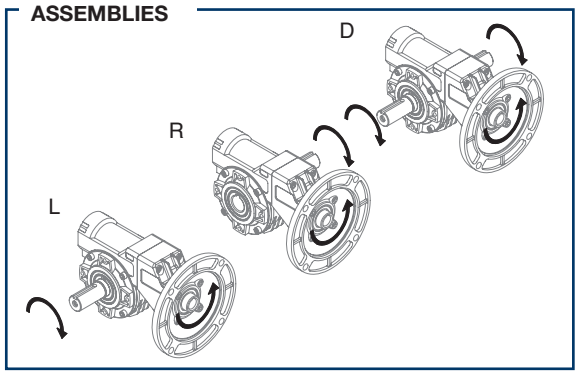

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXH DIMENSIONS - Inches

| Series | C | CD | CE | D | F | G | I | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.10 | 1.93 | 1.38 | 0.08 | 2.16 | 6.65 | 1.65 | 2.56 | 1.42 | 0.750 | 0.625 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 1.10 | 2.15 | 1.50 | 0.12 | 2.56 | 6.83 | 1.83 | 3.19 | 1.42 | 1.000 | 0.625 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 1.50 | 2.76 | 1.77 | 0.19 | 3.11 | 8.54 | 2.00 | 4.72 | 1.65 | 1.125 | 0.750 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 1.50 | 3.72 | 2.52 | 0.14 | 3.86 | 9.21 | 2.65 | 5.31 | 1.65 | 1.500 | 0.750 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXMQ



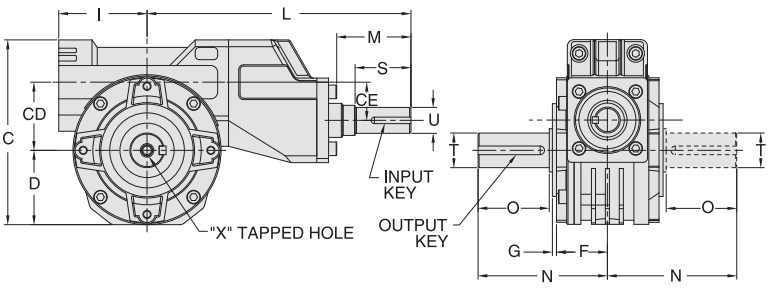

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

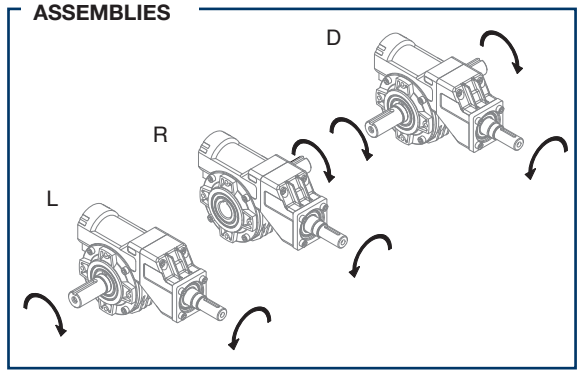
### STYLE DXMQ DIMENSIONS - Inches

| Series | C | CD | CE | D | F | G | I | LQ* 56/140 | N | O* | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.10 | 1.93 | 1.38 | 0.08 | 2.16 | 6.23 | 2.97 | 1.26 | 5.59 | 0.750 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 5.33 | 1.97 | 1.10 | 2.15 | 1.50 | 0.12 | 2.56 | 6.41 | 3.94 | 2.05 | 5.77 | 1.000 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 1.50 | 2.76 | 1.77 | 0.19 | 3.11 | 7.17 | 4.85 | 2.36 | 6.49 | 1.125 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 1.50 | 3.72 | 2.52 | 0.14 | 3.86 | 7.84 | 5.55 | 2.36 | 7.42 | 1.500 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DX




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DX DIMENSIONS - Inches

| Series | C | CD | CE | D | F | G | I | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 4.76 | 1.77 | 1.10 | 1.93 | 1.38 | 0.08 | 2.16 | 6.65 | 1.65 | 2.97 | 1.26 | 1.42 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 5.33 | 1.97 | 1.10 | 2.15 | 1.50 | 0.12 | 2.56 | 6.83 | 1.83 | 3.94 | 2.05 | 1.42 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 6.69 | 2.48 | 1.50 | 2.76 | 1.77 | 0.19 | 3.11 | 8.54 | 2.00 | 4.85 | 2.36 | 1.65 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 9.15 | 3.35 | 1.50 | 3.72 | 2.52 | 0.14 | 3.86 | 9.21 | 2.65 | 5.55 | 2.36 | 1.65 | 1.500 | 0.750 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D63D | D71D | D80D | D90D | T H7 | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|
| | (standard for metric units) | | | | | | | |
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

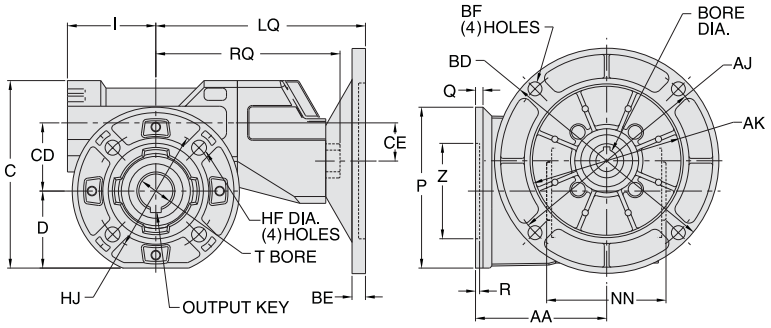
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

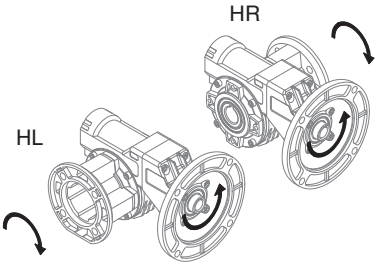
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)
◆ Dimensions are maximum (B5 and B14 options)
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXFHMQ




**ASSEMBLIES**



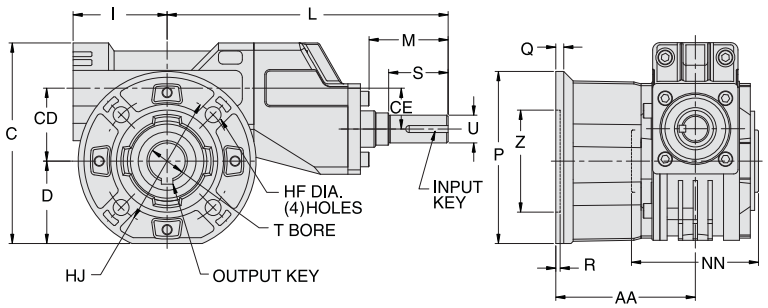

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXFHMQ DIMENSIONS - Inches

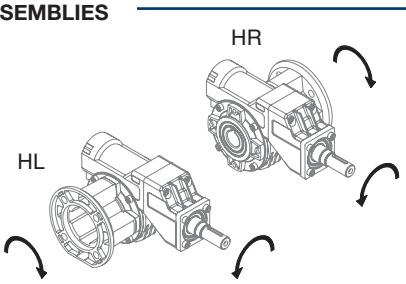
| Series | AA | C | CD | CE | D | HF | HJ | I | LQ* 56/140 | NN | P | Q | R | RQ | T* +0.0015 -0.0000 | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.23 | 2.56 | 4.33 | 0.35 | 0.354 | 5.59 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.41 | 3.19 | 4.84 | 0.47 | 0.354 | 5.77 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 7.17 | 4.72 | 6.89 | 0.51 | 0.276 | 6.49 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 7.84 | 5.31 | 8.07 | 0.63 | 0.197 | 7.42 | 1.500 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DXFH




**ASSEMBLIES**

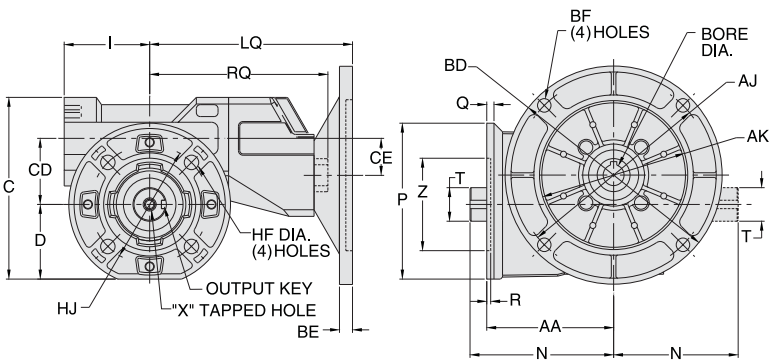


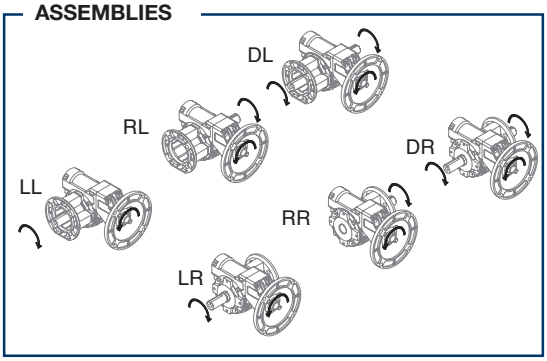

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXFH DIMENSIONS - Inches

| Series | AA | C | CD | CE | D | HF | HJ | I | L | M | NN | P | Q | R | S | T +0.0015 -0.0000 | U +0.000 -0.001 | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.65 | 1.65 | 2.56 | 4.33 | 0.35 | 0.354 | 1.42 | 0.750 | 0.625 | 2.362 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.83 | 1.83 | 3.19 | 4.84 | 0.47 | 0.354 | 1.42 | 1.000 | 0.625 | 2.756 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 8.54 | 2.00 | 4.72 | 6.89 | 0.51 | 0.276 | 1.65 | 1.125 | 0.750 | 4.528 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 9.21 | 2.65 | 5.31 | 8.07 | 0.63 | 0.197 | 1.65 | 1.500 | 0.750 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXFMQ



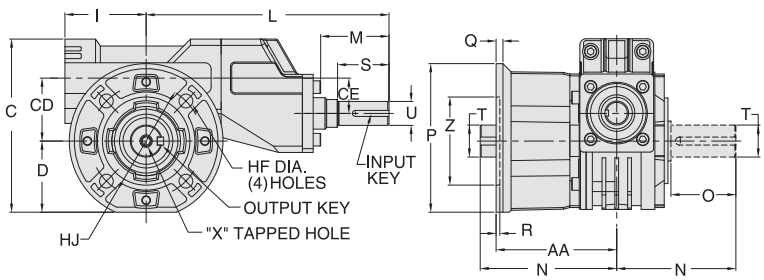

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

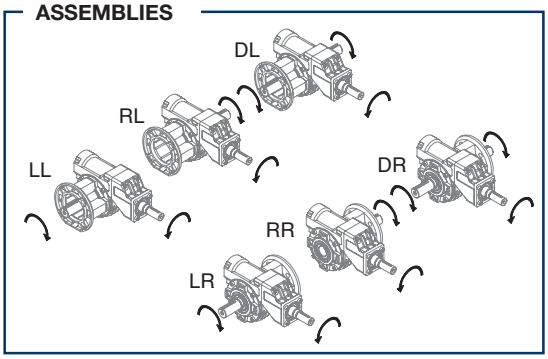
### STYLE DXFMQ DIMENSIONS - Inches

| Series | AA | C | CD | CE | D | HF | HJ | I | LQ* 56/140 | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.23 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 5.59 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.41 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 5.77 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 7.17 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 6.49 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 7.84 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 7.42 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DXF




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXF DIMENSIONS - Inches

| Series | AA | C | CD | CE | D | HF | HJ | I | L | M | N | O | P | Q | R | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.38 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.65 | 1.65 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.42 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 3.35 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.83 | 1.83 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.42 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 3.39 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 8.54 | 2.00 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.65 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 4.25 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 9.21 | 2.65 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.65 | 1.500 | 0.750 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D63D | LQ◆ IEC B5 & B14 Options D71D | LQ◆ IEC B5 & B14 Options D80D | LQ◆ IEC B5 & B14 Options D90D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|---|
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

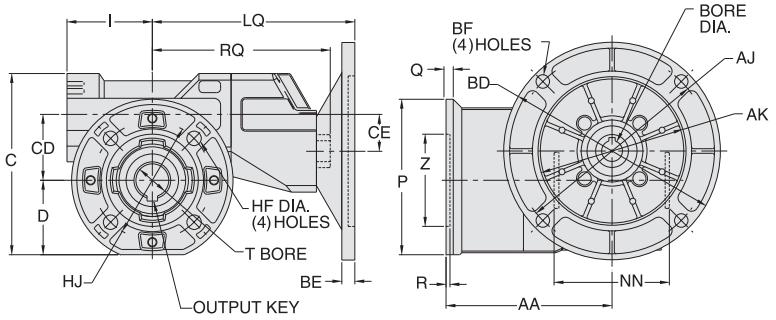
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

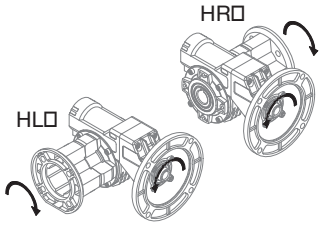
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)
◆ Dimensions are maximum (B5 and B14 options)
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXFLHMQ




**ASSEMBLIES**



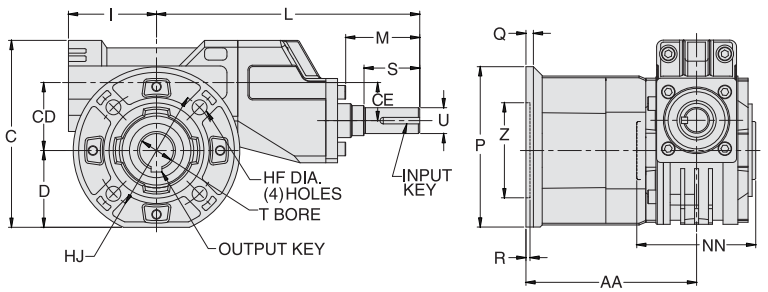

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXFLHMQ DIMENSIONS - Inches

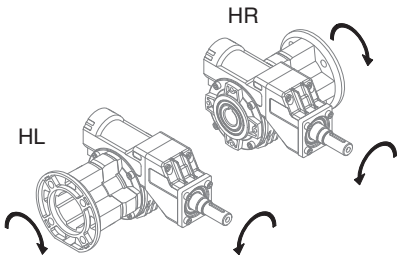
| Series | AA | C | CD | CE | D | HF | HJ | I | LQ* 56/140 | NN | P | Q | R | RQ | T* +0.0015 -0.0000 | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.23 | 2.56 | 4.33 | 0.35 | 0.354 | 5.59 | 0.750 | 2.362 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.41 | 3.19 | 4.84 | 0.47 | 0.354 | 5.77 | 1.000 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 7.17 | 4.72 | 6.89 | 0.51 | 0.276 | 6.49 | 1.125 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 7.84 | 5.31 | 8.07 | 0.63 | 0.197 | 7.42 | 1.500 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DXFLH




**ASSEMBLIES**

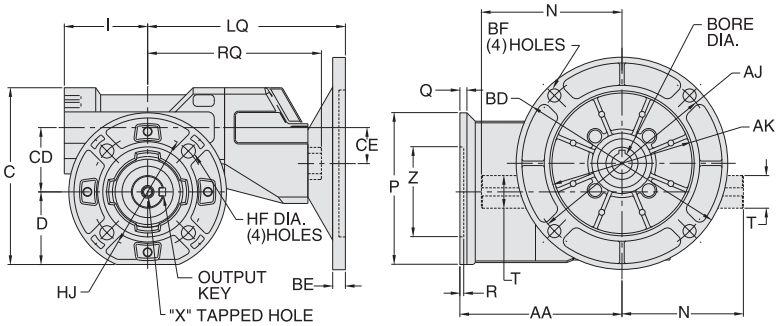



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

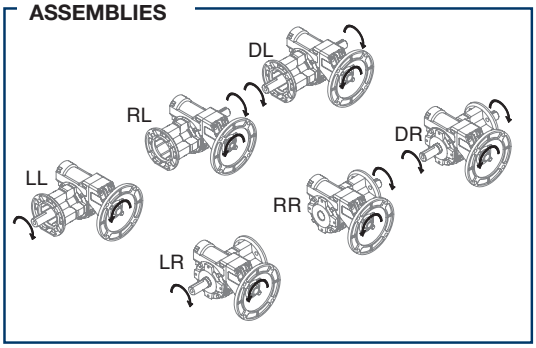
### STYLE DXFLH DIMENSIONS - Inches

| Series | AA | C | CD | CE | D | HF | HJ | I | L | M | NN | P | Q | R | S | T +0.0015 -0.0000 | U +0.000 -0.001 | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.65 | 1.65 | 2.56 | 4.33 | 0.35 | 0.354 | 1.42 | 0.750 | 0.625 | 2.362 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.83 | 1.83 | 3.19 | 4.84 | 0.47 | 0.354 | 1.42 | 1.000 | 0.625 | 2.756 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 8.54 | 2.00 | 4.72 | 6.89 | 0.51 | 0.276 | 1.65 | 1.125 | 0.750 | 4.528 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 9.21 | 2.65 | 5.31 | 8.07 | 0.63 | 0.197 | 1.65 | 1.500 | 0.750 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXFLMQ




**ASSEMBLIES**



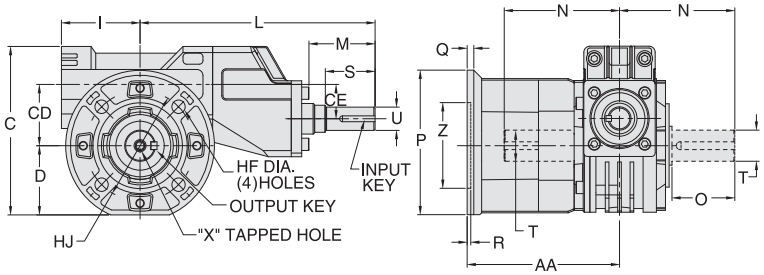

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXFLMQ DIMENSIONS - Inches

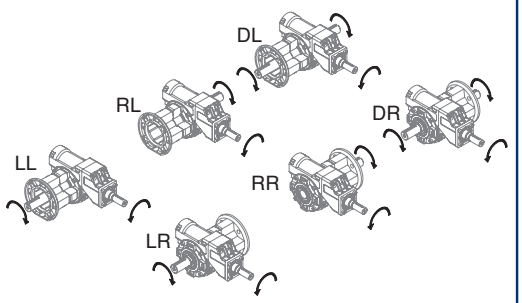
| Series | AA | C | CD | CE | D | HF | HJ | I | LQ* 56/140 | N | O* | P | Q | R | RQ | T* +0.000 -0.001 | X Tap Size | X Depth | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.23 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 5.59 | 0.750 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 x 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.41 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 5.77 | 1.000 | 5/16-18 UNC | 0.75 | 2.756 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 7.17 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 6.49 | 1.125 | 5/16-18 UNC | 0.75 | 4.528 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 7.84 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 7.42 | 1.500 | 5/16-18 UNC | 0.75 | 5.984 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DXFL




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXFL DIMENSIONS - Inches

| Series | AA | C | CD | CE | D | HF | HJ | I | L | M | N | O | P | Q | R | S | T +0.000 -0.001 | U +0.000 -0.001 | X Tap Size | X Depth | Z | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.56 | 4.76 | 1.77 | 1.10 | 1.93 | 0.335 | 3.43 | 2.16 | 6.65 | 1.65 | 2.97 | 1.26 | 4.33 | 0.35 | 0.354 | 1.42 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 2.362 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.51 | 5.33 | 1.97 | 1.10 | 2.15 | 0.413 | 3.54 | 2.56 | 6.83 | 1.83 | 3.94 | 2.05 | 4.84 | 0.47 | 0.354 | 1.42 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 2.756 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 4.57 | 6.69 | 2.48 | 1.50 | 2.76 | 0.413 | 5.91 | 3.11 | 8.54 | 2.00 | 4.85 | 2.36 | 6.89 | 0.51 | 0.276 | 1.65 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 4.528 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 5.85 | 9.15 | 3.35 | 1.50 | 3.72 | 0.512 | 6.93 | 3.86 | 9.21 | 2.65 | 5.55 | 2.36 | 8.07 | 0.63 | 0.197 | 1.65 | 1.500 | 0.750 | 5/16-18 UNC | 0.75 | 5.984 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D63D | D71D | D80D | D90D | T H7 | O | N | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|---|
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

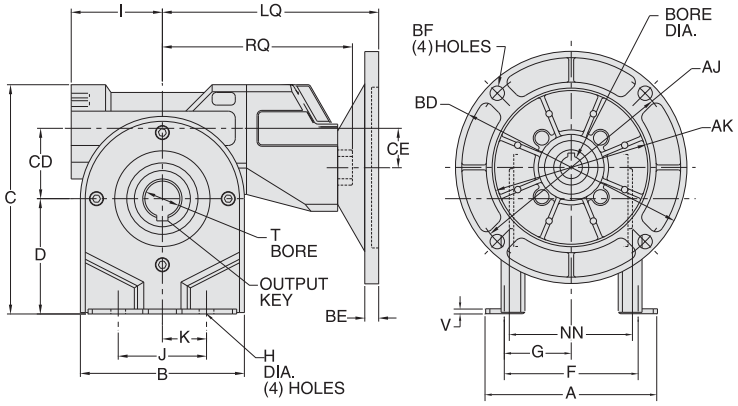
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

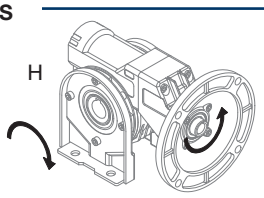
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)
◆ Dimensions are maximum (B5 and B14 options)
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXTHMQ




**ASSEMBLIES**



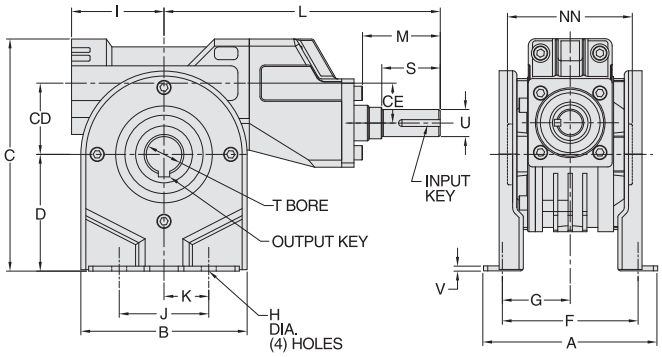

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXTHMQ DIMENSIONS - Inches

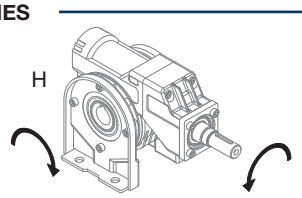
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 1.10 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.23 | 2.56 | 5.59 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 1.10 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.41 | 3.19 | 5.77 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 1.50 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 7.17 | 4.72 | 6.49 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 1.50 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 7.84 | 5.31 | 7.42 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DXTH




**ASSEMBLIES**

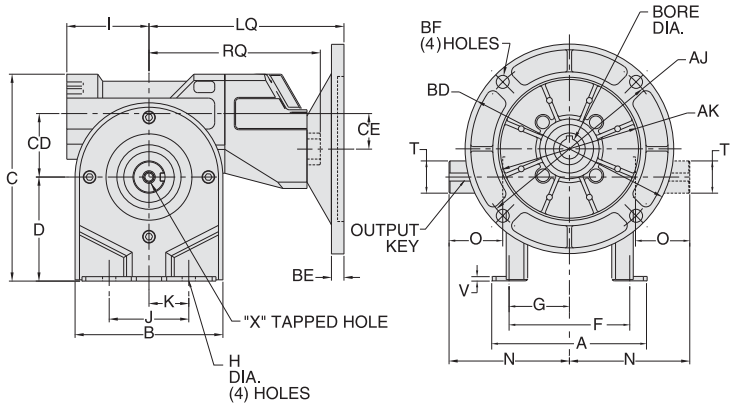



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

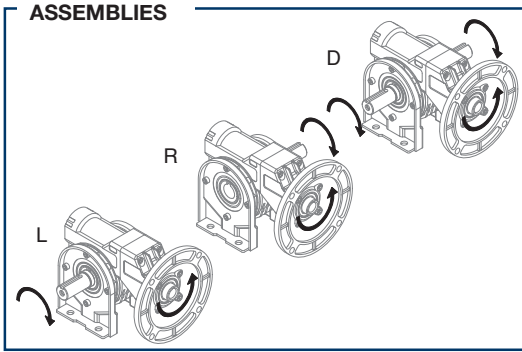
### STYLE DXTH DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 1.10 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.65 | 1.65 | 2.56 | 1.42 | 0.750 | 0.625 | 0.12 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 1.10 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.83 | 1.83 | 3.19 | 1.42 | 1.000 | 0.625 | 0.14 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 1.50 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 8.54 | 2.00 | 4.72 | 1.65 | 1.125 | 0.750 | 0.16 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 1.50 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 9.21 | 2.65 | 5.31 | 1.65 | 1.500 | 0.750 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXTMQ




**ASSEMBLIES**



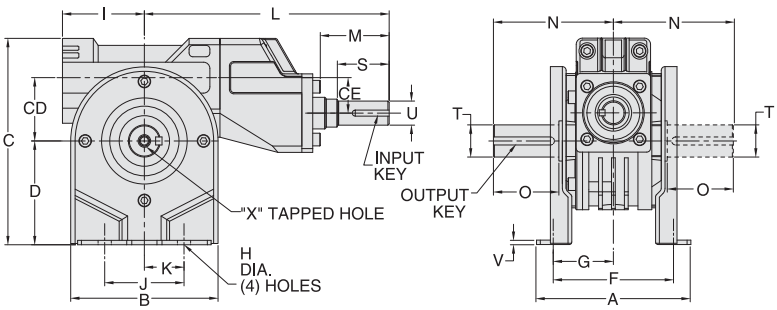

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXTMQ DIMENSIONS - Inches

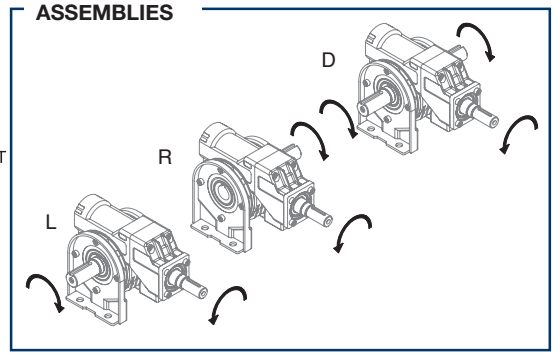
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 1.10 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.23 | 2.97 | 1.26 | 5.59 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 1.10 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.41 | 3.94 | 2.05 | 5.77 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 1.50 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 7.17 | 4.85 | 2.36 | 6.49 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 1.50 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 7.84 | 5.55 | 2.36 | 7.42 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DXT




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXT DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 5.67 | 1.77 | 1.10 | 2.83 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.65 | 1.65 | 2.97 | 1.26 | 1.42 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 6.42 | 1.97 | 1.10 | 3.23 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.83 | 1.83 | 3.94 | 2.05 | 1.42 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 7.87 | 2.48 | 1.50 | 3.94 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 8.54 | 2.00 | 4.85 | 2.36 | 1.65 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 11.02 | 3.35 | 1.50 | 5.59 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 9.21 | 2.65 | 5.55 | 2.36 | 1.65 | 1.500 | 0.750 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D63D | D71D | D80D | D90D | T H7 | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|
| | | | | | (standard for metric units) | | | |
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

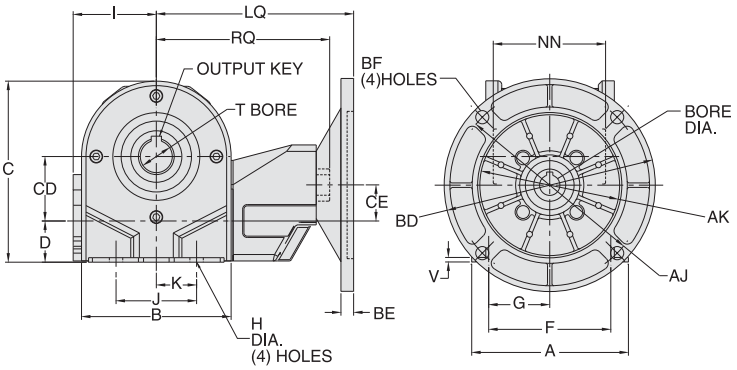
### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

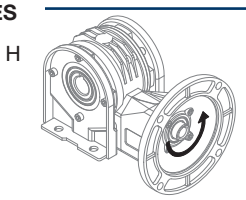
✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)
◆ Dimensions are maximum (B5 and B14 options)
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXUHMQ




**ASSEMBLIES**



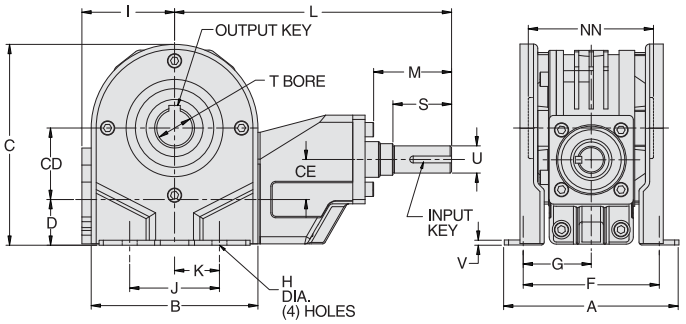

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXUHMQ DIMENSIONS - Inches

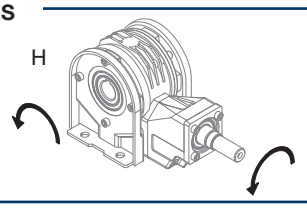
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.23 | 2.56 | 5.59 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.41 | 3.19 | 5.77 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 7.17 | 4.72 | 6.49 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 1.50 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 7.84 | 5.31 | 7.42 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DXUH




**ASSEMBLIES**

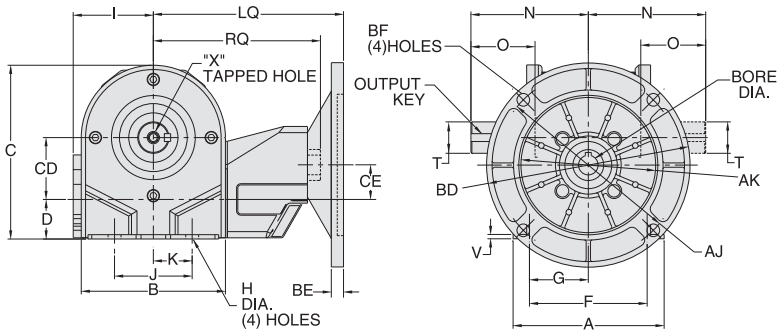



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

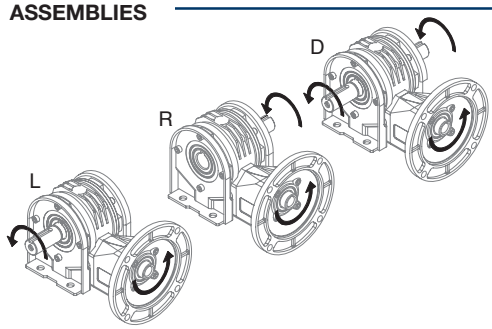
### STYLE DXUH DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.65 | 1.65 | 2.56 | 1.42 | 0.750 | 0.625 | 0.12 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.83 | 1.83 | 3.19 | 1.42 | 1.000 | 0.625 | 0.14 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 8.54 | 2.00 | 4.72 | 1.65 | 1.125 | 0.750 | 0.16 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 1.50 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 9.21 | 2.65 | 5.31 | 1.65 | 1.500 | 0.750 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXUMQ




**ASSEMBLIES**



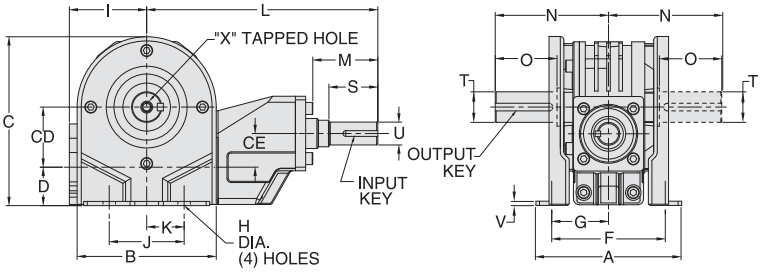

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXUMQ DIMENSIONS - Inches

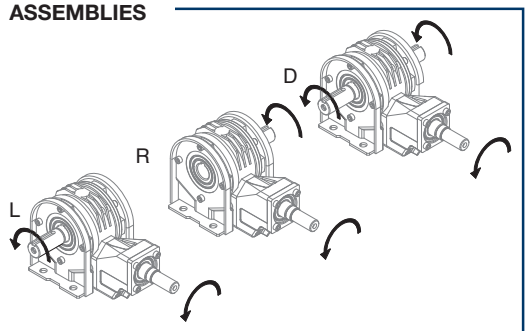
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.23 | 2.97 | 1.26 | 5.59 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.41 | 3.94 | 2.05 | 5.77 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 7.17 | 4.85 | 2.36 | 6.49 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 1.50 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 7.84 | 5.55 | 2.36 | 7.42 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DXU




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXU DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.06 | 3.17 | 1.59 | 0.413 | 2.16 | 1.97 | 0.99 | 6.65 | 1.65 | 2.97 | 1.26 | 1.42 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 1.26 | 3.94 | 1.97 | 0.413 | 2.56 | 2.48 | 1.24 | 6.83 | 1.83 | 3.94 | 2.05 | 1.42 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 1.45 | 4.35 | 2.18 | 0.413 | 3.11 | 3.74 | 1.87 | 8.54 | 2.00 | 4.85 | 2.36 | 1.65 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.31 | 3.35 | 1.50 | 2.24 | 5.71 | 2.86 | 0.413 | 3.86 | 5.51 | 2.76 | 9.21 | 2.65 | 5.55 | 2.36 | 1.65 | 1.500 | 0.750 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ♦ IEC B5 & B14 Options D63D | D71D | D80D | D90D | T H7 | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|
| | | | | | (standard for metric units) | | | |
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | AK | BD | BE | BF | B14❖ AJ | AK | BD | BE | BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.

▲ Keyway width by depth

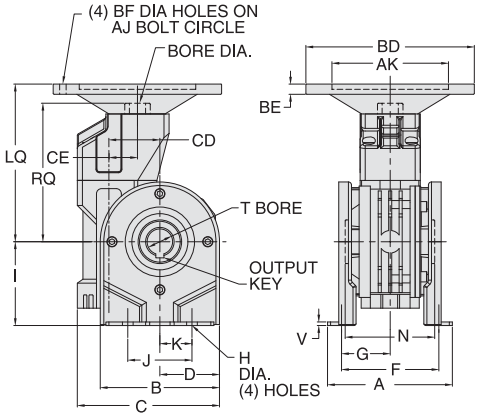
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)

♦ Dimensions are maximum (B5 and B14 options)

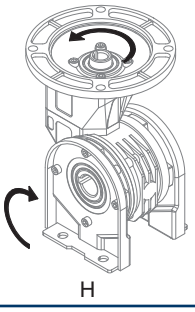
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Dimensions

## Style DXJHMQ




**ASSEMBLIES**



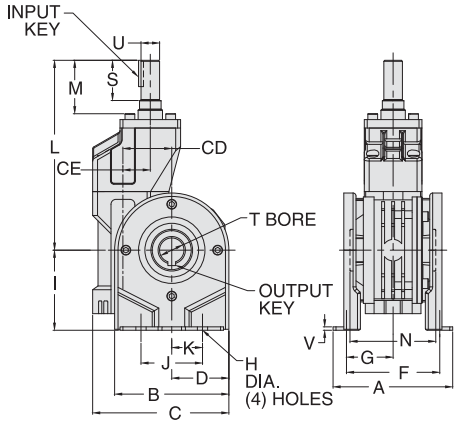

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXJHMQ DIMENSIONS - Inches

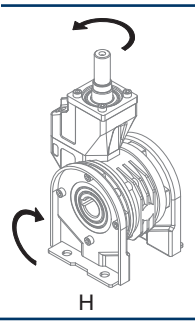
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | NN | RQ | T* +0.0015 -0.0000 | V | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 6.23 | 2.56 | 5.59 | 0.750 | 0.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 6.41 | 3.19 | 5.77 | 1.000 | 0.14 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 7.17 | 4.72 | 6.49 | 1.125 | 0.16 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 1.50 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 7.84 | 5.31 | 7.42 | 1.500 | 0.20 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

## Style DXJH




**ASSEMBLIES**

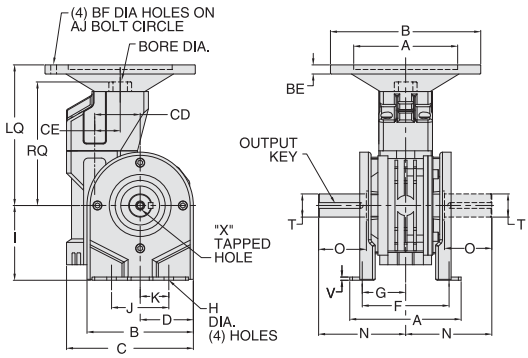



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

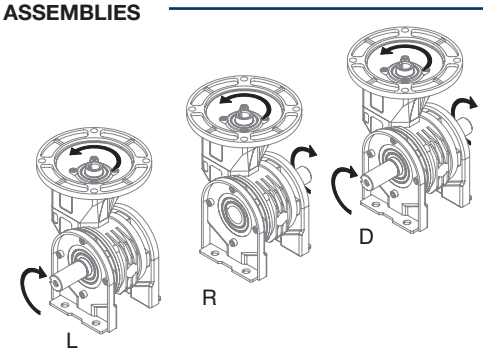
### STYLE DXJH DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | NN | S | T +0.0015 -0.0000 | U +0.000 -0.001 | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 6.65 | 1.65 | 2.56 | 1.42 | 0.750 | 0.625 | 0.12 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 6.83 | 1.83 | 3.19 | 1.42 | 1.000 | 0.625 | 0.14 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 8.54 | 2.00 | 4.72 | 1.65 | 1.125 | 0.750 | 0.16 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 1.50 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 9.21 | 2.65 | 5.31 | 1.65 | 1.500 | 0.750 | 0.20 | 3/16 X 1.50 | 3/8 X 2.00 |

## Style DXJMQ




**ASSEMBLIES**



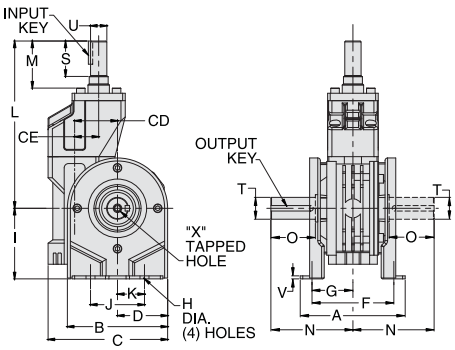

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXJMQ DIMENSIONS - Inches

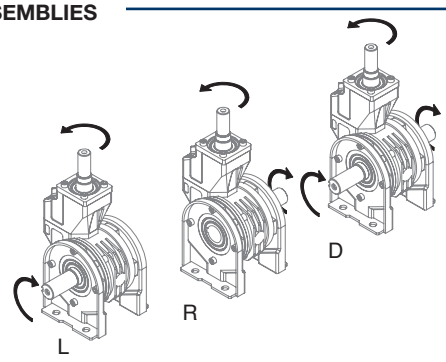
| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | LQ* 56/140 | N | O* | RQ | T* +0.000 -0.001 | V | X Tap Size | X Depth | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 6.23 | 2.97 | 1.26 | 5.59 | 0.750 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 x 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 6.41 | 3.94 | 2.05 | 5.77 | 1.000 | 0.14 | 5/16-18 UNC | 0.75 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 7.17 | 4.85 | 2.36 | 6.49 | 1.125 | 0.16 | 5/16-18 UNC | 0.75 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 1.50 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 7.84 | 5.55 | 2.36 | 7.42 | 1.500 | 0.20 | 5/16-18 UNC | 0.75 | 3/8 X 2.00 |

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

## Style DXJ




**ASSEMBLIES**




REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

### STYLE DXJ DIMENSIONS - Inches

| Series | A | B | C | CD | CE | D | F | G | H | I | J | K | L | M | N | O | S | T +0.000 -0.001 | U +0.000 -0.001 | V | X Tap Size | X Depth | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 3.94 | 3.86 | 4.76 | 1.77 | 1.10 | 1.93 | 3.17 | 1.59 | 0.413 | 2.83 | 1.97 | 0.99 | 6.65 | 1.65 | 2.97 | 1.26 | 1.42 | 0.750 | 0.625 | 0.12 | 1/4-20 UNC | 0.62 | 3/16 X 1.12 | 3/16 X 1.00 |
| **520** | 4.84 | 4.45 | 5.45 | 1.97 | 1.10 | 2.23 | 3.94 | 1.97 | 0.413 | 3.22 | 2.48 | 1.24 | 6.83 | 1.83 | 3.94 | 2.05 | 1.42 | 1.000 | 0.625 | 0.14 | 5/16-18 UNC | 0.75 | 3/16 X 1.12 | 1/4 X 1.62 |
| **525** | 5.67 | 5.24 | 6.69 | 2.48 | 1.50 | 2.76 | 4.35 | 2.18 | 0.413 | 3.94 | 3.74 | 1.87 | 8.54 | 2.00 | 4.85 | 2.36 | 1.65 | 1.125 | 0.750 | 0.16 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 1/4 X 2.00 |
| **534** | 7.17 | 7.09 | 9.15 | 3.35 | 1.50 | 3.72 | 5.71 | 2.86 | 0.413 | 5.59 | 5.51 | 2.76 | 9.21 | 2.65 | 5.55 | 2.36 | 1.65 | 1.500 | 0.750 | 0.20 | 5/16-18 UNC | 0.75 | 3/16 X 1.50 | 3/8 X 2.00 |

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BF | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | 0.41 | .875 | 3/16 x 3/32 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| IEC Frame | B5 AJ | B5 AK | B5 BD | B5 BE | B5 BF | B14❖ AJ | B14❖ AK | B14❖ BD | B14❖ BE | B14❖ BF❖ | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

| Series | LQ◆ IEC B5 & B14 Options D63D | D71D | D80D | D90D | T H7 (standard for metric units) | O (standard for metric units) | N (standard for metric units) | Output Keyway (standard for metric units) |
|---|---|---|---|---|---|---|---|---|
| **518** | 136 ❖ | 136 | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 141 ❖ | 141 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | 179 ❖ | 179 ❖ | 179 ❖ | 179 | 25 | 60 | 123 | 8 |
| **534** | 197 ■ | 197 ❖ | 197 ❖ | 197 | 35 | 60 | 141 | 10 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:
D63D(All), D71D & D80D(Series 525 & 534)
◆ Dimensions are maximum (B5 and B14 options)
■ B14 Option not available

# Bravo™ ALUMINUM GEAR REDUCERS Modified Stock Gear Reducers

**Quick shipment is standard** on all Grove Gear BRAVO® stock and modified stock gear reducers. A wide range of mounting styles are offered and are listed on the accompanying chart. Start with one of the stock reducer styles shown—add an accessory—and create a new mounting style.

**STYLE T, U OR J HORIZONTAL BASE**



**MOTORIZED C FLANGE QUILL INPUT**



(Style BMQ Shown)

**NON-FLANGED**



(Style B Shown)

| Type | Stock Reducer Style | T Base Worm Over | U Base Worm Under | J Base Vertical Input |
|---|---|---|---|---|
| Single Reduction Solid Shaft | **BMQ** | **TMQ** | **UMQ*** | **JMQ** |
| Single Reduction Hollow Shaft | **HMQ** | **THMQ** | **UHMQ*** | **JHMQ** |
| Double Reduction Worm-Worm Solid Shaft | **DMQ** | **DTMQ** | **DUMQ*** | **DJMQ** |
| Double Reduction Worm-Worm Hollow Shaft | **DHMQ** | **DTHMQ** | **DUHMQ*** | **DJHMQ** |
| Double Reduction Helical-Worm Solid Shaft | **DXMQ** | **DXTMQ** | **DXUMQ*** | **DXJMQ** |
| Double Reduction Helical-Worm Hollow Shaft | **DXHMQ** | **DXTHMQ** | **DXUHMQ*** | **DXJHMQ** |
| Single Reduction Solid Shaft | **B** | **T** | **U*** | **J** |
| Single Reduction Hollow Shaft | **H** | **TH** | **UH*** | **JH** |
| Double Reduction Worm-Worm Solid Shaft | **D** | **DT** | **DU*** | **DJ** |
| Double Reduction Worm-Worm Hollow Shaft | **DH** | **DTH** | **DUH*** | **DJH** |
| Double Reduction Helical-Worm Solid Shaft | **DX** | **DXT** | **DXU*** | **DXJ** |
| Double Reduction Helical-Worm Hollow Shaft | **DXH** | **DXTH** | **DXUH*** | **DXJH** |

* Not a recommended mounting style. Consult Factory for selection assistance.

| STYLE F OUTPUT FLANGE | STYLE FL OUTPUT FLANGE | STYLE R REACTION ARM |
|---|---|---|
|  |  |  |
| F<br>Short Output Flange | FL<br>Long Output Flange | R<br>Reaction Arm Shaft |
| **FMQ** | **FLMQ** | **RMQ** |
| **FHMQ** | **FLHMQ** | **RHMQ** |
| **DFMQ** | **DFLMQ** | **DRMQ** |
| **DFHMQ** | **DFLHMQ** | **DRHMQ** |
| **DXFMQ** | **DXFLMQ** | **DXRMQ** |
| **DXFHMQ** | **DXFLHMQ** | **DXRHMQ** |
| **F** | **FL** | **R** |
| **FH** | **FLH** | **RH** |
| **DF** | **DFL** | **DR** |
| **DFH** | **DFLH** | **DRH** |
| **DXF** | **DXFL** | **DXR** |
| **DXFH** | **DXFLH** | **DXRH** |

**More Grove Gear BRAVO® accessories, options and assembly services are available.**
**See page 348.**

# Ordering Information

**Style T, U or J - Horizontal Base**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | **G175231** | 2 |
| 518 | **G175205** | 2 |
| 520 | **G175206** | 2 |
| 525 | **G175207** | 3 |
| 534 | **G175208** | 5 |

**Style F - Short Output Flange**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | **G175232** | 1 |
| 518 | **G175209** | 1 |
| 520 | **G175210** | 1 |
| 525 | **G175211** | 2 |
| 534 | **G175212** | 3 |

**Style FL - Long Output Flange**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | **G175233** | 1 |
| 518 | **G175213** | 2 |
| 520 | **G175214** | 2 |
| 525 | **G175215** | 3 |
| 534 | **G175216** | 5 |

**Style R - Reaction Arm**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | **G175234** | 1 |
| 518 | **G175201** | 1 |
| 520 | **G175202** | 1 |
| 525 | **G175203** | 2 |
| 534 | **G175204** | 3 |

Refer to page 348 for reaction arm dimensions.

# Bravo™ Gear Reducer Accessories

ALUMINUM GEAR REDUCERS

## Solid Output Shaft Accessory Kits





**SINGLE EXTENSION INCH DIMENSIONS***

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | CONTACT Factory | |
| 518 | G175236 | 2 |
| 520 | G175237 | 3 |
| 525 | G175521 | 3 |
| 534 | G175238 | 6 |

**SINGLE EXTENSION METRIC DIMENSIONS†**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | G175240 | 2 |
| 518 | G175241 | 2 |
| 520 | G175242 | 3 |
| 525 | G175243 | 3 |
| 534 | G175244 | 6 |

* Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

† Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

**DOUBLE EXTENSION INCH DIMENSIONS***

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | CONTACT Factory | |
| 518 | G175221 | 3 |
| 520 | G175222 | 4 |
| 525 | G175223 | 4 |
| 534 | G175224 | 7 |

**DOUBLE EXTENSION METRIC DIMENSIONS†**

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | G175245 | 3 |
| 518 | G175246 | 3 |
| 520 | G175247 | 4 |
| 525 | G175248 | 4 |
| 534 | G175249 | 7 |

* Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

† Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

## Motorized C-Face Quill Input Bushing Kits

**NEMA Bushing Kits ◊ - Inches**

| Frame Conversion | Input Quill Bore Size (Inch) | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|---|
| 180TC to 140TC | 1-1/8 to 7/8 | G175230 | 0.5 |
| 180TC to 56C | 1-1/8 to 5/8 | G175229 | 0.4 |
| 140TC to 56C | 7/8 to 5/8 | G175228 | 0.4 |

◊ Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

**IEC Bushing Kits ◊ - MM**

| Frame Conversion | Input Quill Bore Size (mm) | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|---|
| D63 to D56 | 11 to 9 | G175259 | 0.4 |
| D71 to D63 | 14 to 11 | G175251 | 0.4 |
| D71 to D56 | 14 to 9 | G175252 | 0.4 |
| D80 to D71 | 19 to 14 | G175253 | 0.4 |
| D80 to D63 | 19 to 11 | G175254 | 0.4 |
| D90 to D80 | 24 to 19 | G175255 | 0.4 |
| D90 to D71 | 24 to 14 | G175256 | 0.4 |
| DF100/112 to D90 | 28 to 24 | G175257 | 0.5 |
| DF100/112 to D80 | 28 to 19 | G175258 | 0.5 |

◊ Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

## Double Reduction Adapter Kits

| Series | Accessory Kit Only Catalog No. | Primary Unit Size | Secondary Unit Quill Size | Weight (lbs) |
|---|---|---|---|---|
| 518 | G175225 | 518 | 0.625 | 1 |
| 520 | G175225 | 518 | 0.625 | 1 |
| 525 | G175226 | 518 | 0.875 | 1 |
| 534 | G175227 | 518 | 1.125 | 1.5 |

## Protection Cap Accessory Kits Ω

| Series | Accessory Kit Only Catalog No. | Weight (lbs) |
|---|---|---|
| 512 | G175250 | 0.3 |
| 518 | G175217 | 0.3 |
| 520 | G175218 | 0.3 |
| 525 | G175219 | 0.4 |
| 534 | G175220 | 0.6 |

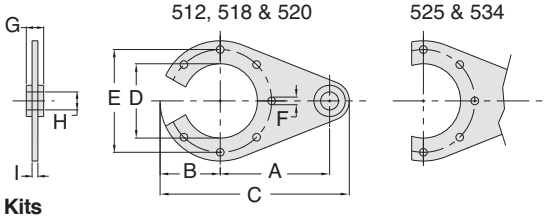


Ω This protective cap covers the unused output bore for single extension assemblies. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

## Style R Reaction Arm Dimensions








**Style R - Reaction Arm Kits**

| Series | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 512 | 3.94 | 1.57 | 6.22 | 1.97 | 2.56 | 0.28 | 0.16 | 0.31 | 0.16 |
| 518 | 3.94 | 1.77 | 6.22 | 1.97 | 2.56 | 0.28 | 0.16 | 0.31 | 0.16 |
| 520 | 3.94 | 2.17 | 6.81 | 2.68 | 3.70 | 0.28 | 0.16 | 0.31 | 0.16 |
| 525 | 5.91 | 2.17 | 9.25 | 2.95 | 3.54 | 0.35 | 0.79 | 0.39 | 0.24 |
| 534 | 7.87 | 3.15 | 12.60 | 4.33 | 5.12 | 0.43 | 0.98 | 0.79 | 0.24 |

Refer to page 347 for accessory kits available.

## HELICAL - WORM REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

| Reducer Style | Reducer Size 518 | 520 | 525 | 534 |
|---|---|---|---|---|
| **Solid Output Shaft Models** | | | | |
| DXMQ | 9 | 11 | 19 | 47 |
| DX | 8 | 11 | 19 | 47 |
| DXTMQ, DXUMQ | 11 | 13 | 22 | 52 |
| DXT, DXU | 10 | 13 | 22 | 52 |
| DXJMQ | 11 | 13 | 22 | 52 |
| DXJ | 10 | 13 | 22 | 52 |
| DXFMQ | 10 | 12 | 21 | 50 |
| DXF | 9 | 12 | 21 | 50 |
| DXFLMQ | 11 | 13 | 22 | 52 |
| DXFL | 10 | 13 | 22 | 52 |
| DRMQ | 10 | 12 | 21 | 50 |
| DXR | 9 | 12 | 21 | 50 |
| **Hollow Output Shaft Models** | | | | |
| DXHMQ | 8 | 9 | 17 | 42 |
| DXH | 7 | 9 | 17 | 42 |
| DXTHMQ, DXUHMQ | 10 | 11 | 20 | 47 |
| DXTH, DXUH | 9 | 11 | 20 | 47 |
| DXJHMQ | 10 | 11 | 20 | 47 |
| DXJH | 9 | 11 | 20 | 47 |
| DXFHMQ | 9 | 10 | 19 | 45 |
| DXFH | 8 | 10 | 19 | 45 |
| DXFLHMQ | 10 | 11 | 20 | 47 |
| DXFLH | 9 | 11 | 20 | 47 |
| DXRHMQ | 9 | 10 | 19 | 45 |
| DXRH | 8 | 10 | 19 | 45 |

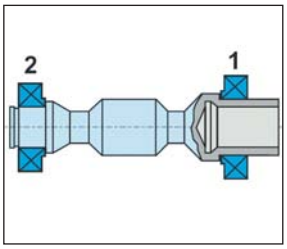
Δ Weight includes grease/ oil.

## REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

| Accessory | Reducer Size 518 | 520 | 525 | 534 |
|---|---|---|---|---|
| T/U - Base | 2 | 2 | 3 | 5 |
| J - Base | 2 | 2 | 3 | 5 |
| F - Flange | 1 | 1 | 2 | 3 |
| FL - Flange | 2 | 2 | 3 | 5 |
| R - Reaction Arm | 1 | 1 | 2 | 3 |

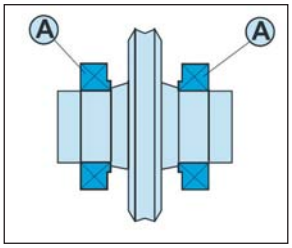
# Bravo™ ALUMINUM GEAR REDUCERS Additional Capabilities

Grove Gear Bravo® reducers are available with many special options on request.
Select from the common options below or contact Factory with specific application requests.
Contact Factory for availability of reducers with special features.



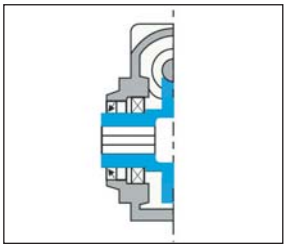

Tapered roller bearings on input worm shaft

| REDUCER SIZE | 1 | 2 |
|---|---|---|
| 512 | -- | -- |
| 518 | -- | -- |
| 520 | 32005X | 30204 |
| 525 | 32007X | 30205 |
| 534 | 32009X | 30206 |



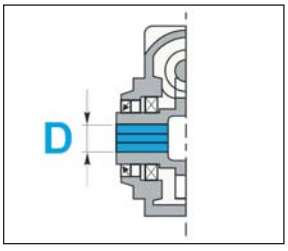

Tapered roller bearings on output shaft

| REDUCER SIZE | A |
|---|---|
| 512 | -- |
| 518 | -- |
| 520 | 32008X |
| 525 | 32009X |
| 534 | 32011X |



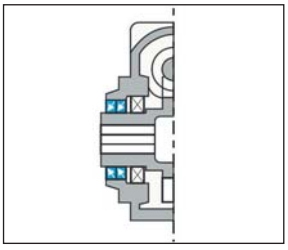
Stainless steel (AISI 303) or bronze output bore

| REDUCER SIZE | MAX DIAMETER INCHES (MM) |
|---|---|
| 512 | 0.550 (14) |
| 518 | 0.875 (22.2) |
| 520 | 1.1875 (30.16) |
| 525 | 1.3125 (33.33) |
| 534 | 1.625 (41.27) |



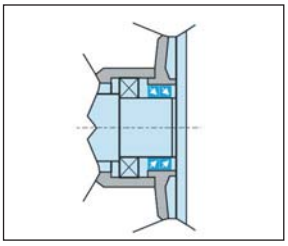

Non-standard output bore

| REDUCER SIZE | MAX DIAMETER INCHES (MM) |
|---|---|
| 512 | 0.550 (14) |
| 518 | 0.875 (22.2) |
| 520 | 1.1875 (30.16) |
| 525 | 1.3125 (33.33) |
| 534 | 1.625 (41.27) |



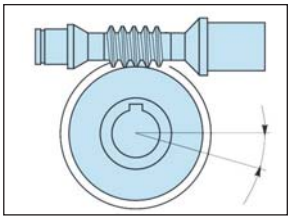
Double output seals

| REDUCER SIZE(MM) | SEAL SIZE |
|---|---|
| 512 | -- |
| 518 | -- |
| 520 | -- |
| 525 | 45/62/7 |
| 534 | 55/80/8 |



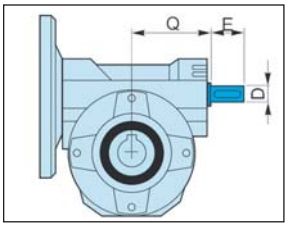
Double input seals

| REDUCER SIZE(MM) | SEAL SIZE |
|---|---|
| 512 | 20/30/7 |
| 518 | 25/40/7 |
| 520 | 25/40/7 or 30/40/7 |
| 525 | 35/47/7 |
| 534 | 45/62/7 |



Minimum backlash gearing

**ALL SIZES AVAILABLE. CONTACT FACTORY WITH REQUIREMENTS.**



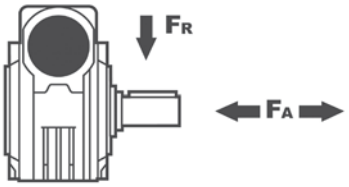

Double input worm shaft extension

**ALL SIZES AVAILABLE. CONTACT FACTORY WITH REQUIREMENTS.**

**SPECIAL OPTIONS NOT PICTURED INCLUDE:**

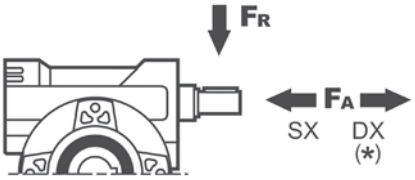
- Epoxy paint
- Custom mounting accessories
- Custom ratios
- NEMA input flange/ metric dimensioned output shaft combinations
- IEC input flange/ inch dimensioned output shaft combinations
- Special solid output shaft extensions

## Maximum Overhung Load‡ and Thrust Load Ratings (lbs.)



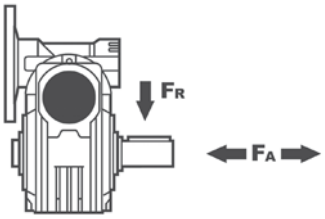

### Single Reduction Output Shaft Ratings‡

| Output RPM | Series | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 512 | | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **200** | 27 | 135 | 40 | 200 | 54 | 270 | 81 | 405 | 112 | 562 |
| **150** | 31 | 157 | 45 | 225 | 63 | 315 | 90 | 450 | 130 | 652 |
| **100** | 36 | 180 | 50 | 248 | 68 | 338 | 104 | 518 | 135 | 675 |
| **75** | 40 | 202 | 54 | 270 | 76 | 382 | 112 | 562 | 157 | 787 |
| **50** | 45 | 225 | 58 | 315 | 86 | 428 | 135 | 675 | 180 | 900 |
| **25** | 56 | 281 | 68 | 405 | 108 | 562 | 158 | 855 | 225 | 1125 |
| **15** | 63 | 315 | 90 | 450 | 126 | 629 | 180 | 899 | 261 | 1304 |



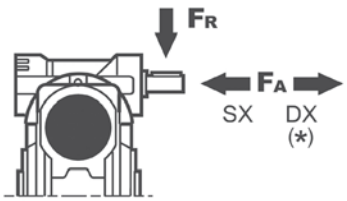

### Single Reduction Input Shaft Ratings‡

| Input RPM | Series | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 512 | | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **1750** | 4 | 21 | 9 | 43 | 16 | 79 | 19 | 93 | 33 | 167 |



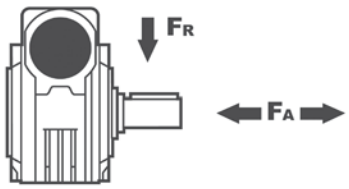

### Double Reduction Worm - Worm Output Shaft Ratings‡

| Output RPM | Series | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **25** | 68 | 405 | 108 | 562 | 158 | 855 | 225 | 1125 |
| **15** | 90 | 450 | 126 | 629 | 180 | 899 | 261 | 1304 |



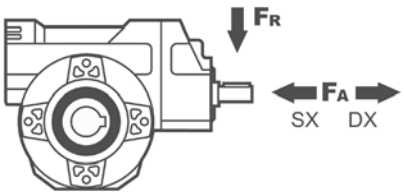

### Double Reduction Worm - Worm Input Shaft Ratings‡

| Input RPM | Series | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **1750** | 9 | 43 | 9 | 43 | 9 | 43 | 9 | 43 |




### Double Reduction Helical - Worm Output Shaft Ratings‡

| Output RPM | Series | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **75** | 54 | 270 | 76 | 382 | 112 | 562 | 157 | 787 |
| **50** | 58 | 315 | 86 | 428 | 135 | 675 | 180 | 900 |
| **25** | 68 | 405 | 108 | 562 | 158 | 855 | 225 | 1125 |
| **15** | 90 | 450 | 126 | 629 | 180 | 899 | 261 | 1304 |

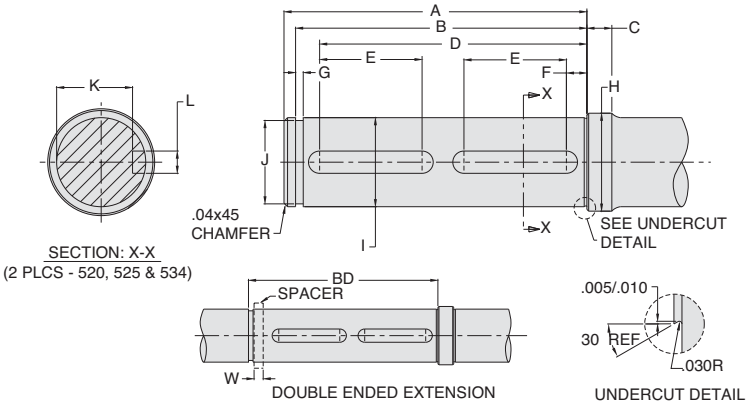



### Double Reduction Helical - Worm Input Shaft Ratings‡

| Input RPM | Series | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 518 | | 520 | | 525 | | 534 | |
| | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ | $F_A$ | $F_R$ |
| **1750** | 9 | 46 | 9 | 46 | 13 | 63 | 22 | 112 |

$F_R$ = Radial load rating = overhung load (lbs)
$F_A$ = Axial load rating = thrust rating (lbs)
* Axial loads in the DX direction should be avoided.
‡ Overhung load is located at centerline of shaft extension for solid input/ output shaft style

# Bravo™ ALUMINUM GEAR REDUCERS — Gear Reducer Drive Shaft Recommendations




**There are several possible methods to retain a drive shaft into the hollow bore of a gear reducer. A few common options are listed below:**

- Retain drive shaft with a retaining ring (illustrated above)
- Retain drive shaft with a locknut
- Retain drive shaft with a thrust plate and fastener
- Retain drive shaft with a collar and setscrew
- Retain drive shaft with a recessed plate and fastener

## DRIVEN SHAFT RECOMMENDATIONS ● HOLLOW BORE IN INCHES

**Dimensions - Inches**

| Series | A | B +/- 0.0025 | C | D | F | Retaining Ring Groove G +0.005/ - 0.000 | Retaining Ring Groove J +/- 0.002 | Retaining Ring Mfg. No. (Waldes Truarc) | H | I +/- 0.0005 | Keyway E | Keyway K +/- 0.0025 | Keyway L +/- 0.001 | Double Extension Details BD +/ 0.0025 | Double Extension Details W * +/- 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 2.6445 | 0.43 | N/A | 0.18 | 0.086 | 0.703 | 5160-75 | 0.88 | 0.749 | 1.15 | 0.6365 | 0.1875 | 3.0755 | 0.430 |
| 520 | 3.50 | 3.2725 | 0.30 | 3.00 | 0.23 | 0.086 | 0.937 | 5160-98 | 1.12 | 0.999 | 1.15 | 0.8565 | 0.250 | 3.5735 | 0.300 |
| 525 | 5.00 | 4.8225 | 0.13 | 4.25 | 0.22 | 0.103 | 1.058 | 5160-112 | 1.25 | 1.124 | 1.53 | 0.9785 | 0.250 | 4.9535 | 0.130 |
| 534 | 5.65 | 5.4315 | 0.53 | 5.00 | 0.28 | 0.120 | 1.405 | 5160-150 | 1.75 | 1.499 | 1.65 | 1.2815 | 0.375 | 5.9625 | 0.530 |

* Dimension "W" refers to the width of spacer used.

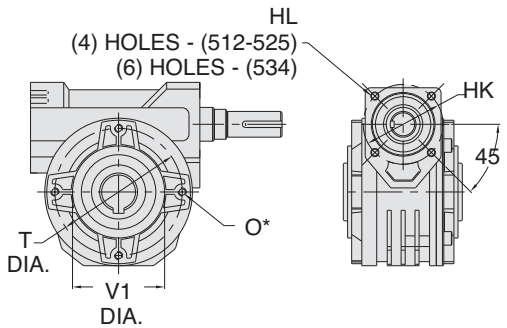
## DRIVEN SHAFT RECOMMENDATIONS ● HOLLOW BORE IN MILLIMETERS

**Dimensions - MM**

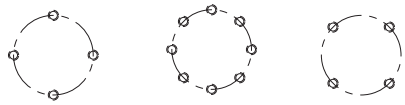
| Series | A | B +/- 0.064 | C | D | F | Retaining Ring Groove G +0.12/ - 0.00 | Retaining Ring Groove J +/- 0.05 | Retaining Ring Mfg. No. (Waldes Truarc) | H | I - 0.005/ -0.020 | Keyway E | Keyway K +/- 0.05 | Keyway L + 0.015/-0.000 | Double Extension Details BD +/ 0.064 | Double Extension Details W * +/- 0.02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 512 | 60.5 | 56.223 | 10 | N/A | 5 | 1.1 | 13 | 5100-55 | 19.1 | 14 | 20.2 | 10.8 | 5 | 66.383 | 10.16 |
| 518 | 71.1 | 67.170 | 11 | N/A | 5 | 1.4 | 16 | 5160-66 | 22.4 | 18 | 30.2 | 14.5 | 6 | 78.118 | 10.92 |
| 520 | 88.9 | 83.120 | 8 | 76.2 | 5 | 2.3 | 23.5 | 5160-98 | 28.4 | 25 | 30.2 | 21.0 | 8 | 90.767 | 7.62 |
| 525 | 127.0 | 122.492 | 3 | 108.0 | 8 | 2.6 | 26 | 5160-106 | 31.8 | 28 | 40.2 | 24.0 | 8 | 125.819 | 3.30 |
| 534 | 143.5 | 137.960 | 14 | 127.0 | 9 | 2.6 | 32.8 | 5160-137 | 44.5 | 35 | 50.2 | 30.0 | 10 | 151.448 | 13.46 |

* Dimension "W" refers to the width of spacer used.

## BOLT CIRCLE DIMENSIONS - mm

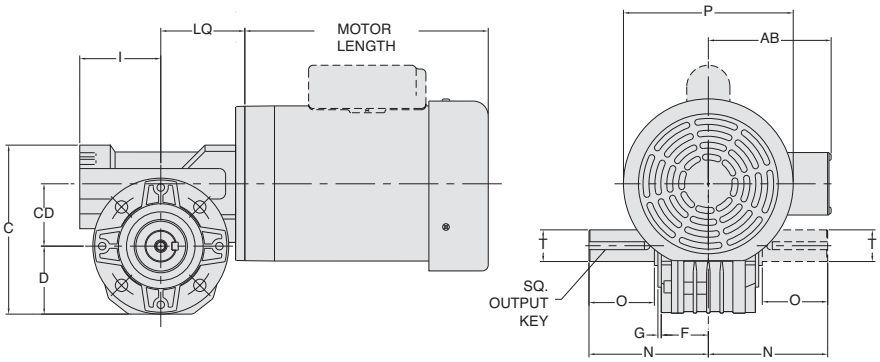



| O* | | | T DIA. | V1 DIA. (h8) | HL | HK DIA. |
|---|---|---|---|---|---|---|
| 512 | 4 - M6 x 9 | VIEW - A | 65 | 50 | M5 x 11 | 44 |
| 518 | 4 - M6 x 14 | VIEW - A | 65 | 50 | M6 x 15 | 59 |
| 520 | 4 - M6 x 9 | VIEW - A | 94 | 68 | M6 x 16 | 59 |
| 525 | 8 - M8 x 17 | VIEW - B | 90 | 75 | M8 x 17 | 80 |
| 534 | 4 - M10 x 8 | VIEW - C | 130 | 110 | M6 x 16 | 90 |



VIEW - A VIEW - B VIEW - C

## GEAR+MOTOR™ DIMENSIONS




### BMQ STYLE DIMENSIONS - Inches (MM)

| Series | C | CD | D | F | G | I | N | O | T +0.000 -0.001 | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|
| **512** | 3.54 (89.9) | 1.18 (30) | 1.54 (39) | 1.18 (30) | 0.08 (2) | 1.81(46) | 2.48 (63.0) | 1.01(25.7) | (14)* | (5) |
| **518** | 4.76 (121) | 1.77 (45) | 1.93 (49) | 1.38 (35) | 0.08 (2) | 2.16 (55) | 2.97 (75.4) | 1.26 (32.0) | 0.750 | 3/16 x 1.00 |
| **520** | 5.33 (135) | 1.97 (50) | 2.15 (54.5) | 1.50 (38) | 0.12 (3) | 2.56 (65) | 3.94 (100.1) | 2.05 (52.1) | 1.000 | 1/4 X 1.62 |
| **525** | 6.69 (170) | 2.48 (63) | 2.76 (70) | 1.77 (45) | 0.19 (5) | 3.11 (79) | 4.85 (123.2) | 2.36 (59.9) | 1.125 | 1/4 X 2.00 |
| **534** | 9.15 (232) | 3.35 (85) | 3.72 (94.5) | 2.52 (64) | 0.14 (3.5) | 3.86 (98) | 5.55 (141.0) | 2.36 (59.9) | 1.500 | 3/8 X 2.00 |

* Tolerance is -0.005/ -0.0020.

### NEMA MOTOR MOUNTING DIMENSIONS - Inches

| Series | AB | | LQ | | P | |
|---|---|---|---|---|---|---|
| | 56C/140TC | 180TC | 56C/140TC | 180TC | 56C/140TC | 180TC |
| **518** | 5.31 | N/A | 3.33 | N/A | 7.16 | 9.22 |
| **520** | 5.31 | N/A | 3.51 | N/A | 7.16 | 9.22 |
| **525** | 5.31 | N/A | 4.08 | N/A | 7.16 | 9.22 |
| **534** | 5.31 | 6.44 | 4.83 | 5.35 | 7.16 | 9.22 |

Refer to page 663 for NEMA motor length dimensions.

### IEC MOTOR MOUNTING DIMENSIONS -Inches

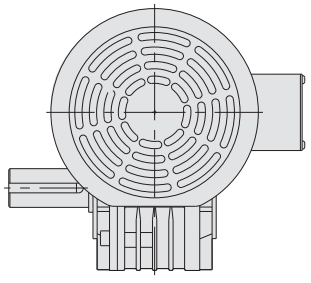
Contact Factory for outline drawings of specific IEC BRAVO® Gear+Motor™ combinations.

Refer to page 423 for IEC motor dimensions.

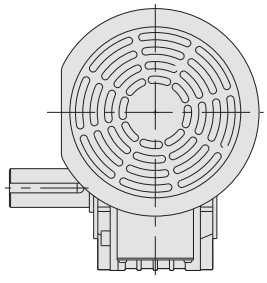
## MOTOR MOUNTING POSITIONS

Conduit box position viewed from input side of reducer.

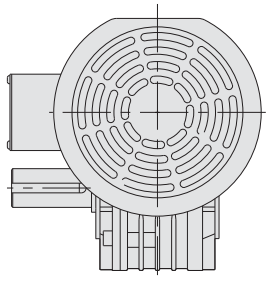
**STANDARD MOUNTING POSITION**



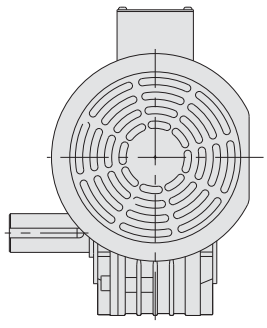
**1** Conduit box horizontal on right side.



**2** Conduit box vertical on bottom side.

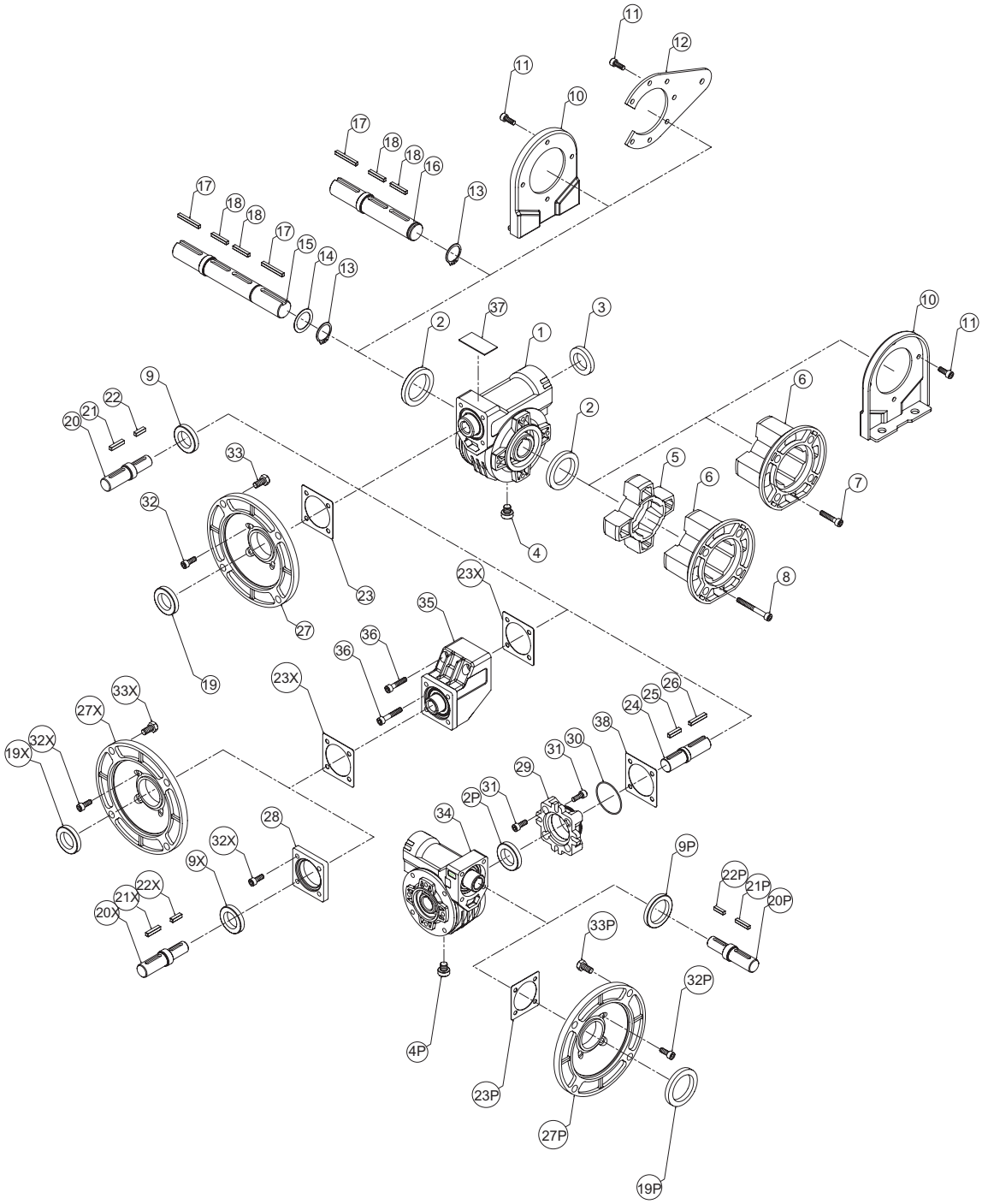


**3** Conduit box horizontal on left side.



**4** Conduit box vertical on top side.

# BRAVO® Exploded View




| ITEM # | DESCRIPTION |
|---|---|
| 1 | GEAR MODULE |
| 2,2P | OIL SEAL - OUTPUT |
| 3 | RCA SEAL PLUG |
| 4,4P | DRAIN PLUG |
| 5 | FL-SPACER |
| 6 | F-FLANGE |
| 7 | SOCKET HEAD CAPSCREW |
| 8 | SOCKET HEAD CAPSCREW |
| 9,9P,9X | OIL SEAL - NON-MOTORIZED INPUT |
| 10 | HORIZONTAL BASE |
| 11 | SOCKET HEAD CAPSCREW |
| 12 | REACTION ARM |
| 13 | RETAINING RING |
| 14 | SPACER |
| 15 | OUTPUT SHAFT - DOUBLE EXTENSION |
| 16 | OUTPUT SHAFT - SINGLE EXTENSION |
| 17 | KEY-OUTPUT (EXTENSION) |
| 18 | KEY-OUTPUT (INTERNAL) |
| 19,19P,19X | OIL SEAL - MOTORIZED INPUT |
| 20,20P,20X | INPUT SHAFT - NON-MOTORIZED INPUT |
| 21,21P,21X | KEY - INPUT (EXTENSION) |
| 22,22P,22X | KEY -INPUT (INTERNAL) |
| 23,23P,23X | GASKET |
| 24 | CONNECTOR SHAFT |
| 25 | KEY |
| 26 | KEY |
| 27,27P,27X | FLANGE - MOTORIZED INPUT |
| 28 | INPUT COVER |
| 29 | CONNECTOR FLANGE - DOUBLE REDUCTION |
| 30 | O-RING |
| 31 | SOCKET HEAD CAPSCREW |
| 32,32P,32X | SOCKET HEAD CAPSCREW |
| 33,33P,33X | HEX HEAD CAPSCREW |
| 34 | PRIMARY GEAR MODULE - DOUBLE REDUCTION |
| 35 | HELICAL STEP MODULE - DOUBLE REDUCTION |
| 36 | SOCKET HEAD CAPSCREW |
| 37 | NAMEPLATE |
| 38 | GASKET |

## General Operation

1. Run the motor which drives the reducer and check the direction of reducer output rotation. Consult motor nameplate for instructions to reverse the direction of rotation.
2. Attaching the load: On direct coupled installations, check shaft and coupling alignment between speed reducer and loading mechanism. On chain/sprocket and belt/pulley installation, locate the sprocket or pulley as close to the oil seal as possible to minimize overhung load. Check to verify that the overhung load does not exceed specifications published in the catalog.
3. High momentum loads: If coasting to a stop is undesirable, a braking mechanism should be provided to the speed reducer output or the driven mechanism.

⚠ CAUTION The system of connected rotating parts must be free from critical speed, torsional or other type vibration, no matter how induced. The responsibility for this system analysis lies with the purchaser of the speed reducer.

## Installation Instructions

The following instructions apply to standard Grove Gear Bravo® type reducers with base or flange mounting in motorized and non-motorized single and double reduction options.

1. Mount the unit to a rigid flat surface using grade 5 or higher fasteners. The mounting fasteners should be the largest standard size that will fit in the base mounting hole. Shim as required under flange or base feet which do not lie flat against the mounting surface.
2. Carefully follow lubrication instructions and installation manual furnished with the gear reducer. All standard Bravo® reducers are properly filled at Factory with sufficient lubricant quantity for nearly any mounting position.

   **BRAVO aluminum gear reducers:** Series 512-525 utilize a vent-free design and are Factory filled with synthetic oil formulated for lifetime lubrication & wide operating temperature range (+5F to +220F). It is not necessary to change the lubricant unless the reducer is used in a severe environment. If these reducers will be used in severe environment or if lubricant must be replaced, contact Factory.
3. Connect motor to speed reducer.

⚠ CAUTION DO NOT CHANGE MOUNTING POSITIONS WITHOUT CONTACTING FACTORY. Altering the mounting position may require special lubrication provisions which must be factory installed.

⚠ CAUTION Do not operate the reducer without making sure it contains the correct amount of oil. Confirm that mounting position on nameplate matches application requirement per Figure 1. Do not overfill or underfill with oil, or injury to personnel, reducer or other equipment may result.

⚠ CAUTION A unit cannot be used as an integral part of a machine superstructure which would impose additional loads on the unit other than those imposed by the torque being transmitted either through a shaft-mounted arrangement, and any shaft mounted power transmitting device. (e.g. sprockets, pulleys, couplings)

⚠ CAUTION For safe operation and to maintain the unit warranty, when changing a factory installed fastener for any reason it becomes the responsibility of the person making the change to properly account for fastener grade, thread engagement, load, tightening torque and the means of torque retention.

## Lubrication

Carefully follow lubrication instructions and installation manual furnished with the gear reducer. All standard Bravo® reducers are properly filled at Factory with sufficient lubricant quantity for any mounting position.

Change oil only when performing maintenance that requires gearbox disassembly or if the reducer is operated in a severe environment. If oil must be replaced, use only Mobil PAG 460.

Mobil PAG 460 is H1 Food Grade approved lube.

⚠ CAUTION Lubricant should be changed more often if gear reducer is used in a severe environment. (ie: humid, wet, caustic, etc)

⚠ CAUTION Do not mix different lubricants in the reducer.

**SPECIAL LUBRICATION REQUIREMENTS** – Sizes 518-534
- Reducer is mounted with input worm shaft vertical
- Input speed is sustained less than 900 RPM

**NOTE:** The reducer may require modifications to assure proper lubrication in these applications. Contact Factory for more detail.

For lubrication requirements of helical reducers (primaries of helical worm reducers and ratio multipliers), contact Factory.

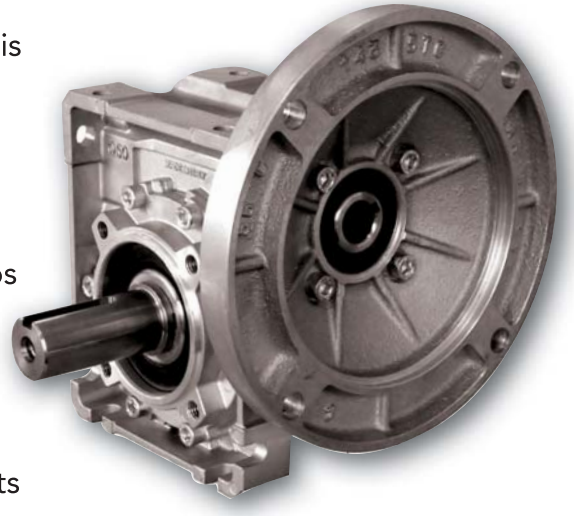
| Lubrication type | Series | | | | |
|---|---|---|---|---|---|
| | 512 | 518 | 520 | 525 | 534 |
| Oil (ounces) | 2.2 | 3.0 | 5.2 | 13 | 41 |

| | |
|---|---|
| 16 oz. = 1 pint | 1 quart = .9463 liter |
| 2 pints = 1 quart | 1 gallon = 3.785 liter |
| 4 quarts = 1 gallon | 1 lb = .4535 kg. |
| 1 gallon = 128 oz. | |

# Driven to be the Best

## Quadro Aluminum Worm Gear Reducers

### Advantages



- Compact and lightweight aluminum alloy housing is up to one third smaller than alternatives
- Ideal for difficult installations
- Four sizes available with ratings to 8 HP
- Available in single and double reduction with ratios from 7:1 to 4020:1.
- Unique square design eliminates the need for mounting feet
- Available in both Nema and IEC inputs and outputs
- Factory-filled with premium Mobil Glygoyle 460 polyalkalene glycol lubricant
- Vent free design to eliminate leaks
- Available pre-assembled with LEESON motors for the perfect GEAR+MOTOR™ package
- Mounting dimensions are interchangeable with many major brands

## A Multitude of Washdown Applications



Food Processing | Meat & Poultry Processing | Dairy | Chemical Processing | Washdown

# Additional Capabilities

**Vent Free Design.**** No breather or vents to leak! Factory lubricated for life with premium synthetic Mobil Glygoyle 460 (PAG) lubricant or equivalent suitable for continuous operation within a -10°F to 120°F ambient temperature range.

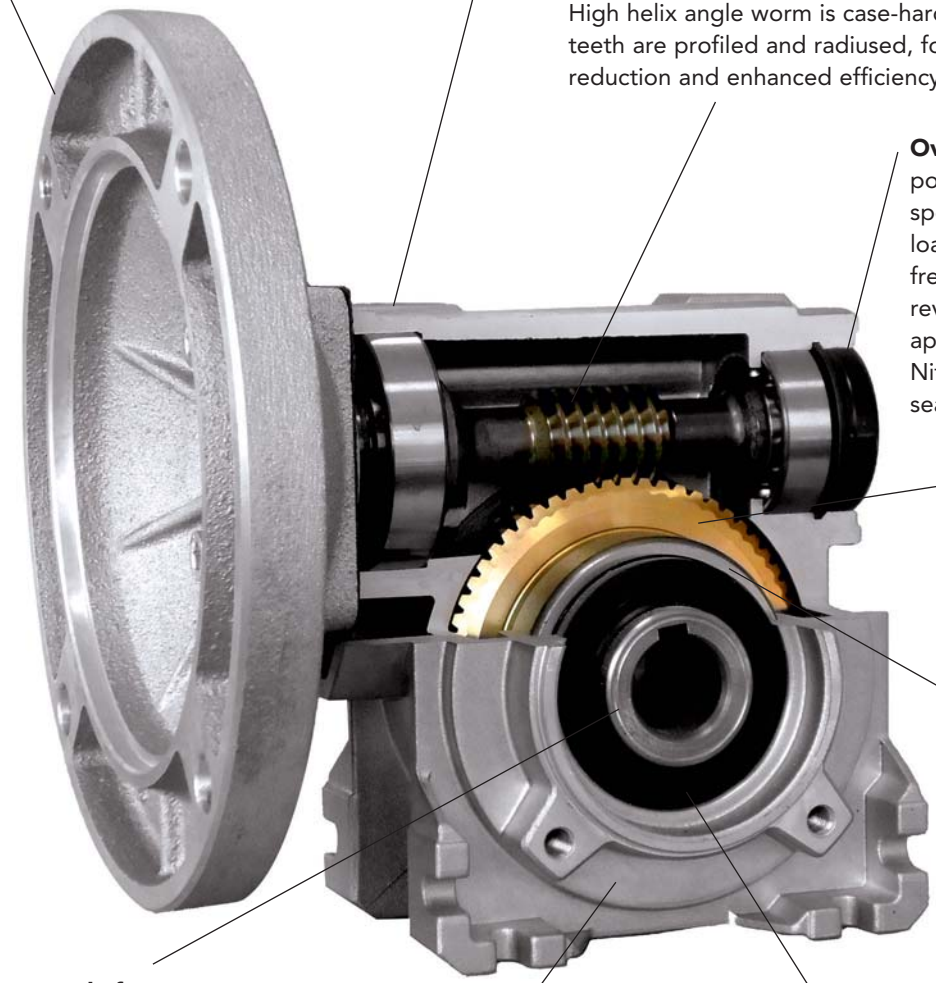
**NEMA C flange** with quill input accepts 56C, 143-5TC and 182-4TC motor frames.

or

**B5 & B14 IEC metric flange** options with quill input accepts D56, D63, D71, D80, D90, D100 and D112 motor frames.

**Single-piece aluminum alloy housing** is vacuum impregnated with Resinol RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

**Alloy steel input shaft and worm shaft**. High helix angle worm is case-hardened (Rc 58-60), ground, teeth are profiled and radiused, for noise reduction and enhanced efficiency.



**Oversized bearings** support positively-retained, high speed shaft for higher shock load capacity — ideal for frequent starting and reversing applications. Premium, Nitrile® high temperature seals each end.

**Bronze alloy worm gear** is centrifugally cast onto an iron hub for maximum strength, lubricity and superior life.

**Oversized bearings** for radial load capability and maximum hollow output shaft diameters.

**Hollow output shaft** mounting is standard at no extra cost. Reduces total drive envelope size, weight and cost. Solid shaft single and double output is available.

**Premium, high-temperature** Nitrile® output seals.

**Impregnated and machined bearing caps** with exterior machined surfaces mate to a variety of mounting accessories. Extra-deep thread engagement provided for greater support strength. Zinc plated hardware. No need to remove bearing covers to mount/change accessory kits.

# Mounting Style Guide

## Hollow Output Shaft Mounted

### MOTORIZED QUILL INPUT

**HMQ**



**RHMQ**



**FHMQ**



**FLHMQ**



### NON-MOTORIZED SOLID INPUT SHAFT

**H**



**RH**



**FH**



**FLH**



## Solid Output Shaft

### MOTORIZED QUILL INPUT

**BMQ**



**RMQ**



**FMQ**



**FLMQ**



### NON-MOTORIZED SOLID INPUT SHAFT

**B**



**R**



**F**



**FL**



## 518 Series • 1.0 S.F.

| | | | | | | | Style BMQ | | | Style HMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | NEMA C Input Flange▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750<br>1150 | 250<br>164 | 1.378<br>0.950 | 1.103<br>0.760 | 278<br>292 | 56C | Q518003112 | Q518004112 | Q518005112 | Q518007112 |
| 10 | 1750<br>1150 | 175<br>115 | 0.981<br>0.679 | 0.775<br>0.536 | 279<br>294 | 56C | Q518003212 | Q518004212 | Q518005212 | Q518007212 |
| 14 | 1750<br>1150 | 125<br>82 | 0.871<br>0.602 | 0.670<br>0.463 | 338<br>356 | 56C | Q518003312 | Q518004312 | Q518005312 | Q518007312 |
| 21 | 1750<br>1150 | 83<br>55 | 0.796<br>0.555 | 0.533<br>0.372 | 405<br>426 | 56C | Q518003412 | Q518004412 | Q518005412 | Q518007412 |
| 28 | 1750<br>1150 | 63<br>47 | 0.631<br>0.494 | 0.410<br>0.321 | 410<br>431 | 56C | Q518003512 | Q518004512 | Q518005512 | Q518007512 |
| 37 | 1750<br>1150 | 47<br>31 | 0.490<br>0.340 | 0.309<br>0.214 | 414<br>436 | 56C | Q518003612 | Q518004612 | Q518005612 | Q518007612 |
| 46 | 1750<br>1150 | 38<br>25 | 0.397<br>0.274 | 0.234<br>0.162 | 388<br>408 | 56C | Q518003712 | Q518004712 | Q518005712 | Q518007712 |
| 60 | 1750<br>1150 | 29<br>19.2 | 0.363<br>0.250 | 0.203<br>0.140 | 442<br>465 | 56C | Q518003812 | Q518004812 | Q518005812 | Q518007812 |
| 70 | 1750<br>1150 | 25.0<br>16.4 | 0.204<br>0.137 | 0.110<br>0.074 | 278<br>292 | 56C | Q518003912 | Q518004912 | Q518005912 | Q518007912 |
| 102 | 1750<br>1150 | 17.2<br>11.3 | 0.144<br>0.098 | 0.070<br>0.048 | 261<br>275 | 56C | Q518004012 | Q518005012 | Q518006012 | Q518008012 |

▲ Contact Factory for other motor flanges available.

# Quadro Aluminum Worm Gear Reducers
# Maximum Rating Tables

## 518 Series • 1.0 S.F.

| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | Style B: Left Hand Catalog No. | Style B: Right Hand Catalog No. | Style B: Double Ext. Catalog No. | Style H: Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 1.378 | 1.103 | 278 | Q518000112 | Q518001112 | Q518002112 | Q518006112 |
| | 1150 | 164 | 0.950 | 0.760 | 292 | | | | |
| 10 | 1750 | 175 | 0.981 | 0.775 | 279 | Q518000212 | Q518001212 | Q518002212 | Q518006212 |
| | 1150 | 115 | 0.679 | 0.536 | 294 | | | | |
| 14 | 1750 | 125 | 0.871 | 0.670 | 338 | Q518000312 | Q518001312 | Q518002312 | Q518006312 |
| | 1150 | 82 | 0.602 | 0.463 | 356 | | | | |
| 21 | 1750 | 83 | 0.796 | 0.533 | 405 | Q518000412 | Q518001412 | Q518002412 | Q518006412 |
| | 1150 | 55 | 0.555 | 0.372 | 426 | | | | |
| 28 | 1750 | 63 | 0.631 | 0.410 | 410 | Q518000512 | Q518001512 | Q518002512 | Q518006512 |
| | 1150 | 47 | 0.494 | 0.321 | 431 | | | | |
| 37 | 1750 | 47 | 0.490 | 0.309 | 414 | Q518000612 | Q518001612 | Q518002612 | Q518006612 |
| | 1150 | 31 | 0.340 | 0.214 | 436 | | | | |
| 46 | 1750 | 38 | 0.397 | 0.234 | 388 | Q518000712 | Q518001712 | Q518002712 | Q518006712 |
| | 1150 | 25 | 0.274 | 0.162 | 408 | | | | |
| 60 | 1750 | 29 | 0.363 | 0.203 | 442 | Q518000812 | Q518001812 | Q518002812 | Q518006812 |
| | 1150 | 19.2 | 0.250 | 0.140 | 465 | | | | |
| 70 | 1750 | 25.0 | 0.204 | 0.110 | 278 | Q518000912 | Q518001912 | Q518002912 | Q518006912 |
| | 1150 | 16.4 | 0.137 | 0.074 | 292 | | | | |
| 102 | 1750 | 17.2 | 0.144 | 0.070 | 261 | Q518001012 | Q518002012 | Q518003012 | Q518007012 |
| | 1150 | 11.3 | 0.098 | 0.048 | 275 | | | | |

## 520 Series • 1.0 S.F.

| | | | | | | | Style BMQ | | | Style HMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | NEMA C Input Flange▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750<br>1150 | 250<br>164 | 2.472<br>1.707 | 2.027<br>1.400 | 511<br>538 | 56C | Q520003416 | Q520004516 | Q520005616 | Q520007816 |
| 10 | 1750<br>1150 | 175<br>115 | 1.961<br>1.355 | 1.569<br>1.084 | 565<br>594 | 56C | Q520003516 | Q520004616 | Q520005716 | Q520007916 |
| 14 | 1750<br>1150 | 125<br>82 | 1.494<br>1.031 | 1.180<br>0.814 | 595<br>626 | 56C | Q520003616 | Q520004716 | Q520005816 | Q520008016 |
| 18 | 1750<br>1150 | 97<br>64 | 1.196<br>0.830 | 0.897<br>0.622 | 583<br>613 | 56C | Q520003716 | Q520004816 | Q520005916 | Q520008116 |
| 26 | 1750<br>1150 | 67<br>44 | 0.889<br>0.614 | 0.613<br>0.424 | 577<br>607 | 56C | Q520003816 | Q520004916 | Q520006016 | Q520008216 |
| 36 | 1750<br>1150 | 49<br>32 | 0.684<br>0.470 | 0.472<br>0.324 | 607<br>639 | 56C | Q520003916 | Q520005016 | Q520006116 | Q520008316 |
| 43 | 1750<br>1150 | 41<br>27 | 0.604<br>0.419 | 0.399<br>0.276 | 613<br>645 | 56C | Q520004016 | Q520005116 | Q520006216 | Q520008416 |
| 60 | 1750<br>1150 | 29<br>19.2 | 0.486<br>0.335 | 0.282<br>0.194 | 613<br>645 | 56C | Q520004116 | Q520005216 | Q520006316 | Q520008516 |
| 68 | 1750<br>1150 | 25.7<br>16.9 | 0.420<br>0.289 | 0.239<br>0.165 | 580<br>610 | 56C | Q520004216 | Q520005316 | Q520006416 | Q520008616 |
| 80 | 1750<br>1150 | 21.9<br>14.4 | 0.368<br>0.246 | 0.199<br>0.133 | 569<br>599 | 56C | Q520004316 | Q520005416 | Q520006516 | Q520008716 |
| 100 | 1750<br>1150 | 17.5<br>11.5 | 0.295<br>0.207 | 0.147<br>0.103 | 516<br>543 | 56C | Q520004416 | Q520005516 | Q520006616 | Q520008816 |

▲ Contact Factory for other motor flanges available.

# Quadro Aluminum Worm Gear Reducers
# Maximum Rating Tables

## 520 Series • 1.0 S.F.



| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Ext. Catalog No. | Style H Hollow Output Catalog No. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1750 | 250 | 2.472 | 2.027 | 511 | Q520000116 | Q520001216 | Q520002316 | Q520006716 |
| | 1150 | 164 | 1.707 | 1.400 | 538 | | | | |
| 10 | 1750 | 175 | 1.961 | 1.569 | 565 | Q520000216 | Q520001316 | Q520002416 | Q520006816 |
| | 1150 | 115 | 1.355 | 1.084 | 594 | | | | |
| 14 | 1750 | 125 | 1.494 | 1.180 | 595 | Q520000316 | Q520001416 | Q520002516 | Q520006916 |
| | 1150 | 82 | 1.031 | 0.814 | 626 | | | | |
| 18 | 1750 | 97 | 1.196 | 0.897 | 583 | Q520000416 | Q520001516 | Q520002616 | Q520007016 |
| | 1150 | 64 | 0.830 | 0.622 | 613 | | | | |
| 26 | 1750 | 67 | 0.889 | 0.613 | 577 | Q520000516 | Q520001616 | Q520002716 | Q520007116 |
| | 1150 | 44 | 0.614 | 0.424 | 607 | | | | |
| 36 | 1750 | 49 | 0.684 | 0.472 | 607 | Q520000616 | Q520001716 | Q520002816 | Q520007216 |
| | 1150 | 32 | 0.470 | 0.324 | 639 | | | | |
| 43 | 1750 | 41 | 0.604 | 0.399 | 613 | Q520000716 | Q520001816 | Q520002916 | Q520007316 |
| | 1150 | 27 | 0.419 | 0.276 | 645 | | | | |
| 60 | 1750 | 29 | 0.486 | 0.282 | 613 | Q520000816 | Q520001916 | Q520003016 | Q520007416 |
| | 1150 | 19.2 | 0.335 | 0.194 | 645 | | | | |
| 68 | 1750 | 25.7 | 0.420 | 0.239 | 580 | Q520000916 | Q520002016 | Q520003116 | Q520007516 |
| | 1150 | 16.9 | 0.289 | 0.165 | 610 | | | | |
| 80 | 1750 | 21.9 | 0.368 | 0.199 | 569 | Q520001016 | Q520002116 | Q520003216 | Q520007616 |
| | 1150 | 14.4 | 0.246 | 0.133 | 599 | | | | |
| 100 | 1750 | 17.5 | 0.295 | 0.147 | 516 | Q520001116 | Q520002216 | Q520003316 | Q520007716 |
| | 1150 | 11.5 | 0.207 | 0.103 | 543 | | | | |

## 525 Series • 1.0 S.F.

| | | | | | | | Style BMQ | | | Style HMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | NEMA C Input Flange▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750 | 250 | 5.24 | 4.35 | 1097 | 56C | Q525003418 | Q525004518 | Q525005618 | Q525007818 |
| | 1150 | 164 | 3.62 | 3.01 | 1155 | 140TC | Q525056218 | Q525057318 | Q525058418 | Q525060618 |
| 10 | 1750 | 175 | 4.19 | 3.39 | 1222 | 56C | Q525003518 | Q525004618 | Q525005718 | Q525007918 |
| | 1150 | 115 | 2.90 | 2.35 | 1287 | 140TC | Q525056318 | Q525057418 | Q525058518 | Q525060718 |
| 15 | 1750 | 117 | 2.85 | 2.25 | 1214 | 56C | Q525003618 | Q525004718 | Q525005818 | Q525008018 |
| | 1150 | 77 | 1.98 | 1.56 | 1278 | 140TC | Q525056418 | Q525057518 | Q525058618 | Q525060818 |
| 19 | 1750 | 92 | 2.24 | 1.75 | 1197 | 56C | Q525003718 | Q525004818 | Q525005918 | Q525008118 |
| | 1150 | 61 | 1.56 | 1.22 | 1260 | 140TC | Q525056518 | Q525057618 | Q525058718 | Q525060918 |
| 24 | 1750 | 73 | 1.92 | 1.44 | 1246 | 56C | Q525003818 | Q525004918 | Q525006018 | Q525008218 |
| | 1150 | 48 | 1.33 | 1.00 | 1312 | 140TC | Q525056618 | Q525057718 | Q525058818 | Q525061018 |
| 30 | 1750 | 58 | 1.58 | 1.17 | 1274 | 56C | Q525003918 | Q525005018 | Q525006118 | Q525008318 |
| | 1150 | 38 | 1.09 | 0.81 | 1341 | 140TC | Q525056718 | Q525057818 | Q525058918 | Q525061118 |
| 36 | 1750 | 49 | 1.46 | 1.00 | 1281 | 56C | Q525004018 | Q525005118 | Q525006218 | Q525008418 |
| | 1150 | 32 | 1.01 | 0.68 | 1349 | 140TC | Q525056818 | Q525057918 | Q525059018 | Q525061218 |
| 45 | 1750 | 39 | 1.11 | 0.73 | 1182 | 56C | Q525004118 | Q525005218 | Q525006318 | Q525008518 |
| | 1150 | 25.6 | 0.78 | 0.51 | 1244 | 140TC | Q525056918 | Q525058018 | Q525059118 | Q525061318 |
| 67 | 1750 | 26.1 | 0.73 | 0.44 | 1069 | 56C | Q525004218 | Q525005318 | Q525006418 | Q525008618 |
| | 1150 | 17.2 | 0.51 | 0.30 | 1125 | 140TC | Q525057018 | Q525058118 | Q525059218 | Q525061418 |
| 80 | 1750 | 21.9 | 0.63 | 0.36 | 1034 | 56C | Q525004318 | Q525005418 | Q525006518 | Q525008718 |
| | 1150 | 14.4 | 0.42 | 0.24 | 1089 | 140TC | Q525057118 | Q525058218 | Q525059318 | Q525061518 |
| 94 | 1750 | 18.6 | 0.51 | 0.26 | 878 | 56C | Q525004418 | Q525005518 | Q525006618 | Q525008818 |
| | 1150 | 12.2 | 0.34 | 0.18 | 924 | 140TC | Q525057218 | Q525058318 | Q525059418 | Q525061618 |

▲ Contact Factory for other motor flanges available.

# Quadro Aluminum Worm Gear Reducers
# Maximum Rating Tables

## 525 Series • 1.0 S.F.

| | | | | | | Style B | | | Style H |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750<br>1150 | 250<br>164 | 5.24<br>3.62 | 4.35<br>3.01 | 1097<br>1155 | Q525000118 | Q525001218 | Q525002318 | Q525006718 |
| 10 | 1750<br>1150 | 175<br>115 | 4.19<br>2.90 | 3.39<br>2.35 | 1222<br>1287 | Q525000218 | Q525001318 | Q525002418 | Q525006818 |
| 15 | 1750<br>1150 | 117<br>77 | 2.85<br>1.98 | 2.25<br>1.56 | 1214<br>1278 | Q525000318 | Q525001418 | Q525002518 | Q525006918 |
| 19 | 1750<br>1150 | 92<br>61 | 2.24<br>1.56 | 1.75<br>1.22 | 1197<br>1260 | Q525000418 | Q525001518 | Q525002618 | Q525007018 |
| 24 | 1750<br>1150 | 73<br>48 | 1.92<br>1.33 | 1.44<br>1.00 | 1246<br>1312 | Q525000518 | Q525001618 | Q525002718 | Q525007118 |
| 30 | 1750<br>1150 | 58<br>38 | 1.58<br>1.09 | 1.17<br>0.81 | 1274<br>1341 | Q525000618 | Q525001718 | Q525002818 | Q525007218 |
| 36 | 1750<br>1150 | 49<br>32 | 1.46<br>1.01 | 1.00<br>0.68 | 1281<br>1349 | Q525000718 | Q525001818 | Q525002918 | Q525007318 |
| 45 | 1750<br>1150 | 39<br>25.6 | 1.11<br>0.78 | 0.73<br>0.51 | 1182<br>1244 | Q525000818 | Q525001918 | Q525003018 | Q525007418 |
| 67 | 1750<br>1150 | 26.1<br>17.2 | 0.73<br>0.51 | 0.44<br>0.30 | 1069<br>1125 | Q525000918 | Q525002018 | Q525003118 | Q525007518 |
| 80 | 1750<br>1150 | 21.9<br>14.4 | 0.63<br>0.42 | 0.36<br>0.24 | 1034<br>1089 | Q525001018 | Q525002118 | Q525003218 | Q525007618 |
| 94 | 1750<br>1150 | 18.6<br>12.2 | 0.51<br>0.34 | 0.26<br>0.18 | 878<br>924 | Q525001118 | Q525002218 | Q525003318 | Q525007718 |

## 534 Series • 1.0 S.F.

| | | | | | | | Style BMQ | | | Style HMQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | NEMA C Input Flange▲ | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750 | 250 | 8.26 | 7.27 | 1832 | 180TC | Q534089224 | Q534090124 | Q534091024 | Q534092824 |
| | 1150 | 164 | 5.70 | 5.02 | 1929 | | | | | |
| 10 | 1750 | 175 | 7.62 | 6.10 | 2196 | 140TC | Q534046124 | Q534047024 | Q534047924 | Q534049724 |
| | 1150 | 115 | 5.27 | 4.22 | 2312 | 180TC | Q534089324 | Q534090224 | Q534091124 | Q534092924 |
| 14 | 1750 | 125 | 5.91 | 4.61 | 2323 | 140TC | Q534046224 | Q534047124 | Q534048024 | Q534049824 |
| | 1150 | 82 | 4.08 | 3.18 | 2446 | 180TC | Q534089424 | Q534090324 | Q534091224 | Q534093024 |
| 20 | 1750 | 88 | 3.91 | 3.09 | 2212 | 140TC | Q534046324 | Q534047224 | Q534048124 | Q534049924 |
| | 1150 | 58 | 2.71 | 2.14 | 2329 | 180TC | Q534089524 | Q534090424 | Q534091324 | Q534093124 |
| 28 | 1750 | 63 | 3.37 | 2.53 | 2528 | 140TC | Q534046424 | Q534047324 | Q534048224 | Q534050024 |
| | 1150 | 41 | 2.31 | 1.73 | 2661 | 180TC | Q534089624 | Q534090524 | Q534091424 | Q534093224 |
| 38 | 1750 | 46 | 2.34 | 1.66 | 2279 | 56C | Q534003324 | Q534004224 | Q534005124 | Q534006924 |
| | 1150 | 30 | 1.61 | 1.14 | 2399 | 140TC | Q534046524 | Q534047424 | Q534048324 | Q534050124 |
| 52 | 1750 | 34 | 1.82 | 1.20 | 2229 | 56C | Q534003424 | Q534004324 | Q534005224 | Q534007024 |
| | 1150 | 22.1 | 1.24 | 0.82 | 2347 | 140TC | Q534046624 | Q534047524 | Q534048424 | Q534050224 |
| 67 | 1750 | 26.1 | 1.56 | 1.01 | 2458 | 56C | Q534003524 | Q534004424 | Q534005324 | Q534007124 |
| | 1150 | 17.2 | 1.07 | 0.70 | 2588 | 140TC | Q534046724 | Q534047624 | Q534048524 | Q534050324 |
| 96 | 1750 | 18.2 | 0.99 | 0.52 | 1735 | 56C | Q534003624 | Q534004524 | Q534005424 | Q534007224 |
| | 1150 | 12.0 | 0.66 | 0.35 | 1827 | 140TC | Q534046824 | Q534047724 | Q534048624 | Q534050424 |

▲ Contact Factory for other motor flanges available.

## 534 Series • 1.0 S.F.

| | | | | | | Style B | | | Style H |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| Exact Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb.-in.) | Left Hand Catalog No. | Right Hand Catalog No. | Double Ext. Catalog No. | Hollow Output Catalog No. |
| 7 | 1750 | 250 | 8.26 | 7.27 | 1832 | Q534000124 | Q534001024 | Q534001924 | Q534005524 |
| | 1150 | 164 | 5.70 | 5.02 | 1929 | | | | |
| 10 | 1750 | 175 | 7.62 | 6.10 | 2196 | Q534000224 | Q534001124 | Q534002024 | Q534005624 |
| | 1150 | 115 | 5.27 | 4.22 | 2312 | | | | |
| 14 | 1750 | 125 | 5.91 | 4.61 | 2323 | Q534000324 | Q534001224 | Q534002124 | Q534005724 |
| | 1150 | 82 | 4.08 | 3.18 | 2446 | | | | |
| 20 | 1750 | 88 | 3.91 | 3.09 | 2212 | Q534000424 | Q534001324 | Q534002224 | Q534005824 |
| | 1150 | 58 | 2.71 | 2.14 | 2329 | | | | |
| 28 | 1750 | 63 | 3.37 | 2.53 | 2528 | Q534000524 | Q534001424 | Q534002324 | Q534005924 |
| | 1150 | 41 | 2.31 | 1.73 | 2661 | | | | |
| 38 | 1750 | 46 | 2.34 | 1.66 | 2279 | Q534000624 | Q534001524 | Q534002424 | Q534006024 |
| | 1150 | 30 | 1.61 | 1.14 | 2399 | | | | |
| 52 | 1750 | 34 | 1.82 | 1.20 | 2229 | Q534000724 | Q534001624 | Q534002524 | Q534006124 |
| | 1150 | 22.1 | 1.24 | 0.82 | 2347 | | | | |
| 67 | 1750 | 26.1 | 1.56 | 1.01 | 2458 | Q534000824 | Q534001724 | Q534002624 | Q534006224 |
| | 1150 | 17.2 | 1.07 | 0.70 | 2588 | | | | |
| 96 | 1750 | 18.2 | 0.99 | 0.52 | 1735 | Q534000924 | Q534001824 | Q534002724 | Q534006324 |
| | 1150 | 12.0 | 0.66 | 0.35 | 1827 | | | | |

# Dimensions

## Motor Mounting Dimensions

### NEMA DIMENSIONS - Inches

| Frame | AJ | AK | BD | BE | BE1 | BF | Input Bore Dia | Input Keyways▲ |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |
| **180TC** | 7.25 | 8.50 | 9.00 | N/A | 0.50 | 0.53 | 1.125 | 1/4 x 1/8 |

### OPTIONAL METRIC DIMENSIONS✪ - MM

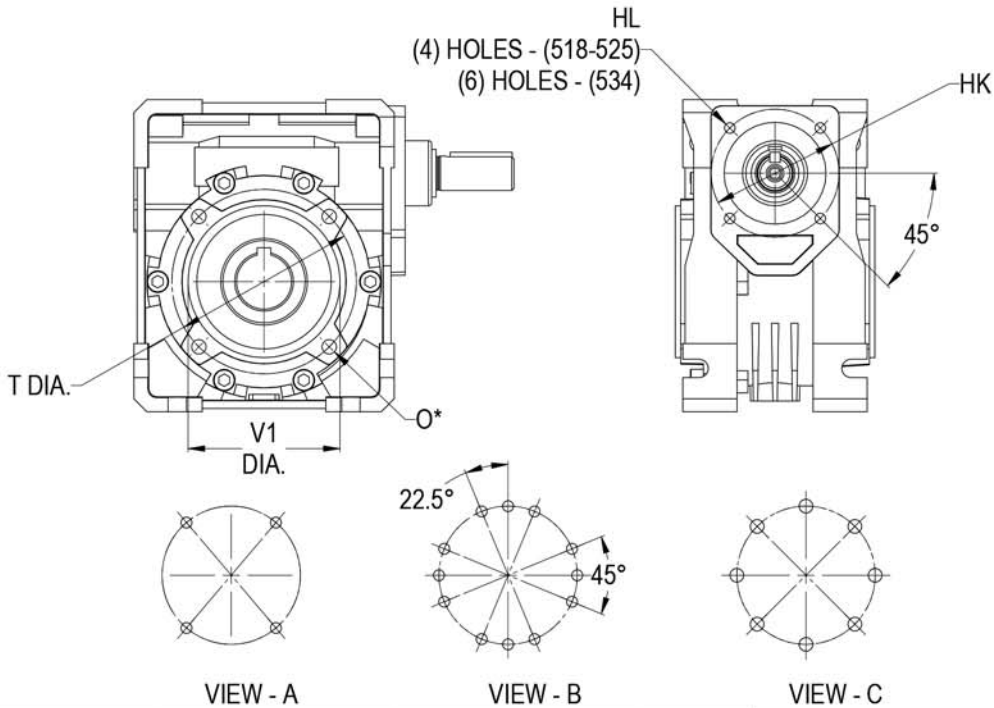
| IEC Frame | B5 | | | | | B14❖ | | | | | Input Bore Dia | Input Keyway▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AJ | AK | BD | BE | BF | AJ | AK | BD | BE | BF❖ | | |
| **D56D** | 100 | 80 | 120 | 10 | 7 | 65❖ | 50 | 80 | 7 | 6.5 | 9 | 3 x 1.5 |
| **D63D** | 115 | 95 | 140 | 11 | 9 | 75❖ | 60 | 90 | 5.5 | 5.5 | 11 | 4 x 2 |
| **D71D** | 130 | 110 | 160 | 10 | 9 | 85❖ | 70 | 105 | 8 | 6.5 | 14 | 5 x 2.5 |
| **D80D** | 165 | 130 | 200 | 12 | 11 | 100❖ | 80 | 120 | 10 | 7 | 19 | 6 x 3 |
| **D90D** | 165 | 130 | 200 | 12 | 11 | 115 | 95 | 140 | 11 | 9 | 24 | 8 x 3.5 |
| **D100LD■** | 215 | 180 | 250 | 13 | 14 | 130 | 110 | 160 | 10 | 9 | 28 | 8 x 3.5 |

✪ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows:D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◆ Dimensions are maximum (B5 and B14 options)
◊ B14 option not available
❑ B5 Option not available
■ Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

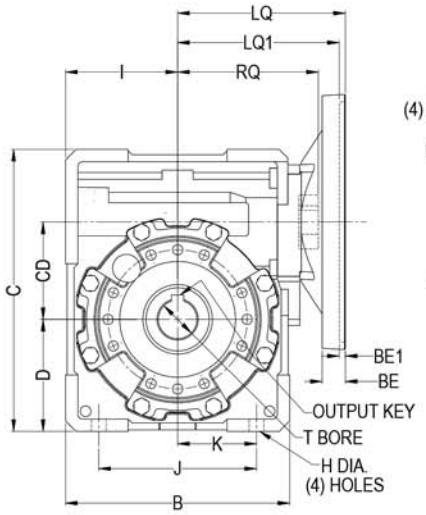
### OPTIONAL METRIC DIMENSIONS✪ - MM

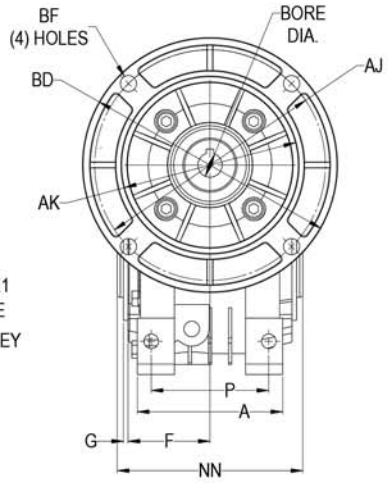
| Series | LQ1◆ IEC B5 & B14 Options | | | | | | T✓ | O | N | Output Keyway |
|---|---|---|---|---|---|---|---|---|---|---|
| | D56D | D63D | D71D | D80D | D90D | D100LD■ | (standard for metric units) | | | |
| **512** | 62.5❖ | 62.5 | N/A | N/A | N/A | N/A | 14 | 25 | 63 | 5 |
| **518** | 74❖❑ | 74❖ | 74 | N/A | N/A | N/A | 18 | 32 | 75 | 6 |
| **520** | 81.5❖❑ | 81.5❖ | 81.5 | 81.5 | N/A | N/A | 25 | 52 | 100 | 8 |
| **525** | N/A | 99.5 ◊ | 99.5❖ | 99.5❖ | 99.5 | N/A | 25 | 60 | 123 | 8 |
| **534** | N/A | N/A | 124 ◊ | 124 | 124 | 124 | 35 | 60 | 141 | 10 |

### BOLT CIRCLE DIMENSIONS - MM

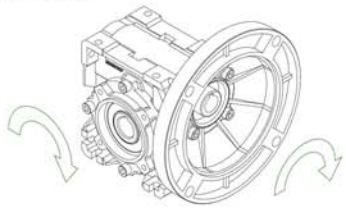



| Series | O* | | T DIA. | V1 DIA. (h8) | HL | HK DIA. |
|---|---|---|---|---|---|---|
| **518** | 4 - M6 X 12 | VIEW - A | 75 | 60 | M6 X 15 | 59 |
| **520** | 4 - M8 X 11 | VIEW - A | 85 | 70 | M6 X 16 | 59 |
| **525** | 12 - M8 X 14 | VIEW - B | 90 | 75 | M8 X 17 | 80 |
| **534** | 8 - M10 X 17 | VIEW - C | 130 | 110 | M6 X 16 | 90 |



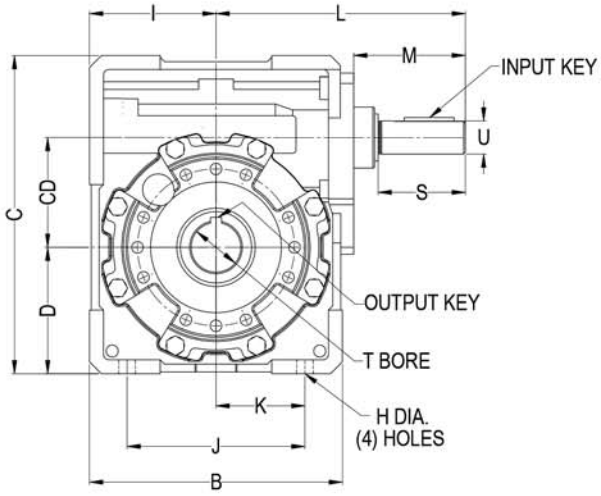

**ASSEMBLIES**

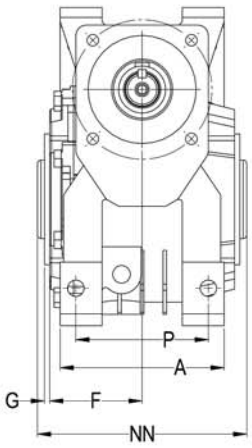


## HMQ Style

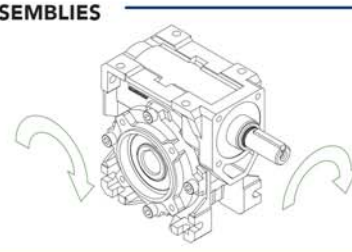
| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | NN | P | RQ | T* +0.0015/-0.0000 | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.56 | 2.36 | 2.60 | 0.750 | 3/16X1.00 |
| 520 | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.19 | 2.76 | 2.83 | 1.000 | 1/4X1.62 |
| 525 | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.72 | 2.99 | 3.58 | 1.125 | 1/4X2.00 |
| 534 | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.32 | 3.98 | 4.33 | 1.500 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 11.
Contact Factory for availability of metric options.



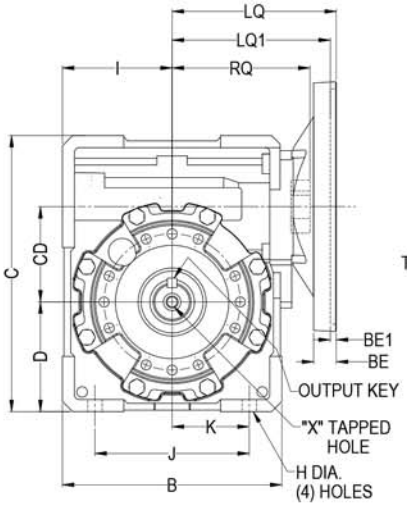

**ASSEMBLIES**

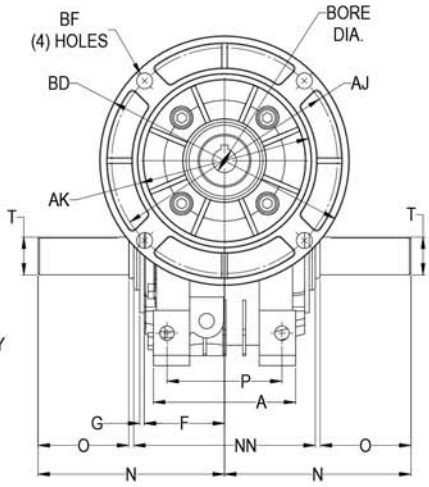


## H Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | NN | P | S | T +0.0015/-0.0000 | U +0.000/-0.001 | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.56 | 2.36 | 1.18 | 0.750 | 0.625 | 3/16X1.00 | 3/16X1.00 |
| 520 | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.19 | 2.76 | 1.18 | 1.000 | 0.625 | 3/16X1.00 | 1/4X1.62 |
| 525 | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.72 | 2.99 | 1.77 | 1.125 | 0.750 | 3/16X1.50 | 1/4X2.00 |
| 534 | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.32 | 3.98 | 1.75 | 1.500 | 0.875 | 3/16X1.50 | 3/8X2.00 |

# Dimensions



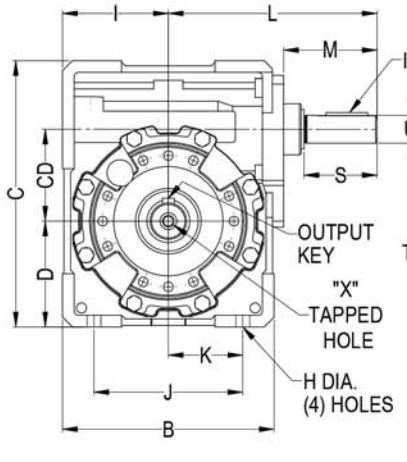

**ASSEMBLIES**

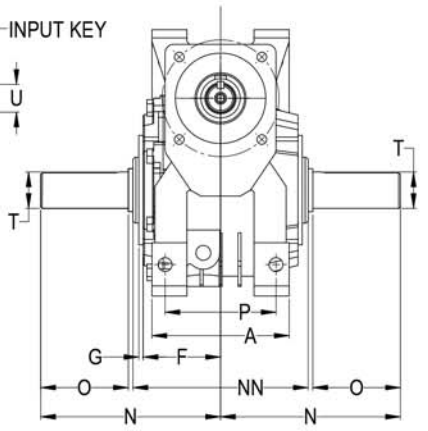



## BMQ Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | N | NN | O* | P | RQ | T* +0.000/-0.001 | X Tap Size | X Depth | Output Key* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.97 | 2.56 | 1.26 | 2.36 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.95 | 3.19 | 2.05 | 2.76 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.85 | 4.72 | 2.36 | 2.99 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.55 | 5.32 | 2.36 | 3.98 | 4.33 | 1.500 | 3/8-16 UNC | 0.88 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 11.
Contact Factory for availability of metric options.



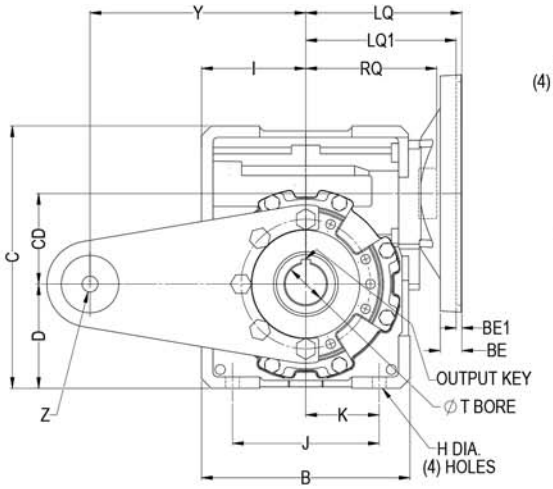



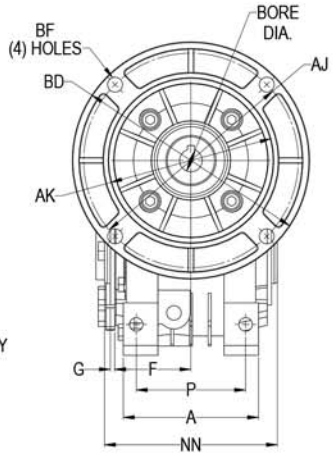

**ASSEMBLIES**



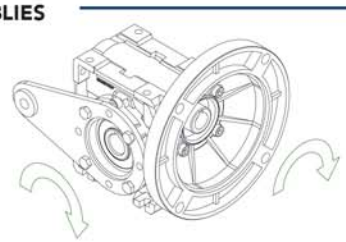

## B Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | N | NN | O | P | S | T +0.000/ -0.001 | U +0.000/ -0.001 | X Tap Size | X Depth | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.97 | 2.56 | 1.26 | 2.36 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16X1.00 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.95 | 3.19 | 2.05 | 2.76 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16X1.00 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.85 | 4.72 | 2.36 | 2.99 | 1.77 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 3/16X1.50 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.55 | 5.32 | 2.36 | 3.98 | 1.75 | 1.500 | 0.875 | 3/8-16 UNC | 0.88 | 3/16X1.50 | 3/8X2.00 |



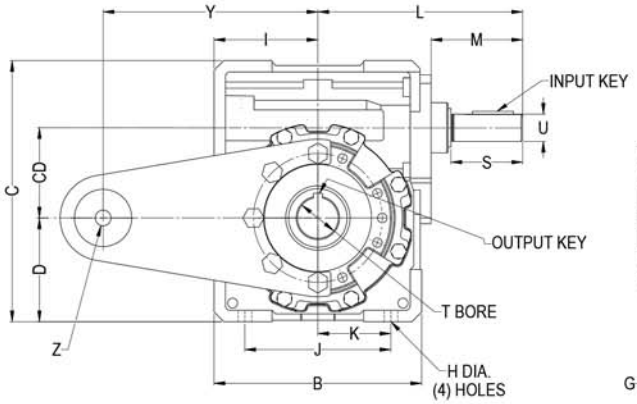

**ASSEMBLIES**

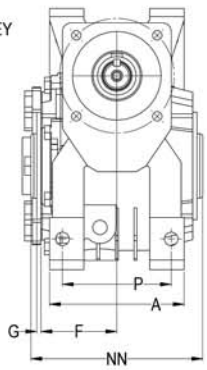


## RHMQ Style

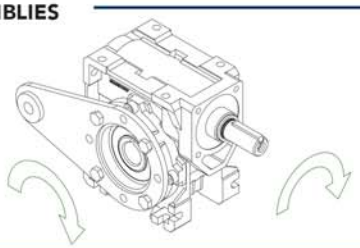
| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | NN | P | RQ | T* +0.0015/-0.0000 | Y | Z | OUTPUT KEY* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.56 | 2.36 | 2.60 | 0.750 | 3.94 | 0.394 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.19 | 2.76 | 2.83 | 1.000 | 3.94 | 0.394 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.72 | 2.99 | 3.58 | 1.125 | 5.91 | 0.433 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.32 | 3.98 | 4.33 | 1.500 | 7.87 | 0.787 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 11.
Contact Factory for availability of metric options.



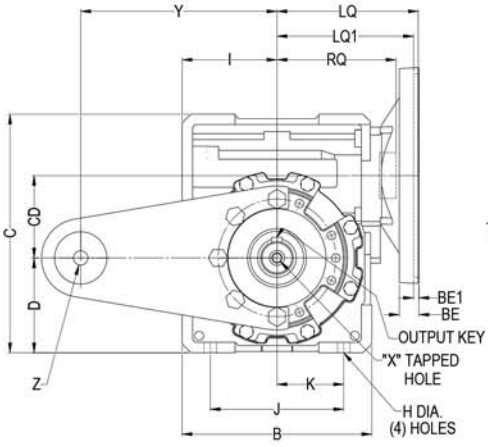

**ASSEMBLIES**

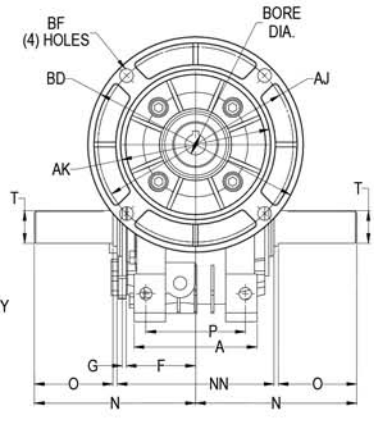


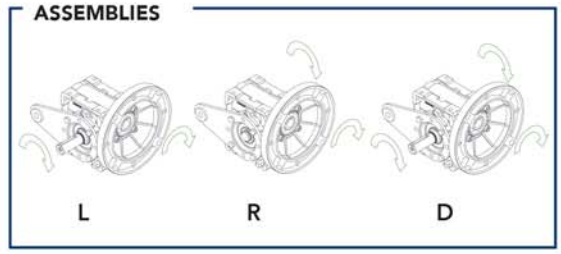
## RH Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | NN | P | S | T +.0.0015/- 0.0000 | U +0.000/- 0.001 | Y | Z | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.56 | 2.36 | 1.18 | 0.750 | 0.625 | 3.94 | 0.394 | 3/16X1.00 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.19 | 2.76 | 1.18 | 1.000 | 0.625 | 3.94 | 0.394 | 3/16X1.00 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.72 | 2.99 | 1.77 | 1.125 | 0.750 | 5.91 | 0.433 | 3/16X1.50 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.32 | 3.98 | 1.75 | 1.500 | 0.875 | 7.87 | 0.787 | 3/16X1.50 | 3/8X2.00 |

# Dimensions



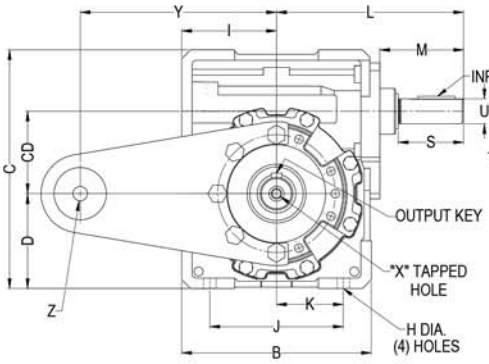



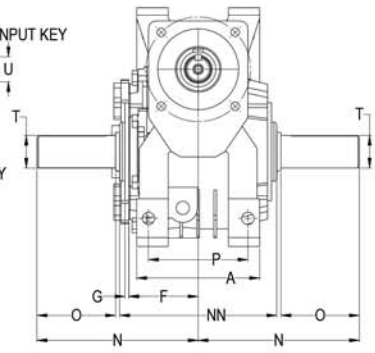



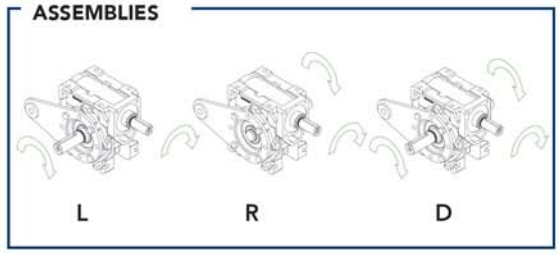

## RMQ Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | LQ* 56/140 | LQ1* 180 | N | NN | O* | P | RQ | T* +0.000/- 0.001 | X Tap Size | X Depth | Y | Z | Output Key* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.97 | 2.56 | 1.26 | 2.36 | 1.18 | 0.750 | 1/4-20 UNC | 0.62 | 3.94 | 0.394 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.95 | 3.19 | 2.05 | 2.76 | 1.18 | 1.000 | 5/16-18 UNC | 0.75 | 3.94 | 0.394 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.85 | 4.72 | 2.36 | 2.99 | 1.77 | 1.125 | 5/16-18 UNC | 0.75 | 5.91 | 0.433 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.55 | 5.32 | 2.36 | 3.98 | 1.75 | 1.500 | 3/8-16 UNC | 0.88 | 7.87 | 0.787 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 11.
Contact Factory for availability of metric options.

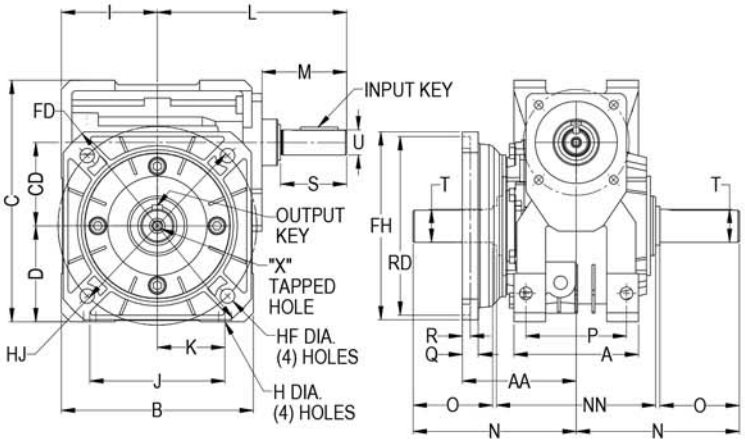


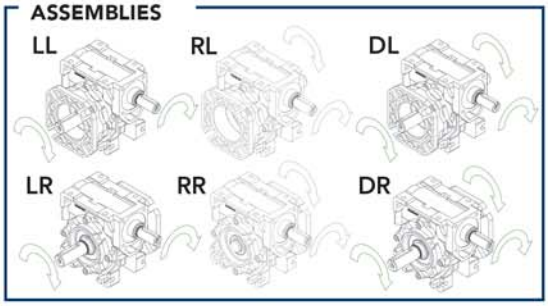




## R Style

| Series | A | B | C | CD | D | F | G | H | I | J | K | L | M | N | NN | O | P | S | T +0.000/- 0.001 | U +0.000/- 0.001 | X Tap Size | X Depth | Y | Z | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.94 | 4.78 | 1.77 | 1.97 | 1.44 | 0.10 | 0.26 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.97 | 2.56 | 1.26 | 2.36 | 1.18 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3.94 | 0.394 | 3/16X1.00 | 3/16X1.00 |
| **520** | 3.35 | 4.72 | 5.67 | 1.97 | 2.36 | 1.71 | 0.10 | 0.33 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.95 | 3.19 | 2.05 | 2.76 | 1.18 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3.94 | 0.394 | 3/16X1.00 | 1/4X1.62 |
| **525** | 3.70 | 5.71 | 7.19 | 2.48 | 2.85 | 2.09 | 0.12 | 0.37 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.85 | 4.72 | 2.36 | 2.99 | 1.77 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 5.91 | 0.433 | 3/16X1.50 | 1/4X2.00 |
| **534** | 4.92 | 7.87 | 9.67 | 3.35 | 3.94 | 2.52 | 0.14 | 0.43 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.55 | 5.32 | 2.36 | 3.98 | 1.75 | 1.500 | 0.875 | 3/8-16 UNC | 0.88 | 7.87 | 0.787 | 3/16X1.50 | 3/8X2.00 |

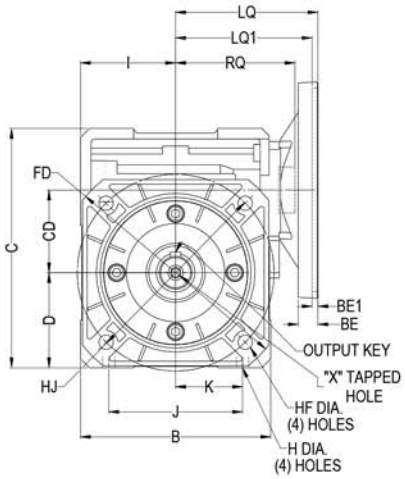


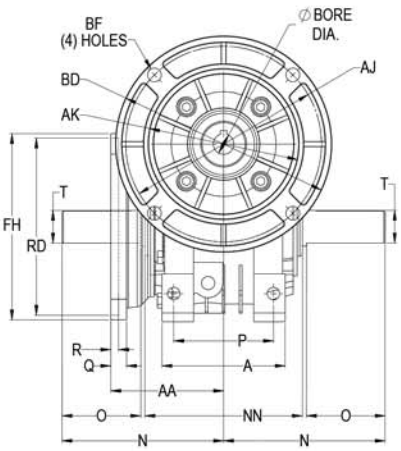



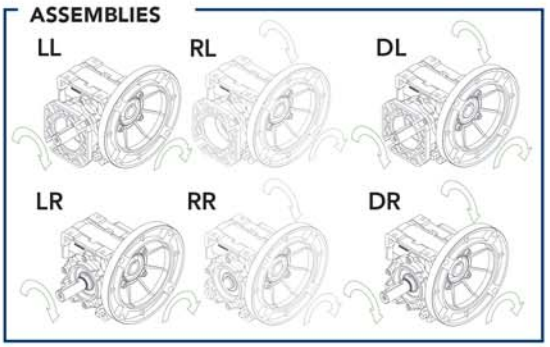

## F Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | L | M | N | NN | O | P | Q | R | RD | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 2.64 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.97 | 2.56 | 1.26 | 2.36 | 0.28 | 0.16 | 2.3640/2.3622 | 1.18 |
| 520 | 3.35 | 3.54 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.95 | 3.19 | 2.05 | 2.76 | 0.35 | 0.20 | 2.7577/2.7559 | 1.18 |
| 525 | 3.70 | 3.39 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.85 | 4.72 | 2.36 | 2.99 | 0.47 | 0.24 | 4.5354/4.5335 | 1.77 |
| 534 | 4.92 | 4.25 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.55 | 5.32 | 2.36 | 3.98 | 0.63 | 0.20 | 5.9867/5.9843 | 1.75 |

| Series | T +0.000/-0.001 | U +0.000/-0.001 | X Tap Size | X Depth | Input Key | Output Key |
|---|---|---|---|---|---|---|
| 518 | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16X1.00 | 3/16X1.00 |
| 520 | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16X1.00 | 1/4X1.62 |
| 525 | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 3/16X1.50 | 1/4X2.00 |
| 534 | 1.500 | 0.875 | 3/8-16 UNC | 0.88 | 3/16X1.50 | 3/8X2.00 |



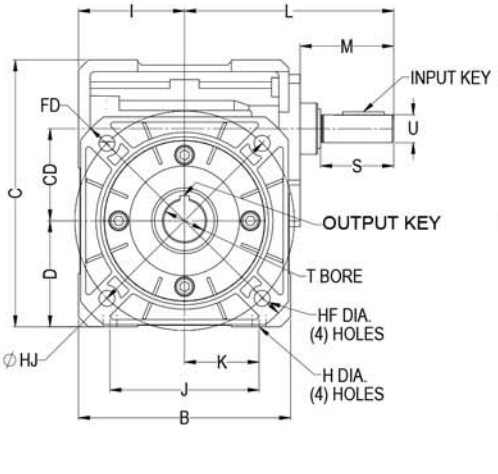



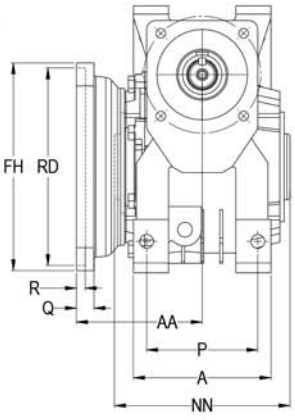

## FMQ Style

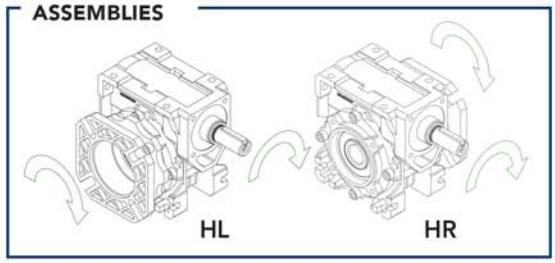
| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | LQ* 56/140 | LQ1* 180 | N | NN | O* | P | Q | R | RD | RQ | T* +0.000/ -0.001 | X Tap Size | X Depth | Output Key* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 2.64 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.97 | 2.56 | 1.26 | 2.36 | 0.28 | 0.16 | 2.3640/ 2.3622 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3/16X 1.00 |
| 520 | 3.35 | 3.54 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.95 | 3.19 | 2.05 | 2.76 | 0.35 | 0.20 | 2.7577/ 2.7559 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 1/4X 1.62 |
| 525 | 3.70 | 3.39 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.85 | 4.72 | 2.36 | 2.99 | 0.47 | 0.24 | 4.5354/ 4.5335 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 1/4X 2.00 |
| 534 | 4.92 | 4.25 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.55 | 5.32 | 2.36 | 3.98 | 0.63 | 0.20 | 5.9867/ 5.9843 | 4.33 | 1.500 | 3/8-16 UNC | 0.88 | 3/8X 2.00 |

* Metric options are available. Refer to dimensions on page 336.
Contact Factory for availability of metric options.

# Dimensions

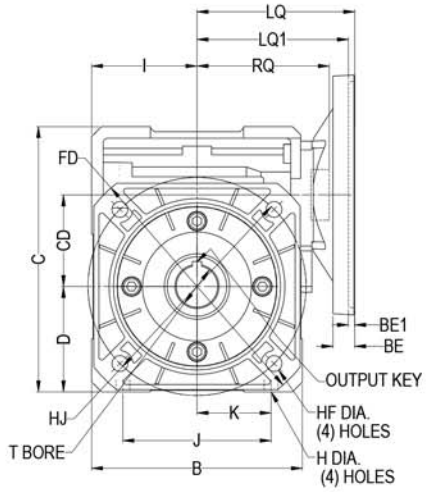


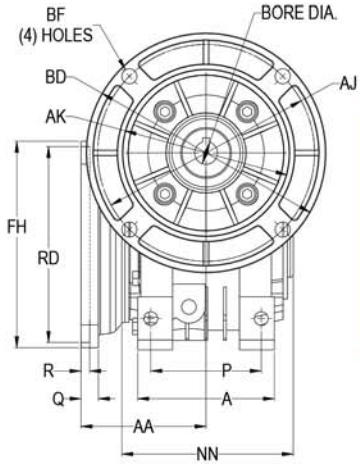



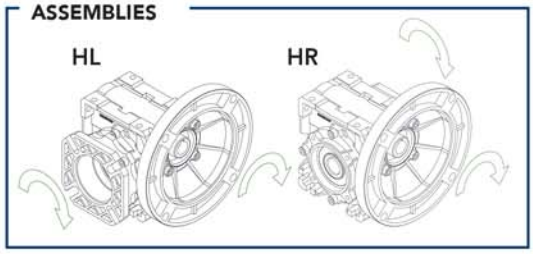




## FH Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | L | M | NN | P | Q | R | RD | S | T +0.0015/ -0.0000 | U +0.000/ -0.001 | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 2.64 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.56 | 2.36 | 0.28 | 0.16 | 2.3640/ 2.3622 | 1.18 | 0.750 | 0.625 | 3/16X 1.00 | 3/16X 1.00 |
| **520** | 3.35 | 3.54 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.19 | 2.76 | 0.35 | 0.20 | 2.7577/ 2.7559 | 1.18 | 1.000 | 0.625 | 3/16X 1.00 | 1/4X 1.62 |
| **525** | 3.70 | 3.39 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.72 | 2.99 | 0.47 | 0.24 | 4.5354/ 4.5335 | 1.77 | 1.125 | 0.750 | 3/16X 1.50 | 1/4X 2.00 |
| **534** | 4.92 | 4.25 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.32 | 3.98 | 0.63 | 0.20 | 5.9867/ 5.9843 | 1.75 | 1.500 | 0.875 | 3/16X 1.50 | 3/8X 2.00 |



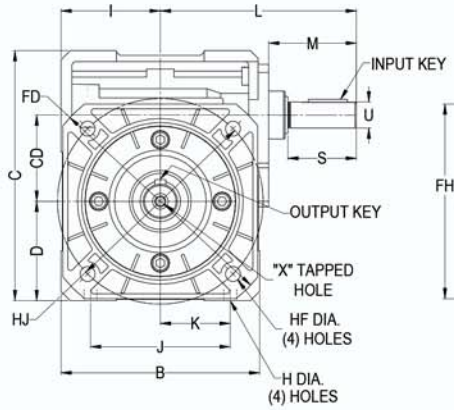



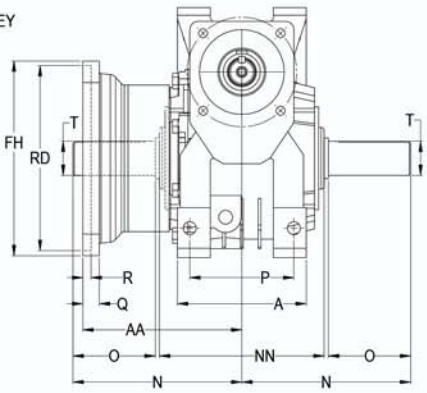



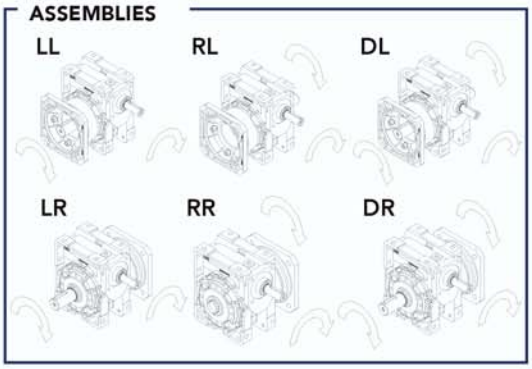

## FHMQ Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | LQ* 56/140 | LQ1* 180 | NN | P | Q | R | RD | RQ | T* +0.0015/ -0.0000 | Output Key* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 2.64 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.56 | 2.36 | 0.28 | 0.16 | 2.3640/ 2.3622 | 2.60 | 0.750 | 3/16X 1.00 |
| **520** | 3.35 | 3.54 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.19 | 2.76 | 0.35 | 0.20 | 2.7577/ 2.7559 | 2.83 | 1.000 | 1/4X 1.62 |
| **525** | 3.70 | 3.39 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.72 | 2.99 | 0.47 | 0.24 | 4.5354/ 4.5335 | 3.58 | 1.125 | 1/4X 2.00 |
| **534** | 4.92 | 4.25 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.32 | 3.98 | 0.63 | 0.20 | 5.9867/ 5.9843 | 4.33 | 1.500 | 3/8X 2.00 |

* Metric options are available. Refer to dimensions on page 336.
Contact Factory for availability of metric options.



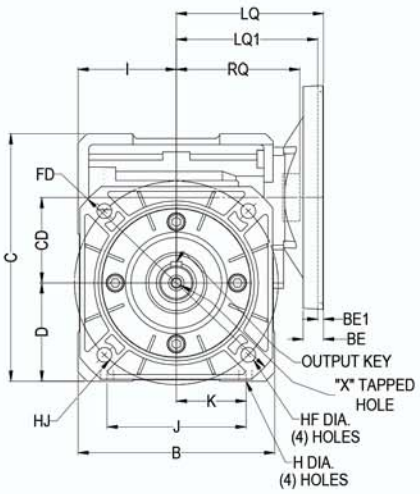



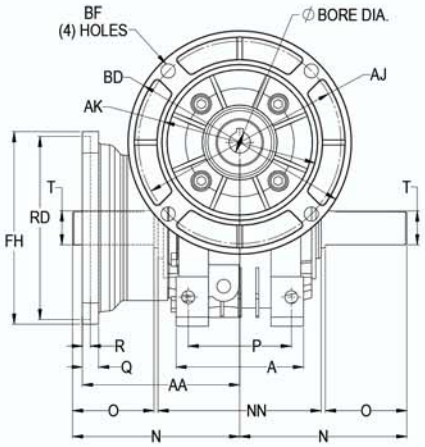



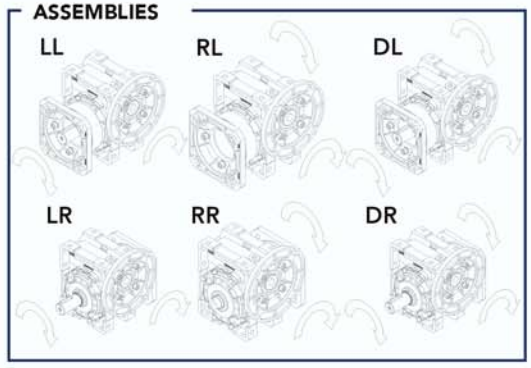

## FL Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | L | M | N | NN | O | P | Q | R | RD | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.82 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.97 | 2.56 | 1.26 | 2.36 | 0.28 | 0.16 | 2.3640/2.3622 | 1.18 |
| **520** | 3.35 | 4.72 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.95 | 3.19 | 2.05 | 2.76 | 0.35 | 0.20 | 2.7577/2.7559 | 1.18 |
| **525** | 3.70 | 4.57 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.85 | 4.72 | 2.36 | 2.99 | 0.47 | 0.24 | 4.5354/4.5335 | 1.77 |
| **534** | 4.92 | 5.85 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.55 | 5.32 | 2.36 | 3.98 | 0.63 | 0.20 | 5.9867/5.9843 | 1.75 |

| Series | T +0.000/-0.001 | U +0.000/-0.001 | X Tap Size | X Depth | Input Key | Output Key |
|---|---|---|---|---|---|---|
| **518** | 0.750 | 0.625 | 1/4-20 UNC | 0.62 | 3/16X1.00 | 3/16X1.00 |
| **520** | 1.000 | 0.625 | 5/16-18 UNC | 0.75 | 3/16X1.00 | 1/4X1.62 |
| **525** | 1.125 | 0.750 | 5/16-18 UNC | 0.75 | 3/16X1.50 | 1/4X2.00 |
| **534** | 1.500 | 0.875 | 3/8-16 UNC | 0.88 | 3/16X1.50 | 3/8X2.00 |



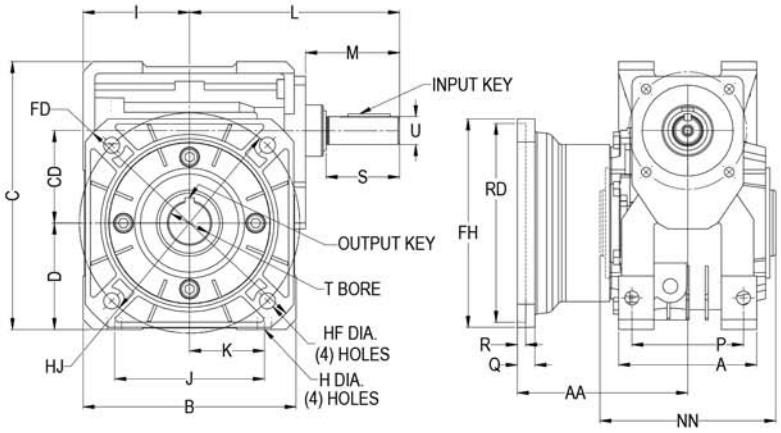

## FLMQ Style

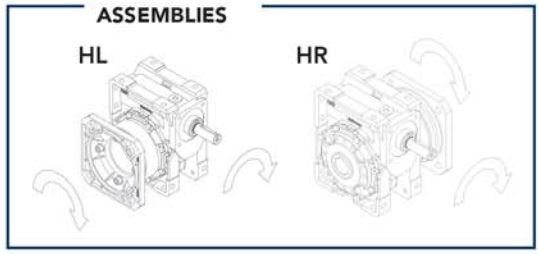
| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | LQ* 56/140 | LQ1* 180 | N | NN | O* | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **518** | 2.80 | 3.82 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.97 | 2.56 | 1.26 | 2.36 | 0.28 | 0.16 |
| **520** | 3.35 | 4.72 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.95 | 3.19 | 2.05 | 2.76 | 0.35 | 0.20 |
| **525** | 3.70 | 4.57 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.85 | 4.72 | 2.36 | 2.99 | 0.47 | 0.24 |
| **534** | 4.92 | 5.85 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.55 | 5.32 | 2.36 | 3.98 | 0.63 | 0.20 |

| Series | RD | RQ | T* +0.000/-0.001 | X Tap Size | X Depth | Output Key* |
|---|---|---|---|---|---|---|
| **518** | 2.3640/2.3622 | 2.60 | 0.750 | 1/4-20 UNC | 0.62 | 3/16X1.00 |
| **520** | 2.7577/2.7559 | 2.83 | 1.000 | 5/16-18 UNC | 0.75 | 1/4X1.62 |
| **525** | 4.5354/4.5335 | 3.58 | 1.125 | 5/16-18 UNC | 0.75 | 1/4X2.00 |
| **534** | 5.9867/5.9843 | 4.33 | 1.500 | 3/8-16 UNC | 0.88 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 336.
Contact Factory for availability of metric options.

# Dimensions

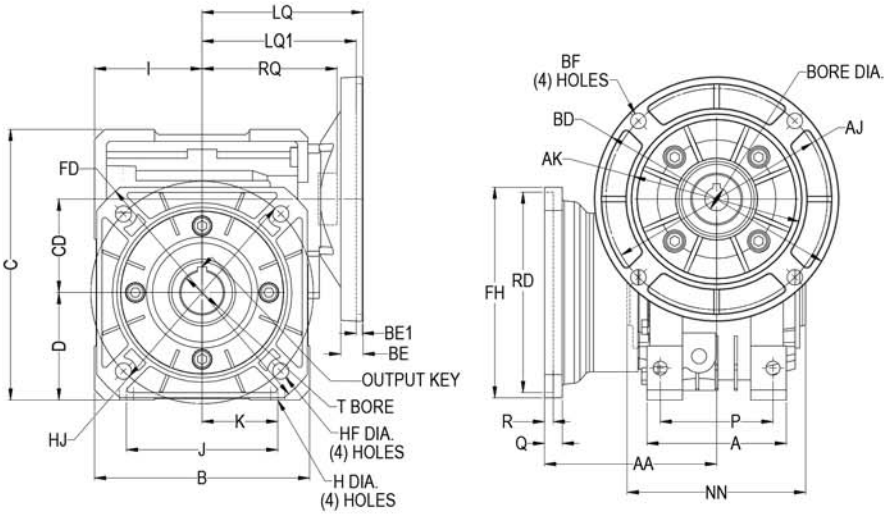


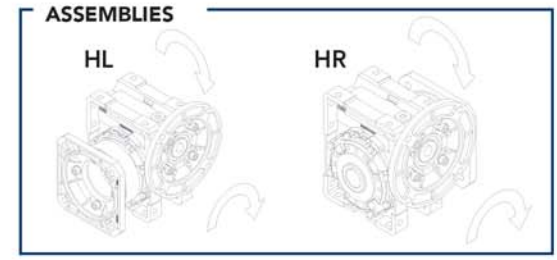




## FLH Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | L | M | NN | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 3.82 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 4.11 | 1.69 | 2.56 | 2.36 | 0.28 | 0.16 |
| 520 | 3.35 | 4.72 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 4.32 | 1.76 | 3.19 | 2.76 | 0.35 | 0.20 |
| 525 | 3.70 | 4.57 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 5.45 | 2.34 | 4.72 | 2.99 | 0.47 | 0.24 |
| 534 | 4.92 | 5.85 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 6.40 | 2.54 | 5.32 | 3.98 | 0.63 | 0.20 |

| Series | RD | S | T +0.0015/-0.0000 | U +0.000/-0.001 | Input Key | Output Key |
|---|---|---|---|---|---|---|
| 518 | 2.3640/2.3622 | 1.18 | 0.750 | 0.625 | 3/16X1.00 | 3/16X1.00 |
| 520 | 2.7577/2.7559 | 1.18 | 1.000 | 0.625 | 3/16X1.00 | 1/4X1.62 |
| 525 | 4.5354/4.5335 | 1.77 | 1.125 | 0.750 | 3/16X1.50 | 1/4X2.00 |
| 534 | 5.9867/5.9843 | 1.75 | 1.500 | 0.875 | 3/16X1.50 | 3/8X2.00 |




## FLHMQ Style

| Series | A | AA | B | C | CD | D | FD | FH | H | HF | HJ | I | J | K | LQ* 56/140 | LQ1* 180 | NN | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518 | 2.80 | 3.82 | 3.94 | 4.78 | 1.77 | 1.97 | 4.33 | 3.74 | 0.26 | 0.35 | 2.95 | 1.97 | 2.76 | 1.38 | 3.54 | N/A | 2.56 | 2.36 | 0.28 | 0.16 |
| 520 | 3.35 | 4.72 | 4.72 | 5.67 | 1.97 | 2.36 | 4.92 | 4.33 | 0.33 | 0.43 | 3.35 | 2.36 | 3.15 | 1.58 | 3.74 | N/A | 3.19 | 2.76 | 0.35 | 0.20 |
| 525 | 3.70 | 4.57 | 5.71 | 7.19 | 2.48 | 2.85 | 7.09 | 5.59 | 0.37 | 0.43 | 5.91 | 2.85 | 4.02 | 2.01 | 4.08 | N/A | 4.72 | 2.99 | 0.47 | 0.24 |
| 534 | 4.92 | 5.85 | 7.87 | 9.67 | 3.35 | 3.94 | - | Ø8.071 | 0.43 | 0.51 | 6.93 | 3.94 | 5.67 | 2.83 | 4.83 | 5.35 | 5.32 | 3.98 | 0.63 | 0.20 |

| Series | RD | RQ | T* +0.0015/-0.0000 | Output Key* |
|---|---|---|---|---|
| 518 | 2.3640/2.3622 | 2.60 | 0.750 | 3/16X1.00 |
| 520 | 2.7577/2.7559 | 2.83 | 1.000 | 1/4X1.62 |
| 525 | 4.5354/4.5335 | 3.58 | 1.125 | 1/4X2.00 |
| 534 | 5.9867/5.9843 | 4.33 | 1.500 | 3/8X2.00 |

* Metric options are available. Refer to dimensions on page 336.
Contact Factory for availability of metric options.

## Style F
## Short Output Flange

| Series | Accessory Kit Catalog No. |
|---|---|
| 518 | Q175209 |
| 520 | Q175210 |
| 525 | Q175211 |
| 534 | Q175212 |



(534 Flanges are shown in photo)

## Style FL
## Long Output Flange

| Series | Accessory Kit Catalog No. |
|---|---|
| *518 | Q175213 |
| *520 | Q175214 |
| **525 | Q175215 |
| **534 | Q175216 |

* Single piece machined flange
** FL Flange is two pieces as shown for 525 & 534.

## Solid Output Shaft to Single Extension Inch Dimensions

| Series | Accessory Kit Catalog No. |
|---|---|
| 518 | Q175236 |
| 520 | Q175237 |
| 525 | Q175521 |
| 534 | Q175238 |

NOTE: Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.



## Solid Output Shaft to Single Extension Metric Dimensions

| Series | Accessory Kit Catalog No. |
|---|---|
| 518 | Q175241 |
| 520 | Q175242 |
| 525 | Q175243 |
| 534 | Q175244 |

NOTE: Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.



## Protection Cap Accessory Kit◆

| Series | Accessory Kit Catalog No. |
|---|---|
| 518 | Q175217 |
| 520 | Q175218 |
| 525 | Q175219 |
| 534 | Q175220 |

◆ This protective cap covers the unused output bore for single extension assemblies. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

## Double Output Shaft to Single Extension Inch Dimensions

| Series | Accessory Kit Catalog No. |
|---|---|
| 518 | Q175221 |
| 520 | Q175222 |
| 525 | Q175223 |
| 534 | Q175224 |

NOTE: Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

# Quadro Aluminum Worm Gear Reducer Accessories

## Double Reduction Adapter Kits*

| Series | Accessory Kit Catalog No. | Primary Unit Size | Secondary Unit Quill Size |
|---|---|---|---|
| **518** | Q175225 | 518 | 0.625 |
| **520** | Q175225 | 518 | 0.625 |
| **525** | Q175226 | 518 | 0.875 |
| **534** | Q175227 | 518 | 1.125 |

* Kits are for reducer styles with NEMA input and inch shaft dimensions.

## Motorized C-Face Quill Input Bushing Kit (inches)

| Frame Conversion | Input Quill Bore Size (inch) | Accessory Kit Catalog No. |
|---|---|---|
| **180TC to 140TC** | 1to1/8 to 7/8 | Q175230 |
| **180TC to 56C** | 1to1/8 to 5/8 | Q175231 |
| **140TC to 56C** | 7/8 to 5/8 | Q175232 |

NOTE: Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in ouput bores.

## Motorized C-Face Quill Input Bushing Kit (metric)

| Frame Conversion | Input Quill Bore Size (mm) | Accessory Kit Catalog No. |
|---|---|---|
| **D63 to D56** | 11 to 9 | Q175259 |
| **D71 to D63** | 14 to 11 | Q175251 |
| **D71 to D56** | 14 to 9 | Q175252 |
| **D80 to D71** | 19 to 14 | Q175253 |
| **D80 to D63** | 19 to 11 | Q175254 |
| **D90 to D80** | 24 to 19 | Q175255 |
| **D90 to D71** | 24 to 14 | Q175256 |
| **DF100/112 to D90** | 28 to 24 | Q175257 |
| **DF100/112 to D80** | 28 to 19 | Q175258 |

NOTE: Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in ouput bores.

## Double Output Shaft to Single Extension Metric Dimensions

| Series | Accessory Kit Catalog No. |
|---|---|
| **518** | Q175246 |
| **520** | Q175247 |
| **525** | Q175248 |
| **534** | Q175249 |

NOTE: Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.



## Style R – Reaction Arm

| Series | Accessory Kit Catalog No. |
|---|---|
| **518** | Q175201 |
| **520** | Q175202 |
| **525** | Q175203 |
| **534** | Q175204 |

# Notes

LeCENTRIC™

# Model Number System

## P & R Series • Helical-Coaxial

### Grove Gear LeCENTRIC™ Helical-Coaxial Model Number System

The Mounting position must be specified on all orders, and included in the reducer description. To order Motorized Reducers, simply specify the reducer, indicate the motor description or catalog number and specify "Motorized Assembly". To order GEAR+MOTOR™, simply specify the reducer, motor catalog numbers and "GEAR+MOTOR™".

**Type**

P - Aluminum Alloy Helical-Coaxial Reducer
R - Cast Iron Helical Coaxial Reducer

**Style**

BASIC STYLES
BQ - Base Mount with Quill Input
FQ - Output Flange Mount with Quill Input
BN - Base Mount with Solid Input Shaft
FN - Output Flange Mount with Solid Input Shaft

**Size**

| Size | Housing Construction |
|---|---|
| 717 | Aluminum |
| 727 | Aluminum |
| 747 | Aluminum |
| 757 | Aluminum |
| 767 | Cast Iron |
| 777 | Cast Iron |
| 787 | Cast Iron |
| 797 | Cast Iron |

**Number of Gear Reductions**

2 Double Reduction
3 Triple Reduction

**Ratio**

See rating tables for available ratios.

**Motor Frame Codes**

| | |
|---|---|
| M5 | 56C |
| M7 | 143-145TC |
| M9 | 182-184TC |
| M11 | 213-215TC |
| M13 | 254-256TC |
| NM | Non-Motorized |

**Mounting Accessories**

LeCENTRIC™ 700 Series
B1 - B9 = Base Mount Options
F1 - F4 = Flange Mount Options

**Mounting Position**

See page 407 for mounting position. B3 is assigned unless noted.

## Sample Model Numbers

Aluminum, size 727 triple reduction, base mount unit with quill input, 38.40:1 ratio, 56C motor frame.

| P | BQ | 727 | 3 | – | 38.40 | – | M5 | – | B1 | – | B3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Style | Size | Reduction | | Ratio | | Motor Frame | | Mounting Accessories | | Mounting |

Cast iron, size 777 double reduction, base mount unit with solid input shaft, 62.63:1 ratio, mounting vertical down.

| R | BN | 777 | 2 | – | 62.63 | – | B2 | – | V5 |
|---|---|---|---|---|---|---|---|---|---|
| Type | Style | Size | Reduction | | Ratio | | Mounting Accessories | | Mounting |

SPECIFY REDUCER MOUNTING POSITION AT TIME OF ORDER. REFER TO PAGE 407 FOR POSSIBLE MOUNTING POSITIONS. LeCENTRIC™ REDUCERS WILL BE FACTORY FILLED WITH OIL FOR POSITION B3 UNLESS OTHERWISE SPECIFIED.

Any of the preferred stock 700 Series reducers are available on a quick shipment basis, assembled with an interchange base or output flange of your choice. Output flanges are listed on page 410. Interchange bases are listed on pages 408-409

| START | CHOOSE | | |
|---|---|---|---|
| | Base Mount | OR | Flange Mount |
| Select<br>Basic Reducer<br>Double or Triple Reduction |  | |  |
| SEE MAX RATINGS p. 380-396 | SEE INTERCHANGE BASE p. 408-409 | | SEE OUTPUT FLANGE p. 410 |
|  |  | |  |
|  |  | |  |

# "How To Use" Maximum Rating Tables

## P & R Series • Helical-Coaxial • Aluminum & Cast Iron Case • 1750 Input RPM

Maximum Rating Tables for Double and Triple Reduction Gear Reducers start on page 5. Selection of the appropriate gear reducer can be made using these tables.

BEFORE YOU START:
Identify the Service Factor of the application.

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style chart shown on page 379. Note the different bases and flanges to interchange with various competitive units.

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

**1 Find the appropriate Maximum Rating Tables pages** for your basic mounting style. The tables begin on page 381.

**5 Select motor frame size** if reducer is to have a motorized input.

**Double Reduction**
**Maximum Rating Tables**
**P717 Series • Helical - Inline**
**Aluminum Case • 1750 Input RPM**




**P7172 • DOUBLE REDUCTION**

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 503 | 602 | 5.00 | 3.48 | 204 | P7172045.XX | 56C<br>143-5TC | P7172001.XX<br>P7172023.XX |
| 405 | 602 | 4.03 | 4.32 | 216 | P7172046.XX | 56C<br>143-5TC | P7172002.XX<br>P7172024.XX |
| 318 | 602 | 2.80 | 5.50 | 230 | P7172047.XX | 56C<br>143-5TC | P7172003.XX<br>P7172025.XX |
| [illegible] | 602 | 2.74 | 6.36 | 250 | P7172048.XX | 56C<br>143-5TC | P7172004.XX<br>P7172026.XX |
| [illegible] | 602 | 2.40 | 7.26 | 260 | P7172049.XX | 56C<br>143-5TC | P7172005.XX<br>P7172027.XX |
| [illegible] | 602 | 2.21 | 7.89 | 266 | P7172050.XX | 56C<br>143-5TC | P7172006.XX<br>P7172028.XX |
| [illegible] | 798 | 2.30 | 10.04 | 284 | P7172052.XX | 56C<br>143-5TC | [illegible] |
| [illegible] | 798 | 1.98 | 11.64 | 293 | P7172053.XX | 56C<br>143-5TC | [illegible] |
| [illegible] | 798 | 1.74 | 13.26 | 305 | P7172054.XX | 56C<br>143-5TC | [illegible] |
| [illegible] | 798 | 1.50 | 15.37 | 321 | P7172055.XX | 56C<br>143-5TC | [illegible] |
| [illegible] | 798 | 1.40 | 16.20 | 335 | P7172056.XX | 56C<br>143-5TC | P7172012.XX<br>P7172034.XX |
| [illegible] | 798 | 1.21 | 18.80 | 350 | P7172057.XX | 56C<br>143-5TC | P7172013.XX<br>P7172035.XX |
| [illegible] | [illegible] | [illegible] | 21.54 | 374 | P7172058.XX | 56C<br>143-5TC | P7172014.XX<br>P7172036.XX |
| [illegible] | [illegible] | [illegible] | 22.26 | 375 | P7172059.XX | 56C<br>143-5TC | P7172015.XX<br>P7172037.XX |

**2 Locate output RPM** column on left side of the table. All ratings are based on an input speed of 1750 RPM. Scroll down to the output speed (RPM) required. Output speeds are rounded to the nearest whole number. For exact output speed, divide 1750 by the ratio listed.

**3 Move across the table to the Input HP column** until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (717, 727, 747, 757, etc.).

**4 Check load capacities** against the needs of your application. Do not exceed the overhung load (OHL) capacity shown in the table. If overhung and thrust loads will be applied simultaneously or if the load exceeds listed capacities, contact Factory.

**6 Identify the catalog number** of the reducer by continuing to the right. See page 378 for detailed information on building an exact catalog number. The XX suffix will be replaced with optional Mod-Squad codes as detailed on page 378.

**7 Verify physical dimensions** using the dimensional drawings shown on pages 397-404.

**8 Determine reducer mounting position** from page 407.

# Double Reduction
# Maximum Rating Tables
## P717 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7172 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 498 | 602 | 5.00 | 3.52 | 204 | P7172045.XX | 56C<br>143-5TC | P7172001.XX<br>P7172023.XX |
| 401 | 602 | 4.03 | 4.37 | 216 | P7172046.XX | 56C<br>143-5TC | P7172002.XX<br>P7172024.XX |
| 315 | 602 | 2.80 | 5.56 | 230 | P7172047.XX | 56C<br>143-5TC | P7172003.XX<br>P7172025.XX |
| 275 | 602 | 2.74 | 6.36 | 250 | P7172048.XX | 56C<br>143-5TC | P7172004.XX<br>P7172026.XX |
| 239 | 602 | 2.40 | 7.33 | 260 | P7172049.XX | 56C<br>143-5TC | P7172005.XX<br>P7172027.XX |
| 222 | 602 | 2.21 | 7.89 | 266 | P7172050.XX | 56C<br>143-5TC | P7172006.XX<br>P7172028.XX |
| 174 | 798 | 2.30 | 10.06 | 284 | P7172052.XX | 56C<br>143-5TC | P7172008.XX<br>P7172030.XX |
| 150 | 798 | 1.98 | 11.66 | 293 | P7172053.XX | 56C<br>143-5TC | P7172009.XX<br>P7172031.XX |
| 132 | 798 | 1.74 | 13.26 | 305 | P7172054.XX | 56C<br>143-5TC | P7172010.XX<br>P7172032.XX |
| 114 | 798 | 1.50 | 15.37 | 321 | P7172055.XX | 56C<br>143-5TC | P7172011.XX<br>P7172033.XX |
| 108 | 798 | 1.40 | 16.20 | 335 | P7172056.XX | 56C<br>143-5TC | P7172012.XX<br>P7172034.XX |
| 93 | 798 | 1.21 | 18.78 | 350 | P7172057.XX | 56C<br>143-5TC | P7172013.XX<br>P7172035.XX |
| 81 | 798 | 1.07 | 21.54 | 374 | P7172058.XX | 56C<br>143-5TC | P7172014.XX<br>P7172036.XX |
| 79 | 798 | 1.04 | 22.29 | 375 | P7172059.XX | 56C<br>143-5TC | P7172015.XX<br>P7172037.XX |
| 67 | 798 | 0.86 | 26.31 | 420 | P7172060.XX | 56C | P7172016.XX |
| 60 | 798 | 0.79 | 29.40 | 435 | P7172061.XX | 56C | P7172017.XX |
| 49 | 798 | 0.63 | 35.91 | 470 | P7172062.XX | 56C | P7172018.XX |
| 46 | 798 | 0.60 | 38.37 | 478 | P7172063.XX | 56C | P7172019.XX |
| 37 | 798 | 0.48 | 46.87 | 507 | P7172064.XX | 56C | P7172020.XX |
| 35 | 798 | 0.46 | 50.67 | 510 | P7172065.XX | 56C | P7172021.XX |
| 28 | 798 | 0.37 | 61.89 | 532 | P7172066.XX | 56C | P7172022.XX |

* Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC

# Triple Reduction
# Maximum Rating Tables
## P717 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7173 • TRIPLE REDUCTION

| | | | | | NON-MOTORIZED | MOTORIZED QUILL INPUT | |
|---|---|---|---|---|---|---|---|
| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | Basic Reducer Catalog Number** | Motor Frame | Basic Reducer Catalog Number** |
| 52 | 798 | 0.71 | 33.85 | 459 | **P7173017.XX** | 56C | **P7173001.XX** |
| 46 | 798 | 0.62 | 38.40 | 478 | **P7173018.XX** | 56C | **P7173002.XX** |
| 40 | 798 | 0.55 | 43.69 | 495 | **P7173019.XX** | 56C | **P7173003.XX** |
| 35 | 798 | 0.47 | 50.64 | 510 | **P7173020.XX** | 56C | **P7173004.XX** |
| 33 | 798 | 0.44 | 53.36 | 520 | **P7173021.XX** | 56C | **P7173005.XX** |
| 29 | 798 | 0.39 | 61.21 | 525 | **P7173022.XX** | 56C | **P7173006.XX** |
| 28 | 798 | 0.38 | 61.85 | 532 | **P7173023.XX** | 56C | **P7173007.XX** |
| 25 | 798 | 0.34 | 70.95 | 540 | **P7173024.XX** | 56C | **P7173008.XX** |
| 24 | 798 | 0.32 | 73.43 | 540 | **P7173025.XX** | 56C | **P7173009.XX** |
| 23 | 798 | 0.31 | 74.77 | 540 | **P7173026.XX** | 56C | **P7173010.XX** |
| 20 | 798 | 0.27 | 86.66 | 540 | **P7173027.XX** | 56C | **P7173011.XX** |
| 18 | 798 | 0.25 | 96.85 | 540 | **P7173028.XX** | 56C | **P7173012.XX** |
| 17 | 798 | 0.23 | 102.89 | 540 | **P7173029.XX** | 56C | **P7173013.XX** |
| 14 | 798 | 0.20 | 126.40 | 540 | **P7173030.XX** | 56C | **P7173014.XX** |
| 13 | 798 | 0.18 | 135.69 | 540 | **P7173031.XX** | 56C | **P7173015.XX** |
| 11 | 798 | 0.14 | 165.74 | 540 | **P7173032.XX** | 56C | **P7173016.XX** |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction
# Maximum Rating Tables
## P727 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7272 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED | MOTORIZED QUILL INPUT | |
|---|---|---|---|---|---|---|---|
| | | | | | Basic Reducer Catalog Number** | Motor Frame | Basic Reducer Catalog Number** |
| 498 | 708 | 5.88 | 3.52 | 268 | P7272045.XX | 56C<br>143-5TC | P7272001.XX<br>P7272023.XX |
| 401 | 775 | 5.19 | 4.37 | 289 | P7272046.XX | 56C<br>143-5TC | P7272002.XX<br>P7272024.XX |
| 315 | 887 | 4.67 | 5.56 | 350 | P7272047.XX | 56C<br>143-5TC | P7272003.XX<br>P7272025.XX |
| 275 | 949 | 4.32 | 6.36 | 376 | P7272048.XX | 56C<br>143-5TC | P7272004.XX<br>P7272026.XX |
| 239 | 1065 | 4.24 | 7.33 | 391 | P7272049.XX | 56C<br>143-5TC | P7272005.XX<br>P7272027.XX |
| 222 | 1065 | 3.90 | 7.89 | 400 | P7272050.XX | 56C<br>143-5TC | P7272006.XX<br>P7272028.XX |
| 174 | 1190 | 3.43 | 10.06 | 420 | P7272052.XX | 56C<br>143-5TC | P7272008.XX<br>P7272030.XX |
| 150 | 1190 | 2.96 | 11.66 | 445 | P7272053.XX | 56C<br>143-5TC | P7272009.XX<br>P7272031.XX |
| 132 | 1190 | 2.60 | 13.26 | 476 | P7272054.XX | 56C<br>143-5TC | P7272010.XX<br>P7272032.XX |
| 114 | 1190 | 2.24 | 15.37 | 508 | P7272055.XX | 56C<br>143-5TC | P7272011.XX<br>P7272033.XX |
| 108 | 1158 | 2.03 | 16.20 | 520 | P7272056.XX | 56C<br>143-5TC | P7272012.XX<br>P7272034.XX |
| 93 | 1158 | 1.75 | 18.78 | 535 | P7272057.XX | 56C<br>143-5TC | P7272013.XX<br>P7272035.XX |
| 81 | 1190 | 1.60 | 21.54 | 562 | P7272058.XX | 56C<br>143-5TC | P7272014.XX<br>P7272036.XX |
| 79 | 1190 | 1.55 | 22.29 | 562 | P7272059.XX | 56C<br>143-5TC | P7272015.XX<br>P7272037.XX |
| 67 | 1158 | 1.25 | 26.31 | 615 | P7272060.XX | 56C<br>143-5TC | P7272016.XX<br>P7272038.XX |
| 60 | 1190 | 1.17 | 29.40 | 629 | P7272061.XX | 56C<br>143-5TC | P7272017.XX<br>P7272039.XX |
| 49 | 1158 | 0.92 | 35.91 | 660 | P7272062.XX | 56C | P7272018.XX |
| 46 | 1127 | 0.85 | 38.37 | 663 | P7272063.XX | 56C | P7272019.XX |
| 37 | 1065 | 0.65 | 46.87 | 674 | P7272064.XX | 56C | P7272020.XX |
| 35 | 1127 | 0.64 | 50.67 | 674 | P7272065.XX | 56C | P7272021.XX |
| 28 | 1065 | 0.49 | 61.89 | 674 | P7272066.XX | 56C | P7272022.XX |

* Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

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# Triple Reduction
# Maximum Rating Tables
## P727 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM




### P7273 • TRIPLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 52 | 1189 | 1.06 | 33.85 | 645 | P7273017.XX | 56C | P7273001.XX |
| 46 | 1118 | 0.87 | 38.40 | 663 | P7273018.XX | 56C | P7273002.XX |
| 40 | 1189 | 0.81 | 43.69 | 674 | P7273019.XX | 56C | P7273003.XX |
| 35 | 1189 | 0.70 | 50.64 | 674 | P7273020.XX | 56C | P7273004.XX |
| 33 | 1162 | 0.64 | 53.36 | 674 | P7273021.XX | 56C | P7273005.XX |
| 29 | 1189 | 0.58 | 61.21 | 674 | P7273022.XX | 56C | P7273006.XX |
| 28 | 1162 | 0.55 | 61.85 | 674 | P7273023.XX | 56C | P7273007.XX |
| 25 | 1189 | 0.50 | 70.95 | 674 | P7273024.XX | 56C | P7273008.XX |
| 24 | 1118 | 0.46 | 73.43 | 674 | P7273025.XX | 56C | P7273009.XX |
| 23 | 1162 | 0.46 | 74.77 | 674 | P7273026.XX | 56C | P7273010.XX |
| 20 | 1162 | 0.39 | 86.66 | 674 | P7273027.XX | 56C | P7273011.XX |
| 18 | 1189 | 0.37 | 96.85 | 674 | P7273028.XX | 56C | P7273012.XX |
| 17 | 1171 | 0.34 | 102.89 | 674 | P7273029.XX | 56C | P7273013.XX |
| 14 | 1162 | 0.29 | 126.40 | 674 | P7273030.XX | 56C | P7273014.XX |
| 13 | 1189 | 0.26 | 135.69 | 674 | P7273031.XX | 56C | P7273015.XX |
| 11 | 1162 | 0.21 | 165.74 | 674 | P7273032.XX | 56C | P7273016.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction
# Maximum Rating Tables
## P747 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7472 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 485 | 1473 | 11.80 | 3.61 | 450 | P7472058.XX | 143-5TC<br>182-4TC | P7472020.XX<br>P7472039.XX |
| 414 | 1792 | 12.27 | 4.23 | 474 | P7472059.XX | 143-5TC<br>182-4TC | P7472021.XX<br>P7472040.XX |
| 349 | 2200 | 12.69 | 5.01 | 491 | P7472060.XX | 143-5TC<br>182-4TC | P7472022.XX<br>P7472041.XX |
| 288 | 2200 | 10.49 | 6.07 | 522 | P7472061.XX | 143-5TC<br>182-4TC | P7472023.XX<br>P7472042.XX |
| 257 | 2404 | 10.22 | 6.81 | 540 | P7472062.XX | 143-5TC<br>182-4TC | P7472024.XX<br>P7472043.XX |
| 220 | 2404 | 8.73 | 7.96 | 579 | P7472064.XX | 143-5TC<br>182-4TC | P7472026.XX<br>P7472045.XX |
| 185 | 2502 | 7.66 | 9.45 | 615 | P7472065.XX | 143-5TC<br>182-4TC | P7472027.XX<br>P7472046.XX |
| 153 | 2600 | 6.58 | 11.43 | 658 | P7472066.XX | 143-5TC<br>182-4TC | P7472028.XX<br>P7472047.XX |
| 123 | 2300 | 4.68 | 14.21 | 693 | P7472067.XX | 143-5TC<br>182-4TC | P7472029.XX<br>P7472048.XX |
| 105 | 2502 | 4.36 | 16.62 | 711 | P7472068.XX | 56C<br>143-5TC<br>182-4TC | P7472011.XX<br>P7472030.XX<br>P7472049.XX |
| 87 | 2502 | 3.60 | 20.10 | 780 | P7472069.XX | 56C<br>143-5TC<br>182-4TC | P7472012.XX<br>P7472031.XX<br>P7472050.XX |
| 70 | 2300 | 2.66 | 24.98 | 877 | P7472070.XX | 56C<br>143-5TC<br>182-4TC | P7472013.XX<br>P7472032.XX<br>P7472051.XX |
| 60 | 2502 | 2.46 | 29.41 | 900 | P7472071.XX | 56C<br>143-5TC | P7472014.XX<br>P7472033.XX |
| 49 | 2502 | 2.03 | 35.58 | 922 | P7472072.XX | 56C<br>143-5TC | P7472015.XX<br>P7472034.XX |
| 43 | 2404 | 1.72 | 40.50 | 988 | P7472073.XX | 56C<br>143-5TC | P7472016.XX<br>P7472035.XX |
| 40 | 2300 | 1.50 | 44.23 | 1012 | P7472074.XX | 56C<br>143-5TC | P7472017.XX<br>P7472036.XX |
| 36 | 2404 | 1.42 | 49.00 | 1028 | P7472075.XX | 56C<br>143-5TC | P7472018.XX<br>P7472037.XX |
| 29 | 2200 | 1.04 | 60.90 | 1050 | P7472076.XX | 56C<br>143-5TC | P7472019.XX<br>P7472038.XX |

* Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC

# Triple Reduction
# Maximum Rating Tables
## P747 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM




### P7473 • TRIPLE REDUCTION

| | | | | | NON-MOTORIZED | MOTORIZED QUILL INPUT | |
|---|---|---|---|---|---|---|---|
| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | Basic Reducer Catalog Number** | Motor Frame | Basic Reducer Catalog Number** |
| 52 | 2396 | 2.10 | 34.01 | 918 | **P7473045.XX** | 56C 143-5TC | **P7473001.XX P7473023.XX** |
| 44 | 2396 | 1.80 | 39.79 | 988 | **P7473046.XX** | 56C 143-5TC | **P7473002.XX P7473024.XX** |
| 37 | 2396 | 1.51 | 47.22 | 1028 | **P7473047.XX** | 56C 143-5TC | **P7473003.XX P7473025.XX** |
| 32 | 2396 | 1.31 | 54.73 | 1041 | **P7473048.XX** | 56C 143-5TC | **P7473004.XX P7473026.XX** |
| 31 | 2396 | 1.25 | 57.13 | 1050 | **P7473049.XX** | 56C 143-5TC | **P7473005.XX P7473027.XX** |
| 26 | 2396 | 1.08 | 66.22 | 1075 | **P7473050.XX** | 56C 143-5TC | **P7473006.XX P7473028.XX** |
| 25 | 2396 | 1.01 | 71.01 | 1079 | **P7473051.XX** | 56C 143-5TC | **P7473007.XX P7473029.XX** |
| 23 | 2396 | 0.93 | 76.69 | 1091 | **P7473052.XX** | 56C 143-5TC | **P7473008.XX P7473030.XX** |
| 21 | 2396 | 0.87 | 82.30 | 1091 | **P7473053.XX** | 56C 143-5TC | **P7473009.XX P7473031.XX** |
| 21 | 2396 | 0.86 | 83.59 | 1091 | **P7473054.XX** | 56C 143-5TC | **P7473010.XX P7473032.XX** |
| 19 | 2396 | 0.77 | 92.78 | 1102 | **P7473055.XX** | 56C | **P7473011.XX** |
| 17 | 2396 | 0.68 | 104.68 | 1112 | **P7473056.XX** | 56C | **P7473012.XX** |
| 15 | 2396 | 0.61 | 117.22 | 1124 | **P7473057.XX** | 56C | **P7473013.XX** |
| 14 | 2396 | 0.56 | 126.65 | 1130 | **P7473058.XX** | 56C | **P7473014.XX** |
| 13 | 2396 | 0.53 | 136.62 | 1136 | **P7473059.XX** | 56C | **P7473015.XX** |
| 12 | 2396 | 0.49 | 145.68 | 1150 | **P7473060.XX** | 56C | **P7473016.XX** |
| 11 | 2396 | 0.45 | 157.40 | 1168 | **P7473061.XX** | 56C | **P7473017.XX** |
| 11 | 2396 | 0.44 | 165.29 | 1186 | **P7473062.XX** | 56C | **P7473018.XX** |
| 9.7 | 2396 | 0.39 | 180.40 | 1186 | **P7473063.XX** | 56C | **P7473019.XX** |
| 8.6 | 2396 | 0.35 | 204.12 | 1186 | **P7473064.XX** | 56C | **P7473020.XX** |
| 7.8 | 2396 | 0.32 | 224.18 | 1195 | **P7473065.XX** | 56C | **P7473021.XX** |
| 6.3 | 2396 | 0.26 | 278.62 | 1214 | **P7473066.XX** | 56C | **P7473022.XX** |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction
# Maximum Rating Tables
## P757 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7572 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 485 | 1651 | 13.22 | 3.61 | 534 | P7572134.XX | 143-5TC<br>182-4TC | P7572058.XX<br>P7572096.XX |
| 414 | 1932 | 13.23 | 4.23 | 566 | P7572135.XX | 143-5TC<br>182-4TC | P7572059.XX<br>P7572097.XX |
| 349 | 2293 | 13.23 | 5.01 | 603 | P7572136.XX | 143-5TC<br>182-4TC | P7572060.XX<br>P7572098.XX |
| 288 | 2774 | 13.23 | 6.07 | 629 | P7572137.XX | 143-5TC<br>182-4TC | P7572061.XX<br>P7572099.XX |
| 257 | 2860 | 12.15 | 6.81 | 646 | P7572138.XX | 143-5TC<br>182-4TC | P7572062.XX<br>P7572100.XX |
| 220 | 3180 | 11.55 | 7.96 | 663 | P7572140.XX | 143-5TC<br>182-4TC | P7572064.XX<br>P7572102.XX |
| 185 | 3000 | 9.18 | 9.45 | 674 | P7572141.XX | 143-5TC<br>182-4TC | P7572065.XX<br>P7572103.XX |
| 153 | 3442 | 8.71 | 11.43 | 778 | P7572142.XX | 143-5TC<br>182-4TC | P7572066.XX<br>P7572104.XX |
| 125 | 3800 | 7.71 | 14.00 | 850 | P7572143.XX | 143-5TC<br>182-4TC | P7572067.XX<br>P7572105.XX |
| 105 | 3800 | 6.61 | 16.62 | 872 | P7572144.XX | 143-5TC<br>182-4TC | P7572068.XX<br>P7572106.XX |
| 87 | 3800 | 5.47 | 20.10 | 900 | P7572145.XX | 143-5TC<br>182-4TC | P7572069.XX<br>P7572107.XX |
| 71 | 3800 | 4.40 | 24.61 | 944 | P7572146.XX | 143-5TC<br>182-4TC | P7572070.XX<br>P7572108.XX |
| 60 | 3000 | 2.95 | 29.41 | 1012 | P7572147.XX | 56C<br>143-5TC | P7572033.XX<br>P7572071.XX |
| 49 | 3000 | 2.44 | 35.58 | 1079 | P7572148.XX | 56C<br>143-5TC | P7572034.XX<br>P7572072.XX |
| 43 | 2567 | 1.83 | 40.50 | 1192 | P7572149.XX | 56C<br>143-5TC | P7572035.XX<br>P7572073.XX |
| 40 | 2800 | 1.83 | 44.23 | 1304 | P7572150.XX | 56C<br>143-5TC | P7572036.XX<br>P7572074.XX |
| 36 | 2777 | 1.64 | 49.00 | 1330 | P7572151.XX | 56C<br>143-5TC | P7572037.XX<br>P7572075.XX |
| 29 | 2800 | 1.33 | 60.90 | 1367 | P7572152.XX | 56C<br>143-5TC | P7572038.XX<br>P7572076.XX |

* Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC

# Triple Reduction
# Maximum Rating Tables
## P757 Series • Helical-Coaxial • Aluminum Case • 1750 Input RPM





### P7573 • TRIPLE REDUCTION

| | | | | | NON-MOTORIZED | MOTORIZED QUILL INPUT | |
|---|---|---|---|---|---|---|---|
| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | Basic Reducer Catalog Number** | Motor Frame | Basic Reducer Catalog Number** |
| 52 | 3372 | 2.96 | 34.01 | 1060 | **P7573111.XX** | 56C 143-5TC | **P7573023.XX P7573067.XX** |
| 44 | 3372 | 2.53 | 39.79 | 1192 | **P7573112.XX** | 56C 143-5TC | **P7573024.XX P7573068.XX** |
| 37 | 3372 | 2.13 | 47.22 | 1330 | **P7573113.XX** | 56C 143-5TC | **P7573025.XX P7573069.XX** |
| 32 | 3372 | 1.84 | 54.73 | 1354 | **P7573114.XX** | 56C 143-5TC | **P7573026.XX P7573070.XX** |
| 31 | 3372 | 1.76 | 57.13 | 1354 | **P7573115.XX** | 56C 143-5TC | **P7573027.XX P7573071.XX** |
| 26 | 3372 | 1.52 | 66.22 | 1398 | **P7573116.XX** | 56C 143-5TC | **P7573028.XX P7573072.XX** |
| 25 | 3372 | 1.42 | 71.01 | 1398 | **P7573117.XX** | 56C 143-5TC | **P7573029.XX P7573073.XX** |
| 23 | 3372 | 1.31 | 76.69 | 1414 | **P7573118.XX** | 56C 143-5TC | **P7573030.XX P7573074.XX** |
| 21 | 3372 | 1.22 | 82.30 | 1422 | **P7573119.XX** | 56C 143-5TC | **P7573031.XX P7573075.XX** |
| 21 | 3372 | 1.20 | 83.59 | 1422 | **P7573120.XX** | 56C 143-5TC | **P7573032.XX P7573076.XX** |
| 19 | 3372 | 1.09 | 92.78 | 1430 | **P7573121.XX** | 56C 143-5TC | **P7573033.XX P7573077.XX** |
| 17 | 3372 | 0.96 | 104.68 | 1454 | **P7573122.XX** | 56C 143-5TC | **P7573034.XX P7573078.XX** |
| 15 | 3372 | 0.86 | 117.22 | 1461 | **P7573123.XX** | 56C 143-5TC | **P7573035.XX P7573079.XX** |
| 14 | 3372 | 0.79 | 126.65 | 1468 | **P7573124.XX** | 56C | **P7573036.XX** |
| 13 | 3372 | 0.74 | 135.74 | 1472 | **P7573125.XX** | 56C | **P7573037.XX** |
| 12 | 3372 | 0.69 | 145.68 | 1475 | **P7573126.XX** | 56C | **P7573038.XX** |
| 11 | 3372 | 0.64 | 157.40 | 1492 | **P7573127.XX** | 56C | **P7573039.XX** |
| 11 | 3372 | 0.61 | 165.29 | 1492 | **P7573128.XX** | 56C | **P7573040.XX** |
| 9.4 | 3372 | 0.54 | 185.29 | 1498 | **P7573129.XX** | 56C | **P7573041.XX** |
| 8.5 | 3372 | 0.49 | 205.43 | 1502 | **P7573130.XX** | 56C | **P7573042.XX** |
| 7.8 | 3372 | 0.45 | 224.18 | 1510 | **P7573131.XX** | 56C | **P7573043.XX** |
| 6.3 | 3372 | 0.36 | 278.62 | 1510 | **P7573132.XX** | 56C | **P7573044.XX** |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction Maximum Rating Tables

## R767 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM





## R7672 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 266 | 3363 | 14.80 | 6.57 | 825 | R7672069.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672001.XX<br>R7672018.XX<br>R7672035.XX<br>R7672052.XX |
| 232 | 3452 | 13.21 | 7.56 | 910 | R7672070.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672002.XX<br>R7672019.XX<br>R7672036.XX<br>R7672053.XX |
| 198 | 3629 | 11.90 | 8.82 | 1014 | R7672071.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672003.XX<br>R7672020.XX<br>R7672037.XX<br>R7672054.XX |
| 141 | 5133 | 11.99 | 12.39 | 1077 | R7672072.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672004.XX<br>R7672021.XX<br>R7672038.XX<br>R7672055.XX |
| 123 | 5310 | 10.79 | 14.24 | 1155 | R7672073.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672005.XX<br>R7672022.XX<br>R7672039.XX<br>R7672056.XX |
| 104 | 5886 | 10.16 | 16.75 | 1210 | R7672074.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672006.XX<br>R7672023.XX<br>R7672040.XX<br>R7672057.XX |
| 91 | 5974 | 8.97 | 19.25 | 1243 | R7672075.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672007.XX<br>R7672024.XX<br>R7672041.XX<br>R7672058.XX |
| 80 | 5974 | 7.93 | 21.78 | 1326 | R7672076.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672008.XX<br>R7672025.XX<br>R7672042.XX<br>R7672059.XX |
| 70 | 5974 | 6.90 | 25.04 | 1461 | R7672077.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672009.XX<br>R7672026.XX<br>R7672043.XX<br>R7672060.XX |
| 60 | 5974 | 5.91 | 29.23 | 1521 | R7672078.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672010.XX<br>R7672027.XX<br>R7672044.XX<br>R7672061.XX |
| 57 | 5974 | 5.64 | 30.65 | 1539 | R7672079.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672011.XX<br>R7672028.XX<br>R7672045.XX<br>R7672062.XX |
| 48.9 | 5974 | 4.83 | 35.78 | 1587 | R7672080.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672012.XX<br>R7672029.XX<br>R7672046.XX<br>R7672063.XX |
| 45.4 | 5133 | 3.85 | 38.55 | 1608 | R7672081.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672013.XX<br>R7672030.XX<br>R7672047.XX<br>R7672064.XX |
| 39.5 | 5886 | 3.84 | 44.32 | 1648 | R7672082.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672014.XX<br>R7672031.XX<br>R7672048.XX<br>R7672065.XX |
| 33.8 | 5974 | 3.34 | 51.74 | 1735 | R7672083.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672015.XX<br>R7672032.XX<br>R7672049.XX<br>R7672066.XX |
| 28.7 | 4248 | 2.01 | 61.03 | 1813 | R7672084.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672016.XX<br>R7672033.XX<br>R7672050.XX<br>R7672067.XX |
| 24.6 | 4956 | 2.01 | 71.25 | 1876 | R7672085.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7672017.XX<br>R7672034.XX<br>R7672051.XX<br>R7672068.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC™

# Triple Reduction
# Maximum Rating Tables
## R767 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM




### R7673 • TRIPLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 28.3 | 5974 | 2.85 | 61.89 | 1819 | R7673039.XX | 56C<br>143-5TC | R7673001.XX<br>R7673020.XX |
| 24.6 | 5974 | 2.48 | 71.16 | 1876 | R7673040.XX | 56C<br>143-5TC | R7673002.XX<br>R7673021.XX |
| 21.2 | 5974 | 2.14 | 82.48 | 1928 | R7673041.XX | 56C<br>143-5TC | R7673003.XX<br>R7673022.XX |
| 18.2 | 5974 | 1.83 | 96.29 | 1974 | R7673042.XX | 56C<br>143-5TC | R7673004.XX<br>R7673023.XX |
| 17.4 | 5974 | 1.76 | 100.51 | 1986 | R7673043.XX | 56C<br>143-5TC | R7673005.XX<br>R7673024.XX |
| 15.1 | 5974 | 1.53 | 115.56 | 2021 | R7673044.XX | 56C<br>143-5TC | R7673006.XX<br>R7673025.XX |
| 13.9 | 5886 | 1.38 | 125.96 | 2023 | R7673045.XX | 56C<br>143-5TC | R7673007.XX<br>R7673026.XX |
| 13 | 5974 | 1.31 | 134.91 | 2023 | R7673046.XX | 56C<br>143-5TC | R7673008.XX<br>R7673027.XX |
| 11.9 | 5974 | 1.20 | 147.05 | 2023 | R7673047.XX | 56C<br>143-5TC | R7673009.XX<br>R7673028.XX |
| 10.3 | 5974 | 1.04 | 170.44 | 2023 | R7673048.XX | 56C<br>143-5TC | R7673010.XX<br>R7673029.XX |
| 9.5 | 5974 | 0.96 | 184.15 | 2023 | R7673049.XX | 56C<br>143-5TC | R7673011.XX<br>R7673030.XX |
| 8.5 | 5974 | 0.86 | 205.87 | 2023 | R7673050.XX | 56C<br>143-5TC | R7673012.XX<br>R7673031.XX |
| 7.3 | 5974 | 0.73 | 240.34 | 2023 | R7673051.XX | 56C<br>143-5TC | R7673013.XX<br>R7673032.XX |
| 6.3 | 5886 | 0.62 | 279.22 | 2023 | R7673052.XX | 56C<br>143-5TC | R7673014.XX<br>R7673033.XX |
| 5.4 | 5974 | 0.54 | 325.97 | 2023 | R7673053.XX | 56C<br>143-5TC | R7673015.XX<br>R7673034.XX |
| 4.8 | 5886 | 0.48 | 364.41 | 2023 | R7673054.XX | 56C<br>143-5TC | R7673016.XX<br>R7673035.XX |
| 4.1 | 5974 | 0.41 | 425.43 | 2023 | R7673055.XX | 56C<br>143-5TC | R7673017.XX<br>R7673036.XX |
| 3.6 | 5886 | 0.36 | 481.19 | 2023 | R7673056.XX | 56C<br>143-5TC | R7673018.XX<br>R7673037.XX |
| 3.1 | 5974 | 0.31 | 561.76 | 2023 | R7673057.XX | 56C<br>143-5TC | R7673019.XX<br>R7673038.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction Maximum Rating Tables

## R777 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM





### R7772 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 218 | 4602 | 16.60 | 8.02 | 1645 | R7772069.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772001.XX<br>R7772018.XX<br>R7772035.XX<br>R7772052.XX |
| 191 | 5222 | 16.45 | 9.18 | 1702 | R7772070.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772002.XX<br>R7772019.XX<br>R7772036.XX<br>R7772053.XX |
| 164 | 6019 | 16.30 | 10.68 | 1753 | R7772071.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772003.XX<br>R7772020.XX<br>R7772037.XX<br>R7772054.XX |
| 116 | 6859 | 13.13 | 15.11 | 2048 | R7772072.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772004.XX<br>R7772021.XX<br>R7772038.XX<br>R7772055.XX |
| 101 | 7833 | 13.09 | 17.3 | 2145 | R7772073.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772005.XX<br>R7772022.XX<br>R7772039.XX<br>R7772056.XX |
| 87 | 7966 | 11.45 | 20.13 | 2235 | R7772074.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772006.XX<br>R7772023.XX<br>R7772040.XX<br>R7772057.XX |
| 75 | 7966 | 9.85 | 23.39 | 2398 | R7772075.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772007.XX<br>R7772024.XX<br>R7772041.XX<br>R7772058.XX |
| 64 | 7966 | 8.47 | 27.21 | 2563 | R7772076.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772008.XX<br>R7772025.XX<br>R7772042.XX<br>R7772059.XX |
| 58 | 7966 | 7.57 | 30.42 | 2653 | R7772077.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772009.XX<br>R7772026.XX<br>R7772043.XX<br>R7772060.XX |
| 49.5 | 7966 | 6.51 | 35.38 | 2780 | R7772078.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772010.XX<br>R7772027.XX<br>R7772044.XX<br>R7772061.XX |
| 47 | 7921 | 6.15 | 37.24 | 2818 | R7772079.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772011.XX<br>R7772028.XX<br>R7772045.XX<br>R7772062.XX |
| 40.4 | 7966 | 5.32 | 43.31 | 2917 | R7772080.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772012.XX<br>R7772029.XX<br>R7772046.XX<br>R7772063.XX |
| 37.2 | 6240 | 3.84 | 47.02 | 2973 | R7772081.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772013.XX<br>R7772030.XX<br>R7772047.XX<br>R7772064.XX |
| 32.5 | 7169 | 3.85 | 53.85 | 3057 | R7772082.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772014.XX<br>R7772031.XX<br>R7772048.XX<br>R7772065.XX |
| 27.9 | 7966 | 3.68 | 62.63 | 3140 | R7772083.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772015.XX<br>R7772032.XX<br>R7772049.XX<br>R7772066.XX |
| 23.6 | 5178 | 2.02 | 74.16 | 3217 | R7772084.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772016.XX<br>R7772033.XX<br>R7772050.XX<br>R7772067.XX |
| 20.3 | 6019 | 2.02 | 86.25 | 3276 | R7772085.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7772017.XX<br>R7772034.XX<br>R7772051.XX<br>R7772068.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC™

# Triple Reduction
# Maximum Rating Tables
## R777 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM





### R7773 • TRIPLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 23.2 | 7302 | 2.86 | 75.5 | 3224 | R7773037.XX | 56C<br>143-5TC | R7773001.XX<br>R7773019.XX |
| 20.2 | 7966 | 2.72 | 86.47 | 3278 | R7773038.XX | 56C<br>143-5TC | R7773002.XX<br>R7773020.XX |
| 17.5 | 7966 | 2.35 | 100.22 | 3327 | R7773039.XX | 56C<br>143-5TC | R7773003.XX<br>R7773021.XX |
| 15 | 7966 | 2.02 | 116.56 | 3372 | R7773040.XX | 56C<br>143-5TC | R7773004.XX<br>R7773022.XX |
| 12.8 | 7966 | 1.72 | 136.82 | 3372 | R7773041.XX | 56C<br>143-5TC | R7773005.XX<br>R7773023.XX |
| 11.4 | 7169 | 1.38 | 153.05 | 3372 | R7773042.XX | 56C<br>143-5TC | R7773006.XX<br>R7773024.XX |
| 10.7 | 7966 | 1.44 | 163.31 | 3372 | R7773043.XX | 56C<br>143-5TC | R7773007.XX<br>R7773025.XX |
| 9.8 | 7966 | 1.32 | 178.01 | 3372 | R7773044.XX | 56C<br>143-5TC | R7773008.XX<br>R7773026.XX |
| 9.1 | 7966 | 1.23 | 191.67 | 3372 | R7773045.XX | 56C<br>143-5TC | R7773009.XX<br>R7773027.XX |
| 8.5 | 7966 | 1.14 | 206.32 | 3372 | R7773046.XX | 56C<br>143-5TC | R7773010.XX<br>R7773028.XX |
| 7.9 | 7966 | 1.06 | 222.92 | 3372 | R7773047.XX | 56C<br>143-5TC | R7773011.XX<br>R7773029.XX |
| 7.2 | 7966 | 0.97 | 242.18 | 3372 | R7773048.XX | 56C<br>143-5TC | R7773012.XX<br>R7773030.XX |
| 7 | 7966 | 0.94 | 250.15 | 3372 | R7773049.XX | 56C<br>143-5TC | R7773013.XX<br>R7773031.XX |
| 6.1 | 7966 | 0.81 | 289.08 | 3372 | R7773050.XX | 56C<br>143-5TC | R7773014.XX<br>R7773032.XX |
| 5.3 | 7877 | 0.70 | 330.31 | 3372 | R7773051.XX | 56C<br>143-5TC | R7773015.XX<br>R7773033.XX |
| 4.4 | 7966 | 0.60 | 394.59 | 3372 | R7773052.XX | 56C<br>143-5TC | R7773016.XX<br>R7773034.XX |
| 3.4 | 7966 | 0.46 | 514.99 | 3372 | R7773053.XX | 56C<br>143-5TC | R7773017.XX<br>R7773035.XX |
| 2.6 | 7966 | 0.35 | 680.03 | 3372 | R7773054.XX | 56C<br>143-5TC | R7773018.XX<br>R7773036.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction Maximum Rating Tables

## R787 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM • Integral Base



### R7872 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number*** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 396 | 6196 | 40.54 | 4.42 | 2023 | CONTACT FACTORY | 182-4TC<br>213-5TC<br>254-6TC | R7872001.XX<br>R7872016.XX<br>R7872031.XX |
| 330 | 6196 | 33.81 | 5.3 | 2023 | | 182-4TC<br>213-5TC<br>254-6TC | R7872002.XX<br>R7872017.XX<br>R7872032.XX |
| 274 | 7081 | 32.09 | 6.38 | 2140 | | 182-4TC<br>213-5TC<br>254-6TC | R7872003.XX<br>R7872018.XX<br>R7872033.XX |
| 210 | 7081 | 24.58 | 8.33 | 2428 | | 182-4TC<br>213-5TC<br>254-6TC | R7872004.XX<br>R7872019.XX<br>R7872034.XX |
| 175 | 7966 | 23.06 | 9.99 | 2566 | | 182-4TC<br>213-5TC<br>254-6TC | R7872005.XX<br>R7872020.XX<br>R7872035.XX |
| 155 | 9736 | 25.00 | 11.26 | 2641 | | 182-4TC<br>213-5TC<br>254-6TC | R7872006.XX<br>R7872021.XX<br>R7872036.XX |
| 146 | 10621 | 25.54 | 12.03 | 2675 | | 182-4TC<br>213-5TC<br>254-6TC | R7872007.XX<br>R7872022.XX<br>R7872037.XX |
| 130 | 12391 | 26.54 | 13.5 | 2810 | | 182-4TC<br>213-5TC<br>254-6TC | R7872008.XX<br>R7872023.XX<br>R7872038.XX |
| 119 | 13276 | 26.22 | 14.65 | 2929 | | 182-4TC<br>213-5TC<br>254-6TC | R7872009.XX<br>R7872024.XX<br>R7872039.XX |
| 108 | 13276 | 23.61 | 16.26 | 2999 | | 182-4TC<br>213-5TC<br>254-6TC | R7872010.XX<br>R7872025.XX<br>R7872040.XX |
| 100 | 13276 | 21.86 | 17.56 | 3051 | | 182-4TC<br>213-5TC<br>254-6TC | R7872011.XX<br>R7872026.XX<br>R7872041.XX |
| 81 | 14161 | 19.05 | 21.5 | 3207 | | 182-4TC<br>213-5TC<br>254-6TC | R7872012.XX<br>R7872027.XX<br>R7872042.XX |
| 68 | 14161 | 15.82 | 25.88 | 3387 | | 182-4TC<br>213-5TC<br>254-6TC | R7872013.XX<br>R7872028.XX<br>R7872043.XX |
| 56 | 12922 | 12.02 | 31.09 | 3477 | | 182-4TC<br>213-5TC<br>254-6TC | R7872014.XX<br>R7872029.XX<br>R7872044.XX |
| 46.8 | 14161 | 10.94 | 37.43 | 3546 | | 182-4TC<br>213-5TC<br>254-6TC | R7872015.XX<br>R7872030.XX<br>R7872045.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.
***Contact factory for non-motorized reducers

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC™

# Triple Reduction
# Maximum Rating Tables
## R787 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM • Integral Base





### R7873 • TRIPLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 40.7 | 14161 | 9.72 | 43.03 | 3591 | R7873053.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873001.XX<br>R7873014.XX<br>R7873027.XX<br>R7873040.XX |
| 36.1 | 13719 | 8.35 | 48.52 | 3737 | R7873054.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873002.XX<br>R7873015.XX<br>R7873028.XX<br>R7873041.XX |
| 33.8 | 14161 | 8.07 | 51.81 | 3819 | R7873055.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873003.XX<br>R7873016.XX<br>R7873029.XX<br>R7873042.XX |
| 30.1 | 14161 | 7.19 | 58.17 | 3953 | R7873056.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873004.XX<br>R7873017.XX<br>R7873030.XX<br>R7873043.XX |
| 27.7 | 13719 | 6.42 | 63.09 | 4039 | R7873057.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873005.XX<br>R7873018.XX<br>R7873031.XX<br>R7873044.XX |
| 25 | 15931 | 6.72 | 70.05 | 4136 | R7873058.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873006.XX<br>R7873019.XX<br>R7873032.XX<br>R7873045.XX |
| 23.1 | 15931 | 6.22 | 75.65 | 4204 | R7873059.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873007.XX<br>R7873020.XX<br>R7873033.XX<br>R7873046.XX |
| 19.2 | 15931 | 5.17 | 91.09 | 4344 | R7873060.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873008.XX<br>R7873021.XX<br>R7873034.XX<br>R7873047.XX |
| 15.7 | 15931 | 4.22 | 111.5 | 4470 | R7873061.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873009.XX<br>R7873022.XX<br>R7873035.XX<br>R7873048.XX |
| 13.1 | 15931 | 3.51 | 133.91 | 4496 | R7873062.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873010.XX<br>R7873023.XX<br>R7873036.XX<br>R7873049.XX |
| 10.9 | 15931 | 2.92 | 161.24 | 4496 | R7873063.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873011.XX<br>R7873024.XX<br>R7873037.XX<br>R7873050.XX |
| 9.5 | 12834 | 2.06 | 184.4 | 4496 | R7873064.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873012.XX<br>R7873025.XX<br>R7873038.XX<br>R7873051.XX |
| 7.9 | 15489 | 2.06 | 222.04 | 4496 | R7873065.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7873013.XX<br>R7873026.XX<br>R7873039.XX<br>R7873052.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Double Reduction
# Maximum Rating Tables

## R797 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM



### R7972 • DOUBLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number*** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 293 | 8851 | 42.81 | 5.98 | 2363 | CONTACT FACTORY | 182-4TC<br>213-5TC<br>254-6TC | R7972001.XX<br>R7972017.XX<br>R7972033.XX |
| 246 | 10400 | 42.36 | 7.1 | 2605 | | 182-4TC<br>213-5TC<br>254-6TC | R7972002.XX<br>R7972018.XX<br>R7972034.XX |
| 203 | 11949 | 40.06 | 8.63 | 2828 | | 182-4TC<br>213-5TC<br>254-6TC | R7972003.XX<br>R7972019.XX<br>R7972035.XX |
| 155 | 13276 | 34.07 | 11.27 | 3037 | | 182-4TC<br>213-5TC<br>254-6TC | R7972004.XX<br>R7972020.XX<br>R7972036.XX |
| 131 | 15046 | 32.52 | 13.38 | 3218 | | 182-4TC<br>213-5TC<br>254-6TC | R7972005.XX<br>R7972021.XX<br>R7972037.XX |
| 115 | 16816 | 31.92 | 15.24 | 3397 | | 182-4TC<br>213-5TC<br>254-6TC | R7972006.XX<br>R7972022.XX<br>R7972038.XX |
| 108 | 18587 | 33.06 | 16.26 | 3449 | | 182-4TC<br>213-5TC<br>254-6TC | R7972007.XX<br>R7972023.XX<br>R7972039.XX |
| 97 | 18587 | 29.71 | 18.09 | 3530 | | 182-4TC<br>213-5TC<br>254-6TC | R7972008.XX<br>R7972024.XX<br>R7972040.XX |
| 88 | 18233 | 26.61 | 19.82 | 3596 | | 182-4TC<br>213-5TC<br>254-6TC | R7972009.XX<br>R7972025.XX<br>R7972041.XX |
| 80 | 18587 | 24.45 | 21.98 | 3705 | | 182-4TC<br>213-5TC<br>254-6TC | R7972010.XX<br>R7972026.XX<br>R7972042.XX |
| 74 | 18587 | 22.85 | 23.53 | 3808 | | 182-4TC<br>213-5TC<br>254-6TC | R7972011.XX<br>R7972027.XX<br>R7972043.XX |
| 72 | 17170 | 20.47 | 24.25 | 3843 | | 182-4TC<br>213-5TC<br>254-6TC | R7972012.XX<br>R7972028.XX<br>R7972044.XX |
| 61 | 18587 | 18.67 | 28.8 | 3955 | | 182-4TC<br>213-5TC<br>254-6TC | R7972013.XX<br>R7972029.XX<br>R7972045.XX |
| 50 | 18587 | 15.36 | 34.99 | 4050 | | 182-4TC<br>213-5TC<br>254-6TC | R7972014.XX<br>R7972030.XX<br>R7972046.XX |
| 42 | 17347 | 12.05 | 41.64 | 4118 | | 182-4TC<br>213-5TC<br>254-6TC | R7972015.XX<br>R7972031.XX<br>R7972047.XX |
| 34.6 | 18587 | 10.62 | 50.6 | 4359 | | 182-4TC<br>213-5TC<br>254-6TC | R7972016.XX<br>R7972032.XX<br>R7972048.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.
***Contact factory for non-motorized reducers

**IN THIS BROCHURE**

| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

LeCENTRIC™

# Triple Reduction
# Maximum Rating Tables
## R797 Series • Helical-Coaxial • Cast Iron Case • 1750 Input RPM




### R7973 • TRIPLE REDUCTION

| Output Speed (RPM) | Output Torque (lb-in.) | Input HP | Ratio | Output* OHL (lbs.) | NON-MOTORIZED Basic Reducer Catalog Number** | MOTORIZED QUILL INPUT Motor Frame | MOTORIZED QUILL INPUT Basic Reducer Catalog Number** |
|---|---|---|---|---|---|---|---|
| 36 | 18587 | 11.31 | 48.55 | 4301 | R7973057.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973001.XX<br>R7973015.XX<br>R7973029.XX<br>R7973043.XX |
| 30.4 | 18587 | 9.52 | 57.64 | 4533 | R7973058.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973002.XX<br>R7973016.XX<br>R7973030.XX<br>R7973044.XX |
| 26.7 | 18587 | 8.36 | 65.64 | 4686 | R7973059.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973003.XX<br>R7973017.XX<br>R7973031.XX<br>R7973045.XX |
| 25 | 18587 | 7.84 | 70.04 | 4757 | R7973060.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973004.XX<br>R7973018.XX<br>R7973032.XX<br>R7973046.XX |
| 22.5 | 18587 | 7.04 | 77.93 | 4860 | R7973061.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973005.XX<br>R7973019.XX<br>R7973033.XX<br>R7973047.XX |
| 20.5 | 18587 | 6.43 | 85.36 | 4943 | R7973062.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973006.XX<br>R7973020.XX<br>R7973034.XX<br>R7973048.XX |
| 18.5 | 18587 | 5.80 | 94.7 | 5026 | R7973063.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973007.XX<br>R7973021.XX<br>R7973035.XX<br>R7973049.XX |
| 17.3 | 18587 | 5.42 | 101.35 | 5075 | R7973064.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973008.XX<br>R7973022.XX<br>R7973036.XX<br>R7973050.XX |
| 14.2 | 18587 | 4.46 | 123.15 | 5171 | R7973065.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973009.XX<br>R7973023.XX<br>R7973037.XX<br>R7973051.XX |
| 11.6 | 18587 | 3.64 | 150.73 | 5171 | R7973066.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973010.XX<br>R7973024.XX<br>R7973038.XX<br>R7973052.XX |
| 9.8 | 18587 | 3.06 | 179.39 | 5171 | R7973067.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973011.XX<br>R7973025.XX<br>R7973039.XX<br>R7973053.XX |
| 8 | 18587 | 2.52 | 217.98 | 5171 | R7973068.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973012.XX<br>R7973026.XX<br>R7973040.XX<br>R7973054.XX |
| 7.1 | 17259 | 2.06 | 247.03 | 5171 | R7973069.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973013.XX<br>R7973027.XX<br>R7973041.XX<br>R7973055.XX |
| 5.8 | 18587 | 1.83 | 300.17 | 5171 | R7973070.XX | 56C<br>143-5TC<br>182-4TC<br>213-5TC | R7973014.XX<br>R7973028.XX<br>R7973042.XX<br>R7973056.XX |

*Overhung load is calculated at centerline of output shaft.
**Catalog numbers are for basic reducer without base or output flange.

**IN THIS BROCHURE**

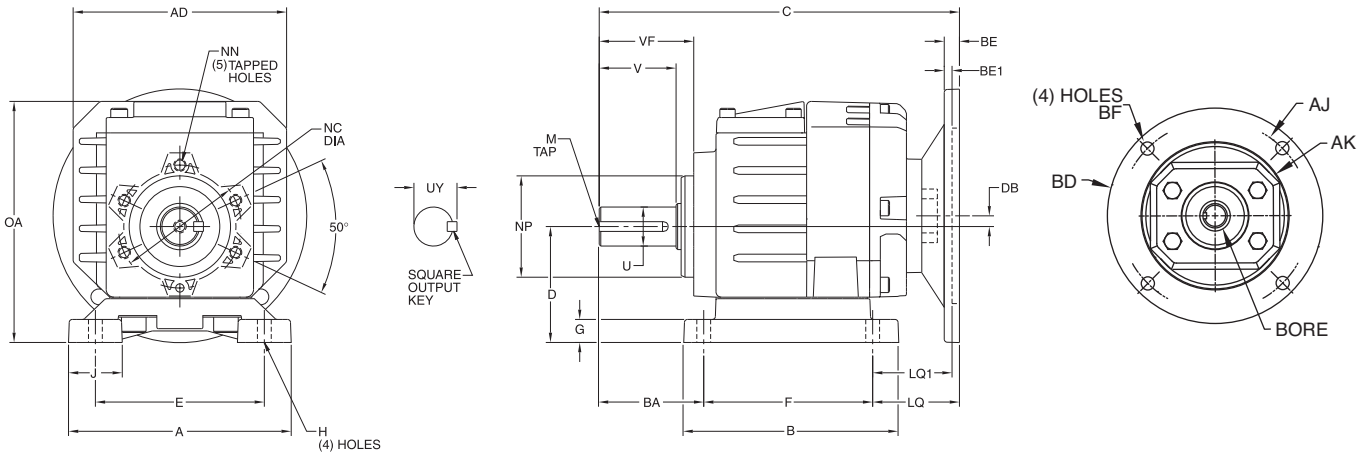
| | |
|---|---|
| RPM = | Revolutions Per Minute |
| HP = | Horsepower |
| TQ = | Torque (lb-in.) |
| OHL = | Overhung Load In Pounds At Centerline Of Output Shaft With No Thrust Load. |
| TL = | Thrust Load (lbs.) - Output Shaft |

FOR AVAILABLE INTERCHANGE BASE AND OUTPUT FLANGE CODES SEE PAGES 408-410.

SELECT REDUCER MOUNTING POSITION ON PAGE 407

# Helical-Coaxial Dimensions

## Motorized • Base Mount • Aluminum Case




### Motorized Quill Input, Double Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | C | | D | DB | E | F | G | H | J | LQ | LQ1 | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 56/140 | 180 | | | | | | | | 56/140 | 180 | TAP | DEPTH |
| **P7172** | 5.71 | 5.47 | 5.51 | 2.28 | 8.83 | NA | 2.95 | 0.27 | 4.33 | 4.33 | 0.59 | 0.35 | 1.38 | 2.23 | NA | 1/4-20 | 0.62 |
| **P7272** | 5.71 | 5.47 | 6.02 | 2.95 | 9.23 | NA | 3.54 | 0.27 | 4.33 | 5.12 | 0.79 | 0.35 | 1.38 | 1.16 | NA | 5/16-18 | 0.75 |
| **P7472** | 6.69 | 7.01 | 7.76 | 3.54 | 11.49 | 12.02 | 4.53 | 0.21 | 5.31 | 6.50 | 0.94 | 0.55 | 1.65 | 1.45 | 1.98 | 5/16-18 | 0.75 |
| **P7572** | 6.69 | 7.95 | 7.76 | 3.54 | 12.20 | 12.73 | 4.53 | 0.61 | 5.31 | 6.50 | 0.94 | 0.55 | 1.65 | 2.16 | 2.69 | 5/16-18 | 0.75 |

| Size | NC | NP | NN | | OA | U +0.000/ -0.001 | UY | V | VF | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | TAP | DEPTH | | | | | | |
| **P7172** | 3.15 | 2.60 | M8 | 0.67 | 6.12 | 0.750 | 0.83 | 1.57 | 2.02 | 3/16 x 1.12 |
| **P7272** | 3.15 | 2.60 | M8 | 0.67 | 6.71 | 1.000 | 1.11 | 1.97 | 2.40 | 1/4 x 1.62 |
| **P7472** | 4.84 | 4.17 | M10 | 0.71 | 8.52 | 1.250 | 1.36 | 2.36 | 2.97 | 1/4 x 2.00 |
| **P7572** | 4.84 | 4.17 | M10 | 0.71 | 8.58 | 1.250* | 1.36 | 2.36 | 2.97 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |

### Motorized Quill Input, Triple Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | C | D | DB | E | F | G | H | J | LQ | M | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | TAP | DEPTH |
| **P7173** | 5.71 | 5.47 | 5.51 | 2.28 | 9.60 | 2.95 | 0.13 | 4.33 | 4.33 | 0.59 | 0.35 | 1.38 | 2.99 | 1/4-20 | 0.62 |
| **P7273** | 5.71 | 5.47 | 6.02 | 2.95 | 10.00 | 3.54 | 0.13 | 4.33 | 5.12 | 0.79 | 0.35 | 1.38 | 1.93 | 5/16-18 | 0.75 |
| **P7473** | 6.69 | 7.01 | 7.76 | 3.54 | 11.83 | 4.53 | 0.59 | 5.31 | 6.50 | 0.94 | 0.55 | 1.65 | 1.83 | 5/16-18 | 0.75 |
| **P7573** | 6.69 | 7.95 | 7.76 | 3.54 | 12.55 | 4.53 | 0.61 | 5.31 | 6.50 | 0.94 | 0.55 | 1.65 | 2.51 | 5/16-18 | 0.75 |

| Size | NC | NP | NN | | OA | U +0.000/ -0.001 | UY | V | VF | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | TAP | DEPTH | | | | | | |
| **P7173** | 3.15 | 2.60 | M8 | 0.67 | 6.12 | 0.750 | 0.83 | 1.57 | 2.02 | 3/16 x 1.12 |
| **P7273** | 3.15 | 2.60 | M8 | 0.67 | 6.71 | 1.000 | 1.11 | 1.97 | 2.40 | 1/4 x 1.62 |
| **P7473** | 4.84 | 4.17 | M10 | 0.71 | 8.52 | 1.250 | 1.36 | 2.36 | 2.97 | 1/4 x 2.00 |
| **P7573** | 4.84 | 4.17 | M10 | 0.71 | 8.58 | 1.250* | 1.36 | 2.36 | 2.97 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |

* 1.375" diameter shaft is available. Contact Factory for availability.

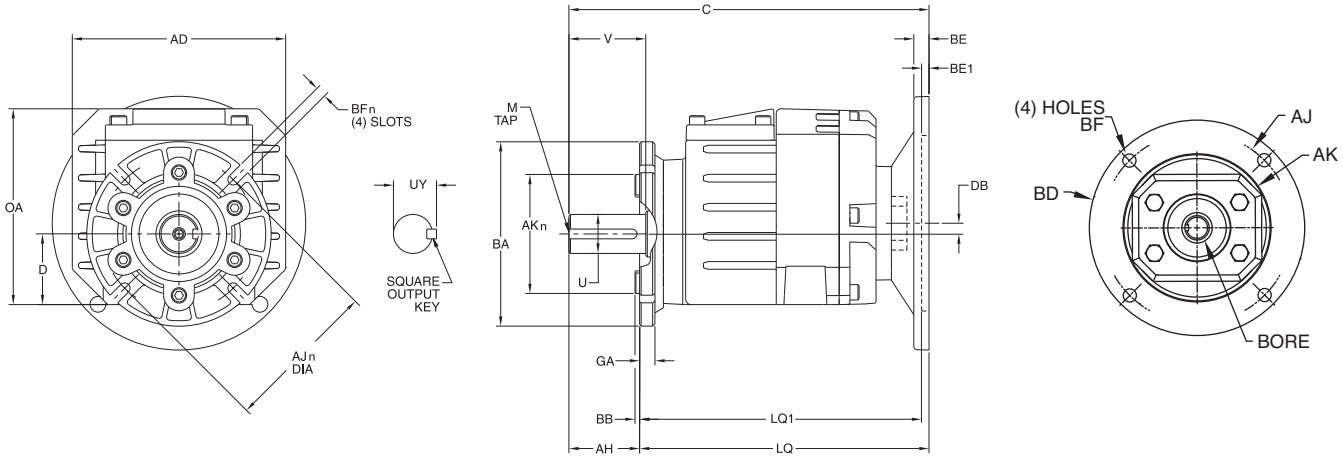
B1 Base Mount is shown. See pages 408-409 for all available interchange bases

For NEMA motor mounting dimensions see page 410.

LeCENTRIC™

# Helical-Coaxial Dimensions

## Motorized • Flange Mount • Aluminum Case




### Motorized Quill Input, Double Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | | D | DB | GA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 56/140 | 180 | | | |
| **P7172** | 5.47 | 1.41 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 8.83 | N/A | 1.81 | 0.27 | 0.39 |
| **P7272** | 5.47 | 1.79 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 9.23 | N/A | 1.81 | 0.27 | 0.39 |
| **P7472** | 7.01 | 2.24 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 11.49 | 12.02 | 2.76 | 0.21 | 0.61 |
| **P7572** | 7.95 | 2.60 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 12.20 | 12.73 | 2.76 | 0.61 | 0.61 |

| Size | LQ 56C/140TC | LQ1 | M | | OA | U +0.000/ -0.001 | UY | V | Output Key |
|---|---|---|---|---|---|---|---|---|---|
| | | | TAP | DEPTH | | | | | |
| **P7172** | 7.42 | N/A | 1/4-20 | 0.62 | 5.02 | 0.750 | 0.83 | 1.57 | 3/16 x 1.12 |
| **P7272** | 7.44 | N/A | 5/16-18 | 0.75 | 5.02 | 1.000 | 1.11 | 1.97 | 1/4 x 1.62 |
| **P7472** | 9.25 | 9.78 | 5/16-18 | 0.75 | 6.75 | 1.250 | 1.36 | 2.36 | 1/4 x 2.00 |
| **P7572** | 10.00 | 10.53 | 5/16-18 | 0.75 | 6.81 | 1.250* | 1.36 | 2.36 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |

### Motorized Quill Input, Triple Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | D | DB | GA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7173** | 5.47 | 1.41 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 9.60 | 1.81 | 0.13 | 0.39 |
| **P7273** | 5.47 | 1.79 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 10.00 | 1.81 | 0.13 | 0.39 |
| **P7473** | 7.01 | 2.24 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 11.83 | 2.76 | 0.59 | 0.61 |
| **P7573** | 7.95 | 2.60 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 12.55 | 2.76 | 0.61 | 0.61 |

| Size | LQ 56C/140TC | LQ1 | M | | OA | U +0.000/ -0.001 | UY | V | Output Key |
|---|---|---|---|---|---|---|---|---|---|
| | | | TAP | DEPTH | | | | | |
| **P7173** | 8.19 | N/A | 1/4-20 | 0.62 | 5.02 | 0.750 | 0.83 | 1.57 | 3/16 x 1.12 |
| **P7273** | 8.21 | N/A | 5/16-18 | 0.75 | 5.02 | 1.000 | 1.11 | 1.97 | 1/4 x 1.62 |
| **P7473** | 9.59 | 9.78 | 5/16-18 | 0.75 | 6.75 | 1.250 | 1.36 | 2.36 | 1/4 x 2.00 |
| **P7573** | 10.35 | 10.53 | 5/16-18 | 0.75 | 6.81 | 1.250* | 1.36 | 2.36 | 1/4 x 2.00 |

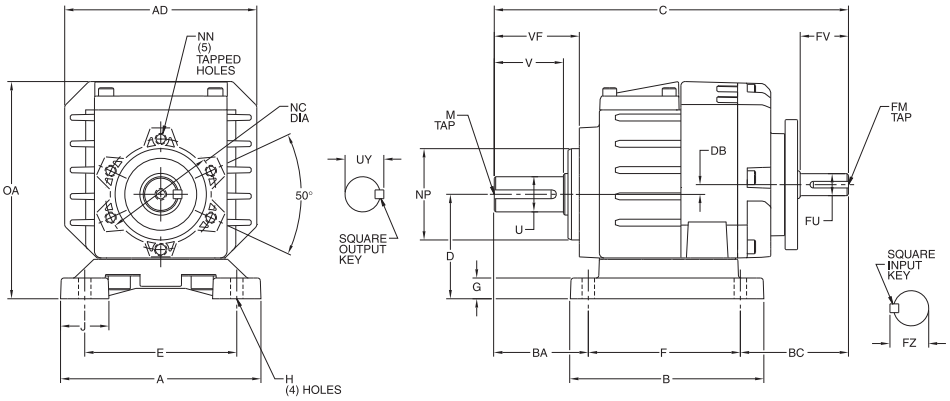
| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |

* 1.375" diameter shaft is available. Contact Factory for availability.
n Tolerance of AK on flanges with BA dimension under 6.30" is -0.0014 to -0.0028". Flanges with a BA of 6.30" or larger have a AK tolerance of -0.0017 to -0.0033".

F1 Flange Mount is shown. See page 410 for all available output flanges
For NEMA motor mounting dimensions see page 407.

# Helical-Coaxial Dimensions

## Non-Motorized • Base Mount • Aluminum Case




### Non-Motorized, Double Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | BC | C | D | DB | E | F | FM TAP | FM DEPTH | FU +0.000/ -0.001 | FV | FZ | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7172** | 5.71 | 5.47 | 5.51 | 2.28 | 3.28 | 9.88 | 2.95 | 0.27 | 4.33 | 4.33 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 | 0.59 | 0.35 | 1.38 |
| **P7272** | 5.71 | 5.47 | 6.02 | 2.95 | 2.20 | 10.26 | 3.54 | 0.27 | 4.33 | 5.12 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 | 0.79 | 0.35 | 1.38 |
| **P7472** | 6.69 | 7.01 | 7.76 | 3.54 | 2.96 | 13.00 | 4.53 | 0.21 | 5.31 | 6.50 | 5/16-18 | 0.75 | 0.750s | 1.97 | 0.83 | 0.94 | 0.55 | 1.65 |
| **P7572** | 6.69 | 7.95 | 7.76 | 3.54 | 3.63 | 13.67 | 4.53 | 0.61 | 5.31 | 6.50 | 5/16-18 | 0.75 | 0.750s | 1.97 | 0.83 | 0.94 | 0.55 | 1.65 |

| Size | M TAP | M DEPTH | NC | NN TAP | NN DEPTH | NP | OA | U +0.000/ -0.001 | UY | V | VF | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7172** | 1/4-20 | 0.62 | 3.15 | M8 | 0.67 | 2.60 | 6.12 | 0.750 | 0.83 | 1.57 | 2.02 | 3/16 x 1.12 | 3/16 x 1.12 |
| **P7272** | 5/16-18 | 0.75 | 3.15 | M8 | 0.67 | 2.60 | 6.71 | 1.000 | 1.11 | 1.97 | 2.40 | 3/16 x 1.12 | 1/4 x 1.62 |
| **P7472** | 5/16-18 | 0.75 | 4.84 | M10 | 0.71 | 4.17 | 8.52 | 1.250 | 1.36 | 2.36 | 2.97 | 3/16 x 1.50 | 1/4 x 2.00 |
| **P7572** | 5/16-18 | 0.75 | 4.84 | M10 | 0.71 | 4.17 | 8.58 | 1.250* | 1.36 | 2.36 | 2.97 | 3/16 x 1.50 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |

### Non-Motorized, Triple Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | BC | C | D | DB | E | F | FM TAP | FM DEPTH | FU +0.000/ -0.001 | FV | FZ | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7173** | 5.71 | 5.47 | 5.51 | 2.28 | 3.45 | 10.06 | 2.95 | 0.13 | 4.33 | 4.33 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 | 0.59 | 0.35 | 1.38 |
| **P7273** | 5.71 | 5.47 | 6.02 | 2.95 | 2.38 | 10.44 | 3.54 | 0.13 | 4.33 | 5.12 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 | 0.59 | 0.35 | 1.38 |
| **P7473** | 6.69 | 7.01 | 7.76 | 3.54 | 2.88 | 12.92 | 4.53 | 0.59 | 5.31 | 6.50 | 5/16-18 | 0.75 | 0.750 | 1.57 | 0.83 | 0.94 | 0.55 | 1.65 |
| **P7573** | 6.69 | 7.95 | 7.76 | 3.54 | 3.56 | 13.60 | 4.53 | 0.61 | 5.31 | 6.50 | 5/16-18 | 0.75 | 0.750 | 1.57 | 0.83 | 0.94 | 0.55 | 1.65 |

| Size | M TAP | M DEPTH | NC | NN TAP | NN DEPTH | NP | OA | U +0.000/ -0.001 | UY | V | VF | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7173** | 1/4-20 | 0.62 | 3.15 | M8 | 0.67 | 2.60 | 6.12 | 0.750 | 0.83 | 1.57 | 2.02 | 3/16 x 1.12 | 3/16 x 1.12 |
| **P7273** | 5/16-18 | 0.75 | 3.15 | M8 | 0.67 | 2.60 | 6.71 | 1.000 | 1.11 | 1.97 | 2.40 | 3/16 x 1.12 | 1/4 x 1.62 |
| **P7473** | 5/16-18 | 0.75 | 4.84 | M10 | 0.71 | 4.17 | 8.52 | 1.250 | 1.36 | 2.36 | 2.97 | 3/16 x 1.50 | 1/4 x 2.00 |
| **P7573** | 5/16-18 | 0.75 | 4.84 | M10 | 0.71 | 4.17 | 8.58 | 1.250* | 1.36 | 2.36 | 2.97 | 3/16 x 1.50 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |

* 1.375" diameter shaft is available. Contact Factory for availability.
s 0.875" diameter shaft is available on 2-stage reducers only. Contact factory for availability.

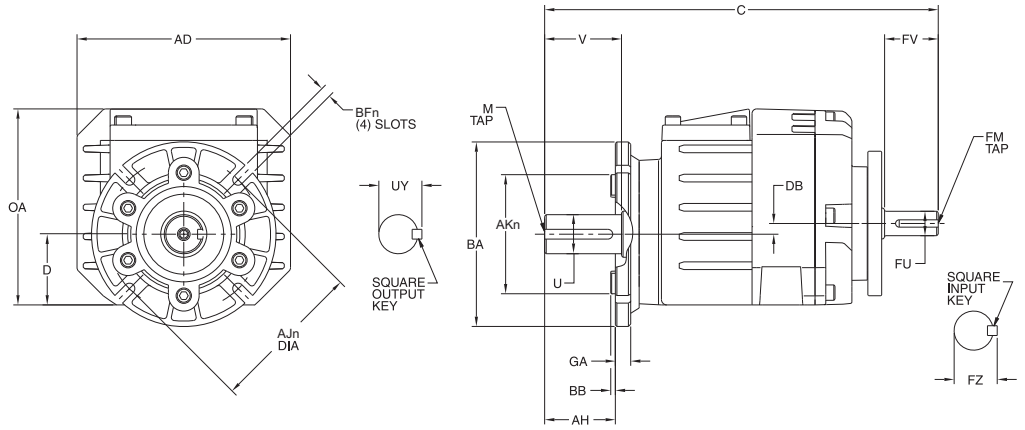
B1 Base Mount is shown. See pages 408-409 for all available interchange bases

For NEMA motor mounting dimensions see page 410.

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# Helical-Coaxial Dimensions

## Non-Motorized • Flange Mount • Aluminum Case




### Non-Motorized, Double Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | D | DB | FM TAP | FM DEPTH | FU +0.000/ -0.001 | FV | FZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7172** | 5.47 | 1.41 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 9.88 | 1.81 | 0.27 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 |
| **P7272** | 5.47 | 1.79 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 10.26 | 1.81 | 0.27 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 |
| **P7472** | 7.01 | 2.24 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 13.00 | 2.76 | 0.21 | 5/16-18 | 0.75 | 0.750s | 1.97 | 0.83 |
| **P7572** | 7.95 | 2.60 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 13.67 | 2.76 | 0.61 | 5/16-18 | 0.75 | 0.750s | 1.97 | 0.83 |

| Size | GA | M TAP | M DEPTH | OA | U +0.000/ -0.001 | UY | V | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|
| **P7172** | 0.39 | 1/4-20 | 0.62 | 5.02 | 0.750 | 0.83 | 1.57 | 3/16 x 1.12 | 3/16 x 1.12 |
| **P7272** | 0.39 | 1/4-20 | 0.62 | 5.02 | 1.000 | 1.11 | 1.97 | 3/16 x 1.12 | 1/4 x 1.62 |
| **P7472** | 0.61 | 5/16-18 | 0.75 | 6.75 | 1.250 | 1.36 | 2.36 | 3/16 x 1.50 | 1/4 x 2.00 |
| **P7572** | 0.61 | 5/16-18 | 0.75 | 6.81 | 1.250* | 1.36 | 2.36 | 3/16 x 1.50 | 1/4 x 2.00 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.50 | 8.50 | N/A | 0.50 | 1.125 | 1/4 X 1/8 | 0.53 |

### Non-Motorized, Triple Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | D | DB | FM TAP | FM DEPTH | FU +0.000/ -0.001 | FV | FZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **P7173** | 5.47 | 1.41 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 10.06 | 1.81 | 0.13 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 |
| **P7273** | 5.47 | 1.79 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 10.44 | 1.81 | 0.13 | 1/4-20 | 0.62 | 0.625 | 1.57 | 0.70 |
| **P7473** | 7.01 | 2.24 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 12.92 | 2.76 | 0.59 | 5/16-18 | 0.75 | 0.750 | 1.57 | 0.83 |
| **P7573** | 7.95 | 2.60 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 13.60 | 2.76 | 0.61 | 5/16-18 | 0.75 | 0.750 | 1.57 | 0.83 |

| Size | GA | M TAP | M DEPTH | OA | U +0.000/ -0.001 | UY | V | Input Key | Output Key |
|---|---|---|---|---|---|---|---|---|---|
| **P7173** | 0.39 | 1/4-20 | 0.62 | 5.02 | 0.750 | 0.83 | 1.57 | 3/16 x 1.12 | 3/16 x 1.12 |
| **P7273** | 0.39 | 5/16-18 | 0.75 | 5.02 | 1.000 | 1.11 | 1.97 | 3/16 x 1.12 | 1/4 x 1.62 |
| **P7473** | 0.61 | 5/16-18 | 0.75 | 6.75 | 1.250 | 1.36 | 2.36 | 3/16 x 1.50 | 1/4 x 2.00 |
| **P7573** | 0.61 | 5/16-18 | 0.75 | 6.81 | 1.250* | 1.36 | 2.36 | 3/16 x 1.50 | 1/4 x 2.00 |

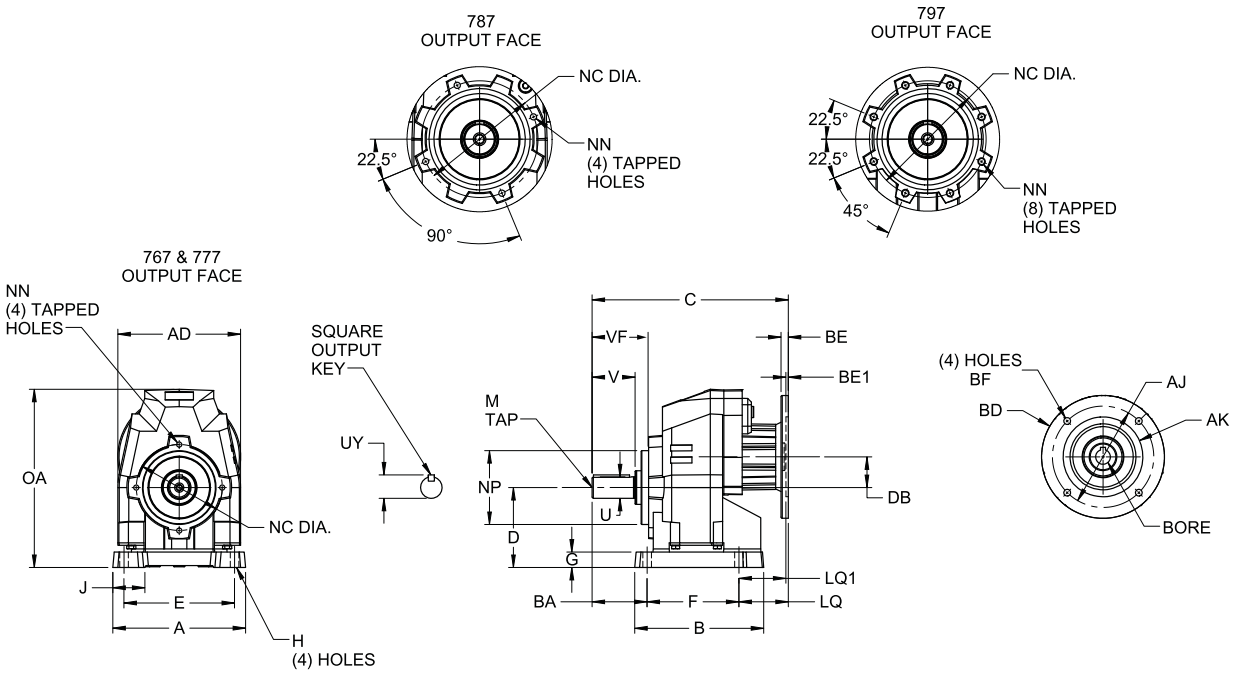
| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.50 | 6.50 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |

* 1.375" diameter shaft is available. Contact Factory for availability.
s 0.875" diameter shaft is available on 2-stage reducers only. Contact Factory for availability.
n Tolerance of AK on flanges with BA dimension under 6.30" is -0.0014 to -0.0028".
Flanges with a BA of 6.30" or larger have a AK tolerance of -0.0017 to -0.0033".

F1 Flange Mount is shown. See page 410 for all available output flanges
For NEMA motor mounting dimensions see page 407.

# Helical-Coaxial Dimensions

## Motorized • Base Mount • Cast Iron Case




### Motorized Quill Input, Double Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | C 56/140 | C 180 | C 210 | C 250 | D | DB | E | F | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 8.504 | 7.874 | 8.268 | 3.524 | 12.737 | 13.442 | 13.976 | N/A | 5.118 | 1.969 | 7.087 | 5.886 | 0.984 | 0.551 | 2.047 |
| **R777** | 10.630 | 9.685 | 8.583 | 4.134 | 13.464 | 14.170 | 14.705 | N/A | 6.102 | 2.697 | 8.858 | 6.142 | 1.181 | 0.709 | 2.441 |
| **R787** | 11.417 | 8.661 | 12.205 | 5.512 | N/A | 19.606 | 19.606 | 19.606 | 7.087 | 1.398 | 8.465 | 10.236 | 1.181 | 0.709 | N/A |
| **R797** | 11.811 | 11.083 | 10.696 | 4.921 | N/A | 19.606 | 19.606 | 19.606 | 7.677 | 2.579 | 9.843 | 7.087 | 0.984 | 0.709 | 4.080 |

| Size | LQ 56/140 | LQ1 180/210/250 | M TAP | M DEPTH | NC | NP | NN TAP | NN DEPTH | OA | U 0.000 / -0.001 | UY | V | VF | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 3.327 | 3.852 | 1/2-13 | 1.26 | 5.512 | 4.724 | M10 | 0.748 | 11.417 | 1.375 | 1.51 | 2.756 | 3.622 | 5/16 x 2.13 |
| **R777** | 3.189 | 3.714 | 5/8-11 | 1.38 | 6.299 | 5.512 | M12 | 0.748 | 13.130 | 1.625 | 1.79 | 3.150 | 4.016 | 3/8 x 2.25 |
| **R787** | N/A | 3.539 | 3/4-10 | 1.42 | 7.480 | 6.496 | M12 | 0.709 | 14.961 | 2.125 | 2.35 | 3.937 | 5.157 | 1/2 x 2.81 |
| **R797** | N/A | 7.279 | 3/4-10 | 1.42 | 7.480 | 6.496 | M12 | 0.709 | 16.614 | 2.125 | 2.35 | 3.937 | 5.157 | 1/2 x 2.81 |

### Motorized Quill Input, Triple Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | D | DB | E | F | G | H | J | LQ 56/140 | LQ1 180/210/250 | M TAP | M DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 8.504 | 7.874 | 8.268 | 3.524 | 5.118 | 0.472 | 7.087 | 5.886 | 0.984 | 0.551 | 2.047 | 3.721 | N/A | 1/2-13 | 1.26 |
| **R777** | 10.630 | 9.685 | 8.526 | 4.134 | 6.102 | 1.201 | 8.858 | 6.142 | 1.181 | 0.709 | 2.441 | 3.583 | N/A | 5/8-11 | 1.38 |
| **R787** | 11.417 | 8.661 | 12.205 | 5.512 | 7.087 | 3.366 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.890 | 2.415 | 3/4-10 | 1.42 |
| **R797** | 11.811 | 11.083 | 10.696 | 4.921 | 7.677 | 4.547 | 9.843 | 7.087 | 0.984 | 0.709 | 4.08 | 5.630 | 6.155 | 3/4-10 | 1.42 |

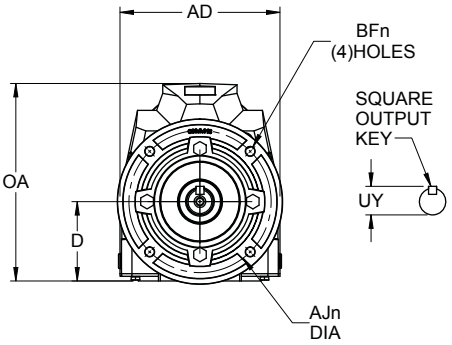
| Size | NC | NP | NN TAP | NN DEPTH | OA | U 0.000 / -0.001 | UY | V | VF | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 5.512 | 4.724 | M10 | 0.748 | 11.417 | 1.375 | 1.51 | 2.756 | 3.622 | 5/16 x 2.13 |
| **R777** | 6.299 | 5.512 | M12 | 0.748 | 13.130 | 1.625 | 1.79 | 3.150 | 4.016 | 3/8 x 2.25 |
| **R787** | 7.48 | 6.496 | M12 | 0.709 | 14.961 | 2.125 | 2.35 | 3.937 | 5.157 | 1/2 x 2.81 |
| **R797** | 7.48 | 6.496 | M12 | 0.709 | 16.614 | 2.125 | 2.35 | 3.937 | 5.157 | 1/2 x 2.81 |

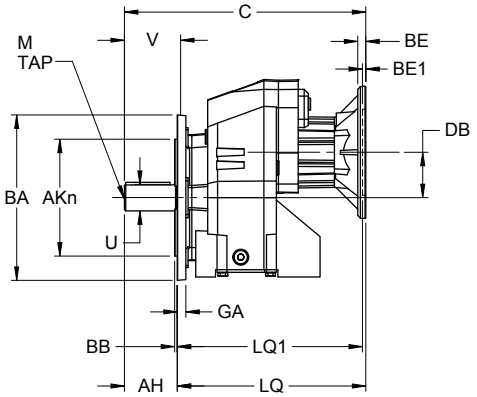
| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X3/32 | 0.41 |
| **140TC** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X3/32 | 0.41 |
| **180TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

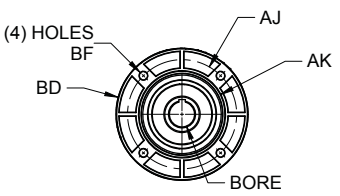
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# Helical-Coaxial Dimensions

## Motorized • Flange Mount • Cast Iron Case




### Motorized Quill Input, Double Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C 56/140 | C 180 | C 210 | C 250 | D | DB | GA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 7.874 | 2.756 | 6.496 | 5.118 | 7.874 | 0.138 | 0.433 | 12.737 | 13.442 | 13.976 | N/A | 3.937 | 1.969 | 0.433 |
| **R777** | 9.685 | 3.150 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 13.465 | 14.170 | 14.705 | N/A | 4.724 | 2.697 | 0.512 |
| **R787** | 8.661 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | N/A | 19.606 | 19.606 | 19.606 | 7.087 | 1.398 | 0.827 |
| **R797** | 11.083 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | N/A | 19.606 | 19.606 | 19.606 | 5.512 | 2.579 | 0.827 |

| Size | LQ 56C/140TC | LQ1 180/210/250 | M TAP | M DEPTH | OA | U 0.000 / -0.001 | UY | V | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|
| **R767** | 9.981 | 10.506 | 1/2-13 | 1.26 | 10.236 | 1.375 | 1.51 | 2.756 | 5/16 x 2.13 |
| **R777** | 10.315 | 10.840 | 5/8-11 | 1.38 | 11.752 | 1.625 | 1.79 | 3.150 | 3/8 x 2.25 |
| **R787** | N/A | 15.350 | 3/4-10 | 1.42 | 14.961 | 2.125 | 2.35 | 3.937 | 1/2 x 2.81 |
| **R797** | N/A | 15.350 | 3/4-10 | 1.42 | 14.429 | 2.125 | 2.35 | 3.937 | 1/2 x 2.81 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

### Motorized Quill Input, Triple Reduction (F1 Flange Mount Shown)

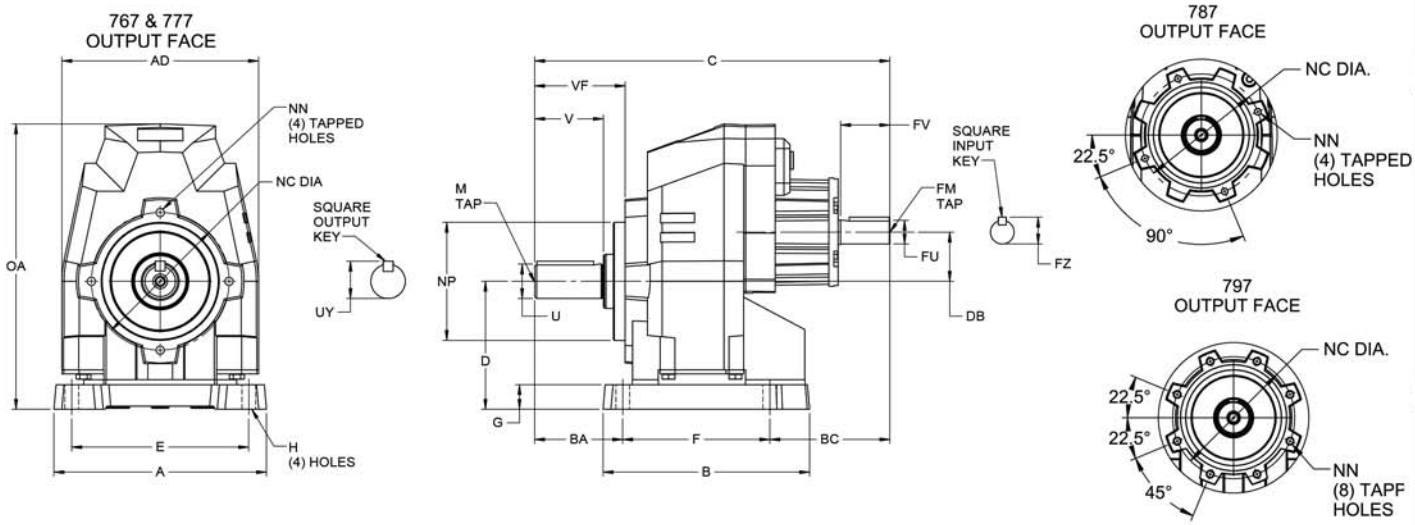
| Size | AD | AH | AJn | AKn | BA | BB | BFn | C 56/140 | C 180 | C 210 | C 250 | D | DB | GA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R767** | 7.874 | 2.756 | 6.496 | 5.118 | 7.847 | 0.138 | 0.433 | 13.130 | N/A | N/A | N/A | 3.937 | 0.472 | 0.433 |
| **R777** | 9.685 | 3.150 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 13.859 | N/A | N/A | N/A | 4.724 | 1.201 | 0.512 |
| **R787** | 8.661 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 17.638 | 18.343 | 18.878 | N/A | 7.087 | 3.366 | 0.827 |
| **R797** | 11.083 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 17.638 | 18.343 | 18.878 | N/A | 5.512 | 4.547 | 0.827 |

| Size | LQ 56C/140TC | LQ1 180/210/250 | M TAP | M DEPTH | OA | U 0.000 / -0.001 | UY | V | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|
| **R767** | 10.374 | N/A | 1/2-13 | 1.26 | 10.236 | 1.375 | 1.51 | 2.756 | 5/16 x 2.13 |
| **R777** | 10.709 | N/A | 5/8-11 | 1.38 | 11.752 | 1.625 | 1.79 | 3.150 | 3/8 x 2.25 |
| **R787** | 13.701 | 14.226 | 3/4-10 | 1.42 | 14.961 | 2.125 | 2.35 | 3.937 | 1/2 x 2.81 |
| **R797** | 13.701 | 14.226 | 3/4-10 | 1.42 | 14.429 | 2.125 | 2.35 | 3.937 | 1/2 x 2.81 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| **56C** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X 3/32 | 0.41 |
| **140TC** | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| **180TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| **210TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| **250TC** | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

# Helical-Coaxial Dimensions

## Non-Motorized • Base Mount • Cast Iron Case




### Non-Motorized, Double Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | BC | C | D | DB | E | F | FM TAP | FM DEPTH | FU 0.000 / -0.001 | FV | FZ | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 8.504 | 7.874 | 8.268 | 3.524 | 4.803 | 14.213 | 5.118 | 1.969 | 7.087 | 5.886 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 | 0.984 | 0.551 | 2.047 |
| R777 | 10.630 | 9.685 | 8.583 | 4.134 | 4.665 | 14.941 | 6.102 | 2.697 | 8.858 | 6.142 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 | 1.181 | 0.709 | 2.441 |
| R787 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | | | | | | |
| R797 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | | | | | | |

| Size | M TAP | M DEPTH | NC | NN TAP | NN DEPTH | NP | OA | U 0.000 / -0.001 | UY | V | VF | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 1/2-13 | 1.26 | 5.512 | M10 | 0.748 | 4.724 | 11.417 | 1.375 | 1.51 | 2.756 | 3.622 | 3/16 X 1.50 | 5/16 X 2.13 |
| R777 | 5/8-11 | 1.38 | 6.299 | M12 | 0.748 | 5.512 | 13.130 | 1.625 | 1.79 | 3.150 | 4.016 | 3/16 X 1.50 | 3/8 X 2.25 |
| R787 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | |
| R797 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X 3 /32 | 0.41 |
| 140TC | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X 3/32 | 0.41 |
| 180TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

### Non-Motorized, Triple Reduction (B1 Base Mount Shown)

| Size | A | AD | B | BA | BC | C | D | DB | E | F | FM TAP | FM DEPTH | FU 0.000 / -0.001 | FV | FZ | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 8.504 | 7.874 | 8.268 | 3.524 | 4.583 | 14.544 | 5.118 | 0.472 | 7.087 | 5.886 | 1/4-20 | 0.71 | 0.750 | 1.97 | 0.83 | 0.984 | 0.551 | 2.047 |
| R777 | 10.630 | 9.685 | 8.583 | 4.134 | 4.445 | 15.277 | 6.102 | 1.201 | 8.858 | 6.142 | 1/4-20 | 0.71 | 0.750 | 1.97 | 0.83 | 1.181 | 0.709 | 2.441 |
| R787 | 11.417 | 8.661 | 12.205 | 5.512 | 3.366 | 19.114 | 7.087 | 3.366 | 8.465 | 10.236 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 | 1.181 | 0.709 | N/A |
| R797 | 11.811 | 11.083 | 10.696 | 4.921 | 7.106 | 19.114 | 7.677 | 4.547 | 9.843 | 7.087 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 | 0.984 | 0.709 | 4.080 |

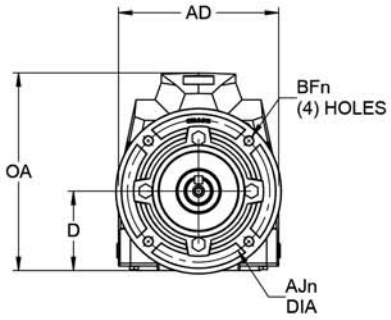
| Size | M TAP | M DEPTH | NC | NN TAP | NN DEPTH | NP | OA | U 0.000 / -0.001 | UY | V | VF | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 1/2-13 | 1.26 | 5.512 | M10 | 0.748 | 4.724 | 11.417 | 1.375 | 1.51 | 2.756 | 3.622 | 3/16 X 1.50 | 5/16 X 2.13 |
| R777 | 5/8-11 | 1.38 | 6.299 | M12 | 0.748 | 5.512 | 13.130 | 1.625 | 1.79 | 3.150 | 4.016 | 3/16 X 1.50 | 3/8 X 2.25 |
| R787 | 3/4-10 | 1.42 | 7.480 | M12 | 0.709 | 6.496 | 14.961 | 2.125 | 2.35 | 3.937 | 5.157 | 3/16 X 1.50 | 1/2 X 2.81 |
| R797 | 3/4-10 | 1.42 | 7.480 | M12 | 0.709 | 6.496 | 16.614 | 2.125 | 2.35 | 3.937 | 5.157 | 3/16 X 1.50 | 1/2 X 2.81 |

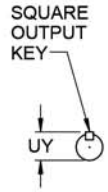
| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X3/32 | 0.41 |
| 140TC | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X3/32 | 0.41 |
| 180TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |

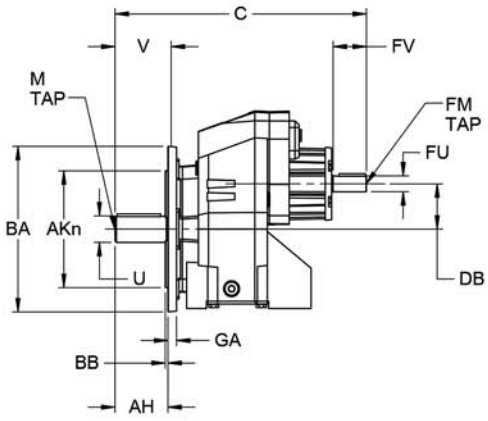
LeCENTRIC

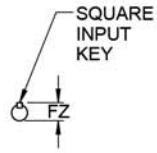
# Helical-Coaxial Dimensions

## Non-Motorized • Flange Mount • Cast Iron Case




### Non-Motorized, Double Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | D | DB | FM TAP | FM DEPTH | FU +0.000/-0.001 | FV | FZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 7.874 | 2.756 | 6.496 | 5.118 | 7.874 | 0.138 | 0.433 | 14.213 | 3.937 | 1.969 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 |
| R777 | 9.685 | 3.150 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 14.941 | 4.724 | 2.697 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 |
| R787 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | | | |
| R797 | CONSULT/CONTACT FACTORY | | | | | | | | | | | | | | |

| Size | GA | M TAP | M DEPTH | OA | U 0.000 / -0.001 | UY | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|
| R767 | 0.433 | 1/2-13 | 1.26 | 10.236 | 1.375 | 1.51 | 2.756 | 3/16 X 1.50 | 5/16 x 2.13 |
| R777 | 0.512 | 5/8-11 | 1.38 | 11.752 | 1.625 | 1.79 | 3.150 | 3/16 X 1.50 | 3/8 x 2.25 |
| R787 | CONSULT/CONTACT FACTORY | | | | | | | | |
| R797 | CONSULT/CONTACT FACTORY | | | | | | | | |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X3/32 | 0.41 |
| 140TC | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X3/32 | 0.41 |
| 180TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

### Non-Motorized, Triple Reduction (F1 Flange Mount Shown)

| Size | AD | AH | AJn | AKn | BA | BB | BFn | C | D | DB | FM TAP | FM DEPTH | FU +0.000/-0.001 | FV | FZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R767 | 7.874 | 2.756 | 6.496 | 5.118 | 7.874 | 0.138 | 0.433 | 13.922 | 3.937 | 0.472 | 1/4-20 | 0.71 | 0.750 | 1.97 | 0.83 |
| R777 | 9.685 | 3.150 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 14.720 | 4.724 | 1.201 | 1/4-20 | 0.71 | 0.750 | 1.97 | 0.83 |
| R787 | 8.661 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 19.114 | 7.087 | 3.366 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 |
| R797 | 11.083 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 19.114 | 5.512 | 4.547 | 1/4-20 | 0.71 | 0.875 | 1.97 | 0.96 |

| Size | GA | M TAP | M DEPTH | OA | U 0.000 / -0.001 | UY | V | INPUT KEY | OUTPUT KEY |
|---|---|---|---|---|---|---|---|---|---|
| R767 | 0.433 | 1/2-13 | 1.26 | 10.236 | 1.375 | 1.51 | 2.756 | 3/16 X 1.50 | 5/16 x 2.13 |
| R777 | 0.512 | 5/8-11 | 1.38 | 11.752 | 1.625 | 1.79 | 3.150 | 3/16 X 1.50 | 3/8 x 2.25 |
| R787 | 0.827 | 3/4-10 | 1.42 | 14.961 | 2.125 | 2.35 | 3.937 | 3/16 X 1.50 | 1/2 x 2.81 |
| R797 | 0.827 | 3/4-10 | 1.42 | 14.429 | 2.125 | 2.35 | 3.937 | 3/16 X 1.50 | 1/2 x 2.81 |

| Frame | AJ | AK | BD | BE | BE1 | Bore Dia. | Keyway | BF |
|---|---|---|---|---|---|---|---|---|
| 56C | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.625 | 3/16 X3/32 | 0.41 |
| 140TC | 5.88 | 4.5 | 6.5 | 0.38 | N/A | 0.875 | 3/16 X3/32 | 0.41 |
| 180TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.125 | 1/4 X 1/8 | 0.53 |
| 210TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.375 | 5/16 X 5/32 | 0.53 |
| 250TC | 7.25 | 8.5 | 8.5 | N/A | 0.5 | 1.625 | 3/8 X 3/16 | 0.53 |

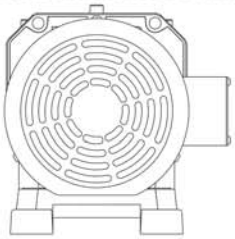
## Available Motor Frames

| Reducer Size | # of Stages | 56C | 143-5TC | 182-4TC | 213-5TC | 254-6TC |
|---|---|---|---|---|---|---|
| 717 | 2-Stage | X | X | | | |
| | 3-Stage | X | | | | |
| 727 | 2-Stage | X | X | | | |
| | 3-Stage | X | | | | |
| 747 | 2-Stage | X | X | X | | |
| | 3-Stage | X | X | | | |
| 757 | 2-Stage | X | X | X | | |
| | 3-Stage | X | X | | | |
| 767 | 2-Stage | X | X | X | X | |
| | 3-Stage | X | X | | | |
| 777 | 2-Stage | X | X | X | X | |
| | 3-Stage | X | X | | | |
| 787 | 2-Stage | | | X | X | X |
| | 3-Stage | X | X | X | X | |
| 797 | 2-Stage | | | X | X | X |
| | 3-Stage | X | X | X | X | |

## Motor Mounting Position

Conduit box position viewed from input side of reducer.

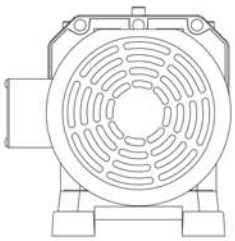
STANDARD MOUNTING POSITION



**1** Conduit box horizontal on right side.



**2** Conduit box vertical on bottom side.



**3** Conduit box horizontal on left side.



**4** Conduit box vertical on top side.

## Overhung Loads and Thrust Loads

An overhung load exists when a force is applied at right angles to a shaft beyond the shaft's outermost bearing. Pulleys, sheaves and sprockets will cause an overhung load when used as a power take-off. The amount of overhung load will vary, depending on the type of power take-off used and its mounting location on the shaft. The LeCENTRIC™ overhung load ratings listed in this catalog and in selection tables are calculated at the centerline of the shaft.

Overhung load ratings are listed for each reducer size and should not be exceeded. If the basic reducer is selected using a service factor, that factor must also be used in the equations below.

**Output Shaft OHL =**

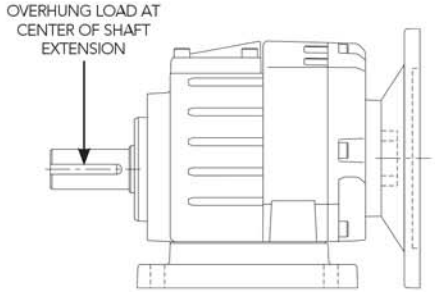
$$\frac{126000 \times \text{Input HP} \times \text{Overhung Load Factor} \times \text{Efficiency}}{\text{Pitch Diameter (of sprocket, pulley or sheave)} \times \text{Output RPM}}$$

**Input Shaft OHL =**

$$\frac{126000 \times \text{Input HP} \times \text{Overhung Load Factor}}{\text{Pitch Diameter (of sprocket, pulley or sheave)} \times \text{Input RPM}}$$

### Overhung Load Factors—

| | |
|---|---|
| Sprocket | 1.00 |
| Gear Pinion | 1.25 |
| V-Belt Sheave or Pulley | 1.50 |
| Flat Belt | 2.50 |




### Maximum Overhung Load Capacities

| External Load Applied | Drive Size | 717 | 727 | 747 | 757 | 767 | 777 | 787 | 797 |
|---|---|---|---|---|---|---|---|---|---|
| Input Shaft OHL (lbs.) | 2-Stage | 112 | 112 | 180 | 180 | 450 | 506 | * | * |
| | 3-Stage | 100 | 100 | 135 | 135 | 270 | 450 | 506 | 506 |
| Output Shaft OHL (lbs.) | Refer to Selection Tables for overhung load variable by output RPM. | | | | | | | | |

**NOTE: The overhung load capacities in the catalog are calculated at centerline of shaft extension with no thrust load.**

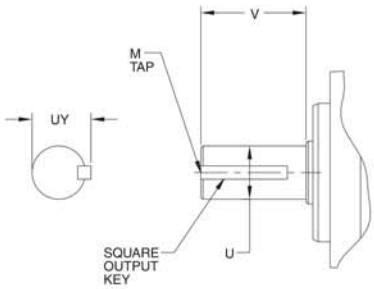
*** Contact factory for these sizes and stages.**

## Available Input and Output Shafts

### Output Shaft Options

| Reducer Size | U +0.000/ -0.001 | UY | V | KEY | M TAP | M DEPTH |
|---|---|---|---|---|---|---|
| **717** | 0.750 | 0.83 | 1.57 | 3/16 x 1.12 SQ | 1/4-20 | 0.62 |
| **727** | 1.000 | 1.11 | 1.97 | 1/4 x 1.62 SQ | 5/16-18 | 0.75 |
| **747** | 1.250 | 1.36 | 2.36 | 1/4 x 2.00 SQ | 5/16-18 | 0.75 |
| **757** | 1.250 | 1.36 | 2.36 | 1/4 x 2.00 SQ | 5/16-18 | 0.75 |
| | 1.375** | 1.51 | 2.76 | 5/16 x 2.25 SQ | 3/8-16 | 0.88 |
| **767** | 1.375 | 1.51 | 2.756 | 5/16 X 2.13 SQ | 1/2-13 | 1.26 |
| **777** | 1.625 | 1.79 | 3.15 | 3/8 X 2.25 SQ | 5/8-11 | 1.38 |
| **787** | 2.125 | 2.35 | 3.937 | 1/2 X 2.81 SQ | 3/4-10 | 1.42 |
| **797** | 2.125 | 2.35 | 3.937 | 1/2 X 2.81 SQ | 3/4-10 | 1.42 |

**Optional size. Contact factory for availability. The standard shaft diameters are shown in dimensional pages.



Input/Output Shaft Options

### Input Shaft Options

| Reducer Size | U +0.000/ -0.001 | UY | V | KEY | M TAP | M DEPTH |
|---|---|---|---|---|---|---|
| **717** | 0.625 | 0.70 | 1.57 | 3/16 x 1.12 SQ | 1/4-20 | 0.62 |
| **727** | 0.625 | 0.70 | 1.57 | 3/16 x 1.12 SQ | 1/4-20 | 0.62 |
| **747** | 0.750 | 0.83 | 1.97 | 3/16 x 1.50 SQ | 5/16-18 | 0.75 |
| | 0.875** | | | | | |
| **757** | 0.750 | 0.83 | 1.97 | 3/16 x 1.50 SQ | 5/16-18 | 0.75 |
| | 0.875** | | | | | |
| **767** | 0.625*** | 0.70 | 1.57 | 3/16 x 1.12 SQ | 1/4-20 | 0.62 |
| | 0.750 | 0.83 | 1.97 | 3/16 x 1.50 SQ | 1/4-20 | 0.71 |
| | 0.875** | 0.96 | | | | |
| **777** | 0.625*** | 0.70 | 1.57 | 3/16 x 1.12 SQ | 1/4-20 | 0.62 |
| | 0.750 | 0.83 | 1.97 | 3/16 x 1.50 SQ | 1/4-20 | 0.71 |
| | 0.875** | 0.96 | | | | |
| **787** | 0.750* | 0.83 | 1.97 | 3/16 x 1.50 SQ | 1/4-20 | 0.71 |
| | 0.875* | 0.96 | | | | |
| **797** | 0.750* | 0.83 | 1.97 | 3/16 x 1.50 SQ | 1/4-20 | 0.71 |
| | 0.875* | 0.96 | | | | |

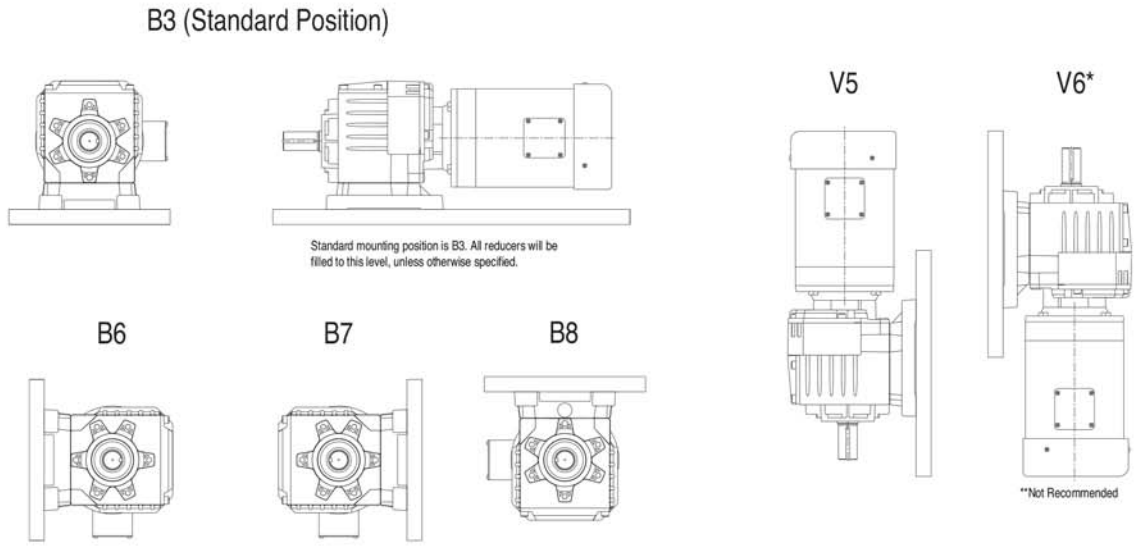
* Size available for 3 stage ratios only.
** Size available for 2 stage ratios only.
*** Optional size for 3 stage ratios only. Contact factory for availability.
The standard shaft diameters are shown in dimensional pages.

# Helical-Coaxial Mounting Positions



## Reducer Mounting Positions

Carefully follow lubrication instructions and installation manuals furnished with the gear reducer. All standard LeCENTRIC™ Inline Reducers are factory filled with Mobil Glygoyle 460 Polyglycol lubricant. The mounting position is stamped on all LeCENTRIC™ Reducer nameplates. Position B3 is standard. Specify mounting position of reducer for correct oil fill. Positions B3-B8 are horizontal mounts. Positions V5 and V6 are vertical mounts.




## Motorized Reducers & GEAR+MOTOR™

The Reducer and Motor are assembled at the Factory, and filled with the proper quantity of lubricant based on your specified mounting position. Special integral gearmotors are available. Consult Factory for details.

Standard Integral Gearmotors and GEAR+MOTOR™ are assembled at the Factory with the conduit box and the conduit opening at the position illustrated on page 29. The user may rotate the body of the motor to reposition the conduit box (in 90° increments from original position). The conduit opening may also be repositioned at 90° increments from the original position. Both operations may be performed without disassembling the drive.

## Backstops

Backstops are available as Factory options. Consult the Factory for details.

## Lube Quantities (Ounces)

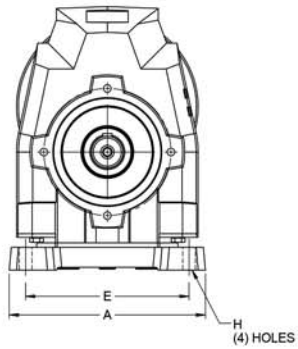
| Reducer Size | | B3 | B6 | B7 | B8 | V5 | V6 |
|---|---|---|---|---|---|---|---|
| **717** | 2-Stage | 8.5 | 10.0 | 13.5 | 13.5 | 13.5 | 17.0 |
| | 3-Stage | 10.0 | 12.0 | 15.0 | 15.0 | 15.0 | 18.5 |
| **727** | 2-Stage | 8.5 | 10.0 | 13.5 | 13.5 | 13.5 | 17.0 |
| | 3-Stage | 10.0 | 12.0 | 15.0 | 15.0 | 15.0 | 18.5 |
| **747** | 2-Stage | 15.0 | 19.0 | 34.0 | 37.0 | 37.0 | 39.0 |
| | 3-Stage | 25.5 | 25.5 | 35.5 | 39.0 | 40.5 | 40.5 |
| **757** | 2-Stage | 19.0 | 29.0 | 37.0 | 40.5 | 40.5 | 42.0 |
| | 3-Stage | 25.5 | 30.5 | 39.0 | 42.0 | 44.0 | 46.0 |
| **767** | 2-Stage | 73.9 | 49.3 | 49.3 | 45.8 | 79.2 | 56.3 |
| | 3-Stage | 77.4 | 49.3 | 49.3 | 45.8 | 84.5 | 59.8 |
| **777** | 2-Stage | 112.6 | 66.9 | 66.9 | 54.6 | 112.6 | 77.4 |
| | 3-Stage | 116.1 | 66.9 | 66.9 | 54.6 | 119.7 | 81.0 |
| **787** | 2-Stage | 190.1 | 126.7 | 126.7 | 98.6 | 207.7 | 147.8 |
| | 3-Stage | 193.6 | 133.7 | 133.7 | 112.6 | 246.4 | 161.9 |
| **797** | 2-Stage | 207.7 | 133.7 | 133.7 | 119.7 | 235.8 | 154.9 |
| | 3-Stage | 211.2 | 144.3 | 144.3 | 130.2 | 256.9 | 172.5 |

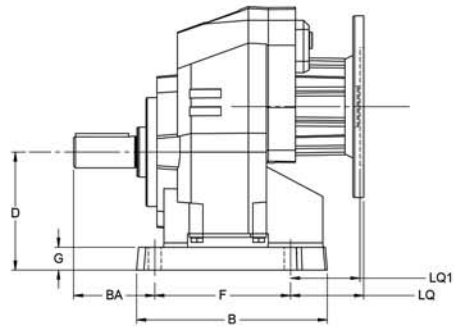
**Note: Multiply the above quantities by 0.06 to obtain the equivalent weight of oil in pounds.**

LeCENTRIC

# Helical-Coaxial Interchange Base Selections

Base Mounting Dimensions
Motorized Quill Input




## Size 717 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

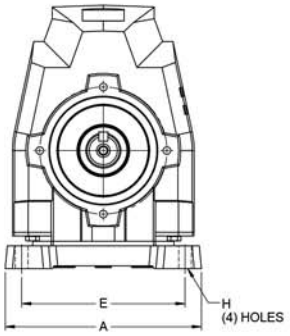
| Interchange With: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ - 56C/140TC 2-Stage | LQ - 56C/140TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | |
| SEW R17 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 4.33 | 0.59 | 0.35 | 2.23 | 2.99 |
| SEW R32 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 4.25 | 4.43 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 3.20 | 3.97 |
| Bonfiglioli C10 | B2** | G175711 | 5.71 | 5.51 | 2.28 | 4.17 | 4.35 | 3.35 | 4.33 | 3.43 | 0.99 | 0.35 | 3.12 | 3.89 |
| Brook Hansen SFN03B | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Browning CbN20 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| David Brown M03 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Falk 03UC | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Grove 2032/3 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Hansen 0 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Lenze 4 | B3 | G175712 | 5.67 | 4.41 | 2.01 | 4.88 | 5.06 | 3.15 | 4.13 | 2.99 | 0.40 | 0.35 | 3.83 | 4.60 |
| Leroy Somer NXT N20 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.35 | 0.59 | 0.35 | 2.23 | 2.99 |
| Motovario 032/3 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 3.15 | 0.59 | 0.35 | 2.23 | 2.99 |
| Nord SK02 | B4 | G175713 | 5.67 | 4.41 | 1.97 | 5.55 | 5.73 | 3.39 | 4.33 | 2.36 | 0.64 | 0.35 | 4.50 | 5.27 |
| Nord SK172 | B1 | G175710 | 5.71 | 5.51 | 2.28 | 3.28 | 3.45 | 2.95 | 4.33 | 4.33 | 0.59 | 0.35 | 2.23 | 2.99 |
| Stober C002/3 | B5 | G175714 | 5.67 | 4.41 | 2.17 | 5.27 | 5.45 | 3.23 | 4.33 | 2.44 | 0.48 | 0.28 | 4.22 | 4.99 |
| Sumitomo 4085 | B6 | G175715 | 5.67 | 4.41 | 1.85 | 5.67 | 5.85 | 3.15 | 4.72 | 2.36 | 0.40 | 0.35 | 4.62 | 5.39 |

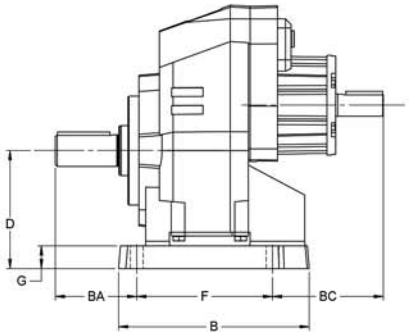
## Size 727 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ - 56C/140TC 2-Stage | LQ - 56C/140TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | |
| SEW R27 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| SEW R37 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| SEW R40 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Bonfiglioli C20 | B2 | G175718 | 6.10 | 5.35 | 2.68 | 3.35 | 3.53 | 3.94 | 5.12 | 4.23 | 0.67 | 0.43 | 2.32 | 3.09 |
| Brook Hansen SFN15B | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Browning CbN21 | B3 | G175719 | 5.31 | 6.12 | 2.63 | 1.13 | 1.31 | 3.15 | 4.33 | 6.50 | 0.62 | 0.35 | 0.10 | 0.87 |
| David Brown M04 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Dodge Quantis HB38 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Falk 04UC | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Flender/ Motox D30 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Grove 2042/3 | B1 | G175717 | 5.71 | 6.02 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.79 | 0.35 | 1.15 | 2.99 |
| Hansen 1 | B3 | G175719 | 5.31 | 6.12 | 2.63 | 1.13 | 1.31 | 3.15 | 4.33 | 6.50 | 0.62 | 0.35 | 0.10 | 0.87 |
| Lenze 5 | B4 | G175720 | 7.09 | 5.47 | 2.63 | 4.09 | 4.27 | 3.94 | 4.92 | 3.54 | 0.66 | 0.43 | 3.06 | 3.83 |
| Leroy Somer NXT N21 | B3 | G175719 | 5.31 | 6.12 | 2.63 | 1.13 | 1.31 | 3.15 | 4.33 | 6.50 | 0.62 | 0.35 | 0.10 | 0.87 |
| Motovario 042/3 | B5 | G175721 | 5.71 | 5.08 | 2.95 | 3.96 | 4.14 | 3.15 | 4.33 | 3.35 | 0.59 | 0.35 | 2.93 | 3.70 |
| Nord SK272 | B1 | G175717 | 5.71 | 5.98 | 2.95 | 2.20 | 2.38 | 3.54 | 4.33 | 5.12 | 0.71 | 0.35 | 1.15 | 2.99 |
| Stober C102/3 | B7 | G175723 | 7.09 | 5.47 | 2.64 | 4.86 | 5.04 | 4.02 | 5.91 | 2.76 | 0.74 | 0.35 | 3.83 | 4.60 |
| Sumitomo 4097 | B8 | G175724 | 7.09 | 5.47 | 2.36 | 4.36 | 4.54 | 3.94 | 5.90 | 3.54 | 0.66 | 0.43 | 3.33 | 4.10 |

## Size 747 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ - 56C/140TC 2-Stage | LQ - 56C/140TC 3-Stage | LQ1 180TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | |
| SEW R47 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| SEW R60 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Bonfiglioli C30 | B2 | G175726 | 7.48 | 6.14 | 3.07 | 4.83 | 4.75 | 4.33 | 6.30 | 5.10 | 0.79 | 0.43 | 3.32 | 3.66 | 3.85 |
| Brook Hansen SFN25B | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Browning CbN22 | B3 | G175727 | 7.52 | 8.58 | 3.01 | 2.43 | 2.35 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 0.92 | 1.26 | 1.45 |
| David Brown M06 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Dodge Quantis HB48 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Falk 06UC | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Flender/ Motox D40 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Grove 2062 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Hansen 2 | B3 | G175727 | 7.52 | 8.58 | 3.01 | 2.43 | 2.35 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 0.92 | 1.26 | 1.45 |
| Lenze 6 | B4 | G175728 | 7.87 | 6.59 | 3.25 | 5.58 | 5.50 | 4.92 | 6.30 | 4.17 | 0.92 | 0.53 | 4.07 | 4.41 | 4.60 |
| Leroy Somer NXT N22 | B3 | G175727 | 7.52 | 8.58 | 3.01 | 2.43 | 2.35 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 0.92 | 1.26 | 1.45 |
| Motovario 052 | B5 | G175729 | 7.48 | 5.51 | 3.54 | 5.52 | 5.44 | 4.33 | 5.31 | 3.94 | 0.71 | 0.43 | 4.01 | 4.35 | 4.54 |
| Nord SK22 | B6 | G175730 | 7.87 | 6.59 | 3.30 | 6.55 | 6.47 | 4.92 | 6.30 | 3.15 | 0.92 | 0.43 | 5.04 | 5.38 | 5.57 |
| Nord SK472 | B1 | G175725 | 6.69 | 7.76 | 3.54 | 2.96 | 2.88 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 1.45 | 1.83 | 1.98 |
| Stober C202 | B7 | G175731 | 7.87 | 6.59 | 3.11 | 6.54 | 6.46 | 4.53 | 6.69 | 3.35 | 0.53 | 0.43 | 5.03 | 5.37 | 5.56 |




Base Mounting Dimensions
Non-Motorized Input

# Helical-Coaxial Interchange Base Selections

## Size 757 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ - 56C/140TC 2-Stage | LQ - 56C/140TC 3-Stage | LQ1 180TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | |
| SEW R57 | B1** | G175732 | 6.69 | 7.76 | 3.94 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| SEW R60 | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Bonfiglioli C30 | B2 | G175733 | 7.48 | 6.14 | 3.07 | 5.90 | 5.97 | 4.33 | 6.30 | 5.10 | 0.79 | 0.43 | 4.43 | 4.78 | 4.96 |
| Bonfiglioli C40 | B9 | G175740 | 8.50 | 7.30 | 3.54 | 4.64 | 4.71 | 5.12 | 7.09 | 5.89 | 0.71 | 0.55 | 3.17 | 3.52 | 3.70 |
| Brook Hansen SFN25B | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Browning CbN22 | B3 | G175734 | 7.52 | 8.58 | 3.01 | 3.50 | 3.57 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 2.03 | 2.38 | 2.56 |
| David Brown M06 | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Dodge Quantis HB48 | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Falk 06UC | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Flender/ Motox D40 | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Grove 2062 | B1 | G175732 | 6.69 | 7.76 | 3.54 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Hansen 2 | B3 | G175734 | 7.52 | 8.58 | 3.01 | 3.50 | 3.57 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 2.03 | 2.38 | 2.56 |
| Lenze 6 | B4 | G175735 | 7.87 | 6.59 | 3.25 | 6.65 | 6.72 | 4.92 | 6.30 | 4.17 | 0.92 | 0.53 | 5.18 | 5.53 | 5.71 |
| Leroy Somer NXT N22 | B3 | G175734 | 7.52 | 8.58 | 3.01 | 3.50 | 3.57 | 3.94 | 5.31 | 7.56 | 0.75 | 0.55 | 2.03 | 2.38 | 2.56 |
| Motovario 052 | B5 | G175736 | 7.48 | 5.51 | 3.54 | 6.59 | 6.66 | 4.33 | 5.31 | 3.94 | 0.71 | 0.43 | 5.12 | 5.47 | 5.65 |
| Nord SK22 | B6 | G175737 | 7.97 | 6.59 | 3.30 | 7.62 | 7.69 | 4.92 | 6.30 | 3.15 | 0.92 | 0.43 | 6.15 | 6.50 | 6.68 |
| Nord SK572 | B1** | G175732 | 6.69 | 7.76 | 3.94 | 3.63 | 3.56 | 4.53 | 5.31 | 6.50 | 0.94 | 0.55 | 2.16 | 2.51 | 2.69 |
| Stober C202 | B7 | G175738 | 7.87 | 6.59 | 3.11 | 7.61 | 7.68 | 4.53 | 6.69 | 3.35 | 0.53 | 0.43 | 6.14 | 6.49 | 6.67 |

** Requires optional 1.375" diameter shaft to obtain stated BA dimension. Contact Factory for availability.

## Size 767 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ - 56C/140TC 2-Stage | LQ - 56C/140TC 3-Stage | LQ1 - 182/4TC 2-Stage | LQ1 - 182/4TC 3-Stage | LQ1 -213/5TC 2-Stage | LQ1 -213/5TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | | | | |
| SEW R67 | B2 | G175746 | 8.268 | 9.252 | 3.937 | 2.598 | 2.378 | 5.118 | 5.906 | 7.677 | 0.984 | 0.551 | 1.122 | 1.516 | 1.647 | N/A | 2.027 | N/A |
| Nord SK672/3 | B2 | G175746 | 8.268 | 9.252 | 3.937 | 2.598 | 2.378 | 5.118 | 5.906 | 7.677 | 0.984 | 0.551 | 1.122 | 1.516 | 1.647 | N/A | 2.027 | N/A |
| Bonfiglioli C41 | B1 | G175745 | 8.504 | 8.268 | 3.524 | 4.803 | 4.583 | 5.118 | 7.087 | 5.886 | 0.984 | 0.551 | 3.327 | 3.721 | 3.852 | N/A | 4.232 | N/A |
| David Brown M0622/632 | B2 | G175746 | 8.268 | 9.252 | 3.937 | 2.598 | 2.378 | 5.118 | 5.906 | 7.677 | 0.984 | 0.551 | 1.122 | 1.516 | 1.647 | N/A | 2.027 | N/A |
| STM A70 | B2 | G175746 | 8.268 | 9.252 | 3.937 | 2.598 | 2.378 | 5.118 | 5.906 | 7.677 | 0.984 | 0.551 | 1.122 | 1.516 | 1.647 | N/A | 2.027 | N/A |

## Size 777 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ -56C/140TC 2-Stage | LQ -56C/140TC 3-Stage | LQ1 -182/4TC 2-Stage | LQ1 -182/4TC 3-Stage | LQ1 -213/5TC 2-Stage | LQ1 -213/5TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | | | | |
| SEW R77 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |
| Nord SK772/3 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |
| Bonfiglioli C51 | B1 | G175747 | 10.63 | 8.583 | 4.134 | 4.665 | 4.445 | 6.102 | 8.858 | 6.142 | 1.181 | 0.709 | 3.189 | 3.583 | 3.714 | N/A | 4.094 | N/A |
| David Brown M0722/732 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |
| Motovario H060 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |
| SITI MNHL40 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |
| STM A80 | B2 | G175748 | 9.055 | 9.646 | 4.528 | 2.343 | 2.122 | 5.512 | 6.693 | 8.071 | 0.709 | 0.689 | 1.063 | 1.26 | 1.588 | N/A | 1.968 | N/A |

## Size 787 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ -56C/140TC 2-Stage | LQ -56C/140TC 3-Stage | LQ1 -182/4TC 2-Stage | LQ1 -182/4TC 3-Stage | LQ1 -213/5TC 2-Stage | LQ1 -213/5TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | | | | |

## Size 797 • Interchange Base Selections • Mod-Squad Codes • Accessory Kits

| Interchange With: | Mod-Squad Suffix | Accessory Kit No. | Critical Interchange Dimensions (Inches) A | B | BA | BC 2-Stage | BC 3-Stage | D | E | F | G | H | LQ -56C/140TC 2-Stage | LQ -56C/140TC 3-Stage | LQ1 -182/4TC 2-Stage | LQ1 -182/4TC 3-Stage | LQ1 -213/5TC 2-Stage | LQ1 -213/5TC 3-Stage | LQ1 -254/6TC 2-Stage | LQ1 -254/6TC 3-Stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Base | 00 | N/A | | | | | | | | | | | | | | | | | | |
| SEW R87 | B2 | G175750 | 11.417 | 12.192 | 5.512 | C F | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |
| Nord SK872/3 | B2 | G175750 | 11.417 | 12.192 | 5.512 | O A | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |
| Bonfiglioli C61 | B1 | G175749 | 11.811 | 10.696 | 4.921 | N C | 7.106 | 7.677 | 9.843 | 7.087 | 0.984 | 0.709 | N/A | 5.63 | 7.259 | 6.155 | 7.259 | 6.535 | 7.259 | N/A |
| David Brown M0822/832 | B2 | G175750 | 11.417 | 12.192 | 5.512 | T T | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |
| Motovario H080 | B2 | G175750 | 11.417 | 12.192 | 5.512 | A O | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |
| SITI MNHL50 | B2 | G175750 | 11.417 | 12.192 | 5.512 | C R | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |
| STM A100 | B2 | G175750 | 11.417 | 12.192 | 5.512 | T Y | 3.366 | 7.087 | 8.465 | 10.236 | 1.181 | 0.709 | N/A | 1.89 | 3.519 | 2.415 | 3.519 | 2.795 | 3.519 | N/A |

LeCENTRIC

# Helical-Coaxial
# Output Flange Selections

## Size 717 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK◊ | BA | BB | BF | GA | LQ 2-Stage | LQ 3-Stage |
| No Flange | 00 | N/A | | | | | | | | | |
| Option 1 | F1 | G175701 | 1.41 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 0.39 | 7.42 | 8.19 |
| Option 2 | F2 | G175702 | 1.41 | 4.53 | 3.74 | 5.51 | 0.12 | 0.35 | 0.39 | 7.42 | 8.19 |
| Option 3 | F3 | G175703 | 1.41 | 5.12 | 4.33 | 6.30 | 0.14 | 0.35 | 0.39 | 7.42 | 8.19 |
| Option 4 | F4 | G175704 | 1.41 | 6.54 | 5.12 | 7.87 | 0.14 | 0.43 | 0.43 | 7.42 | 8.19 |

## Size 727 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK◊ | BA | BB | BF | GA | LQ 2-Stage | LQ 3-Stage |
| No Flange | 00 | N/A | | | | | | | | | |
| Option 1 | F1 | G175701 | 1.79 | 3.94 | 3.15 | 4.72 | 0.12 | 0.28 | 0.39 | 7.44 | 8.21 |
| Option 2 | F2 | G175702 | 1.79 | 4.53 | 3.74 | 5.51 | 0.12 | 0.35 | 0.39 | 7.44 | 8.21 |
| Option 3 | F3 | G175703 | 1.79 | 5.12 | 4.33 | 6.30 | 0.14 | 0.35 | 0.39 | 7.44 | 8.21 |
| Option 4 | F4 | G175704 | 1.79 | 6.54 | 5.12 | 7.87 | 0.14 | 0.43 | 0.43 | 7.44 | 8.21 |

## Size 747 • Flange Mount • Mod-Squad Codes • Accessory Kits

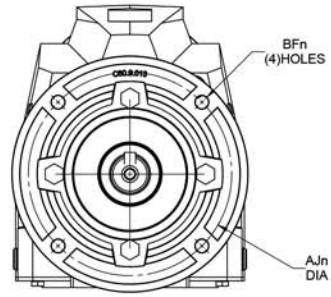
| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK◊ | BA | BB | BF | GA | LQ 2-Stage | LQ 3-Stage | LQ1 |
| No Flange | 00 | N/A | | | | | | | | | | |
| Option 1 | F1 | G175705 | 2.24 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 0.61 | 9.25 | 9.59 | 9.78 |
| Option 2 | F2 | G175706 | 2.30 | 6.46 | 5.12 | 7.87 | 0.14 | 0.43 | 0.51 | 9.19 | 9.53 | 9.72 |
| Option 3 | F3 | G175707 | 2.30 | 8.47 | 7.09 | 9.84 | 0.16 | 0.55 | 0.61 | 9.19 | 9.53 | 9.72 |

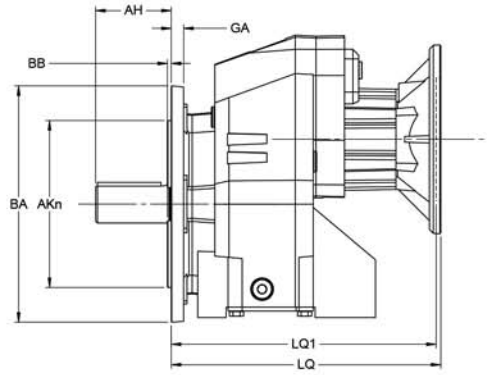
## Size 757 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK◊ | BA | BB | BF | GA | LQ 2-Stage | LQ 3-Stage | LQ1 |
| No Flange | 00 | N/A | | | | | | | | | | |
| Option 1 | F1 | G175705 | 2.60 | 5.12 | 4.33 | 6.30 | 0.14 | 0.43 | 0.61 | 10.00 | 10.35 | 10.53 |
| Option 2 | F2 | G175706 | 2.66 | 6.46 | 5.12 | 7.87 | 0.14 | 0.43 | 0.51 | 9.94 | 10.29 | 10.47 |
| Option 3 | F3 | G175707 | 2.66 | 8.47 | 7.09 | 9.84 | 0.16 | 0.55 | 0.61 | 9.94 | 10.29 | 10.47 |

◊ Tolerance of AK on flanges with BA dimension under 6.30" is -0.0014 to -0.0028". Flanges with a BA of 6.30" or larger have a AK tolerance of -0.0017 to -0.0033".

### Output Flange Mounting Dimensions




## Size 767 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK | BA | BB | BF | GA | LQ 56-140 2-Stage | LQ 56-140 3-Stage | LQ1 180 2-Stage | LQ1 180 3-Stage | LQ1 210 2-Stage | LQ1 210 3-Stage | LQ1 250 2-Stage | LQ1 250 3-Stage |
| **No Flange** | 00 | N/A | | | | | | | | | | | | | | | |
| **Option 1** | F1 | G175751 | 2.756 | 6.496 | 5.118 | 7.874 | 0.138 | 0.433 | 0.433 | 9.981 | 10.374 | 10.506 | N/A | 10.902 | N/A | N/A | N/A |
| **Option 2** | F2 | G175752 | 2.756 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 0.512 | 9.981 | 10.374 | 10.506 | N/A | 10.902 | N/A | N/A | N/A |

## Size 777 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK | BA | BB | BF | GA | LQ 56-140 2-Stage | LQ 56-140 3-Stage | LQ1 180 2-Stage | LQ1 180 3-Stage | LQ1 210 2-Stage | LQ1 210 3-Stage | LQ1 250 2-Stage | LQ1 250 3-Stage |
| **No Flange** | 00 | N/A | | | | | | | | | | | | | | | |
| **Option 1** | F1 | G175753 | 3.15 | 8.465 | 7.087 | 9.843 | 0.157 | 0.551 | 0.512 | 10.315 | 10.709 | 10.84 | N/A | 11.236 | N/A | N/A | N/A |
| **Option 2** | F2 | G175754 | 3.15 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 0.63 | 10.315 | 10.709 | 10.84 | N/A | 11.236 | N/A | N/A | N/A |

## Size 787 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK | BA | BB | BF | GA | LQ 56-140 2-Stage | LQ 56-140 3-Stage | LQ1 180 2-Stage | LQ1 180 3-Stage | LQ1 210 2-Stage | LQ1 210 3-Stage | LQ1 250 2-Stage | LQ1 250 3-Stage |
| **No Flange** | 00 | N/A | | | | | | | | | | | | | | | |
| **Option 1** | F1 | G175755 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 0.827 | N/A | 13.701 | 15.33 | 14.226 | 15.33 | 14.622 | 15.33 | N/A |
| **Option 2** | F2 | G175756 | 3.937 | 11.811 | 9.843 | 13.78 | 0.197 | 0.709 | 0.827 | N/A | 13.701 | 15.33 | 14.226 | 15.33 | 14.622 | 15.33 | N/A |

## Size 797 • Flange Mount • Mod-Squad Codes • Accessory Kits

| Output Flange Options: | Mod-Squad Suffix Code (XX) | Accessory Kit No. | Critical Interchange Dimensions (Inches) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AH | AJ | AK | BA | BB | BF | GA | LQ 56-140 2-Stage | LQ 56-140 3-Stage | LQ1 180 2-Stage | LQ1 180 3-Stage | LQ1 210 2-Stage | LQ1 210 3-Stage | LQ1 250 2-Stage | LQ1 250 3-Stage |
| **No Flange** | 00 | N/A | | | | | | | | | | | | | | | |
| **Option 1** | F1 | G175755 | 3.937 | 10.433 | 9.055 | 11.811 | 0.157 | 0.551 | 0.827 | N/A | 13.701 | 15.33 | 14.226 | 15.33 | 14.622 | 15.33 | N/A |
| **Option 2** | F2 | G175756 | 3.937 | 11.811 | 9.843 | 13.78 | 0.197 | 0.709 | 0.827 | N/A | 13.701 | 15.33 | 14.226 | 15.33 | 14.622 | 15.33 | N/A |
| **Option 3** | F3 | G175757 | 3.937 | 15.748 | 13.78 | 17.717 | 0.197 | 0.709 | 0.866 | N/A | 13.701 | 15.33 | 14.226 | 15.33 | 14.622 | 15.33 | N/A |

# Shipping Weights and Motor Compatability

## P & R Series • Helical-Coaxial

### Reducer Weights - Foot Mounted (lbs.)

| Unit Size | Solid Input Shaft | NEMA FRAME | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 56C/140TC | 180TC | 210TC | 250TC | 280TC | 320TC | 360TC |
| **P7172** | 13 | 13 | - | - | - | - | - | - |
| **P7173** | 14 | 14 | - | - | - | - | - | - |
| **P7472** | 26 | 26 | 28 | - | - | - | - | - |
| **P7473** | 27 | 27 | - | - | - | - | - | - |
| **P7572** | 33 | 33 | 35 | - | - | - | - | - |
| **P7573** | 32 | 32 | - | - | - | - | - | - |
| **R7672** | 74 | 74 | 76 | 78 | - | - | - | - |
| **R7673** | 74 | 74 | - | - | - | - | - | - |
| **R7772** | 96 | 96 | 98 | 100 | - | - | - | - |
| **R7773** | 96 | 96 | - | - | - | - | - | - |
| **R7872** | - | - | 169 | 169 | 169 | - | - | - |
| **R7873** | 156 | 156 | 158 | 160 | | | | |
| **R7972** | - | - | 236 | 236 | 236 | - | - | - |
| **R7973** | 208 | 208 | 210 | 212 | - | - | - | - |

### Reducer Weights - Flange Mounted (lbs.)

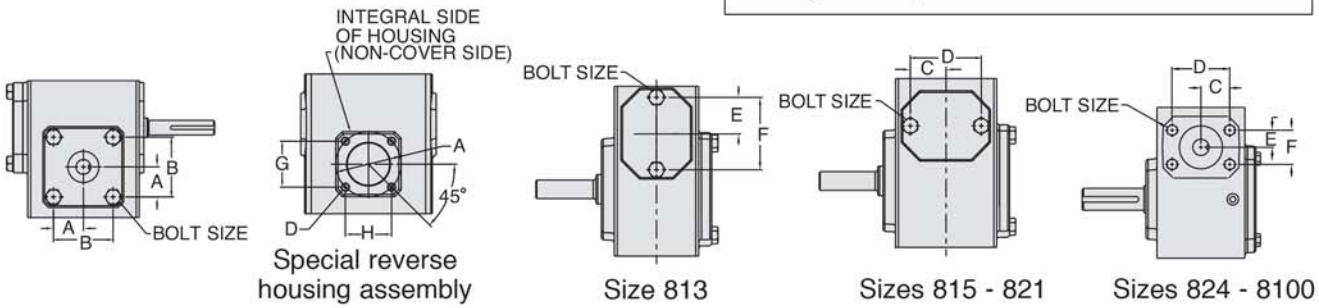
| Unit Size | Solid Input Shaft | NEMA FRAME | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 56C/140TC | 180TC | 210TC | 250TC | 280TC | 320TC | 360TC |
| **P7172** | 12 | 12 | - | - | - | - | - | - |
| **P7173** | 13 | 13 | - | - | - | - | - | - |
| **P7472** | 26 | 26 | 28 | - | - | - | - | - |
| **P7473** | 27 | 27 | - | - | - | - | - | - |
| **P7572** | 33 | 33 | 35 | - | - | - | - | - |
| **P7573** | 32 | 32 | - | - | - | - | - | - |
| **R7672** | 66 | 66 | 68 | 70 | - | - | - | - |
| **R7673** | 66 | 66 | - | - | - | - | - | - |
| **R7772** | 87 | 87 | 89 | 91 | - | - | - | - |
| **R7773** | 87 | 87 | | | | | | |
| **R7872** | - | - | 179 | 181 | 183 | - | - | - |
| **R7873** | 156 | 177 | 179 | 181 | - | - | - | - |
| **R7972** | - | - | 217 | 219 | 221 | - | - | - |
| **R7973** | 208 | 208 | 210 | 212 | - | - | - | - |

CAST IRON GR SERIES

CAST IRON NH SERIES

## Bolt Circle Dimensions

Series GR & NH reducers do not have tapped holes on "integral cover side" of reducer. Integral side of reducer can be machined with tapped holes. See reverse housing assembly below for dimensions.




Special reverse housing assembly

Size 813

Sizes 815 - 821

Sizes 824 - 8100

Special reverse housing assembly - Contact Factory for availability.

### GR & NH SERIES OUTPUT COVER DIMENSIONS

| UNIT | A | B | G | H | BOLT SIZE |
|---|---|---|---|---|---|
| **813** | 1.016 | 2.033 | 1.768 | 1.768 | .312-18 |
| **815** | 1.016 | 2.033 | 1.768 | 1.768 | .312-18 |
| **818** | 1.480 | 2.961 | 2.051 | 2.051 | .312-18 |
| **821** | 1.480 | 2.961 | 2.652 | 2.652 | .312-18 |
| **824** | 1.856 | 3.712 | 2.652 | 2.652 | .312-18 |
| **826** | 1.856 | 3.712 | 2.652 | 2.652 | .312-18 |
| **830** | 2.298 | 4.596 | 3.536 | 3.536 | .375-16 |
| **832** | 2.298 | 4.596 | 3.536 | 3.536 | .375-16 |
| **842** | 2.939 | 5.877 | 3.712 | 3.712 | .438-14 |
| **852** | 3.359 | 6.717 | 5.303 | 5.303 | .438-14 |
| **860** | Consult Factory | | | | .500-13 |
| **870** | Consult Factory | | | | .500-13 |
| **880** | Consult Factory | | | | .500-13 |
| **8100** | Consult Factory | | | | .500-13 |

### GR SERIES INPUT COVER DIMENSIONS

| UNIT | C | D | E | F | BOLT SIZE |
|---|---|---|---|---|---|
| **813** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **815** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **818** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **821** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **824** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **826** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **830** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |
| **832** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |
| **842** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |
| **852** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |
| **860** | 1.370 | 2.740 | 1.370 | 2.740 | .438-14 |
| **870** | 2.033 | 4.066 | 2.033 | 4.066 | .438-14 |
| **880** | 2.121 | 4.242 | 2.121 | 4.242 | .500-13 |
| **8100** | Consult Factory | | | | .625-11 |

### GR & NH SERIES INTEGRAL SIDE OF HOUSING

| UNIT | A | G | H | BOLT SIZE |
|---|---|---|---|---|
| **813** | 2.500 | 1.768 | 1.768 | .312-18 |
| **815** | 2.500 | 1.768 | 1.768 | .312-18 |
| **818** | 2.900 | 2.051 | 2.051 | .312-18 |
| **821** | 3.750 | 2.652 | 2.652 | .312-18 |
| **824** | 3.750 | 2.652 | 2.652 | .312-18 |
| **826** | 3.750 | 2.652 | 2.652 | .312-18 |
| **830** | 5.000 | 3.536 | 3.536 | .375-16 |
| **832** | 5.000 | 3.536 | 3.536 | .375-16 |
| **842** | 5.250 | 3.712 | 3.712 | .438-14 |
| **852** | 7.500 | 5.303 | 5.303 | .438-14 |

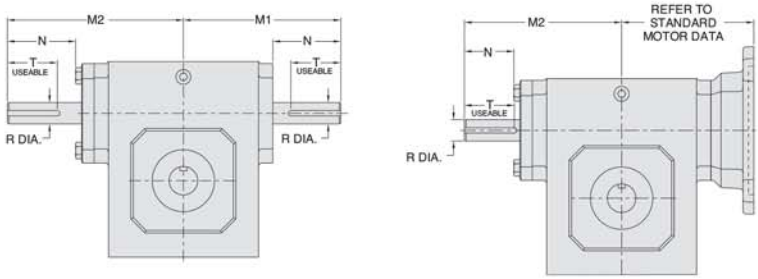
### NH SERIES INPUT COVER DIMENSIONS

| UNIT | C | D | E | F | BOLT SIZE |
|---|---|---|---|---|---|
| **813** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **815** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **818** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **821** | 1.219 | 2.438 | N/A | N/A | .312-18 |
| **824** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **826** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **830** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **832** | 1.313 | 2.625 | 0.781 | 1.562 | .312-18 |
| **842** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |
| **852** | 1.600 | 3.200 | 1.050 | 2.100 | .438-14 |

### DUAL INPUT SHAFT EXTENSION DIMENSIONS

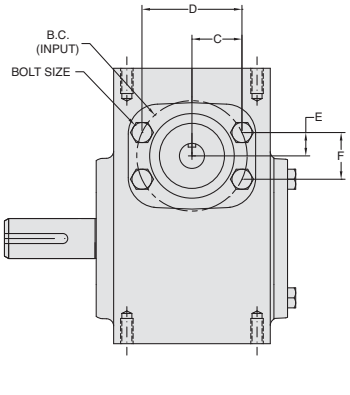
| Unit | M1 | M2 | N | R | T** |
|---|---|---|---|---|---|
| **813** | 3.82 | 4.37 | 1.76 | .500 | 1/8 x 1.44 |
| **815** | 4.35 | 4.90 | 1.76 | .625 | 3/16 x 1.50 |
| **818** | 4.45 | 5.00 | 1.76 | .625 | 3/16 x 1.50 |
| **821** | 4.82 | 5.37 | 1.76 | .625 | 3/16 x 1.50 |
| **824** | 5.51 | 6.15 | 2.38 | .750 | 3/16 x 1.50 |
| **826** | 6.07 | 6.72 | 2.38 | .750 | 3/16 x 1.50 |
| **830** | 6.57 | 7.22 | 2.38 | .875 | 3/16 x 1.50 |
| **832** | 6.76 | 7.40 | 2.38 | .875 | 3/16 x 1.50 |
| **842** | 9.57 | 9.57 | 3.47 | 1.250 | 1/4 x 2.88 |
| **852** | 10.88 | 10.88 | 3.38 | 1.250 | 1/4 x 3.00 |
| **860** | 11.78 | 14.55 | 3.41 | 1.500 | 3/8 x 3.00 |

**Keyway width by length

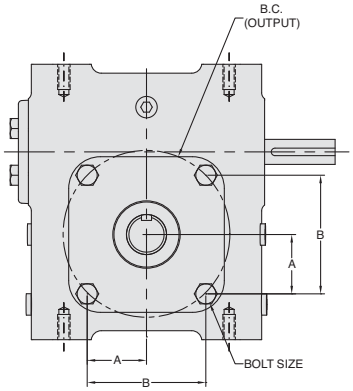



Specify complete model number when ordering reducer with dual input shaft. Catalog number assigned upon receipt of order.

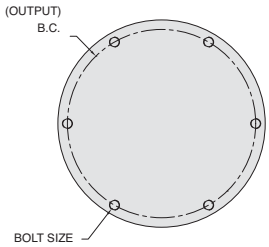
## Bolt Circle Dimensions




ALL SIZES




SIZE: 813-852




SIZE: 860

### EL SERIES INPUT COVER DIMENSIONS

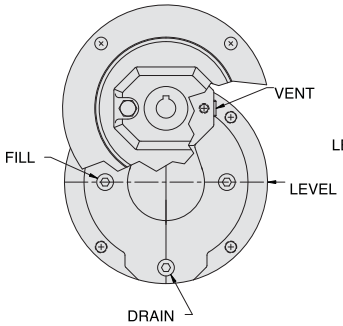
| UNIT | C | D | E | F | Input B.C. | BOLT SIZE |
|---|---|---|---|---|---|---|
| **813** | 0.583 | 1.166 | 1.248 | 2.496 | N/A | 5/16-18 |
| **818** | 1.248 | 2.496 | 0.583 | 1.166 | N/A | 5/16-18 |
| **821** | 1.248 | 2.496 | 0.583 | 1.166 | N/A | 5/16-18 |
| **824** | 1.010 | 2.020 | 1.510 | 3.020 | N/A | 5/16-18 |
| **826** | 1.010 | 2.020 | 1.510 | 3.020 | N/A | 5/16-18 |
| **830** | 1.010 | 2.020 | 1.510 | 3.020 | N/A | 5/16-18 |
| **832** | 1.010 | 2.020 | 1.510 | 3.020 | N/A | 5/16-18 |
| **842** | 1.600 | 3.200 | 1.050 | 2.100 | N/A | 7/16-14 |
| **852** | 1.600 | 3.200 | 1.050 | 2.100 | N/A | 7/16-14 |
| **860** | 1.724 | 3.447 | 1.724 | 3.447 | 4.875 | 1/2-13 |

### EL SERIES OUTPUT COVER DIMENSIONS

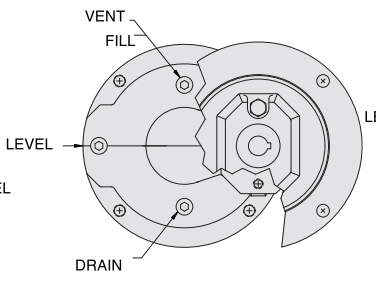
| UNIT | A* | B* | Output B.C.* | BOLT SIZE |
|---|---|---|---|---|
| **813** | 1.016 | 2.033 | 2.875 | 5/16-18 |
| **818** | 1.480 | 2.961 | 4.188 | 5/16-18 |
| **821** | 1.480 | 2.961 | 4.188 | 5/16-18 |
| **824** | 1.856 | 3.712 | 5.250 | 5/16-18 |
| **826** | 1.856 | 3.712 | 5.250 | 5/16-18 |
| **830** | 2.298 | 4.596 | 6.500 | 3/8-16 |
| **832** | 2.298 | 4.596 | 6.500 | 3/8-16 |
| **842** | 2.939 | 5.877 | 8.312 | 7/16-14 |
| **852** | 3.359 | 6.717 | 9.500 | 1/2-13 |
| **860** | N/A | N/A | 11.750 | 1/2-13 |

*** Housing has exactly the same tapped holes on both sides of reducer as standard for mounting EL Series accessories in field.**

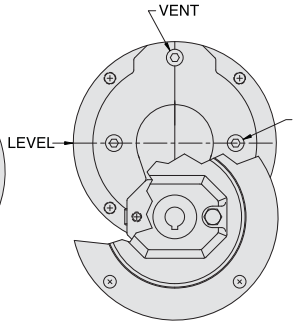
## Ratio Multiplier Vent Plug Location



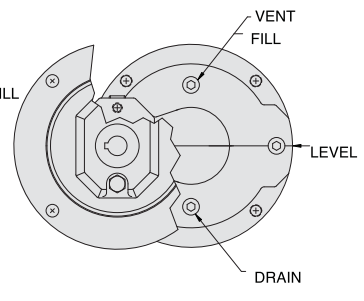

Position 1




Position 2




Position 3




Position 4

- Units are factory filled for Position 1 (input over mounting position). Verify proper oil level for other mountings.
- The "Input Under" mounting position is not recommended due to the increased probability of leakage from the high speed shaft seals.
- Special provisions are required for vertical shaft mountings. Consult factory for details.

# Technical Information

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

The precision-made gears and bearings in Grove Gear/Electra-Gear Speed Reducers require high-grade lubricants of the proper viscosity to maintain trouble-free performance. Synthetic lubricants provide the potential for numerous benefits including wider operating temperature range and increased interval between changes. For normal ambient temperatures (-10°F to 105°F)▲ we recommend the use of ISO viscosity grade Mobile Glygoyle 460 polyalkalene glycol (PAG) lubricant which is the standard oil shipped in our product and is compatible with the Viton® seal material used through size 852. For other temperatures, contact Factory for a recommendation. For synthetic lubrication to be used in helical reducers (primaries of helical-worm reducers and ratio multipliers), contact Factory.

▲ Temperature range for continuous duty. For intermittent duty, contact Factory.

## Oil Capacities (ounces) - Standard Units

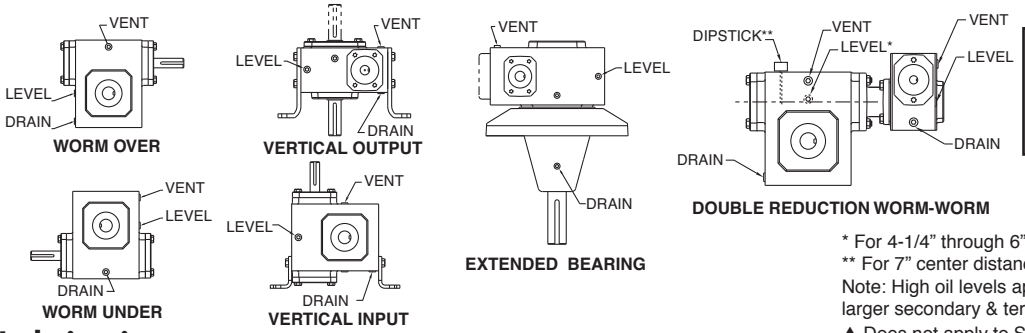
| Mounting Position | UNIT SIZE | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 813 | 815 | 818 | 821 | 824 | 826 | 830 | 832 | 842 | 852 | 860 | 870* | 880* | 8100* |
| Worm Over | 4 | 12 | 12 | 20 | 24 | 40 | 56 | 72 | 112 | 188 | 312 | 560 | 768 | 1152 |
| Worm Under | 8 | 16 | 20 | 28 | 40 | 60 | 84 | 108 | 152 | 304 | 328 | 524 | 820 | 1280 |
| Vertical Output | 4 | 16 | 16 | 28 | 32 | 48 | 68 | 88 | 128 | 248 | 320 | 332 | 460 | 640 |
| Vertical Input | 4 | 16 | 16 | 24 | 32 | 48 | 72 | 92 | 128 | 248 | 325 | 584 | 800 | 1200 |
| Extended Bearing | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 128 | 192 | 272 | 432 | 640 | 1008 | 1632 |
| Worm Over on Secondary Unit of Double Reduction | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 192 | 308 | 320 | 485 | 805 | 1144 | 1716 |
| Stainless Steel and Washguard - All Mounting Positions | 7 | 15 | 15 | 19 | 28 | 44 | 78 | 76 | N/A | N/A | N/A | N/A | N/A | N/A |

***Shipped Dry (without oil)***

**CAUTION** Always check for proper oil level after filling. Capacities vary somewhat with model and mounting position. Oil should rise to bottom edge of level hole. Do not overfill.

**CAUTION** Do not operate the reducer without making sure it contains the correct amount of oil. Do not overfill or underfill with oil, or injury to personnel, reducer or other equipment may result.

## Standard Gear Reducer Mounting Positions & Vent Plug, Level and Drain Locations ▲




16 oz. = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon
1 gallon = 128 oz. = 231 cu. in.

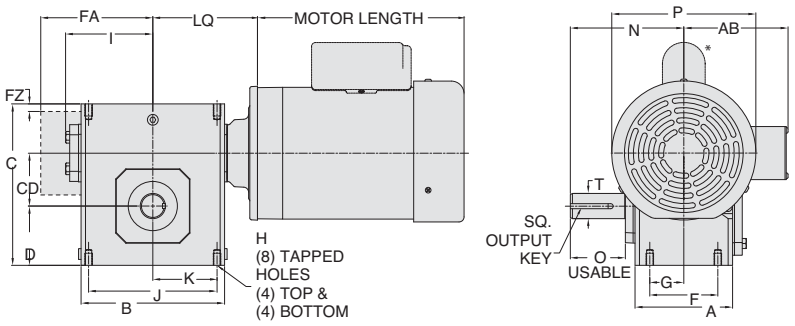
* For 4-1/4" through 6" center distance units (far side plug).
** For 7" center distance & larger units.
Note: High oil levels applies to all 4+1/4" center distance & larger secondary & tertiary units regardless of primary unit type.
▲ Does not apply to Stainless Steel, WASHGUARD or units with Enviroseal option.

## Lubrication

Units shipped from Factory are assembled to properly lubricate all internal components based on a specific assumed mounting orientation. Factory assumed mounting orientations are given below. If a size 818 or larger unit will be mounted in a different orientation than listed below, or run with sustained input speeds less than 1200 RPM, it should be specified with the order. The unit can then be modified to assure proper lubrication.

| Factory Assumed Mounting Orientation | Applicable Unit Styles* | |
|---|---|---|
| Worm Over | B, T, F, H, FH, C, | Single Reduction |
| | D, DT, DF, DH, DFH | Double Reduction Worm-Worm |
| | DX, DXT, DXH, DXFH, | Double Reduction Helical-Worm |
| | TT | Triple Reduction Worm-Worm-Worm |
| Worm Under | U | Single Reduction |
| | DU | Double Reduction Worm-Worm |
| Vertical Output | VL/VH, FE | Single Reduction |
| | DVL/DVH, DFE | Double Reduction Worm-Worm |
| | DXVL/DXVH, DXFE | Double Reduction Helical-Worm |
| Vertical Input | J | Single Reduction |
| | DJ | Double Reduction Worm-Worm |
| | DXJ | Double Reduction Helical-Worm |

## GEAR+MOTOR™ Dimensions




### STYLE BMQ & BM GEARMOTOR DIMENSIONS (Inches)

| Series | A | B | C | D | CD | F | FA | FZ | G | H Tap | H Depth | I | J | K | N | O | T | Output Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GR813** | 2.82 | 3.80 | 4.66 | 1.72 | 1.33 | 2.00 | N/A | N/A | 1.00 | 5/16-18 | 0.50 | 2.61 | 3.25 | 1.63 | 4.00 | 2.16 | 0.625 | 3/16 X 1.50 |
| **GR815** | 3.44 | 4.88 | 5.38 | 1.91 | 1.54 | 2.75 | N/A | N/A | 1.38 | 5/16-18 | 0.63 | 3.14 | 4.19 | 2.09 | 4.31 | 2.11 | 0.750 | 3/16 X 1.50 |
| **GR818** | 3.56 | 5.06 | 5.75 | 2.06 | 1.75 | 2.75 | N/A | N/A | 1.38 | 5/16-18 | 0.63 | 3.24 | 4.19 | 2.09 | 4.31 | 2.05 | 0.875 | 3/16 X 1.38 |
| **GR821** | 3.81 | 5.80 | 6.38 | 2.28 | 2.06 | 2.88 | N/A | N/A | 1.44 | 3/8-16 | 0.60 | 3.61 | 5.00 | 2.50 | 4.68 | 2.29 | 1.000 | 1/4 X 1.44 |
| **GR824** | 4.06 | 6.12 | 6.94 | 2.50 | 2.38 | 2.88 | N/A | N/A | 1.44 | 3/8-16 | 0.69 | 3.77 | 5.00 | 2.50 | 5.14 | 2.66 | 1.125 | 1/4 X 1.75 |
| **GR826** | 4.84 | 7.12 | 8.00 | 2.94 | 2.63 | 3.38 | N/A | N/A | 1.69 | 3/8-16 | 0.69 | 4.34 | 6.38 | 3.19 | 5.63 | 2.73 | 1.125 | 1/4 X 1.75 |
| **GR830** | 5.25 | 8.12 | 8.88 | 3.25 | 3.00 | 4.00 | N/A | N/A | 2.00 | 7/16-14 | 0.88 | 4.84 | 7.00 | 3.50 | 6.75 | 3.60 | 1.250 | 1/4 X 2.25 |
| **GR832** | 5.75 | 8.50 | 9.38 | 3.50 | 3.25 | 4.00 | N/A | N/A | 2.00 | 7/16-14 | 0.88 | 5.02 | 7.50 | 3.75 | 7.06 | 3.66 | 1.375 | 5/16 X 2.50 |
| **GR842** | 6.13 | 10.25 | 11.38 | 4.44 | 4.25 | 5.00 | N/A | N/A | 2.50 | 5/8-11 | 1.00 | 6.10 | 8.50 | 4.25 | 8.12 | 4.50 | 1.875 | 1/2 X 3.06 |
| **GR852** | 7.19 | 13.00 | 14.00 | 5.12 | 5.25 | 5.81 | N/A | N/A | 2.91 | 5/8-11 | 1.25 | 7.50 | 11.00 | 5.50 | 9.06 | 4.78 | 2.000 | 1/2 X 3.50 |
| **GR860** | 8.13 | 14.25 | 16.50 | 6.50 | 6.00 | 6.38 | 11.13 | 0.33 | 3.19 | 5/8-11 | 1.00 | N/A | 12.75 | 6.38 | 10.00 | 4.65 | 2.500 | 5/8 X 4.00 |

* Capacitor housing, single phase only, 2-1/4" high

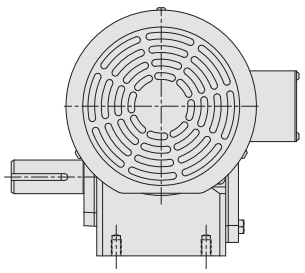
### MOTOR MOUNTING DIMENSIONS

| Series | LQ BMQ 48CZ | LQ BMQ 56C/140TC | LQ BMQ 180TC | LQ BMQ 210TC | LQ BM 48CZ | LQ BM 56C/140TC | LQ BM 180TC | LQ BM 210TC | P 48CZ | P 56C/140TC | P 180TC | P 210TC | AB 48CZ | AB 56C/140TC | AB 180TC | AB 210TC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GR813** | 3.46 | 3.46 | N/A | N/A | 5.63 | 6.07 | N/A | N/A | 5.88 | 7.16 | N/A | N/A | 4.88 | 5.31 | N/A | N/A |
| **GR815** | 3.99 | 3.99 | N/A | N/A | 6.16 | 6.60 | N/A | N/A | 5.88 | 7.16 | N/A | N/A | 4.88 | 5.31 | N/A | N/A |
| **GR818** | 4.09 | 4.09 | N/A | N/A | 6.26 | 6.70 | N/A | N/A | 5.88 | 7.16 | N/A | N/A | 4.88 | 5.31 | N/A | N/A |
| **GR821** | 4.46 | 4.46 | N/A | N/A | 6.63 | 7.07 | N/A | N/A | 5.88 | 7.16 | N/A | N/A | 4.88 | 5.31 | N/A | N/A |
| **GR824** | N/A | 4.63 | 5.06 | N/A | N/A | 7.76 | 8.76 | 8.76 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR826** | N/A | 5.19 | 5.62 | N/A | N/A | 8.32 | 9.32 | 9.32 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR830** | N/A | 5.69 | 6.12 | 6.56 | N/A | 8.82 | 9.82 | 9.82 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR832** | N/A | 5.88 | 6.31 | 6.75 | N/A | 9.01 | 10.01 | 10.01 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR842** | N/A | 6.45 | 7.21 | 7.21 | N/A | 11.81 | 12.90 | 12.90 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR852** | N/A | 7.85 | 8.61 | 8.61 | N/A | 13.21 | 14.30 | 14.30 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |
| **GR860** | N/A | 10.45 | 9.33 | 9.33 | N/A | N/A | 15.88 | 15.88 | N/A | 7.16 | 9.22 | 10.81 | N/A | 5.31 | 6.44 | 7.59 |

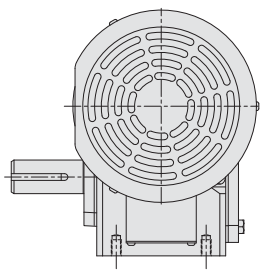
## Motor Mounting Postions - All Products

Conduit box position viewed from input side of reducer.

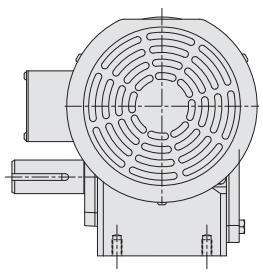
**STANDARD MOUNTING POSITION**



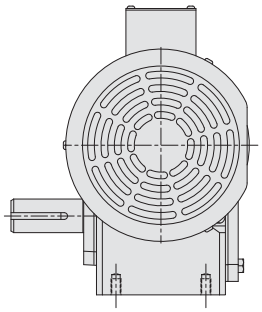
**1** Conduit box horizontal on right side.



**2** Conduit box vertical on bottom side.



**3** Conduit box horizontal on left side.



**4** Conduit box vertical on top side.

# Technical Information

## SPEED REDUCER NOMENCLATURE & DEFINITIONS

**BACKLASH** – Rotational movement of the output shaft when holding the input shaft stationary and rotating the output alternately clockwise and counter clockwise. Backlash is defined as the clearance between adjacent tooth flanks in a pair of mounted gears. In any gearset, some amount of backlash (clearance) is necessary to prevent damage brought about by gear tooth interference. Lack of backlash may cause noise, overloading, overheating of gears and bearings and even seizing and failure.

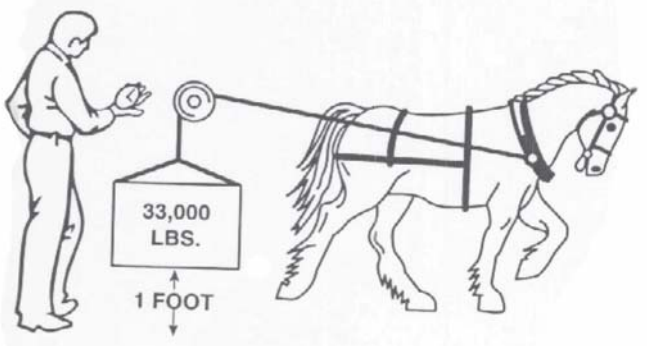
**CENTER DISTANCE** – On a single reduction reducer, this is the distance between the center lines of the input and output shafts. Shaft center lines may be parallel or at right angles to one another. The center distance of multiple stage reducers usually refers to the lowest speed stage (last reduction).

**THRUST LOAD** – Forces imposed on a shaft parallel to the shaft axis. It is often encountered on shafts driving mixers, fans, blowers and similar machines. When thrust load acts on a speed reducer, you must be sure that the thrust load rating of the reducer is high enough that it's shafts and bearings can absorb the load.

**MECHANICAL RATING** – The maximum power or torque that a speed reducer can transmit, based on the strength and durability of its components, is it's mechanical rating. Obviously, the reducer may be rated no higher than the strength or durability of its weakest component. Reducers typically have a safety margin of two to three on their mechanical ratings. Thus, a reducer can withstand momentary overloads of 200-300% of its mechanical rating during a start up or other brief overload situations.

**MOUNTING POSITION** – The relationship of the input and output shafts relative to the floor line.

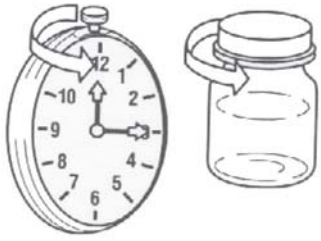
**HORSEPOWER** – A measure of the rate of doing work and equals the power required to lift 33,000 pounds one foot in one minute.



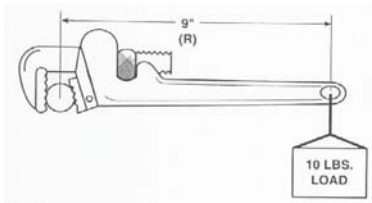

**INPUT HORSEPOWER** – The amount of power applied to the input shaft of a reducer by the prime mover is it's input horsepower. It is often used as a selection basis for power transmission components, and it appears in the rating table of drive manufacturer's published data. Remember that input horsepower ratings represent the maximum amount of power that the reducer can safely handle.

**OUTPUT HORSEPOWER** – The amount of power available at the output shaft of a reducer is it's output horsepower. Due to losses caused by inefficiency, output horsepower is always less than input horsepower.

**TORQUE** – A twisting effort tending to cause rotation. Because most power transmission is associated with rotating elements, torque becomes important as a measurement of the effort required to produce work in the rotational mode. Torque is expressed as a force multiplied by a lever arm. It is stated in several units – pound feet, pound inches, ounce inches, ounce feet, etc. However, the most commonly used is pound inches.

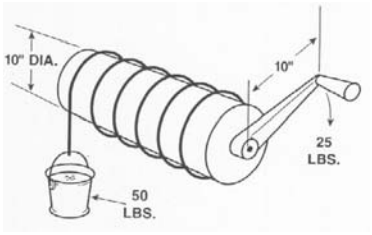



In the case of speed reducers and gears, force or load is usually expressed in pounds and distance in inches. For example, if a load of 10 pounds is applied to a shaft by means of a wrench 9 inches long, we then have a torque of 10 pounds x 9 inches or 90 lb. in.




It is important to note that torque measurement is not dependent on time. The same amount of torque may be required to run a shaft slowly or rapidly, but the introduction of a time element causes work to be performed, and work is measured in terms of horsepower. Consider the application of drawing water from a well via winch and bucket.

In raising a 50-pound pail of water with a 10-inch diameter (5-inch radius) drum and a 10-inch crank arm, 25 pounds (neglecting friction) must be applied to the 10-inch crank




arm to overcome the torque created by the weight of the pail of water acting on the 5-inch drum radius. If no motion is involved, the system is in balance, and although torque is being exerted, no work is being done. If the crank is turned at the rate of 10 RPM, the resulting work done is:

$$HP = \frac{T \times RPM}{63{,}000} = \frac{250 \times 10}{63{,}000} = \text{approx .04 HP}$$

If the crank is turned twice as fast, the horsepower expended becomes:

$$\frac{250 \times 20}{63{,}000} = \text{approx .08 HP}$$

Therefore, exerting the same torque at twice the speed requires twice the horsepower.

**RATIO** – is defined as the driving speed divided by the driven speed. If a 1750 RPM electric motor is used to drive a 350 RPM conveyor, the ratio would be a q750/350 = 5:1. Ratio is useful for calculating speed reduction and torque multiplication from driver to driven member. For example, a 5:1 ratio Uniline speed reducer directly connected to an electric motor would reduce the motor speed to 1/5 of its original value while multiplying the motor torque to 5 times the original value (neglecting friction loses).

**SPEED REDUCER SELECTION** – Before a reducer can be selected for any given application, the equivalent horsepower is computed by multiplying the specified or actual horsepower by the service factor for the particular load classification for which the unit is to be used. It is necessary that the unit selected have a capacity equal to or in excess of this equivalent horsepower. The recommended service factors for various load classifications and duration of service are shown for several types of prime movers on page 418.

Load classifications for various applications are given on page 418. They are classified into three commonly recognized load classifications: Uniform, Moderate Shock, and Heavy Shock.

Service factors represent the normal relationship between gear design power rating and the continuous power requirements. Applications involving unusual or severe loading or requiring a high degree of dependability should be carefully reviewed with the manufacturer before a service factor is applied.

Applications with high-torque motors and motors for intermittent operations, applications where extreme repetitive shock occurs, or where high-energy loads must be absorbed, as when stalling, require special consideration and are not covered by the service factors given on page 418.

When drives are equipped with brakes on the input, and the torque rating of the brake exceeds the rating of the motor, the rating of the brake dictates the selection of the gear unit.

The maximum momentary or starting load must not exceed 300 percent of rated load (200 percent overload). Rated load is defined as the unit rating with a service factor of 1.0.

**⚠ CAUTION**

**It is the responsibility of the original equipment manufacturer or user to install and/or operate Ohio Gear Products in conformance with applicable local and national safety codes, suitable guards for rotating shafts and couplings should be used at all times. Good safety procedures should always be observed whenever working with or around any transmission equipment. Fitness for use is the customer's decision and responsibility.**

**SERVICE FACTORS** – Numbers which modify the loads which must be considered in selecting a speed reducer are called service factors. They vary with the type of service in which the reducer is to be used, the kind of prime mover involved and the duty cycle.

## WORM GEAR REDUCER SERVICE FACTORS

Proper determination of an application's service factor characteristics is critical for maximum reducer life and trouble free service. See the definition of service factor in the glossary.

All Grove Gear reducers and Gear+Motors™ are sized for applications having an AGMA defined service of 1.0, unless otherwise stated. (Alternately, 1.0 service factor is sometimes expressed as "Class I Service".) Reducers in such applications operate on a continuous duty basis, for 10 hours per day or less, and are free of recurrent shock loads. When operating characteristics are different than noted, the input horsepower and torque ratings listed must be divided by the service factor selected from the table below. This table applies to reducers with an electric or hydraulic motor input.

## SPECIAL APPLICATION CONSIDERATIONS

**⚠ CAUTION** : Please contact Grove Gear for assistance in applications not listed or for applications with unusual characteristics. Including the following:

- Input speeds not listed in catalog
- Frequent starting or repetitive shock applications
- Selection of reducers for man lifts or people moving equipment
- High energy loads, including stalling

WORM REDUCERS:

- Starting or momentary overloads exceeding 200% of gear reducer mechanical capacity (100% overload)

## SERVICE FACTOR TABLE

| Duration of Service (Hours per day) | Uniform Load | Moderate Shock | Heavy Shock | Extreme Shock |
|---|---|---|---|---|
| Occasional 1/2 Hour | —* | —* | 1.00 | 1.25 |
| Less than 3 Hours | 1.00 | 1.00 | 1.25 | 1.50 |
| 3 - 10 Hours | 1.00 | 1.25 | 1.50 | 1.75 |
| Over 10 Hours | 1.25 | 1.50 | 1.75 | 2.00 |

* Unspecified service factors should be 1.00 or as agreed upon by the user and manufacturer.

When a single or multi-cylinder engine is the input power, the service factor selected from the table above should be increased by multiplying the value by the factor selected from the table below.

**Service Factor Conversion Table for Engine Driven Applications.**

| Hydraulic or Electric Motor | Single Cylinder Engines | Multi-Cylinder Engines |
|---|---|---|
| 1.00 | 1.50 | 1.25 |
| 1.25 | 1.75 | 1.50 |
| 1.50 | 2.00 | 1.75 |
| 1.75 | 2.25 | 2.00 |
| 2.00 | 2.50 | 2.25 |

On page 418, AGMA standardized service factor data is listed for a wide variety of applications operating 3 to 10 hours per day and for 10 hours or more per day.
**BACK-DRIVING** – This is the converse of self-locking. Depending upon ratio and many variables, it is difficult to predict the back-driving capability of a reducer. Worm gear reducers are not intended to be used as speed increasers. Consult factory for back-driving applications.

**PEOPLE CONVEYING EQUIPMENT** – Selection of gear drives for applications whose primary purpose is the transportation of people is not approved. This includes such applications as freight or passenger elevators, escalators, man lift platforms, and ski tows and ski lifts.

If the primary purpose of the application is material conveyance and occasionally people are transported, the warranty may remain in effect provided the design and load conditions are not exceeded and certification to the appropriate safety codes and load conditions has been obtained by the system designer or end user from the appropriate enforcement authorities.

**STORED & INACTIVE GEAR DRIVE** – Each drive is protected with rust preventive that will protect parts against rust for a period of 6 months in an indoor dry shelter.

If a drive is to be stored, or is inactive after installation beyond the above periods, drain oil from housing and spray all internal parts with a rust preventive oil that is soluble in lubricating oil and rotate the shafts several times by hand. Before operating, drives which have been stored or inactive must be filled to the proper level.

Periodically inspect stored or inactive gear drives and spray or add rust inhibitor every six months, or more often if necessary. Indoor dry storage is recommended.

**EXCESSIVE OVERLOADS** – The maximum momentary or starting load must not exceed 300% of rated load (200% overload). Rated load is defined as gear drive rating with a service factor of 1.0. If the maximum starting or momentary load exceeds the above conditions, compute a second equivalent power rating by dividing the peak load by two. The gear drive selected must have capacity equal to, or in excess of, the larger equivalent power rating.

**REVERSING SERVICE** – Applications involving either more than 20 reversals per ten hour period, or less than 20 reversals per ten hour period with peak torques greater than 200% of normal load must be referred to Factory.

**BRAKE EQUIPPED APPLICATIONS** – When a gear drive is equipped with a "working" brake that is used to decelerate the motion of the system and the brake is located between the prime mover and the gear drive, select the drive based on the brake rating or highest equivalent power rating, whichever is greater. If the brake is used for holding only and is applied after the motion of the system has come to rest, the brake rating must be less than 200% of the catalog rating, refer the application to Factory. Also refer to Factory all applications in which the brake is located on the output shaft of the gear drive.

**OVERSIZED PRIME MOVER** – Published service factors do not cover applications that require oversize prime movers for high energy or peak loads. Refer such applications to Factory for selection of suitable drives.

**MAXIMUM INPUT SPEEDS FOR WORM GEAR REDUCERS (GR, NH, EL SERIES)**
Size 813 through 852 2500 RPM
Size 860 through 8100 1750 RPM

NOTE: Horsepower ratings for 1750 RPM should not be exceeded when operating at higher input speeds. For higher input speeds, contact Factory.

**APPLICATION CONSIDERATIONS:**

Belt Conveyors – To determine the torque, establish the belt pull. In calculating this, the effects of sliding friction and angle or inclination must be considered. The table below shows application factors which may be sued in determining belt pull based upon common combinations of materials and various angles.

| Material Combinations | Angle from the Horizontal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 10° | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| Pivoting Bucket Conveyor | 0.025 | 0.19 | 0.36 | 0.52 | 0.66 | 0.78 | 0.88 | 0.95 | 0.99 | 1.00 |
| Belt on Rollers | 0.025 | 0.19 | 0.36 | 0.52 | 0.66 | 0.78 | 0.88 | 0.95 | 0.99 | 1.00 |
| Metal on Metal (Finished) | 0.20 | 0.37 | 0.53 | 0.67 | 0.80 | 0.89 | 0.97 | 1.01 | 1.02 | 1.00 |
| Fabric on Steel | 0.27 | 0.44 | 0.60 | 0.74 | 0.85 | 0.94 | 1.00 | 1.03 | 1.03 | 1.00 |
| Fabric on Wood | 0.32 | 0.49 | 0.63 | 0.77 | 0.88 | 0.97 | 1.02 | 1.04 | 1.04 | 1.00 |
| Leather on Wood | 0.35 | 0.52 | 0.67 | 0.80 | 0.91 | 0.99 | 1.04 | 1.06 | 1.05 | 1.00 |
| Wood on Wood | 0.35 | 0.52 | 0.67 | 0.80 | 0.91 | 0.99 | 1.04 | 1.06 | 1.05 | 1.00 |
| Plastic on Steel | 0.35 | 0.52 | 0.67 | 0.80 | 0.91 | 0.99 | 1.04 | 1.06 | 1.05 | 1.00 |
| Metal on Wood | 0.40 | 0.57 | 0.72 | 0.85 | 0.95 | 1.02 | 1.07 | 1.08 | 1.05 | 1.00 |
| Rubber on Wood | 0.45 | 0.62 | 0.76 | 0.89 | 0.99 | 1.05 | 1.09 | 1.09 | 1.06 | 1.00 |
| Rubber on Steel | 0.50 | 0.67 | 0.81 | 0.93 | 1.03 | 1.09 | 1.12 | 1.11 | 1.07 | 1.00 |
| Leather on Metal | 0.56 | 0.72 | 0.87 | 0.98 | 1.06 | 1.12 | 1.14 | 1.13 | 1.08 | 1.00 |

The procedure involves selection of the proper application factor for the calculations:
Belt Pull = (Total Weight on Conveyor) x (Application Factor)
Torque = (Belt Pull) x (Radius of Head Pulley)

Example: An inclined belt conveyor is to move boxes of steel parts. The belt is fabric on rollers. Five boxes will be on the conveyor at a time, and each weighs 50 pounds. The conveyor is inclined at 10° to the horizontal, and the head pulley diameter is 7". How much torque is required at the head pulley?

Select .44 as the application factor.
Determine weight: 5 x 50 = 250 Lbs.
Determine belt pull: 250 x .44 = 110 Lbs.
Determine torque: 110 x 3.5 = 385 Lb. Ins.

**HOISTS** – A worm gear is generally said to be self-locking or irreversible when the gear cannot drive the worm. This static condition can be upset by vibrations from nearby machinery or other sources. Many worm gear reducers are not self-locking, and even a particular size and ratio, which may appear to be, cannot be depended upon for this purpose. Also, a reducer which holds the load when upward movement is stopped may not when the load inertia is moving downward and the motor is stopped. For complete locking assurance, it is recommended that a fail-safe brake be used for such an application.

# Technical Information

## A.G.M.A. SERVICE FACTORS

| Application | Service Factor 3-10 Hours | Over 10 Hours |
|---|---|---|
| **AGITATORS** | | |
| Pure Liquids | 1.00 | 1.25 |
| Liquids & Solids | 1.25 | 1.50 |
| Liquids-Variable Density | 1.25 | 1.50 |
| **APRON CONVEYORS** | | |
| Uniformly Loaded or Fed | 1.00 | 1.25 |
| Heavy Duty | 1.25 | 1.50 |
| **APRON FEEDERS** | 1.25 | 1.50 |
| **ASSEMBLY CONVEYORS** | | |
| Uniformly Loaded or Fed | 1.00 | 1.25 |
| Heavy Duty | 1.25 | 1.50 |
| **BARGE HAUL PULLERS** | 1.50 | 1.75 |
| **BARKING** | | |
| Drums (Coupling Connected) | | 1.75 |
| Mechanical | | 1.75 |
| **BAR SCREENS** (Sewage) | 1.00 | 1.25 |
| **BELT CONVEYORS** | | |
| Uniformly Loaded or Fed | 1.00 | 1.25 |
| Heavy Duty | 1.25 | 1.50 |
| **BELT FEEDERS** | 1.25 | 1.50 |
| **BLOWERS** | | |
| Centrifugal | 1.00 | 1.25 |
| Lobe | 1.25 | 1.50 |
| Vane | 1.00 | 1.25 |
| **BOLTING MACHINERY** | 1.00 | 1.25 |
| **BREWING & DISTILLING** | | |
| Bottling Machinery | 1.00 | 1.25 |
| Brew Kettles, Cont. Duty | 1.00 | 1.25 |
| Can Filling Machines | 1.00 | 1.25 |
| Cookers-Cont. Duty | 1.00 | 1.25 |
| Mash Tubs-Cont. Duty | 1.00 | 1.25 |
| Scale Hoppers-Frequent Starts | 1.25 | 1.50 |
| **BUCKET** | | |
| Conveyors Uniform | 1.00 | 1.25 |
| Conveyors Heavy Duty | 1.25 | 1.50 |
| Elevators Cont. | 1.00 | 1.25 |
| Elevators Uniform | 1.00 | 1.25 |
| Elevators Heavy Duty | 1.25 | 1.50 |
| **CALENDARS** | | |
| Rubber | | 1.50 |
| Textile | 1.25 | 1.50 |
| **CANE KNIVES** | | 1.50 |
| **CAN FILLING MACHINES** | 1.00 | 1.25 |
| **CAR DUMPERS** | 1.50 | 1.75 |
| **CAR PULLERS** | 1.25 | 1.50 |
| **CENTRIFUGAL** | | |
| Blowers, Compressors, Discharge Elevator, Fans or Pumps | 1.00 | 1.25 |
| **CHAIN CONVEYORS** | | |
| Uniformly Loaded or Fed | 1.00 | 1.25 |
| Heavy Duty | 1.25 | 1.50 |
| **CLARIFIERS** | 1.00 | 1.25 |
| **CLASSIFIERS** | 1.25 | 1.50 |
| **CLAY WORKING INDUSTRY** | | |
| Brick Press | 1.75 | 2.00 |
| Briquette Machines | 1.75 | 2.00 |
| Clay Working Machinery | 1.25 | 1.50 |
| Plug Mills | 1.25 | 1.50 |
| **COMPRESSORS** | | |
| Centrifugal | 1.00 | 1.25 |
| Lobe | 1.25 | 1.50 |
| Reciprocating: | | |
| Multi-Cylinder | 1.25 | 1.50 |
| Single Cylinder | 1.50 | 1.75 |
| **CONCRETE MIXERS** | | |
| Continuous | 1.25 | 1.50 |
| Intermittent | 1.25 | 1.50 |
| **CONVEYORS**-Uniformly Loaded or Fed Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw | 1.00 | 1.25 |
| **CONVEYORS**-Severe Duty | | |
| Live Roll | | Contact Factory |
| Reciprocating, Shaker | 1.50 | 1.75 |
| **COOLING TOWER FANS** | | Contact Factory |
| **CRANES** | | |
| Dry Dock Cranes | | Contact Factory |
| Main Hoist | 1.00 | 1.25 |
| Bridge and Trolley Travel | | Contact Factory |
| **CRUSHERS** | | |
| Ore or Stone | 1.50 | 1.75 |
| Sugar | | 1.50 |
| **DISC FEEDERS** | 1.00 | 1.25 |
| **DOUBLE ACTING PUMPS** | | |
| 2 or more Cylinders | 1.25 | 1.50 |
| Single Cylinder | | Contact Factory |
| **DRAW BENCH** (Metal Mills) | | |
| Carriage & Main Drive | 1.25 | 1.50 |
| **DREDGES** | | |
| Cable Reels, Conveyors | 1.25 | 1.50 |
| Cutter Head & Jig Drives | 1.75 | 2.00 |
| Maneuvering Winches, Pumps | 1.25 | 1.50 |
| Screen Drives | 1.50 | 1.75 |
| Stackers, Utility Winches | 1.25 | 1.50 |
| **ELEVATORS** | | |
| Bucket-Uniform Load | 1.00 | 1.25 |
| Bucket-Heavy Duty | 1.25 | 1.50 |
| Bucket-Continuous | 1.00 | 1.25 |
| Centrifugal Discharge | 1.00 | 1.25 |
| Escalators | | Not Approved |
| Freight | | Not Approved |
| Gravity Discharge | 1.00 | 1.25 |
| Man Lifts, Passenger | | Not Approved |
| **EXTRUDERS** (Plastic) | | |
| Film Sheet, Coating, Rods, Pipe Tubing | 1.25 | 1.25 |
| Blow Molders, Pre-plasticizers | | 1.50 |
| **FANS** | | |
| Centrifugal | 1.00 | 1.25 |
| **COOLING TOWERS** | | Contact Factory |
| Forced Draft | | 1.25 |
| Induced Draft | 1.25 | 1.50 |
| Large (Mine, etc.) | 1.25 | 1.50 |
| Large Industrial | 1.25 | 1.50 |
| Light (Small Diameter) | 1.00 | 1.25 |
| **FEEDERS** | | |
| Apron, Belt | 1.25 | 1.50 |
| Disc | 1.00 | 1.25 |
| Reciprocating | 1.75 | 2.00 |
| Screw | 1.25 | 1.50 |
| **FLIGHT** | | |
| Conveyors, Uniform | 1.00 | 1.25 |
| Conveyors, Heavy | 1.25 | 1.50 |
| **FOOD INDUSTRY** | | |
| Beet Slicers | 1.25 | 1.50 |
| Bottling, Can Filling Mach. | 1.00 | 1.25 |
| Cereal Cookers | 1.00 | 1.25 |
| Dough Mixers, Meat Grinders | 1.25 | 1.50 |
| **HAMMER MILLS** | 1.50 | 1.75 |
| **HOISTS** | | |
| Heavy Duty | 1.75 | 2.00 |
| Medium Duty | 1.25 | 1.50 |
| Skip Hoist | 1.25 | 1.50 |
| **INDUCED DRAFT FANS** | 1.25 | 1.50 |
| **LAUNDRY WASHERS AND TUMBLERS** | 1.25 | 1.50 |
| **LINE SHAFTS** | | |
| Driving Processing Equipment | 1.25 | 1.50 |
| Other Line Shafts, Light | 1.00 | 1.25 |
| **LUMBER INDUSTRY** | | |
| Barkers-Spindle Feed | 1.25 | 1.50 |
| Barkers-Main Drive | 1.75 | 1.75 |
| Carriage Drive | | Contact Factory |
| **CONVEYORS** | | |
| Burner | 1.25 | 1.50 |
| Main or Heavy Duty | 1.50 | 1.50 |
| Main Log | 1.75 | 2.00 |
| Re-saw Merry-Go-Round | 1.25 | 1.50 |
| Slab | 1.75 | 2.00 |
| Transfer | 1.25 | 1.50 |
| Chains-Floor | 1.50 | 1.50 |
| Chains-Green | 1.50 | 1.75 |
| Cut-Off Saws-Chain & Drag | 1.50 | 1.75 |
| Debarking Drums | 1.75 | 2.00 |
| Feeds-Edger | 1.25 | 1.50 |
| Feeds-Gang | 1.50 | 1.50 |
| Feeds-Trimmer | 1.25 | 1.50 |
| Log Deck | 1.50 | 1.50 |
| Log Hauls-Incline Well Type | 1.50 | 1.50 |
| Log Turning Devices | 1.50 | 1.50 |
| Planer Feed | 1.25 | 1.50 |
| Planer Tilting Hoist | 1.50 | 1.50 |
| Rolls-Live-Off Bearing-Roll Cases | 1.50 | 1.50 |
| Sorting Table, Tipple Hoist | 1.25 | 1.50 |
| Transfers-Chain & Craneway | 1.50 | 1.75 |
| Tray Drives | 1.25 | 1.50 |
| Veneer Lathe Drives | | Contact Factory |
| **MACHINE TOOLS** | | |
| Auxiliary Drives | 1.00 | 1.25 |
| Bending Rolls | 1.25 | 1.50 |
| Main Drives | 1.25 | 1.50 |
| Notching Press (Belted) | | Contact Factory |
| Plate Planers | 1.50 | 1.75 |
| Punch Press (Geared) | 1.50 | 1.75 |
| Tapping Machines | 1.50 | 1.75 |
| **METAL MILLS** | | |
| Draw Bench Carriages & Main Drives | 1.25 | 1.50 |
| Pinch, Dryer and Scrubber Rolls Reversing | | Contact Factory |
| Slitters | 1.25 | 1.50 |
| Table Conveyors Non-Reversing Group Drives | 1.25 | 1.50 |
| Individual Drives | 1.50 | 1.75 |
| Reversing Wire Drawing & Flattening Machines | 1.25 | 1.50 |
| Wire Winding Machines | 1.25 | 1.50 |
| **MILLS, ROTARY** | | |
| Ball and Rod Mills with | | |
| Spur Ring Gear | | 1.75 |
| with Helical Ring Gear | | 1.50 |
| Direct Connect | | 1.50 |
| Cement Kilns, Dryers, Coolers, Pebble, Plain & Wedge Bar Mills | | 1.50 |
| Tumbling Barrels | 1.50 | 1.75 |
| **MIXERS** (Also see Agitators) | | |
| Concrete, Cont. & Int. | 1.25 | 1.50 |
| Constant Density | 1.00 | 1.25 |
| Variable Density | 1.25 | 1.50 |
| **OIL INDUSTRY** | | |
| Chillers | 1.25 | 1.50 |
| Oil Well Pumping | | Contact Factory |
| Paraffin Filter Press | 1.25 | 1.50 |
| Rotary Kilns | 1.25 | 1.50 |
| **PAPER MILLS** | | Contact Factory |
| **PASSENGER ELEVATORS** | | Contact Factory |
| **PLATE PLANERS** | 1.50 | 1.75 |
| **PRINTING PRESSES** | | Contact Factory |
| **PUMPS** | | |
| Centrifugal | 1.00 | 1.25 |
| Proportioning | 1.25 | 1.50 |
| Reciprocating | | |
| Single Act, 3 or more Cyl. | 1.25 | 1.50 |
| Double Act, 2 or more Cyl. | 1.25 | 1.50 |
| Single Act, 1 or 2 Cyl | | Contact Factory |
| Double Act, 1 Cyl. | | Contact Factory |
| Rotary: Gear, Lobe, Vane | 1.00 | 1.25 |
| **PUNCH PRESSES** (Gear Driven) | 1.50 | 1.75 |
| **RUBBER & PLASTIC INDUSTRIES** | | |
| Calendars | | 1.50 |
| Crackers | | 1.75 |
| Laboratory Equipment | 1.25 | 1.50 |
| Mills (2 on line) | 1.50 | |
| Mills (3 on line) | 1.25 | |
| Mixing Mills | 1.50 | 1.50 |
| Refiners | | 1.50 |
| Sheeters | | 1.50 |
| Tire Building & Machines | | Contact Factory |
| Tire & Tube Press Openers | | Contact Factory |
| Tubers & Strainers | | 1.50 |
| Warming Mills | | 1.50 |
| **SCREENS** | | |
| Air Washing | 1.00 | 1.25 |
| Rotary-Sand or Gravel | 1.25 | 1.50 |
| Traveling Water Intake | 1.00 | 1.25 |
| **SEWAGE DISPOSAL** | | |
| Bar Screens | 1.00 | 1.25 |
| Chemical Feeders | 1.00 | 1.25 |
| Collectors | 1.00 | 1.25 |
| Dewatering Screens | 1.25 | 1.50 |
| Scum Breakers | 1.25 | 1.50 |
| Slow or Rapid Mixers | 1.25 | 1.50 |
| Thickeners | 1.25 | 1.50 |
| Vacuum Filters | 1.25 | 1.50 |
| **SKI TOWS & LIFTS** | | Not Approved |
| **STOKERS** | 1.00 | 1.25 |
| **STONE CRUSHERS** | 1.50 | 1.75 |
| **SUGAR INDUSTRY** | | |
| Cane Knives, Crushers, Mills | | 1.50 |
| **TABLE CONVEYORS** (Non-Reversing) | | |
| Group Drives | 1.25 | 1.50 |
| Individual Drives | 1.50 | 1.75 |
| Reversing | | Contact Factory |
| **TEXTILE INDUSTRY** | | |
| Batchers, Calendars | 1.25 | 1.50 |
| Card Machines | 1.25 | 1.50 |
| Dry Cans, Dryers | 1.25 | 1.50 |
| Dyeing Machinery | 1.25 | 1.50 |
| Knitting Machinery | | Contact Factory |
| Looms, Mangles, Nappers, Pads | 1.25 | 1.50 |
| Range Drives | | Contact Factory |
| Slashers, Soapers, Spinners | 1.25 | 1.50 |
| Tenter Frames, Washers, Winders | 1.25 | 1.50 |
| **TUMBLING BARRELS** | 1.50 | 1.75 |
| **VANE BLOWERS** | 1.00 | 1.25 |
| **WINDLASS** | | Contact Factory |
| **WIRE** | | |
| Drawing Machines | 1.25 | 1.50 |
| Winding Machines | 1.25 | 1.50 |

$$TQ_{(In\text{-}lb)} = \frac{(HP \times 63025)}{RPM} \qquad HP_{(Rotational)} = \frac{TQ_{(In\text{-}Lb)} \times RPM}{63025}$$

$$TQ_{(ft\text{-}lb)} = \frac{(HP \times 5252)}{RPM} \qquad HP_{(Rotational)} = \frac{TQ_{(ft\text{-}lb)} \times RPM}{5252}$$

$$TQ_{(In\text{-}lb)} = W \times R \qquad HP_{(Linear)} = \frac{W \times V}{33000}$$

## Torque and Horsepower

Torque as it is related to gear reducers is defined as a twisting motion resulting in rotational movement. Horsepower is a measure of the rate of doing work, and depends on speed of rotation and the radius of rotation.

$$HP = \frac{TQ \times Speed\ (RPM)}{63025} \qquad TQ = \frac{HP \times 63025}{RPM}$$

## Efficiency

The efficiency of a Worm Gear Speed Reducer is dependent on input speed, lead angle of the worm, type of lubricant, ambient temperature and many other variables. The efficiency for speed reducer can be easily calculated as follows.

$$Efficiency = \frac{Output\ HP}{Input\ HP}$$

$$Efficiency_{(Total)} = Eff_1 + Eff_2 + Eff_3$$

## Overhung Load & Thrust Loads

An overhung load exists when a force is applied at right angles to a shaft beyond the shaft's outermost bearing. Pulleys, sheaves and sprockets will cause an overhung load when used as a power take-off. The amount of overhung load will vary, depending on the type of power take-off used and its mounting location on the shaft. The catalog Overhung Load ratings listed below are calculated at the centerline of the shaft.

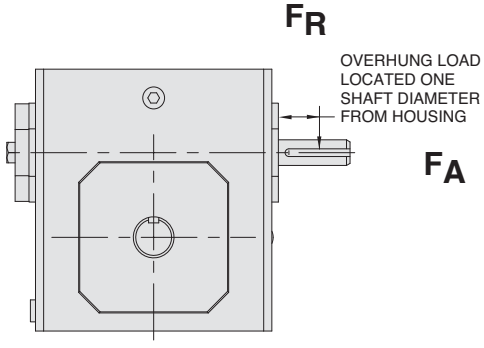
Overhung load ratings are listed for each reducer size and should not be exceeded. If the basic reducer is selected using a service factor, that factor must also be used in the equations below.

$$Output\ Shaft\ OHL = \frac{126000 \times Motor\ HP \times OL}{Pitch\ Diameter\ (of\ sprocket,\ pulley\ or\ sheave) \times Output\ RPM}$$

$$Input\ Shaft\ OHL = \frac{126000 \times Motor\ HP \times OL}{Pitch\ Diameter\ (of\ sprocket,\ pulley\ or\ sheave) \times Input\ RPM}$$

## Overhung Load Factors ($O_L$)

| | |
|---|---|
| Sprocket | 1.00 |
| Gear Pinion | 1.25 |
| V-Belt Sheave or Pulley | 1.50 |
| Flat Belt | 2.50 |




**LOAD LOCATION FACTORS - LF:**

| Distance | 813 | 815 | 818 | 820 | 824 | 826 | 830 | 832 | 842 | 852 | 860-8100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 x T | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| 2 x T | 0.46 | 0.61 | 0.49 | 0.58 | 0.58 | 0.57 | 0.48 | 0.57 | 0.56 | 0.56 | |
| 3 x T | 0.30 | 0.44 | 0.32 | 0.41 | 0.41 | 0.40 | 0.32 | 0.40 | 0.39 | 0.39 | Contact Factory |
| 4 x T | 0.22 | 0.34 | 0.24 | 0.31 | 0.31 | 0.31 | 0.24 | 0.31 | 0.30 | 0.30 | |
| 5 x T | 0.18 | 0.28 | 0.19 | 0.26 | 0.26 | 0.25 | 0.19 | 0.25 | 0.24 | 0.24 | |

Distance = distance of load from side of housing in terms of shaft diameter 'T'
T = Shaft diameter

**Overhung Load** – Overhung load is imposed upon a shaft when a pinion or sprocket is used as a power take-off. The magnitude of the load varies with the type of PTO and its location to the shaft bearing. Calculate the load (including minimum required service factor) and check the result against the tabulated overhung load rating. The overhung load formula below considers the transmitted horsepower with service factor. This is appropriate for applications where starting loads, momentary overloads and brake capacities do not exceed 200% of gear reducer rating (100% overload). For other conditions, calculate the actual application load by multiplying the transmitted power by the appropriate service factor.

Lf = load location factor (the input shaft OHL is assumed to be applied at one shaft diameter from the seal cage, (Lf = 1.0) if the load is applied at a distance greater than one shaft diameter from the seal cage, refer the application to the Factory). The calculated overhung load must be less than or equal to the capacity shown on pages 420-422.

Load Location Factor (Lf) – the output shaft load location factors are shown below.

CAST IRON GR SERIES



## MAXIMUM OVERHUNG LOAD◊ AND THRUST LOAD RATINGS (LBS.)

### GR SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| 5 | 700 | 860 | 1200 | 1000 | 1770 | 1625 | 2170 | 2275 | 2800 | 3100 | 3538 | | | |
| 7.5 | 700 | 860 | 1200 | 1035 | 1770 | 1625 | 2170 | 2275 | 2930 | 3245 | 3723 | | | |
| 10 | 700 | 860 | 1200 | 1065 | 1770 | 1625 | 2170 | 2275 | 3010 | 3370 | 3723 | | | |
| 15 | 700 | 860 | 1200 | 1125 | 1770 | 1625 | 2170 | 2275 | 3190 | 3560 | 3723 | | | |
| 20 | 700 | 860 | 1200 | 1175 | 1770 | 1625 | 2170 | 2275 | 3320 | 3560 | 3723 | | | |
| 25 | 700 | 860 | 1200 | 1210 | 1770 | 1625 | 2170 | 2275 | 3445 | 3560 | 3723 | 6209 | 7761 | 11028 |
| 30 | 700 | 860 | 1200 | 1255 | 1770 | 1625 | 2170 | 2275 | 3550 | 3560 | 3723 | | | |
| 40 | 700 | 860 | 1200 | 1315 | 1770 | 1625 | 2170 | 2275 | 3715 | 3560 | 3723 | | | |
| 50 | 700 | 860 | 1200 | 1385 | 1770 | 1625 | 2170 | 2275 | 3730 | 3560 | 3723 | | | |
| 60 | 700 | 860 | 1200 | 1415 | 1770 | 1625 | 2170 | 2275 | 3730 | 3570 | 3723 | | | |
| 70 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | | |
| 80 | 700 | 860 | 1200 | 1495 | 1770 | 1625 | 2170 | 2275 | 3740 | 3590 | 3723 | N/A | N/A | N/A |
| 100 | 700 | 860 | 1200 | 1580 | 1770 | 1625 | 2170 | 2275 | 3750 | 3600 | 3723 | N/A | N/A | N/A |

| Ratio | Gear Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| 5 | 827 | 794 | 793 | 735 | 1451 | 1420 | 1729 | 1605 | 1445 | 1675 | 3633 | | | |
| 7.5 | 948 | 946 | 868 | 811 | 1659 | 1609 | 1944 | 1869 | 1640 | 2021 | 3990 | | | |
| 10 | 1070 | 1056 | 976 | 898 | 1820 | 1762 | 2147 | 2026 | 1788 | 2449 | 3990 | 4009 | 4777 | 6808 |
| 15 | 1144 | 1144 | 1144 | 1099 | 2091 | 2069 | 2549 | 2490 | 2319 | 3033 | 3990 | | | |
| All other single reduction ratios | 1144 | 1144 | 1144 | 1144 | 2091 | 2091 | 2574 | 2574 | 2533 | 3412 | 3990 | | | |

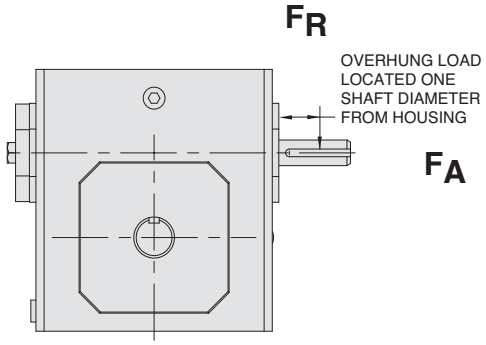
### GR SERIES • SINGLE REDUCTION EXTENDED BEARING DESIGN • OUTPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| All Ratios | 605 | 959 | 1200 | 2524 | 2245 | 3791 | 4850 | 8500 |

### GR SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GR813 | GR815 | GR818 | GR821 | GR824 | GR826 | GR830 | GR832 | GR842 | GR852 | GR860 | GR870 | GR880 | GR8100 |
| All Ratios | 75 | 75 | 75 | 75 | 125 | 125 | 150 | 150 | 175 | 300 | 450 | 450 | 450 | 500 |

◊ Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.
FR = Radial load rating = overhung load (lbs)
FA = Axial load rating = thrust rating (lbs)



## MAXIMUM OVERHUNG LOAD◊ AND THRUST LOAD RATINGS (LBS.)

### NH SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| 5 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 2800 | 3100 |
| 7.5 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 2930 | 3245 |
| 10 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3010 | 3370 |
| 15 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3190 | 3560 |
| 20 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3320 | 3560 |
| 25 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3445 | 3560 |
| 30 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3550 | 3560 |
| 40 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3715 | 3560 |
| 50 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3730 | 3560 |
| 60 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3730 | 3570 |
| 80 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3740 | 3590 |
| 100 | 860 | 860 | 1250 | 775 | 1300 | 1750 | 1950 | 2250 | 3750 | 3600 |

### NH SERIES • SINGLE REDUCTION • OUTPUT SHAFT THRUST LOAD $F_A$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| 5 | 827 | 794 | 793 | 735 | 1451 | 1420 | 1729 | 1605 | 1445 | 1675 |
| 7.5 | 948 | 946 | 868 | 811 | 1659 | 1609 | 1944 | 1869 | 1640 | 2021 |
| 10 | 1070 | 1056 | 976 | 898 | 1820 | 1762 | 2147 | 2026 | 1788 | 2449 |
| 15 | 1144 | 1144 | 1144 | 1099 | 2091 | 2069 | 2549 | 2490 | 2319 | 3033 |
| All other single reduction ratios | 1144 | 1144 | 1144 | 1144 | 2091 | 2091 | 2574 | 2574 | 2533 | 3412 |

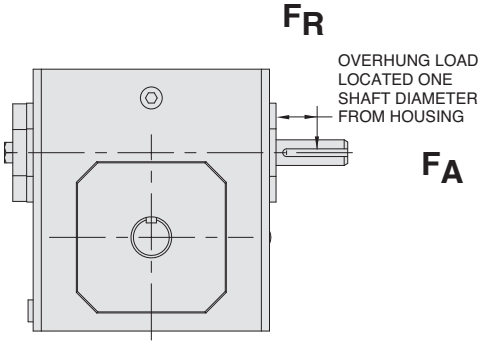
### NH SERIES • SINGLE REDUCTION EXTENDED BEARING DESIGN • OUTPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | |
|---|---|---|---|---|
| | NH830 | NH832 | NH842 | NH852 |
| All Ratios | 605 | 959 | 1200 | 2524 |

### NH SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NH813 | NH815 | NH818 | NH821 | NH824 | NH826 | NH830 | NH832 | NH842 | NH852 |
| All Ratios | 75 | 75 | 75 | 75 | 125 | 125 | 150 | 150 | 175 | 300 |

◊ Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.
$F_R$ = Radial load rating = overhung load (lbs)
FA = Axial load rating = thrust rating (lbs)



ALUMINUM EL SERIES



## MAXIMUM OVERHUNG LOAD◊ AND THRUST LOAD RATINGS (LBS.)

### EL SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| 5 | 700 | 920 | 1000 | 1770 | 1625 | 2170 | 2170 | 2800 | 3100 | 3538 |
| 7.5 | 700 | 920 | 1035 | 1770 | 1625 | 2170 | 2170 | 2930 | 3245 | 3723 |
| 10 | 700 | 920 | 1065 | 1770 | 1625 | 2170 | 2170 | 3010 | 3370 | 3723 |
| 15 | 700 | 920 | 1125 | 1770 | 1625 | 2170 | 2170 | 3190 | 3560 | 3723 |
| 20 | 700 | 920 | 1175 | 1770 | 1625 | 2170 | 2170 | 3320 | 3560 | 3723 |
| 25 | 700 | 920 | 1210 | 1770 | 1625 | 2170 | 2170 | 3445 | 3560 | 3723 |
| 30 | 700 | 920 | 1255 | 1770 | 1625 | 2170 | 2170 | 3550 | 3560 | 3723 |
| 40 | 700 | 920 | 1315 | 1770 | 1625 | 2170 | 2170 | 3715 | 3560 | 3723 |
| 50 | 700 | 920 | 1385 | 1770 | 1625 | 2170 | 2170 | 3730 | 3560 | 3723 |
| 60 | 700 | 920 | 1415 | 1770 | 1625 | 2170 | 2170 | 3730 | 3570 | 3723 |
| 80 | 700 | 920 | 1495 | 1770 | 1625 | 2170 | 2170 | 3740 | 3590 | 3723 |
| 100 | 700 | 920 | 1580 | 1770 | 1625 | 2170 | 2170 | 3750 | 3600 | 3723 |

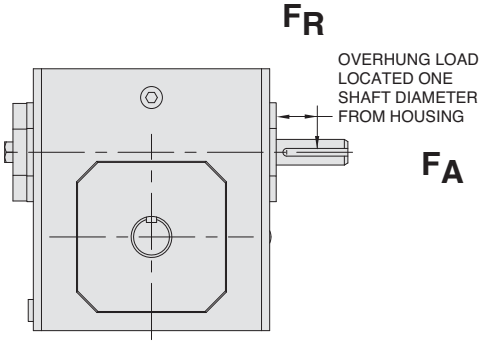
### EL SERIES • SINGLE REDUCTION • OUTPUT SHAFT THRUST LOAD $F_A$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| 5 | 827 | 793 | 735 | 1451 | 1420 | 1729 | 1605 | 1445 | 1675 | 3633 |
| 7.5 | 948 | 868 | 811 | 1659 | 1609 | 1944 | 1869 | 1640 | 2021 | 3990 |
| 10 | 1070 | 976 | 898 | 1820 | 1762 | 2147 | 2026 | 1788 | 2449 | 3990 |
| 15 | 1144 | 1144 | 1099 | 2091 | 2069 | 2549 | 2490 | 2319 | 3033 | 3990 |
| All other single reduction ratios | 1144 | 1144 | 1144 | 2091 | 2091 | 2574 | 2574 | 2533 | 3412 | 3990 |

### EL SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD $F_R$

| Ratio | Gear Reducer Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EL813 | EL818 | EL821 | EL824 | EL826 | EL830 | EL832 | EL842 | EL852 | EL860 |
| All Ratios | 75 | 75 | 75 | 125 | 125 | 150 | 150 | 175 | 300 | 450 |

◊ Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.
$F_R$ = Radial load rating = overhung load (lbs)
FA = Axial load rating = thrust rating (lbs)



## Additional Engineering Equations and Conversion Factors

**Velocity(FPM) = V = .2618 x D x RPM**

$$\text{Rotational Speed} = \text{RPM} = \frac{V}{(.2618 \times D)}$$

$$\text{Ratio} = \frac{\text{Input RPM}}{\text{Output RPM}} = \frac{\text{No. Teeth in Driver}}{\text{No. Teeth in Driven}} = \frac{\text{Diameter of Driver}}{\text{Diameter of Driven}}$$

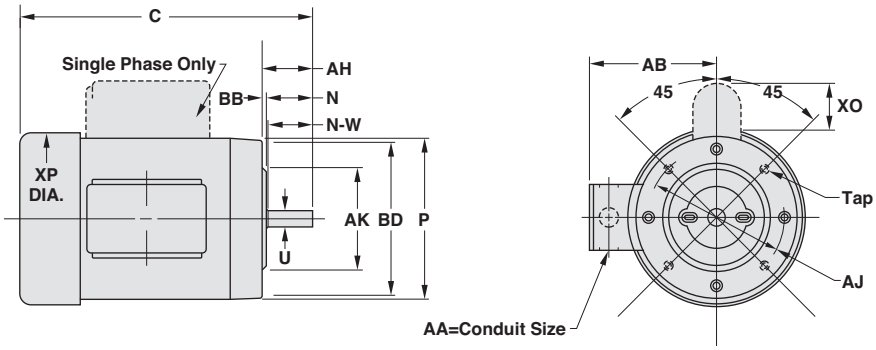
$$\text{Ratio(Total)} = \text{Ratio}_1 + \text{Ratio}_2 + \text{Ratio}_3$$

1 inch = 25.4 MM
1 lb = 4.448 N
1 in-lb = .11298 Nm
1HP = 746 Watts = .746 kW
1kW = 1.34 HP
°F = 9/5 x °C + 32
°C = 5/9 x (°F - 32)

Where:
D = Diameter (inches)
HP = Horsepower
R= Radius (inches)
RPM - Rotational Speed
TQ = Torque
V = linear velocity (FPM)
W = force or tension (lbs)

## MOTOR DIMENSIONS
## AC & DC MOTORS • NEMA C FACE

### CRITICAL MOUNTING DIMENSIONS




The condensed dimensions shown on these pages are for general reference only and are not for construction.

### NEMA SHAFT AND KEYWAY DIMENSIONS ■ (Inches)

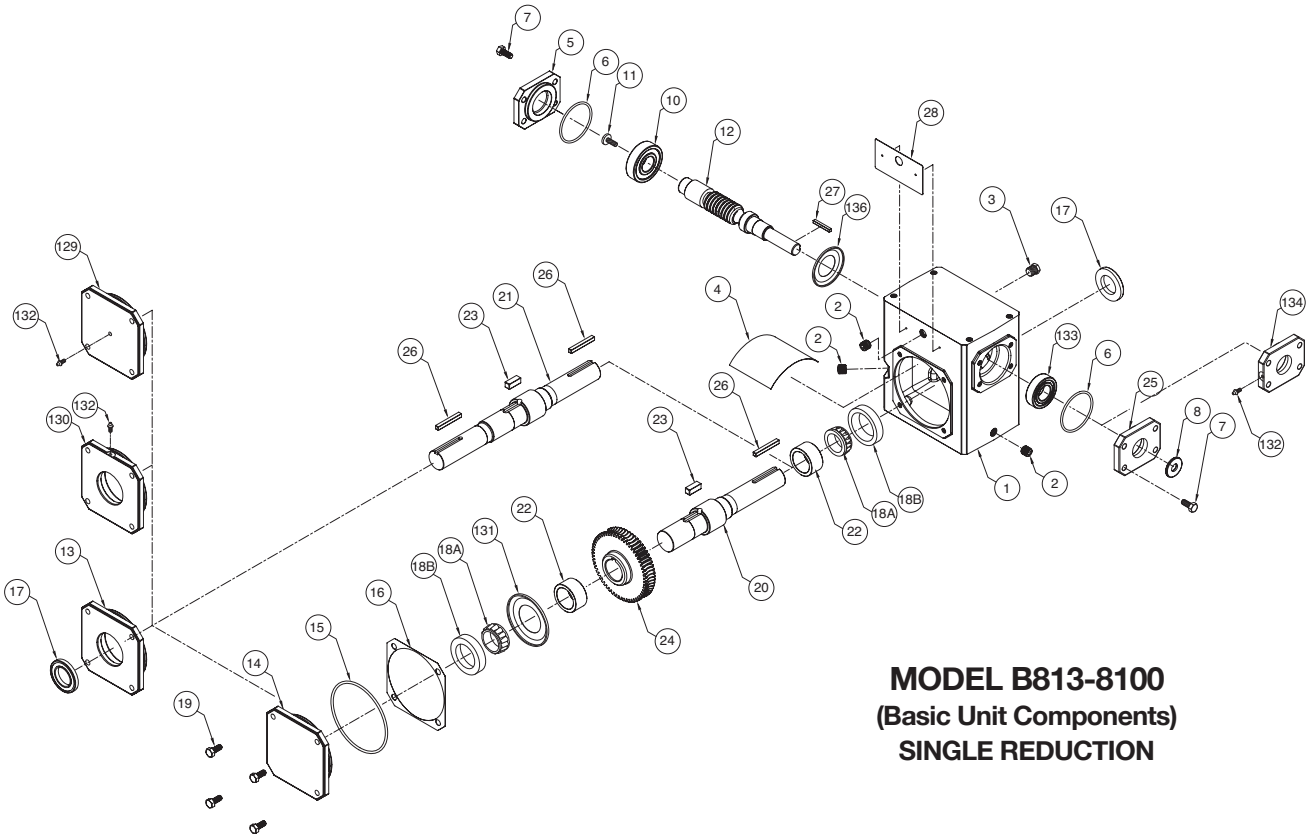
| NEMA SHAFT (U) | KEYWAY DIMENSIONS (R) | (S) | NEMA SHAFT (U) | KEYWAY DIMENSIONS (R) | (S) |
|---|---|---|---|---|---|
| 5/8 | 33/64 | 3/16 | 2-3/8 | 2-1/64 | 5/8 |
| 7/8 | 49/64 | 3/16 | 2-1/2 | 2-3/16 | 5/8 |
| 1-1/8 | 63/64 | 1/4 | 2-7/8 | 2-29/64 | 3/4 |
| 1-3/8 | 1-13/64 | 5/16 | 3-3/8 | 2-7/8 | 7/8 |
| 1-5/8 | 1-13/32 | 3/8 | 3-7/8 | 3-5/16 | 1 |

■ S is keyway width.
U minus R is keyway depth.

### NEMA DIMENSIONS (Inches)

| Frame Size ▲ | N | P | U | N-W | AA | AB | AH | AJ | AK | BB | BD | XO | XP | TAP | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S56 | $1\frac{15}{16}$ | $5\frac{19}{32}$ | $\frac{5}{8}$ | $1\frac{7}{8}$ | $\frac{1}{2}$ | $4\frac{7}{8}$ | $2\frac{1}{16}$ | $5\frac{7}{8}$ | $4\frac{1}{2}$ | $\frac{1}{8}$ | $6\frac{1}{2}$ | $2\frac{1}{4}$ | $5\frac{7}{8}$ | $\frac{3}{8}$-16 | $\frac{3}{16}$ |
| 56 | | $6\frac{19}{32}$ | | | | $5\frac{5}{16}$ | | | | | | | $7\frac{5}{32}$ | | |
| 143T 145T | $2\frac{3}{8}$ | $6\frac{19}{32}$ | $\frac{7}{8}$ | $2\frac{1}{4}$ | $\frac{3}{4}$ | $5\frac{5}{16}$ | $2\frac{1}{8}$ | $5\frac{7}{8}$ | $4\frac{1}{2}$ | $\frac{1}{8}$ | $6\frac{1}{2}$ | $2\frac{1}{4}$ | $7\frac{5}{32}$ | $\frac{3}{8}$-16 | $\frac{3}{16}$ |
| 182T 184T | $2\frac{7}{8}$ | $8\frac{15}{32}$ | $1\frac{1}{8}$ | $2\frac{3}{4}$ | $\frac{3}{4}$ | $6\frac{3}{8}$ | $2\frac{5}{8}$ | $7\frac{1}{4}$ | $8\frac{1}{2}$ | $\frac{1}{4}$ | $8\frac{7}{8}$ | $2\frac{1}{4}$ | $9\frac{3}{32}$ | $\frac{1}{2}$-13 | $\frac{1}{4}$ |
| S213T | $3\frac{1}{2}$ | $8\frac{15}{32}$ | | | $\frac{3}{4}$ | $6\frac{3}{8}$ | | | | | $8\frac{7}{8}$ | | $9\frac{3}{32}$ | | |
| 213T 215T | – | $10\frac{13}{16}$ | $1\frac{3}{8}$ | $3\frac{3}{8}$ | 1 | $8\frac{5}{16}$ | $3\frac{1}{8}$ | $7\frac{1}{4}$ | $8\frac{1}{2}$ | $\frac{1}{4}$ | 9 | $2\frac{1}{4}$ | $11\frac{3}{32}$ | $\frac{1}{2}$-13 | $\frac{5}{16}$ |
| 254TC 256TC | – | $13\frac{1}{4}$ | $1\frac{5}{8}$ | 4 | $1\frac{1}{4}$ | $11\frac{5}{8}$ | $3\frac{3}{4}$ | $7\frac{1}{4}$ | $8\frac{1}{2}$ | $\frac{1}{4}$ | $9\frac{5}{8}$ | – | $12\frac{7}{8}$ | $\frac{1}{2}$-13 | $\frac{3}{8}$ |

▲ Blue shading denotes dimensions established by NEMA standard MG1, others are unique to LEESON, and will vary with each manufacturer.



## MODEL B813-8100
### (Basic Unit Components)
### SINGLE REDUCTION

**BASIC SINGLE REDUCTION UNIT (B-STYLE)**

**ITEM # DESCRIPTION**

1 HOUSING
2 PIPE PLUG
3 VENT PLUG
4 SPLASH GUARD
5 INPUT CAP
6 O-RING
7 HEX HEAD CAP SCREW
8 INPUT OIL SEAL
9 INPUT BEARING (cup and cone for 842 and larger units)
10 INPUT BEARING (cup and cone for 842 and larger units)
*11 RETAINING SCREW
12 INPUT WORM SHAFT
13 OUTPUT COVER - OPEN
14 OUTPUT COVER - CLOSED
15 O-RING
16 OUTPUT COVER SHIM (as required)
17 OUTPUT OIL SEAL
18 OUTPUT BEARING (18A. CONE, 18B. CUP)
19 HEX HEAD CAP SCREW
♣20 OUTPUT SHAFT - SINGLE
♣21 OUTPUT SHAFT - DOUBLE
22 GEAR SPACER
23 GEAR KEY (only used on size 826 and larger units)
♣24 OUTPUT GEAR
*25 INPUT COVER
26 KEY - OUTPUT EXTENSION
27 KEY - INPUT EXTENSION
28 NAMEPLATE

**QUILL MOTOR FLANGE UNIT (BMQ-STYLE)**

40 QUILL MOTOR FLANGE
41 INPUT OIL SEAL
42 HEX HEAD CAP SCREW (flange to housing)
43 RETAINING RING - SHAFT
*44 RETAINING RING - HOUSING
45 QUILL INPUT SHAFT
46 KEY - INPUT
47 HEX HEAD CAP SCREW (motor to flange)

**HOLLOW OUTPUT SHAFT UNIT (H-STYLE)**

51 OUTPUT COVER
52 OUTPUT OIL SEAL
53 OUTPUT BEARING (53A. CONE, 53B. CUP)
54 GEAR SPACER
♣55 OUTPUT SHAFT
56 SETSCREW
57 GEAR KEY (only used on size 826 and larger units)
♣58 OUTPUT GEAR
59 OUTPUT KEY

**LONG MOTOR FLANGE AND COUPLING KIT (BM-STYLE)**

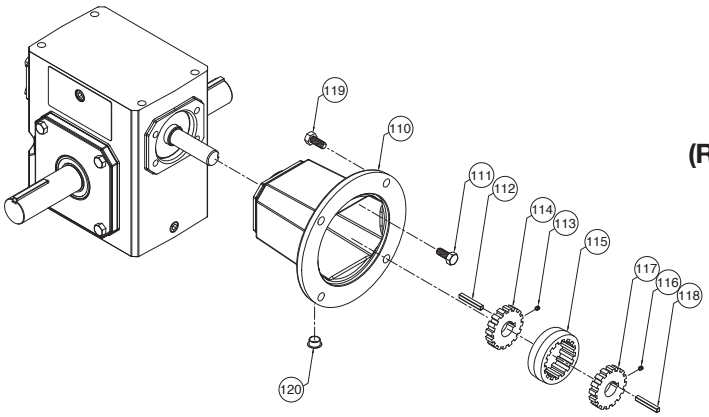
110 "C" FACE MOTOR FLANGE
111 HEX HEAD CAP SCREW (flange to housing)
112 COUPLING KEY - REDUCER SHAFT
113 SETSCREW - REDUCER SHAFT
114 COUPLING GEAR - REDUCER SHAFT
115 COUPLING SLEEVE
116 SETSCREW - MOTOR SHAFT
117 COUPLING GEAR - MOTOR SHAFT
118 COUPLING KEY - MOTOR SHAFT
119 HEX HEAD CAP SCREW (motor to flange)
120 PLASTIC PLUG

**VERTICAL SHAFT REQUIRED PARTS**

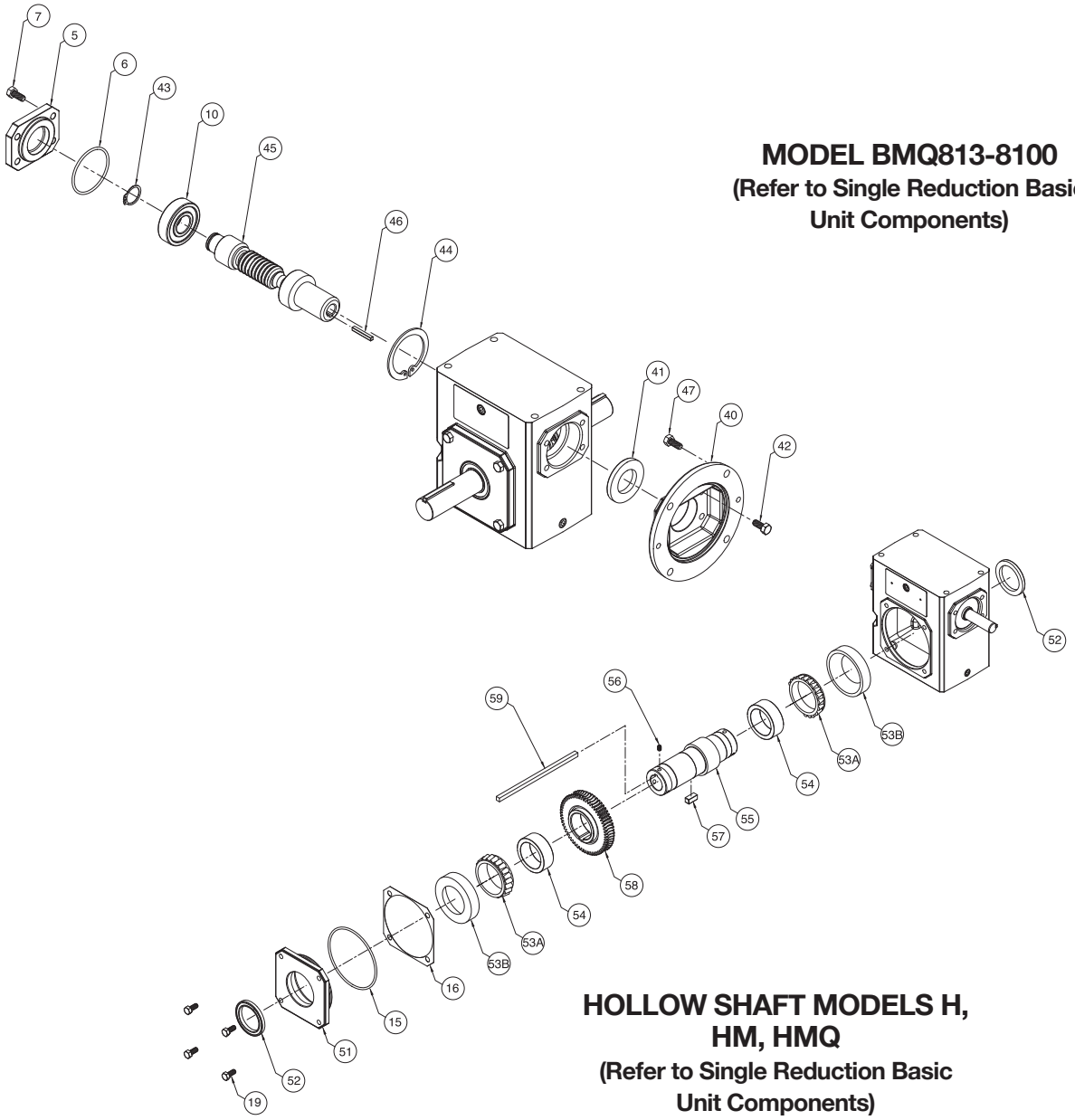
**(supplied only when mounting position involves a vertical shaft)**

*129 OUTPUT COVER - CLOSED
*130 OUTPUT COVER - OPEN
*131 OUTPUT BEARING GREASE RETAINER
132 GREASE FITTING
133 SEALED BALL BEARING (only used on size 818 thru 826 units)
♦134 INPUT COVER
♦136 INPUT BEARING GREASE RETAINER

* ONLY USED ON SIZE 842 AND LARGER UNITS
♦ ONLY USED ON SIZE 830 AND LARGER UNITS
♣ SUPPLIED ONLY AS OUTPUT ASSEMBLY ON 813 THROUGH 824 UNITS

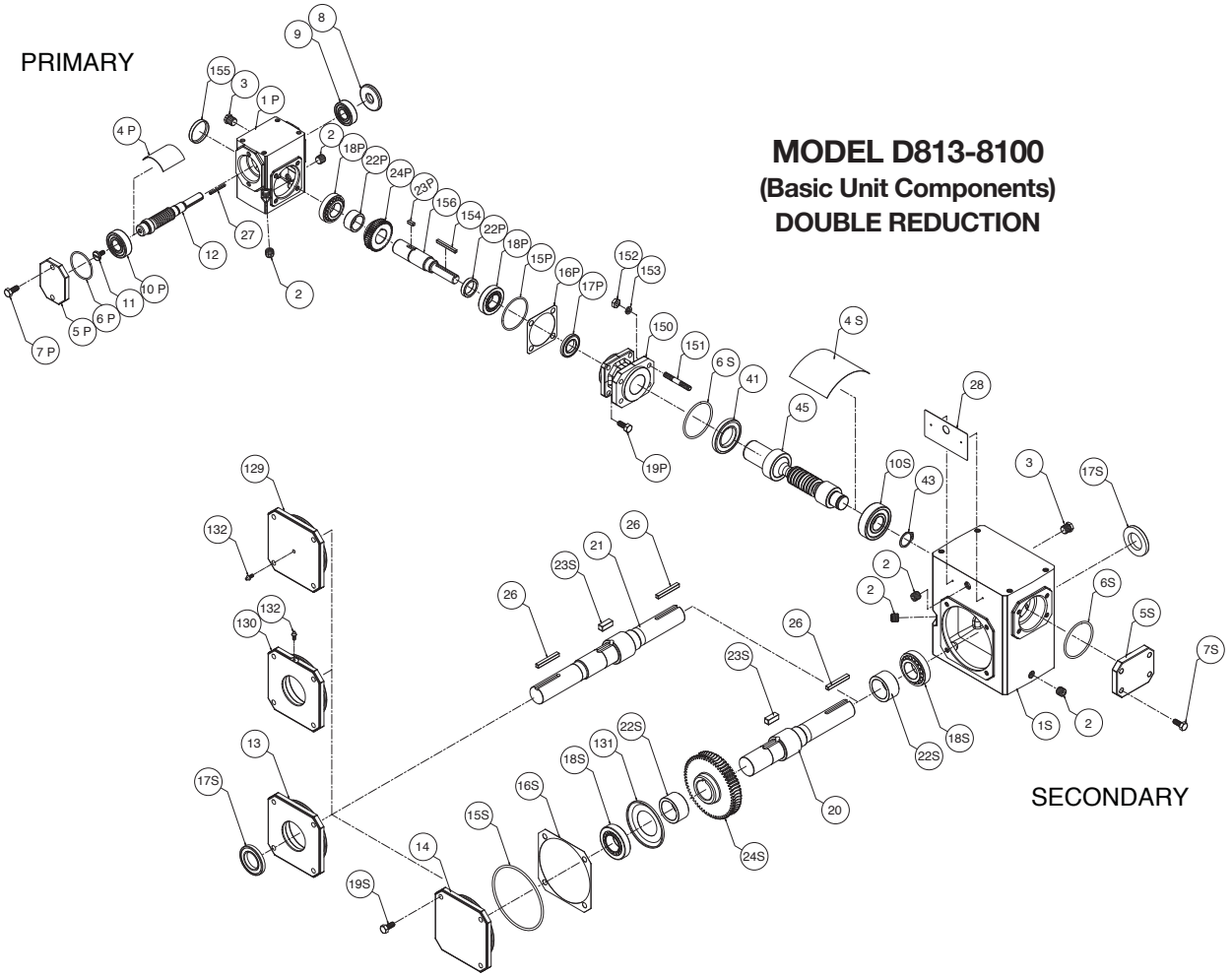



## MODEL BM813-8100
**(Refer to Single Reduction Basic Unit Components)**




## MODEL BMQ813-8100
**(Refer to Single Reduction Basic Unit Components)**

## HOLLOW SHAFT MODELS H, HM, HMQ
**(Refer to Single Reduction Basic Unit Components)**




**DOUBLE REDUCTION UNIT (D-STYLE)**

**ITEM # DESCRIPTION**

1 HOUSING
2 PIPE PLUG
3 VENT PLUG
4 SPLASH GUARD
5 INPUT CAP
6 O-RING
7 HEX HEAD CAP SCREW
8 INPUT OIL SEAL
9 INPUT BEARING (cup and cone for 842 and larger units)
10 INPUT BEARING (cup and cone for 842 and larger units)
11 RETAINING SCREW
12 INPUT WORM SHAFT
13 OUTPUT COVER - OPEN
14 OUTPUT COVER - CLOSED
15 O-RING
16 OUTPUT COVER SHIM (as required)
17 OUTPUT OIL SEAL
18 OUTPUT BEARING (18A. CONE, 18B. CUP)
19 HEX HEAD CAP SCREW
♣20 OUTPUT SHAFT - SINGLE
♣21 OUTPUT SHAFT - DOUBLE
22 GEAR SPACER
23 GEAR KEY (only used on size 826 and larger units)
♣24 OUTPUT GEAR
26 KEY - OUTPUT EXTENSION
27 KEY - INPUT EXTENSION
28 NAMEPLATE
41 INPUT OIL SEAL
43 RETAINING RING - SHAFT
45 QUILL INPUT SHAFT
150 DOUBLE REDUCTION ADAPTER
151 STUD
152 HEX NUT
153 LOCK WASHER
154 PRIMARY SOLID OUTPUT KEY
155 EXPANSION PLUG
156 PRIMARY SOLID OUTPUT SHAFT

**QUILL MOTOR FLANGE UNIT (DMQ-STYLE)**

40 QUILL MOTOR FLANGE
41 INPUT OIL SEAL
42 HEX HEAD CAP SCREW (flange to housing)
43 RETAINING RING - SHAFT
*44 RETAINING RING - HOUSING
45 QUILL INPUT SHAFT
46 KEY - INPUT
47 HEX HEAD CAP SCREW (motor to flange)

**HOLLOW OUTPUT SHAFT UNIT (DH-STYLE)**

51 OUTPUT COVER
52 OUTPUT OIL SEAL
53 OUTPUT BEARING (53A. CONE, 53B. CUP)
54 GEAR SPACER
♣55 OUTPUT SHAFT
56 SETSCREW
57 GEAR KEY (only used on size 826 and larger units)
♣58 OUTPUT GEAR
59 OUTPUT KEY

**LONG MOTOR FLANGE AND COUPLING KIT (DM-STYLE)**

110 "C" FACE MOTOR FLANGE
42 HEX HEAD CAP SCREW (flange to housing)
112 COUPLING KEY - REDUCER SHAFT
113 SETSCREW - REDUCER SHAFT
114 COUPLING GEAR - REDUCER SHAFT
115 COUPLING SLEEVE
116 SETSCREW - MOTOR SHAFT
117 COUPLING GEAR - MOTOR SHAFT
118 COUPLING KEY - MOTOR SHAFT
47 HEX HEAD CAP SCREW (motor to flange)
120 PLASTIC PLUG

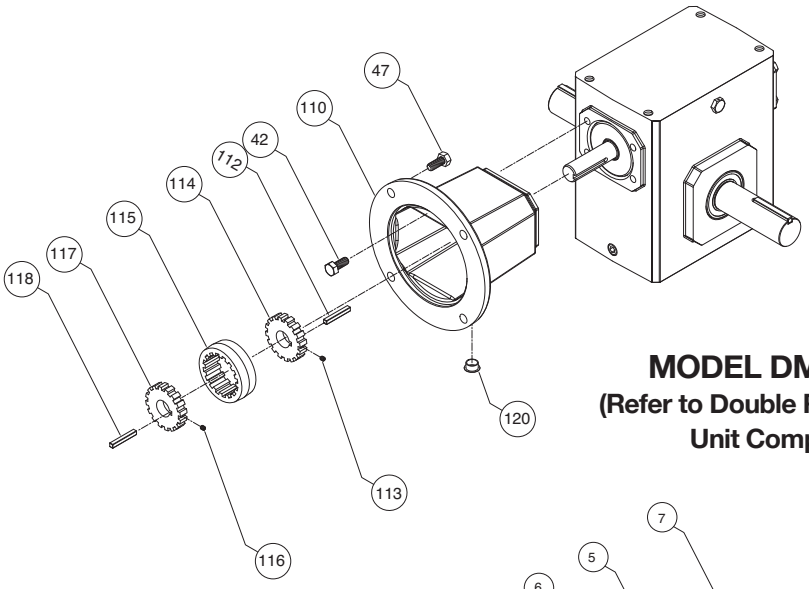
**VERTICAL SHAFT REQUIRED PARTS**

**(supplied only when mounting position involves a vertical shaft)**

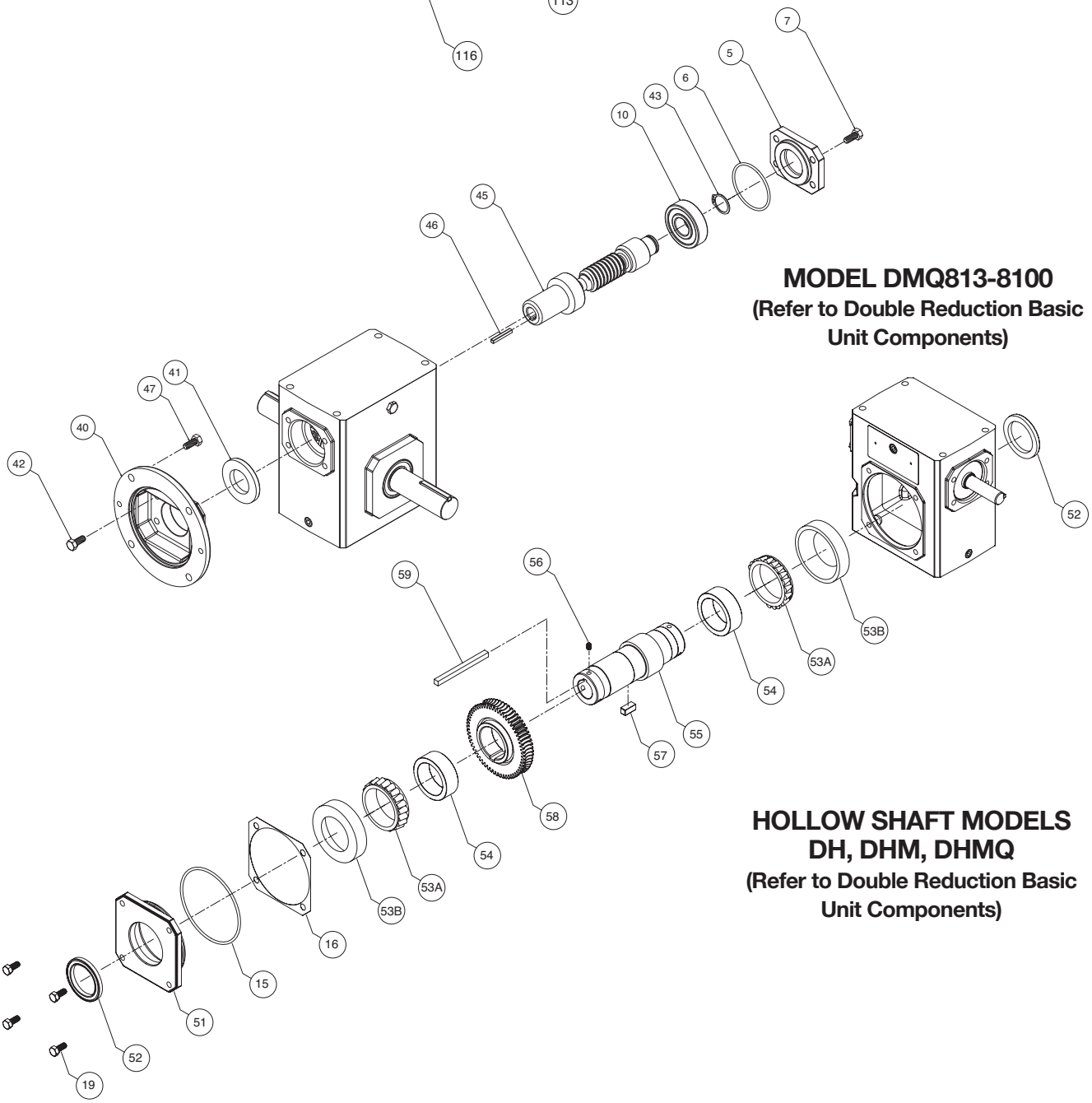
*129 OUTPUT COVER - CLOSED
*130 OUTPUT COVER - OPEN
*131 OUTPUT BEARING GREASE RETAINER
132 GREASE FITTING
133 SEALED BALL BEARING (only used on size 818 thru 826 units)
♦134 INPUT COVER
♦136 INPUT BEARING GREASE RETAINER

* ONLY USED ON SIZE 842 AND LARGER UNITS
♦ ONLY USED ON SIZE 830 AND LARGER UNITS
♣ SUPPLIED ONLY AS OUTPUT ASSEMBLY ON 813 THROUGH 824 UNITS

P - PRIMARY
S - SECONDARY




## MODEL DM813-8100
**(Refer to Double Reduction Basic Unit Components)**



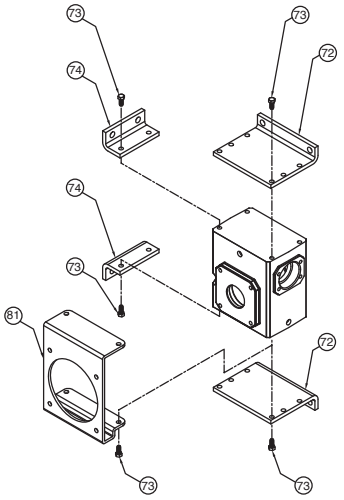

## MODEL DMQ813-8100
**(Refer to Double Reduction Basic Unit Components)**

## HOLLOW SHAFT MODELS DH, DHM, DHMQ
**(Refer to Double Reduction Basic Unit Components)**

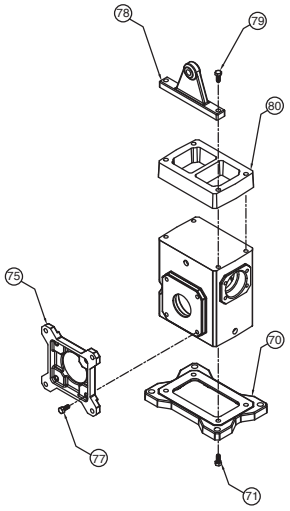
CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES



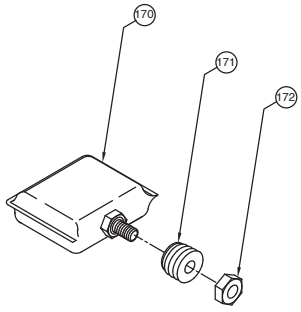
## STEEL MOUNTING ACCESSORIES




## CAST MOUNTING ACCESSORIES




## ENVIROSEAL



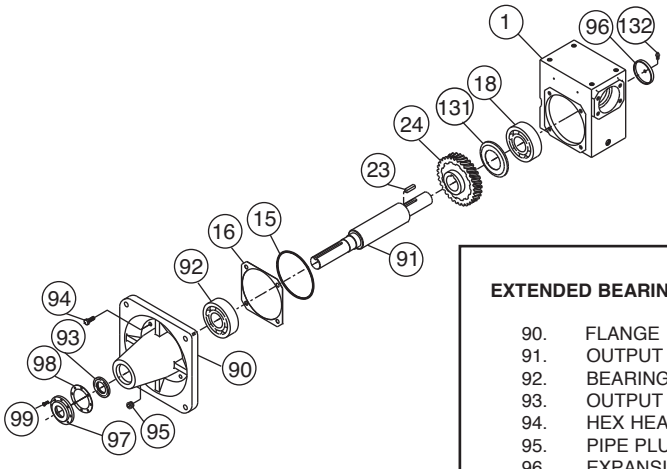

**MOUNTING BRACKET OPTIONS**

| | |
|---|---|
| 70 | HORIZONTAL MOUNTING BASE |
| 71 | CAP SCREW |
| 72 | HIGH AND LOW V-BRACKETS |
| 73 | HEX HEAD CAP SCREW |
| 74 | "J" MOUNT BRACKET |
| 75 | "F" OUTPUT FLANGE (CAST) |
| 77 | HEX HEAD CAP SCREW |
| 78 | TORQUE BRACKET |
| 79 | HEX HEAD CAP SCREW |
| 80 | RISER BLOCK |
| 81 | "FB" OUTPUT FLANGE (bent steel - only available thru size 826, excluding 815 units) |

**INTERNAL PRESSURE COMPENSATION CHAMBER ASSEMBLY**

| | |
|---|---|
| 170 | INTERNAL PRESSURE COMPENSATION CHAMBER |
| 171 | INTERNAL PRESSURE COMPENSATION CHAMBER STEM PLUG |
| 172 | INTERNAL PRESSURE COMPENSATION CHAMBER STEM NUT |

## EXTENDED BEARING UNIT




**EXTENDED BEARING UNIT**

| | |
|---|---|
| 90. | FLANGE |
| 91. | OUTPUT SHAFT |
| 92. | BEARING |
| 93. | OUTPUT OIL SEAL |
| 94. | HEX HEAD CAP SCREW |
| 95. | PIPE PLUG |
| 96. | EXPANSION PLUG |
| *97. | FLANGE COVER |
| *98. | GASKET |
| *99. | HEX HEAD CAP SCREW |

*ONLY USED ON SIZE 5-1/4" CENTER DISTANCE AND LARGER UNITS

# Notes

## U.L., CSA, ISO AND OTHER STANDARDS & APPROVALS – MOTORS

### UNDERWRITERS LABORATORIES INC.

1. All motor models listed with prefix "C" have U.L. component recognition (without thermal overload). File Number E57948, Guide Number PRGY2.
2. All units have U.L. recognized Class B, F or H insulation systems unless otherwise noted. File Number E55555, Guide Number OBJY2.
3. Single phase motors with a model number prefix of "A" or "M" (automatic or manual protectors) have U.L. recognized protector winding combinations and component recognition. File Number E57955, Guide Number XEWR2.
4. Three phase motors with a model number prefix of "A" or "M" (automatic or manual protectors) have U.L. recognized protector winding combinations plus have capability of providing U.L. recognized primary single phasing which is included in our U.L. file E57955, Guide Number XEWR2.
5. Explosion-Proof, single and three phase for 56, 143T and 145T frames: File Number E75276, Guide Number PTDR.

   Explosion-Proof motors 182T and larger: File Number E12044, Guide Number PTDR.

   Explosion-Proof motors DC motors 48 frame: File Number E75276, Guide Number PTDR..
6. Permanent Magnet DC motors except PZ and P300 gearmotors are recognized components under File Number E57948, Guide Number PRGY2.
7. PZ and P300 Permanent Magnet DC gearmotors: File number E49849 or E49747, Guide Number PRGY2.
8. Speedmaster SCR Drives, Component Recognition, File E132235, Guide Number NMMS2, except catalog numbers 174902 and 174903.
9. Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number E154901, Guide Number NMFT2.
10. Speedmaster AC Adjustable Speed Drives, File Number E161242. Canadian UL covered by File Number E161242 also, Guide Number NMMS.

### CANADIAN STANDARDS ASSOCIATION

1. Motor construction for all single and three phase NEMA 42 through S254T frame, IEC/metric 63 through 90L frame, and all sub-fractional horsepower motors: Report Number L33543, Guide Number 260-0-0..
2. Motor construction for all steel or cast iron three phase NEMA 182T through 447T frame and IEC/metric 100L through 250M frame motors: Report Number LR62104.
3. Thermally protected single phase motors through 7½ HP, Report Number LR33543.
4. All Farm Duty motors 1/3 HP through 7½ HP, Report Number LR33543
5. Explosion proof single and three phase for 56, 143T and 145T frames: File Number LR47667.

   Explosion-Proof motors 182T and larger: File Number LR21839 and LR47504.

   Explosion-Proof DC motors 48 frame: File Number LR701080.
6. Permanent Magnet DC motors are listed under File Number LR33543.
7. Multi-Speed Motors, steel or cast iron, 182T through 447T frames are listed under file number LR33543.
8. Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number LR75790.

### MOTOR EFFICIENCY VERIFICATION

Energy Efficiency Verification - Full load efficiency ratings of three phase, single speed, NEMA/EEMAC Design A or B squirrel cage induction motors, 1 through 200 HP, 230, 460 or 575 volts, 60 Hz, in totally enclosed and open, drip-proof enclosures for non-hazardous applications, CSA Report Number EEV 78720-1. Tested to CSA 390 (IEEE 112B) Standards. The Grafton testing facility is qualified for CSA energy efficiency performance testing of polyphase induction motors. The Grafton Testing Facility is NVLAB recognized for energy efficiency testing of electric motors to EPACT requirements of the Department of Energy.

### ISO QUALITY CERTIFICATION

Grafton and Saukville, Wisconsin administrative, design and manufacturing facility, ISO 9001, Certificate Number RvC #93-102. EN29001, BS5750: Part 1 and ANSI/ASQC Q91-19.

Black River Falls, Wisconsin manufacturing facility, ISO 9002, Certificate Number RvC #93-090.

Mississauga (Toronto), Ontario, administrative, distribution facility, ISO 9002, Certificate Number QMI #003027.

Hanover, Ontario, manufacturing facility, ISO 9002, Certificate Number QMI #003028.

### BAKING INDUSTRY SANITATION STANDARDS COMMITTEE

WASHGUARD® II, stainless steel washdown duty motors, NEMA frames 56, 143T, 145T, 182T and 184T are certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 769. The WBMQ Series of gear reducers are BISSC certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 941.

### SAUDI ARABIAN STANDARDS ORGANIZATION

SCCP Ref. No.: R-100157

## The CE Mark

**CE** is an acronym for the French phrase *"Conformite Europeene"* and is similar to the UL or CSA marks of North America. However, unlike UL or CSA which require independent laboratory testing, the CE mark can be applied by the motor manufacturer through "self certifying" that its products are designed to the appropriate standards. The European Union has issued 24 directives related to the **CE** mark. Three Directives apply to electric motors.

**Low Voltage Directive** (73/23/EEC) This directive applies to electrical equipment operating in the voltage range of 50-1000 volts AC or 75-1500 volts DC. Virtually all LEESON motors (except low voltage DC) are included in this directive.

Based on our testing to the applicable electrical and mechanical standards EN60034 and IEC 34, LEESON certifies conformity to this directive. All three phase 50 Hz stock motors comply with the nameplate designations, lead markings and connection diagrams required. A "Declaration of Conformity" accompanies these motors and a CE label is applied.

**Machinery Directive** (89/3392/EEC) This directive applies to machinery that may contain certain motors. This is an issue with equipment manufacturers and requires the use of a motor meeting the Low Voltage Directive and requires a "Declaration of Incorporation" document which means that only the motor complies with the requirements of the Low Voltage Directive. A CE label is applied to the motor but it remains the responsibility of the equipment manufacturer to obtain certification for the finished product.

**Electromagnetic Compatibility (EMC) Directive** (89/336/EEC) This directive addresses the final product and is again a concern for the equipment manufacturer. Since this Directive addresses electromagnetic interference (EMI) concerns, it does not affect three phase AC motors because they do not produce EMI. DC motors, however, do produce EMI. How much of the "noise" is emitted outside the machine depends on a host of factors. LEESON's Engineering Department can assist OEM's in applying DC motors in machinery destined for Europe and requiring certification to the EMC Directive.

CE CONFORMITE EUROPEENE

***The following*** **⚠ WARNING** ***and*** **⚠ CAUTION** ***information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your GROVE GEAR product:***

Read **ALL** instructions prior to operating reducer. Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

**⚠ WARNING**

- Written authorization from GROVE GEAR is required to operate or use reducers in man lift or people moving devices.
- Check to make certain application does not exceed the allowable load capacities published in the current catalog.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
- Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
- Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.
- Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
- Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
- Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and no other associated attachments or motors.
- Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
- Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and/or shaft breakage from bending fatigue, if not sized properly.

**⚠ CAUTION**

- Test run unit to verify operation. If the unit tested is a prototype, that unit must be of current production.
- If the speed reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminants such as water and the reduction in cooling ability due to exterior contaminants.
- Mounting bolts should be routinely checked to ensure that the unit is firmly anchored for proper operation.

In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

> The manufacturer makes no warranties or representations, express or implied, by operation of law or otherwise, as to the merchantability or fitness for a particular purpose of the goods sold hereunder. Buyer acknowledges that it alone has determined that the goods purchased hereunder will suitably meet the requirements of their intended use. In no event will the manufacturer be liable for consequential, incidental or other damages. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under Section 2-719 of the Uniform Commercial Code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document including the warnings and cautions above in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product.

This information should be read together with all other printed information supplied by GROVE GEAR.

# REGAL TERMS AND CONDITIONS OF SALE

## ALL QUOTATIONS ARE OFFERED AND ALL PURCHASE ORDERS ARE ACCEPTED BY SELLER SUBJECT ONLY TO THESE TERMS AND CONDITIONS

**1. DEFINITIONS:** *"Buyer"* means the entity to which Seller is selling Products or Services under a Contract. • *"Contract"* means the agreement between Buyer and Seller governing the sale of Products and/or Services by Seller to Buyer. These Terms and Conditions, the Quotation (if one is issued by Seller), any purchase order acknowledgement (if one is issued by Seller), and Buyer's purchase order (except to the extent that it conflicts with these Terms and Conditions, the Quotation, and/or the order acknowledgement) constitute the Contract. • *"Products"* means the equipment, parts, materials, supplies, and other goods that Seller has agreed to supply under the Contract. References in these Terms and Conditions to the purchase and sale of Products may mean, where applicable, the licensing of Software loaded on or provided with the Products. • *"Quotation"* means Seller's statement identifying the Products and Services, together with any quantity, price, delivery schedule, and/or other terms and conditions (in addition to or different from these Terms and Conditions), offered by Seller for sale to Buyer. A Quotation that incorporates these Terms and Conditions by reference shall be deemed to include these Terms and Conditions, whether or not Seller provides a complete copy of these Terms and Conditions to Buyer with the Quotation, with a purchase order acknowledgement, or with an invoice. Where there is a conflict between these Terms and Conditions and other provisions of the Quotation, the latter shall control. • *"Services"* means the services that Seller has agreed to provide under the Contract. • *"Software"* means software loaded on or provided with the Products. • *"Seller"* means the Regal entity – whether Regal Beloit Corporation ("RBC") or an RBC subsidiary – supplying Products and/or providing Services under the Contract. • *"Terms and Conditions"* means these "Terms and Conditions of Sale."

**2. CONTRACT FORMATION:** No agreement or understanding, oral or written, purporting to modify these Terms and Conditions shall be binding on Seller unless it is made in writing, specifically stating that it is a modification of these Terms and Conditions and it is signed by Seller's authorized representative. No course of dealing, usage of trade, or course of performance shall be relevant to explain or supplement any of these Terms and Conditions. If these Terms and Conditions are deemed an offer, Buyer's acceptance of Seller's offer is expressly limited to acceptance of these Terms and Conditions. Fulfillment of Buyer's order does not constitute acceptance of any of Buyer's terms and conditions and does not modify or amend these Terms and Conditions. Buyer's purchase order for the purchase of Products and/or for the performance of Services shall constitute Buyer's assent to these Terms and Conditions. Any terms and conditions contained in Buyer's purchase order or other form of communication from Buyer that are additional to or different from these Terms and Conditions, shall be deemed rejected by Seller, unless expressly accepted in writing by Seller's authorized representative. Alternatively, if these Terms and Conditions are deemed to be a response to, an acceptance of, or a written confirmation of, Buyer's offer, whether provided in the form of a purchase order or otherwise, Seller's acceptance is expressly conditioned upon Buyer's assent to these Terms and Conditions. Buyer's acceptance of Products tendered to Buyer by Seller shall constitute Buyer's express assent to all of the terms and conditions contained in these Terms and Conditions. All proposals, negotiations and representations, if any, made prior to or with reference hereto are hereby superseded by these Terms and Conditions. References in this Section to "these Terms and Conditions" shall be deemed to mean these Terms and Conditions and Seller's Quotation, if Seller has issued a Quotation.

**3. ACCEPTANCE OF PURCHASE ORDERS:** No Buyer purchase order shall be binding on Seller until accepted in writing by Seller, and Seller shall have no liability to Buyer with respect to purchase orders that are not accepted. Shipment against a purchase order shall be deemed to constitute Seller's acceptance thereof, subject to these Terms and Conditions. All purchase orders shall be subject to these Terms and Conditions, whether or not the purchase orders so state. Purchase orders accepted by Seller may not be cancelled or modified by Buyer without the prior written consent of Seller.

**4. QUOTATIONS:** Quotations shall expire and shall be void thirty (30) days from date of the Quotation, unless otherwise specified in the Quotation. The Quotation may be modified or withdrawn by Seller at any time before Seller's receipt of Buyer's conforming acceptance.

**5. PRICES; PRICE CHANGES:**
**(a) Products.** The price of the Products sold pursuant to the Contract shall be as set forth in the Quotation. If price is not specified in the Quotation, price shall be based upon Seller's prices in effect at the time of shipment. Published prices are for Products of Seller's current standard design and constructed of standard materials. Variation from the standard design and/or materials requires special pricing. Seller reserves the right at any time, and without incurring any obligation, to discontinue the manufacture of any model, to withdraw products from sale, to make changes in design, and/or to add improvements to products. Price also shall be based on freight rates in effect at the time of shipment. Where applicable, in the event of an increase in the applicable freight rates before the shipment of Products, such changes will be for the account of Buyer. Price advances, discounts, extras and other terms and conditions are subject to change without notice. Unless otherwise provided in the Quotation, price is based on delivery in accordance with the "Delivery" section below. Prices include Seller's standard packing. **(b) Services.** Services prices are based on normal business hours (8 AM to 5 PM Monday through Friday). Overtime and Saturday hours will be billed at one and one half (1.5) times the normal business hour hourly rate. Sunday hours will be billed at two (2) times the normal business hours hourly rate; holiday hours will be billed at three (3) times the normal business hours hourly rate.

**6. TAXES, DUTIES AND FEES:** Seller shall be responsible for taxes measured on Seller's net income based upon performance of, or payment for, work under the Contract ("Seller Taxes"). Buyer shall be responsible for all other taxes, duties, fees or other charges of any kind (including, but not limited to any manufacturer's tax, retailers' occupation tax, use tax, sales tax, excise tax, duty, custom, inspection or testing fee, value added tax, or any other tax, fee or charge of any nature whatsoever) imposed by any governmental authority against Buyer, Seller or Seller's suppliers and/or contractors, based upon the Contract between Seller and Buyer. In the event Seller is required to pay any such tax, fee or charge, regardless whether such tax, fee or charge is imposed before or after Seller's delivery of the Products and/or Buyer's payment under the Contract, Buyer shall reimburse Seller therefor. In lieu of such reimbursement, Buyer shall provide Seller, at the time the order is submitted, with an exemption certificate or other document acceptable to the authority imposing such tax, fee or charge. If Seller's prices include any taxes, duties or fees (other than Seller Taxes), any change in such taxes, duties and/or fees shall be the basis for a price adjustment.

**7. TERMS OF PAYMENT:**
**(a) Terms.** Terms of payment are cash in full, without set-off or discount, in U.S. dollars, and by wire transfer, no later than thirty (30) days from date of invoice. **(b) Payment Default.** If Buyer defaults in any payment when due, or in the event that any voluntary or involuntary bankruptcy or insolvency proceedings involving Buyer are initiated by or against Buyer, then the whole Contract price shall immediately become due and payable upon demand, or Seller, at its option and without prejudice to its other lawful remedies, may defer delivery or cancel the Contract. Where delivery is deferred and Seller does not demand immediate payment of the full Contract price, pro-rata payments shall become due as shipments are made. **(c) Buyer Financial Condition.** If, during the period of performance of the Contract, the financial condition of Buyer is determined by Seller not to justify the terms of payment specified, Seller may demand full or partial payment in advance before proceeding with the work, or satisfactory security or guarantees that invoices will be promptly paid when due, or, at its option, without prejudice to other lawful remedies, may defer delivery or cancel the Contract. **(d) Delay.** If delivery is delayed by Buyer, which delay must be consented to by Seller, Seller may store the Products in accordance with subsection 8(e) "Storage" below and Seller may submit a new estimate of cost for completion based on prevailing conditions. Payments shall become due from the date on which Seller is prepared to deliver the Products and storage shall be the Buyer's risk and expense as provided in subsection 8(e) "Storage" below. If manufacture is delayed by Buyer for any cause, a partial payment based upon the proportion of the order completed shall become due from the date on which Seller is notified of the delay.**(e) Late Payment Charge.** Buyer shall pay a late payment charge on all amounts not paid in full when due at the rate of one and one half percent (1.5%) per month or at the maximum legally permissible rate, whichever is lower. **(f) Exceptions.** Supplement A to these Terms and Conditions lists Seller business units for which payment terms vary from payment terms set forth in this Section 7.

**8. DELIVERY; TITLE TRANSFER; RISK OF LOSS/DAMAGE:**
**(a) Delivery – U.S. Buyer.** For sales in the U.S. that do not involve export from the U.S., Seller shall deliver Products to Buyer EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates as its discretion as point of shipment from time to time. **(b) Sales Involving Exports from U.S.** *(1) Delivery – U.S. Buyer; Subsequent Drop Shipment to Location Outside U.S.* For sales in the U.S. to a U.S. Buyer, that involve drop shipment at Buyer's request and/or on Buyer's behalf, to a location outside the U.S. Seller shall deliver the Products to Buyer EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates at its discretion as its point of shipment from time to time. Buyer is responsible for all transportation charges incurred after delivery of the Products to the carrier or Buyer at the point of shipment and shall reimburse Seller for any transit insurance or freight pre-paid for the Products by Seller. Buyer shall bear the risk of loss and/or damage in transportation. Buyer is responsible for filing any export documents required for export from the U.S. *(2) Delivery – Non-U.S. Buyer; Routed Export Transactions.* For sales in the U.S. to a non-U.S. Buyer, Seller shall deliver Products to Buyer's freight forwarder EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates at its discretion as its point of shipment from time to time. In a "Routed Export Transaction," as defined in the U.S. Census regulations, 15 CFR Section 30.3, where Buyer is a non-U.S. entity, Buyer shall authorize Buyer's designated freight forwarder or Seller to facilitate the export of the Products from the U.S. and to prepare and file export documentation with respect to such export transaction (hereafter, to "Facilitate the Export"). If Buyer authorizes its designated freight forwarder to Facilitate the Export, Buyer's freight forwarder shall provide Seller with a copy of the final export documentation and proof of filing. If Buyer authorizes Seller to Facilitate the Export, Buyer shall cause Buyer's freight forwarder to provide Seller the information needed by Seller to Facilitate the Export. Buyer shall give timely notice to Seller identifying whom it has designated to Facilitate the Export. **(c) Delivery Dates.** Delivery dates are approximate, are not guaranteed and are based upon prompt receipt by Seller from Buyer of all necessary shipping and other information. Seller may deliver in advance of the delivery schedule. Seller reserves the right to make delivery in installments, with all installments to be separately invoiced and paid for by Buyer when due per invoice, without regard to subsequent deliveries. Delivery of the Products to a commercial carrier at the shipping point shall constitute delivery to Buyer. **(d) Title Transfer.** Title to Products shall pass to Buyer upon the earlier of delivery of the Products to the carrier or Buyer at the point of shipment in accordance with subsection (a) above, except that, for Routed Export Transactions, title shall transfer to Buyer upon delivery to Buyer's designated freight forwarder. Subject to applicable law, Seller, upon notice to Buyer, may retain title to the Products until such time as Seller receives payment in full from Buyer. Title to Software shall not pass to Buyer and is subject to the applicable license. **(e) Risk of Loss/Damage.** Risk of loss and/or damage shall pass to Buyer upon delivery in accordance with subsection (a) above, except that, for Routed Export Transactions, risk of loss and/or damage shall pass upon delivery of the Products to Buyer's designated freight forwarder. **(f) Delivery by Seller's Carrier.** Where the parties agree that delivery shall be made at a location other than Seller's point of shipment, where Seller will deliver using its carrier or Seller's privately owned or leased trucks, unloading at the agreed location shall constitute delivery to Buyer. Freight and handling charges by Seller may not reflect actual freight charges prepaid to the carrier by Seller due to incentive discounts earned by Seller based upon Seller's aggregate volume of freight tendered to a carrier or when a carrier must be used which charges a rate which is different than the rate upon which Seller's freight and handling charges were based. When shipments are delivered in Seller's privately owned or leased trucks, Buyer will be charged an amount approximating the prevailing common carrier rate. **(g) Storage.** In the event that Buyer is unable to accept delivery of the Products at time of shipment, Seller shall invoice Buyer for the full purchase price as if shipment had been made and: (i) if Seller is able to store such Products in its own facilities, Buyer will pay Seller the reasonable handling and storage charges for the period of such storage, or (ii) if Seller is unable to store such goods at its own facility, Seller reserves the right to arrange handling and storage in a suitable bonded warehouse for Buyer at Buyer's expense. In cases where handling and storage become necessary, it shall be Buyer's responsibility to notify Seller when shipment is to be made. Seller will make necessary arrangements for shipment at Buyer's expense.

**9. EXCUSABLE DELAYS; FORCE MAJEURE: (a) Excuse of Performance.** Seller shall not be liable for any ordinary, incidental, or consequential loss or damage as a result of Seller's delay in or failure of delivery, or installation of Products or performance of Services due to (i) any cause beyond Seller's reasonable control, (ii) an act of God, act of Buyer, embargo or other government act, authority, regulation or request, fire, theft, accident, strike, slowdown or other labor disturbance, war, armed conflict, act or threat of terrorism, riot, epidemic, delay in transportation, or (iii) inability to obtain necessary labor, materials, components, or facilities. Should any of the aforementioned events occur, Seller, at its option, may cancel Buyer's order with respect to any undelivered Products or incomplete Services or extend the delivery date for a period equal to the time lost because of delay. Notice of such election shall be given promptly to Buyer. In the event Seller elects to so cancel the Contract, Seller shall be released of and from all liability for failure to deliver the Products or to perform the Services, including, but not limited to, any and all claims on behalf of Buyer for lost profits, or any other claim of any nature which Buyer might have. If shipping or progress of the work is delayed or interrupted by Buyer, directly or indirectly, Buyer shall pay Seller for all additional charges resulting therefrom. **(b) Allocation.** If Seller determines that its ability to meet the demand for products, including the Products, or to obtain labor, materials, components or facilities is hindered, limited or made impracticable due to causes set forth in subsection (a) above, Seller may allocate its available supply of products, including the Products, among itself and its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom.

**10. LIMITED WARRANTY.**
**(a) Scope and Period.**
*(1) Products.* Seller warrants that the Products shall be delivered free from defects in material, workmanship and title and shall conform to Seller's specification agreed upon in a written and signed agreement by Buyer and Seller, if applicable, for the Products. This warranty shall expire twelve (12) months from first use of the Product or eighteen (18) months from date of manufacture of the Product, whichever occurs first. *(2) Repaired or Replaced Products or Parts of Products.* Seller warrants that the repaired or replaced Products or parts of Products shall be delivered free from defects in material, workmanship and title. In the case of repaired or replaced Products or parts of Products comprising warranty remedies for Products, this warranty shall expire upon expiration of the warranty period applicable to the Products originally supplied by Seller. In the case of other repaired or replaced Products or parts of Products, this warranty shall expire twelve (12) months from the date of repair or manufacture of the Product s or parts of the Products. *(3) Services.* Seller warrants that the Services shall be performed in a competent and diligent manner in accordance with any mutually agreed specification. This warranty shall expire ninety (90) days from the date of completion of such Services. *(4) Software.* Seller warrants that the Software shall execute, at time of delivery, in accordance with the specification agreed upon in a written and signed agreement by Buyer (as licensee) and Seller (as licensor) when properly installed in the Products. The warranty shall expire six (6) months from date of manufacture of the first Product in which the Software is loaded. *(5) Applica-bility.* This warranty shall apply to any Products and/or Software bought, acquired, and/or used by an entity that, or person who, acquires the Products and/or Software from Buyer (a "Transferee"), except that any claim made against Seller pursuant to this warranty shall be made by Buyer only. Seller shall not be bound by this Section 10 to satisfy a claim under this Section made against Seller by a Transferee, whether such Transferee is a direct or indirect Transferee of Buyer, Buyer shall provide any Transferee of a Product or Software written conspicuous notice of Sections 10 and 11 hereof. *(6) Exceptions.* Supplement B to these Terms and Conditions lists Seller Products, parts, Services and Software for which Seller's warranties vary from the warranties set forth in this subsection 10(a).
**(b) Remedies.**
*(1) Products.* If, prior to expiration of the warranty period set forth in subsection 10(a)(1), above, any Products shall be proved to Seller's satisfaction to be defective or nonconforming with the warranty set forth therein, Seller will repair or replace such defective Products or components thereof, FCA Seller's factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms® 2010), or will refund or provide Buyer with a credit in the amount of the purchase price paid therefor by Buyer, at Seller's sole option. Buyer's exclusive remedy and Seller's sole obligation under this warranty shall be limited to such repair or replacement, FCA factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms® 2010), or refund or credit by Seller, and shall be conditioned upon Seller's receiving written notice of any defect and/or nonconformance within a reasonable period of time, but in no event more than thirty (30) days, after it was discovered or by reasonable care should have been discovered. All claims not made in writing and received by Seller within such thirty (30) day period shall be deemed waived. In no event shall Seller's liability for such defective or nonconforming Products exceed the purchase price paid by Buyer for such Products. With prior approval from Seller, Buyer shall return the alleged defective Product or part, freight prepaid, for Seller's inspection, and no other Products shall be returned to any Seller office, factory, warehouse, authorized service center or other facility, without Seller's written consent. *(2) Replacement Products and Parts of Products.* If prior to the expiration of the applicable warranty period set forth in subsection 10(a)(2) above, any replacement Products and/or parts of Products shall be proved to Seller's satisfaction to be defective or nonconforming

with the warranty set forth therein, the remedy set forth in subsection 10(b)(2) above shall apply to such replacement Products and/or parts of Products. *(3) Services.* If, prior to expiration of the warranty period set forth in subsection 10(a)(3), above, any Services shall be proved to Seller's satisfaction to be nonconforming with the warranty set forth therein, Seller will re-perform such nonconforming Services. If the Services cannot be re-performed, Seller, at its option, shall refund or credit monies paid by Buyer for such nonconforming Services. *(4) Software.* If, prior to expiration of the warranty period set forth in subsection 10(a)(4) above, , (i) Buyer provides, in writing, a complete description of the claimed nonconformance in the Software, and (ii) the Software is proven to Seller's satisfaction to be so nonconforming with the warranty set forth therein, Seller will correct the nonconformance by, at its option: (i) modifying or making available to Buyer instructions for modifying the program causing such nonconformance, or (ii) making available a corrected or replacement program FCA Seller's factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms® 2010).

**(c) Exclusions - The warranties set forth in this Section 10 do not cover:**

*(1) shipping expenses to and from Seller's office,* factory, warehouse, authorized service center or other destination designated by Seller for repair or replacement of defective Products or any tax, duty, custom, inspection or testing fee, or any other charge of any nature related thereto; *(2) costs of removing defective Products from,* and/or disassembling, equipment in which Products are assembled or reinstalling Products and/or reassembling such equipment, or testing repaired or replaced Products and/or the equipment; *(3) field service travel and living costs and expenses; (4) Products subjected to abuse, neglect, negligence, misuse, misapplication, accident, damages by circumstances beyond Seller's control,* improper installation (if by anyone other than Seller), improper operation (including, but not limited to, operation in excess of rated capacity or otherwise not in accordance with installation, maintenance, or operating instructions or requirements) improper maintenance, improper storage, and/or any other than normal use or service; *(5) Products maintained, serviced, repaired or altered by anyone other than Seller* or Seller's authorized service agencies; *(6) Products and/or parts not manufactured by Seller;* for Products furnished by Seller, but manufactured by others, Seller will assign to Buyer the written warranty, if any, of the manufacturer, if assignment is reasonably practicable; however, Seller does not adopt or guarantee or represent that the manufacturer will comply with any of the terms of the warranty of such manufacturer; but, in no event shall Seller's obligations be greater than those provided under Seller's warranty set forth in this Section 10; and/or *(7) failures of the Software to be interruption-free or error-free* or to meet Buyer's or any other party's requirements; and, problems caused by use of the Software in conjunction with third-party software, hardware, or products.

**(d) DISCLAIMER:** THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO SELLER IN SPECIFICATIONS, DRAWINGS, OR OTHERWISE AND WHETHER OR NOT SELLER'S PRODUCTS ARE SPECIFICIALLY DESIGNED AND/OR MANUFACTURED BY SELLER FOR BUYER'S USE OR PURPOSE. NO EMPLOYEE, REPRESENTATIVE, OR AGENT OF SELLER OTHER THAN AN OFFICER OF SELLER IS AUTHORIZED TO ALTER OR MODIFY ANY PROVISION OF THIS SECTION 10 OR TO MAKE ANY GUARANTEE, WARRANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, ORALLY OR IN WRITING, WHICH IS CONTRARY TO THE FOREGOING. Except where Buyer and Seller agree in a written and signed agreement upon the specifications applicable to the Products, Software, and/or Services, any description of the Products, Software, and/or Services, whether in writing or made orally by Seller or Seller's agents, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with Buyer's order are for the sole purpose of identifying the Products and shall not be construed as an express or implied warranty. Any suggestions by Seller or Seller's agents regarding use, application or suitability of the Products shall not be construed as an express or implied warranty unless confirmed to be such in writing by Seller's authorized officer.

**11. LIMITATIONS OF REMEDY AND LIABILITY:**

**(a) Breach of Warranty Claims.** Buyer's only remedy for breach of any warranty under the Contract, other than the warranty provided under Section 13 "Intellectual Property Indemnity," shall be the applicable remedy set forth in Section 10 "Limited Warranty" above. Seller's total liability for any and all breach of warranty claims under the Contract shall not exceed the purchase price allocable to the Product, Software or Service or part thereof which gives rise to the claim. **(b) Other Claims.** Seller's liability for any claim other than a breach of warranty claim under Section 10 "Limited Warranty," whether in contract, negligence, tort, strict liability, indemnity or otherwise for any loss or damage arising out of, connected with, or resulting from the Contract or the performance or breach thereof, or from the design, manufacture, sale, delivery, resale, repair, replacement, installation, technical direction of installation, inspection, operation or use of any Products covered by or furnished under the Contract or from Services rendered under the Contract, shall in no case (except as provided in Section 13 "Intellectual Property Indemnity") exceed five percent (5%) of the purchase price allocable to the Products or part thereof or Services giving rise to the claim. **(c) Consequential Damage Disclaimer.** SELLER SHALL NOT BE LIABLE FOR AND DISCLAIMS ALL CONSEQUENTIAL, INCIDENTAL, CONTINGENT, SPECIAL OR PUNITIVE DAMAGES WHATSOEVER. Seller shall not be liable for lost profits or revenues, loss of use of the Products, Software or any related equipment or systems, cost of capital, cost of substitute products, cost of facilities or services, business interruption, downtime, shutdown, or slowdown costs, any other types of economic loss, penalties, special or punitive damages, and claims of Buyer's customers for any such damages. **(d) Expiration of Claims.** All claims against Seller arising out of or related to the Contract or the performance or breach thereof shall expire unless made and presented to Seller in writing by Buyer before expiration of the applicable warranty period. **(e) Precedence.** The limitations of this Section shall apply regardless of whether a claim is based in contract, tort (including negligence), warranty, strict liability, intellectual property, or otherwise, and shall take precedence over any conflicting terms and conditions, except where the limitations of liability of such conflicting terms limit Seller's liability further.

**12. INDEMNITY:**

**(a) Third party claims.** Each of Buyer and Seller (each an "Indemnified Party" and an "Indemnifying Party") shall indemnify the other party from and against claims brought by a third party, for bodily injury or damage to the third party's tangible property, to the extent such injury and/or damage is caused by the negligence of the Indemnifying Party, provided that the Indemnified Party gives the Indemnifying Party prompt notice of any such claim and all necessary information and assistance so that the Indemnifying Party, at its option, may defend or settle such claim and the Indemnified Party does not take any adverse posi¬tion in connection with such claim. In the event that the injury or damage is caused by joint or concurrent negligence of Buyer and Seller, the loss or expense shall be borne by each party in proportion to its degree of negligence. For purposes of Seller's indemnity obligations hereunder, Products shall not be considered third party property and the facility in which a Product or Software is used and/or the Services are performed shall not be considered third party property. **(b) Indemnity by Buyer for Third Party Warranty Claims.** If Buyer supplies Products or Services to a third party, uses Products or Services at a facility owned by a third party, and/or transfers Products and/or Software to a third party, Buyer shall indemnify and defend Seller from and against any and all claims by, and liability to, any such third party in excess of the limitations set forth in Sections 10 "Limited Warranty" and 11 "Limitations of Remedy and Liabilities." For purposes of this subsection (b), "Seller" means Seller, its affiliates, suppliers, contractors, licensors and their employees.

**13. INTELLECTUAL PROPERTY INDEMNITY:** Seller warrants that, to the best of its knowledge, Products, Services and/or Software furnished hereunder, and any part thereof, (each a "Delivered Item") shall be delivered free of any rightful claim of any third party not affiliated with Buyer for infringement of any U.S. patent, any trademark registered in the U.S. Patent and Trademark Office and/or any copyright registered in the U.S. Copyright Office. Seller will, at its own expense, defend or settle any suits that may be instituted against Buyer for alleged infringement by the Delivered Item of any U.S. patent, any trademark registered in the U.S. Patent and Trademark Office and/or any copyright registered in the U.S. Copyright Office provided that: **(a)** such alleged infringement consists of the use of the Delivered Item for (i) any of the purposes for which Buyer informed Seller such Delivered Items would be used, or (ii) if Buyer did not so inform Seller, any of the purposes for which Buyer reasonably believed such Delivered Items would be used; **(b)** Buyer shall have made all payments for such Delivered Items then due hereunder; **(c)** Buyer shall give Seller immediate notice in writing of any such suit and transmit to Seller immediately upon receipt of all processes and papers served upon Buyer; **(d)** Buyer does not take any position adverse to Seller in connection with such claim; and **(e)** Buyer shall permit Seller through Seller's counsel, either in the name of Buyer or in the name of Seller, to defend such suit(s) and give all needed information, assistance and authority to enable Seller to do so.

In case of a final award of damages in any such suit, Seller will pay such award but will not be responsible for any compromise or settlement made without its written consent. In case the Delivered Item itself is in such suit held to infringe any valid patent issued in the United States and/or a trademark and/or copyright registered in the United States, and its use is enjoined, or in the event of a settlement or compromise approved by Seller which shall preclude future use of the Delivered Item, Seller shall, at its own expense and at its sole option, either: **(a)** procure rights to continue using such Delivered Item; **(b)** modify the Delivered Item to render it non-infringing; **(c)** replace the Delivered Item with a non-infringing Product and/or Software; or **(d)** refund the purchase price paid by Buyer for the De-livered Item after return of the Delivered Item to Seller (less reasonable depreciation for any period of use). Notwithstanding the foregoing, Seller shall not be held responsible for infringement of claims of any patents covering the use of the Delivered Item in combination with other goods or materials not furnished by Seller.

The foregoing states the entire liability of Seller for intellectual property infringement, and IN NO EVENT SHALL SELLER BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES ATTRIBUTABLE TO AN INTELLECTUAL PROPERTY INFRINGEMENT. Buyer, at its own expense, shall defend Seller against, and/or settle, **(a)** any patent, trademark, copyright or other intellectual property infringement claim pertaining to a Delivered Item furnished by Seller to Buyer manufactured in accordance with designs, drawings or other descriptions proposed or furnished by Buyer; and **(b)** any claim against Seller of contributory infringement resulting from the use or resale by Buyer of a Delivered Item sold hereunder. Buyer shall indemnify Seller for any award against Seller or settlement by Seller regarding any such claims and attorneys' fees and defense costs incurred in defense of such claims.

**14. SOFTWARE LICENSE:**

**(a) License Grant:** Seller grants Buyer a nonexclusive, royalty-free, perpetual, limited license to use the Software in the U.S. and solely in conjunction with (a) the operation of the Products purchased and sold under the Contract and/or other product meeting Seller's specifications; and (b) any other purpose agreed upon in a written and signed agreement between Buyer and Seller. **(b) Scope of License:** Upon Seller's prior written approval, Buyer may make a reasonable number of copies of Software as necessary for backup, configuration, installation, and restoration of the Products. Also upon Seller's prior written approval, Buyer may authorize a third-party contractor or service provider to exercise these rights on Buyer's behalf and for Buyer's benefit. Buyer may transfer possession of Software and its media to another party only in conjunction with the transfer of the Products on which the Software is loaded and only upon agreement of the other party to the terms and conditions of the Contract. Upon such transfer, Buyer shall destroy all Buyer's copies of Software and related documentation. All licenses and grants pursuant to the Contract shall immediately terminate once Buyer no longer rightfully owns or possesses the Products. No other rights under this license are granted. Upon Seller's request, Buyer shall provide Seller with written notice of any such transfer providing the name, address, and contact information of the subsequent Buyer within 15 days of such transfer. **(c) Use Restrictions:** Buyer shall not (a) copy, display, transfer, adapt, modify, or distribute in any form the Software except as set forth in the Contract or in Seller documentation provided by Seller to Buyer with the Software; (b) reverse engineer, disassemble, decompile, or otherwise translate the Software's object code, unless expressly permitted by applicable law without the possibility of contractual waiver; or (c) sublicense or lease the Software or any copy thereof except with the transfer of the Products on which the Software is loaded. Except as provided under the terms of Seller's standard escrow agreement between Seller and Buyer, if applicable, Buyer shall not to make available to any party, without prior written consent from Seller or its authorized agent, source code for the Software. Buyer shall not, directly or indirectly, export or re-export, or knowingly permit the export or re-export of, the Products, or any technical information about the Products, to any country for which the United States Export Administration Act, any regulation thereunder, or any similar United States law or regulation, requires an export license or other United States Government approval, unless Buyer obtains the appropriate export license and obtains written approval from Seller. **(d) Maintenance and Support:** Seller may offer to Buyer the option to purchase from Seller annual Software maintenance and support services under the terms and conditions of Seller's then-standard maintenance and support agreement. Buyer may renew this maintenance term at Seller's then-current maintenance rates. In the event Buyer purchases additional Software licenses, maintenance fees for such licenses shall be prorated to be coterminous with Buyer's existing maintenance period. In no event shall Seller be responsible for providing maintenance services for a period during which maintenance coverage is lapsed.

**15. SECURITY AGREEMENT AND FINANCING STATEMENTS:** As security for payment of the purchase price under the Contract, Buyer hereby irrevocably grants Seller a security interest in the Products purchased by Buyer, together with all accessories, attachments and replacement parts and all substitutions, replacements and proceeds thereof to secure payment of the purchase price and of all monies which may be due under the Contract. Buyer hereby authorizes Seller to file all financing statements, any amendments and continuations thereof, or any other documents necessary or reasonably required, for the perfection and protection of a security interest under applicable law, and to deliver notice to prior holders of security interests, of Seller's security interest in the Products to protect its interest.

**16. INSURANCE:** Until payment in full of the purchase price, Buyer shall maintain insurance covering all Products sold by Seller to Buyer in such amounts and against such risks as is customary by com-panies engaged in the same or similar business and similarly located, and shall, upon Seller's request, furnish evidence of such insurance satisfactory to Seller.

**17. DRAWINGS; OTHER DESIGN DATA:** All specifications, drawings, designs, data, information, ideas, methods, tools, gages, dies, fixtures, patterns and/or inventions made, conceived, developed or acquired by Seller in connection with procuring and/or executing the Contract will vest in and inure to Seller's sole benefit notwithstanding any charges therefor which may have been or may be imposed by Seller on Buyer. Buyer shall not give, loan, exhibit, sell or transfer to any person who is not a Buyer employee and authorized to receive such information, or to any organization or entity, any drawing, photograph or specification furnished by Seller or reproduction thereof which may enable such person, organization or entity to furnish similar products or parts therefor.

**18. RETURN OF PRODUCTS:** No Product or part shall be returned to Seller without written authorization and shipping instructions first having been obtained from Seller.

**19 ASSIGNMENT AND SUBCONTRACTING:** None of Buyer's rights under the Contract shall be assigned by Buyer to any other person, whether by operation of law or otherwise, without Seller's prior written approval. Seller may, without the necessity of obtaining Buyer's prior written consent, assign the Contract or subcontract the production of all or any portion of the Products and/or performance of the Services.

**20. CANCELLATION:** No purchase order submitted to Seller may be cancelled by Buyer without the prior written consent of Seller, which consent will at all times be conditioned on Buyer's agreement to pay Seller's cancellation charge. For a finished Product that, in Seller's judgment, is readily resalable to others, the cancellation charge shall be 15% of the invoice price of the Product. For all other cancellations, the cancellation charge shall amount to all cost and expenses incurred by Seller and arising out of or in connection with Buyer's purchase order plus reasonable profit. In no event shall the cancellation charge be less than 10% of the invoice price of the Product or more than the invoice price.

**21. NUCLEAR USE DISCLAIMER:** Products sold by Seller are not intended for use in connection with any nuclear facility or activity. If so used, Seller disclaims all liability for any nuclear damage, injury or contamination, and Buyer shall indemnify and hold Seller, its officers, agents, employees, successors, assigns and customers harmless from and against any and all losses, damages or expenses of whatever form or nature (including attorneys' fees and other costs of defending any action) which they or any of them may sustain or incur, whether as a result of breach of contract, warranty, tort (including negligence) or otherwise, by reason of such use.

**22. GOVERNING LAW; VENUE:** These Terms and Conditions and the Contract shall be governed by and construed in accordance with the laws of the State of Wisconsin. Seller and Buyer irrevocably submit to the exclusive jurisdiction of the state courts located in Rock County, State of Wisconsin and the federal courts located in the State of Wisconsin, and Seller and Buyer waive any objection to venue or forum non conveniens, for the resolution of any dispute relating to these Terms and Conditions or the Contract. The rights and obligations of Seller and Buyer shall not be governed by the provisions of the United Nations Convention on Contracts for the Internal Sale of Goods.

**23. EXPORT/IMPORT:** Buyer shall comply, in the receipt and use of the Products and the Software, with all applicable import and export control laws, regulations, orders and requirements of the jurisdictions in which the Seller and Buyer are established or from which Products and Software are provided. Buyer shall not transfer, release, import, or export Products and/or or Software in violation of such applicable laws, regulations or other legal requirements. Buyer shall provide a completed end-user certification in a form satisfactory to Seller upon Seller's request.

**24. ATTORNEYS' FEES:** Buyer agrees to pay all of Seller's costs and expenses of collection and related litigation, including but not limited to attorneys' fees and costs.

**25. SALVATORY CLAUSE:** The invalidity, in whole or in part, of any of the provisions of these Terms and Conditions, shall not affect the enforceability of any of the other provisions thereof.

**26. APPLICABILITY:** These Terms and Conditions as stated herein are applicable as of the date of this printing and until such time as changed by Seller.Regal STCS Rev 8-13

For the full version of the Terms and Conditions of Sales with Supplements A and B - Visit http://www.regalbeloit.com/what-we-do/products-brands/

Regal STCS Rev 8-13

# Notes

# District Sales Offices

**Please contact your nearest GROVE GEAR District Sales Office, they can provide complete information including price and availability.**

## United States

**ARKANSAS, Little Rock**
District Mgr.,
Kevin Springstead
800/444-7609

**CALIFORNIA,**
**Los Angeles**
Bob Schwing
323/278-7979

**CALIFORNIA,**
**San Francisco**
District Mgr.,
Dave Richardson
925/371-8125

**COLORADO, Denver**
District Mgr.,
Kevin Springstead
800/444-7609

**NEW ENGLAND**
**/ Metro Boston, MA**
District Mgr.,
Dave Manning
888/479-7875

**FLORIDA, Tampa**
District Mgr.,
Bill Taylor
813/740-2571

**GEORGIA, Atlanta**
District Mgr.,
Walter Brooks
770/933-0453

**ILLINOIS, Chicago**
Co District Mgrs.,
Milke Miller,
Robert Sheppard
630/458-9511

**INDIANA, Indianapolis**
District Mgr.,
Matt Simko
800/331-2911

**IOWA, Des Moines**
District Mgr.,
John Marshalla
952/935-8271

**KANSAS, Kansas City**
District Mgr.,
Pat Donnelly
913/599-6983

**MARYLAND, Baltimore**
District Mgr.,
Craig Brisbane
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**MICHIGAN, Grand Rapids**
District Mgr.,
Greg Norris
616/249-8430

**MINNESOTA, Minneapolis**
District Mgr.,
John Marshalla
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**MISSOURI, St. Louis**
District Mgrs.,
Pat & Ken Anvender
314/714-1460

**NEW JERSEY/METRO NEW**
**YORK/LONG ISLAND**
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Doug Landgraf
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Amorette Gent
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Charlie Vogel
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**Moncton**
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