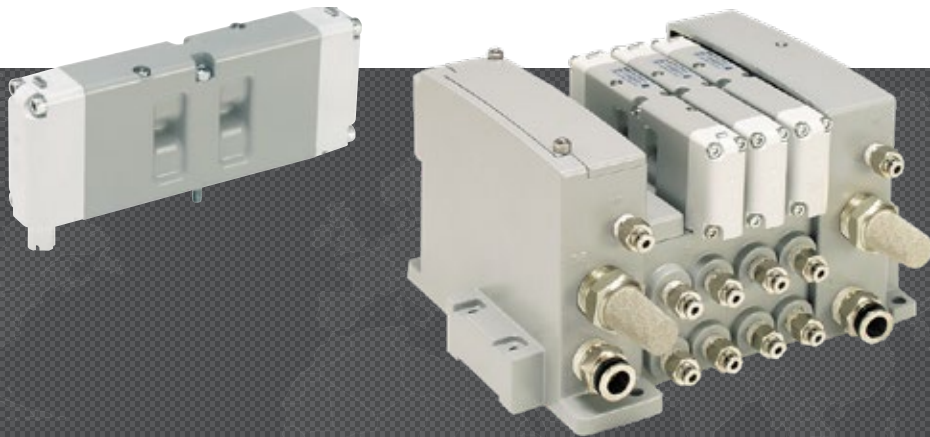




**DIRECTIONAL CONTROL VALVES ISO 15407-2  
W66 SERIES**

**PRODUCT CATALOG**



# ISO 15407-2 Valves W66 Series

## Product Overview

The ROSS® 15407-2 valves W66 Series are base mounted spool and sleeve valves that conform to the ISO standards 15407-2 mounting interface. Manifold bases feature modular plug-together electrical connections terminating at end plates, offering a variety of terminal strip or multi-pin interfaces.

These ISO Size 0 (26mm) and 00 (18mm) valves are available as, 2- and 3-position, 5-ported 4-way valves. Solenoid pilot options include a locking or non-locking override, and either internal or external pilot supply. The spool and sleeve design means there are no seals to wear out.

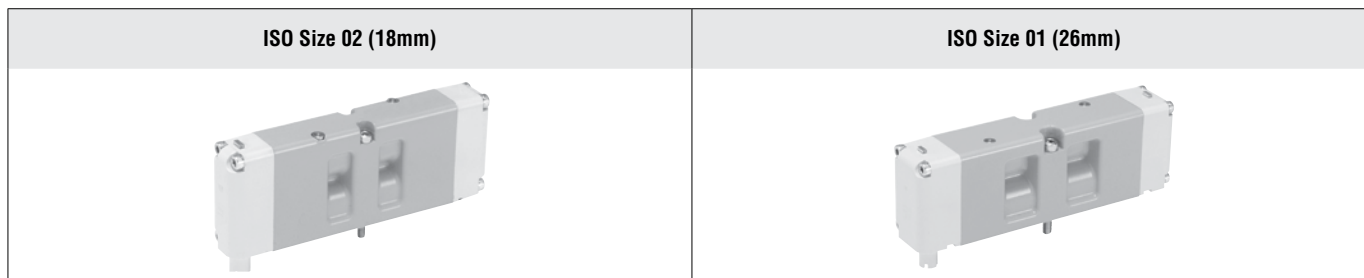
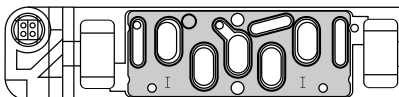


Illustration examples.

### 15407-2: Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



## VALVE FEATURES

**Spool and Sleeve Design** Spool and Sleeve construction for high dirt tolerance; no seals to wear out

**Mounting Options** Individual sub-base or manifold base mounting

**Pilot Supply** Internal or external; suitable for vacuum service (with external pilot supply)

**Pilot Operation** Provides high shifting force with low power consumption

ISO Size	Port Sizes		Functions					Actuation	Maximum Flow C <sub>v</sub> (NI/min)	Page
	1/8	1/4	5/2		5/3					
			Single	Double	Closed Center	Open Center	Pressure Center	Solenoid Control		
02 (18mm)	●		●	●	●	●	●	●	1.0 (980)	3 – 7
01 (26mm)		●	●	●	●	●	●	●	2.5 (2500)	
<b>Manifold Bases and Accessories</b>										8 – 9
<b>Accessories</b>										10 – 11

STANDARD SPECIFICATIONS					
<b>GENERAL</b>	Function		5/2 and 5/3 Valve		
	Construction Design		Spool and Sleeve		
	Actuation		Electrical	Solenoid Pilot Controlled	
	Mounting		Sub-Base or Manifold		
	Connection		Threaded	NPT, G	
	Manual Override		Flush; rubber, non-locking		
<b>OPERATING CONDITIONS</b>	Temperature	Solenoid Pilot Controlled	Ambient	5° to 120°F (-15° to 50°C)	
			Media		
	Flow Media		Filtered air		
	Operating Pressure		Vacuum to 145 psig (Vacuum to 9.9 bar)		
	Pilot Supply Pressure	5/2 Valves	ISO Size 02 (18mm)	30 psig (2.07 bar)	
		5/3 Valves	ISO Size 01 (26mm)	25 psig (1.73 bar)	
External Pilot Supply		Must be equal to or greater than inlet pressure			
<b>ELECTRICAL DATA FOR SOLENOID PILOT</b>	Solenoids		Current Flow	Power Consumption	Operating Voltage (each solenoid)
			DC	24 volts	6 watts
			AC	120 volts, 60 Hz	11 VA inrush, 8.5 VA holding
				230-240 volts, 60 Hz	
			Bi-polar, surge suppression (standard)		
Indicator Light – One per solenoid					
<b>CONSTRUCTION MATERIAL</b>	Valve Body		Cast Aluminum		
	End Caps		Polybutylene Terephthalate (PBT)		
	Fasteners		Zinc Plated Steel		
	Coils		Thermoset Plastic		
<b>IMPORTANT NOTE:</b> Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.					

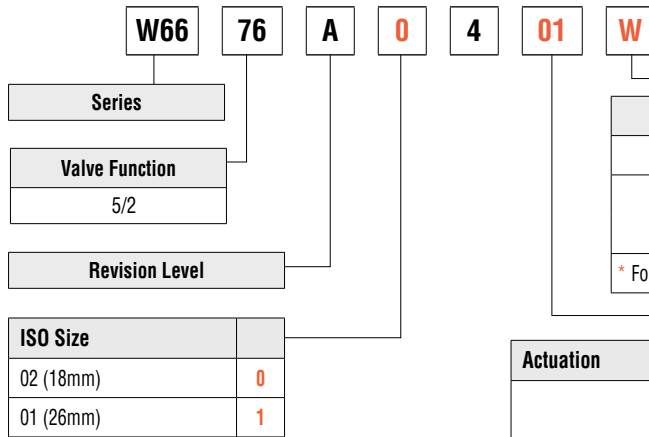
PRODUCT CREDENTIALS		
<b>CSA</b> Certificate of Compliance  	<b>Declaration of Conformity</b>  CE  	EAC  

# Ordering Information

## 5/2 Solenoid Pilot Controlled Valves

### MODEL NUMBER CONFIGURATOR

### 5-Way 2-Position Valves



Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	230-240 V, 60 Hz	Y

\* For other voltages consult ROSS.

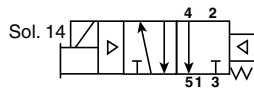
Actuation	Options		
Single Solenoid Pilot	Non-Locking Overrides	Internal Pilot	01
		External Pilot	51
	Locking Overrides	Internal Pilot	11
		External Pilot	21
Double Solenoid Pilot	Non-Locking Overrides	Internal Pilot	07
		External Pilot	57
	Locking Overrides	Internal Pilot	17
		External Pilot	27

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

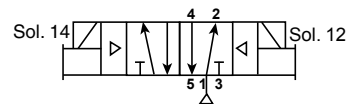
ISO Size	Valve Actuation	Flow C <sub>v</sub> (NI/min)	Weight lb (kg)
02 (18 mm)	Single Solenoid Pilot	0.55 (540)	0.3 (0.15)
	Double Solenoid Pilot	0.55 (540)	0.4 (0.16)
01 (26mm)	Single Solenoid Pilot	1.1 (1100)	0.6 (0.25)
	Double Solenoid Pilot		

### Valve Schematic

#### Single Solenoid Pilot Controlled



#### Double Solenoid Pilot Controlled

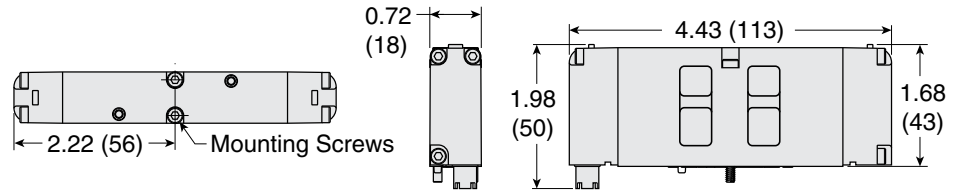


## 5/2 Solenoid Pilot Controlled Valves

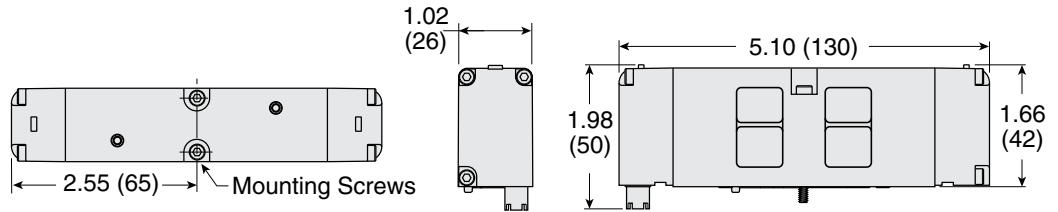
### DIMENSIONS

Inches (mm)

ISO Size  
02 (18mm)



ISO Size  
01 (26mm)



Downloadable CAD models available.

# Ordering Information

## 5/3 Double Solenoid Pilot Controlled Valves

### MODEL NUMBER CONFIGURATOR

### 5-Way 3-Position Valves

<b>Series</b>	W66	77	A	0	4	01	W
<b>Valve Function</b>	5/3						
<b>Revision Level</b>							
<b>ISO Size</b>							
02 (18mm)	0						
01 (26mm)	1						

Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	230-240 V, 60 Hz	Y

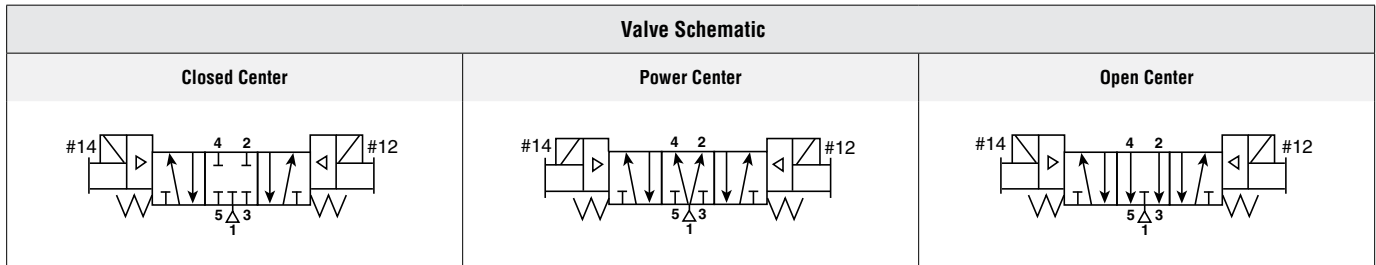
\* For other voltages consult ROSS.

Center Position	Options		
Closed Center	Non-Locking Overrides	Internal Pilot	01
		External Pilot	51
	Locking Overrides	Internal Pilot	11
		External Pilot	21
Power Center	Non-Locking Overrides	Internal Pilot	03
		External Pilot	53
	Locking Overrides	Internal Pilot	13
		External Pilot	23
Open Center	Non-Locking Overrides	Internal Pilot	07
		External Pilot	57
	Locking Overrides	Internal Pilot	17
		External Pilot	27

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

ISO Size	Valve Actuation	Flow C <sub>v</sub> (NI/min)	Weight lb (kg)
02 (18 mm)	Double Solenoid Pilot	0.55 (540)	0.4 (0.16)
01 (26mm)	Double Solenoid Pilot	1.1 (1100)	0.6 (0.25)

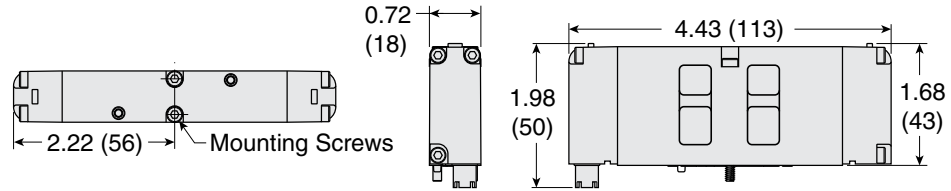


## 5/3 Double Solenoid Pilot Controlled Valves

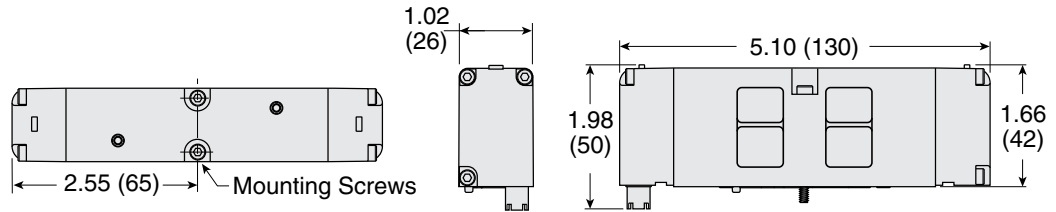
### DIMENSIONS

Inches (mm)

ISO Size 1



ISO Size 2.5



Downloadable CAD models available.

# Manifold Bases and Accessories

## MANIFOLD BASES WITH END PORTS

### MANIFOLD MODEL NUMBER CONFIGURATOR

**RPSHU11** **5** **4** **J** **1** **P**

ISO 15407-1

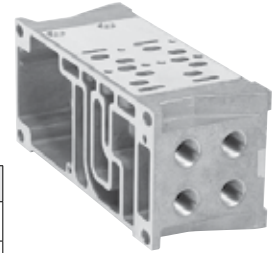
ISO 15407-1 Size	Port Size	Threads Type	
ISO Size 02 (18mm)	1/8	NPT	1
		G	2
ISO Size 01 (26mm)	1/4	NPT	3
		G	4

#### Circuit Board Address Configuration

Interconnect, Single Address	J
Interconnect, Double Address	M

#### Gasket Options

1, 3, 5 Ports Open and Pilots Open	1
1, 3, 5 Ports Closed and Pilots Open	2
1 Port Closed, 3, 5 Ports Open and Pilots Closed	3
1 Port Open, 3, 5 Ports Closed and Pilots Open	4
1, 3, 5 Ports Open and Pilots Closed	5
1, 3, 5 Ports Closed and Pilots Closed	6
1 Port Closed, 3, 5 Ports Open and Pilots Closed	7
1 Port Open, 3, 5 Ports Closed and Pilots Open	8



## END STATIONS

### END STATION MODEL NUMBER CONFIGURATOR

**RPSHU20** **L2** **1** **0** **P**

#### Valve Type

Non Plug-in (Internal Pilot)	RPSHU20
Non Plug-in (External Pilot)	RPSHU2X

#### Thread Type

NPT	0
G	1*

\* G thread model conforms to ISO 1179-1 w 228-1 thread.

#### Left Hand End Station Type

25-Pin-D-Sub (top)#	L2
<b>Industrial Communication</b>	
ROSS Serial Bus	L6^
Turck BL67 with Valve Driver Module - For 16 Outputs	T1*
Turck BL67 with Valve Driver Module - For 32 Outputs	T2*

# RPSHU11 gaskets included in each end station model number.

^ Valve Driver Module and 24 Output Cable installed. Must order communication modules separately. Must Order Bases with Circuit Boards.

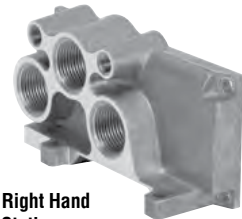
\* Turck Network and P2M Ethernet node communication module ordered separately.

#### Right Hand End Station Ports

1/2 Exhaust and Inlet Ports	1
3/4 Exhaust and Inlet Ports	2



Left Hand End Station  
25-pin D-Sub (top)



Hi-Flow Right Hand  
End Station

End Plate Type	Type/Port Size	Avg. Flow C <sub>v</sub>
Right Hand	1/2	6.07
	3/4	8.35

## BLANK STATIONS

Blank Stations	ISO Size	Model Number*
	02 (18mm)	RPS5634P
	01 (26mm)	RPS5534P

\* Includes: Blank Station Plate, Gasket, and Mounting Bolts.



## GASKET KITS

Gasket Kits Manifold to Manifold	Pilots Status	Kit Diagram Reference	Description	Kit Number
	Pilots Opened	1	Supply & Exhaust & Pilots Open	RPSHU11P
		2	Supply Closed, Exhaust & Pilots Open	RPSHU12P
		3	Supply & Exhaust Closed, Pilots Open	RPSHU13P
		4	Supply & Pilots Open, Exhaust Closed	RPSHU14P
	Pilots Blocked	5	Supply & Exhaust Open, Pilots Closed	RPSHU15P
		6	Supply & Pilots Closed, Exhaust Open	RPSHU16P
		7	Supply & Exhaust & Pilots Closed	RPSHU17P
		8	Supply Open, Exhaust & Pilots Closed	RPSHU18P



1 – Supply & Exhaust & Pilots Open



3 – Supply & Exhaust Closed, Pilots Open



5 – Supply & Exhaust Open, Pilots Closed



7 – Supply & Exhaust & Pilots Closed



2 – Supply Closed, Exhaust & Pilots Open



4 – Supply & Pilots Open, Exhaust Closed



6 – Supply & Pilots Closed, Exhaust Open



8 – Supply Open, Exhaust & Pilots Closed

## INTERPOSED SUPPLY & EXHAUST MODULES

Interposed Supply & Exhaust Modules	ISO Size	Outlet Port	Model Number*	
			G Thread	NPT Thread
	02 (18mm)	Supply	RPS561600P	RPS561601P
Exhaust		RPS561700P	RPS561701P	
01 (26mm)	Supply	RPS551600P	RPS551601P	
	Exhaust	RPS551700P	RPS551701P	

\* Used on Size 00 & Size 0 valves to provide a pressure or exhaust path to individual valves.

## INTERPOSED FLOW CONTROL

Interposed Flow Controls	ISO Size	Model Number*
	02 (18mm)	RPS5635P
	01 (26mm)	RPS5535P

\* Both adjustment screws are located on the 12 end of the unit. Interposed Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting. Interposed Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.

## INTERPOSED PRESSURE REGULATORS

Pressure Regulators

### MODEL NUMBER CONFIGURATOR

RPS5637
1
6
6
P

Basic Series	
ISO Size 02 (18mm)	RPS5637
ISO Size 01 (26mm)	RPS5537



Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator/Gauge*	
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6


#4 Port Regulator/Gauge*	
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

Remote Air Pilot Operated for hard-to-reach pressure control Unregulated Pilot Pressure to valve for consistent valve shifting regardless of pressure adjustment.

Dual Interposed Regulator Size 02 - 18mm	Single Interposed Regulator Size 01 - 26mm
	

## GAUGE ADAPTER KITS

	Description	Model Number	
Gauge Adapter	Gauge Adapter Kit	RPS5651160P	
	1/8" Female to 1/8" Female Coupling	R207P-2*	
	1/8" Male to 1/8" Male Long Nipple	RVS215PNL-2-15*	
	* Included in Gauge Adapter RPS5651160P.		
Included with all Size 02 Regulators. Both kits are required on all Size 01 & 02 Regulators when the Regulator is on the last Station on the Right (14) End.			

**EXHAUST SILENCERS**



Illustration example.

<b>Silencers</b>	<b>SPECIFICATIONS</b>		<b>Silencer Material</b>		<b>Pressure Range</b> psig (bar)		Schematic	
			Aluminum		0-290 (0-20) maximum			
	<b>Port Size</b>	<b>Thread Type</b>	<b>Flow</b> C <sub>v</sub> (NI/min)	<b>Model Number</b>		<b>Dimensions</b> inches (mm)		<b>Weight</b> lb (kg)
				<b>NPT Thread</b>	<b>R/Rp Thread</b>	<b>Length</b>	<b>Hex Size (D)</b>	
1/2	Male	6.8 (6700)	5500A4003	D5500A4003	3.6 (9)	1.25 (32)	0.2 (0.1)	
3/4	Male	7.2 (7100)	5500A5013	D5500A5013	3.6 (9)	1.25 (32)	0.2 (0.1)	







# CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the “ROSS Group”.

## PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).
2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.
3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.
4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

### WARNINGS:

**Failure to follow these instructions can result in personal injury and/or property damage.**

## FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.
3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with

phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

### WARNINGS:

**Failure to follow these instructions can result in personal injury and/or property damage.**

## AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.
2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

**WARNINGS: Failure to follow these instructions can result in personal injury and/or property damage.**

## SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

### WARNINGS:

**Failure to follow these instructions can result in personal injury and/or property damage.**

## STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators (“FRLs”) which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

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*Other literature is available for engineering, maintenance, and service requirements.*

*If you need products or specifications not shown in this catalog, please visit ROSS' website, contact ROSS or your ROSS distributor. The ROSS Support Team will be happy to assist you in selecting the best product for your application.*