Variable speed motors
VARMECA

General information

VARMECA, is the result of long experience in variable speed, and benefits from a compact dimension and reduced weight, It is currently available up to 11 kW.
VARMECA produces no noise pollution thanks to the choice of an inaudible switching frequency.
Three phase enclosed variable speed motors in accordance with the IEC Low Voltage Directive. (CE).

Power : 0.25 to 11 kW in shaft heights 71 to 160.
VARMECA offers great operating flexibility due to its parameter setting options: by microconsole or PC ; and process management using international standard communication systems (Profibus, Interbus S, DeviceNet, ...).

Construction

VARMECA description

Designations	Remarks
Construction	- IP 65 protection, class F - Aluminium box and polyamide cable gland - Screw regarding lids that cannot be lost - Connection regarding power and order cables on flexible blades connector - Electronic device encapsulated in the resin in order to assure a good mechanical handling and immunity to humdity
Specifications	- Single-phase mains: • Supply: 200V - 10 % to 240V + 10 % 50-60 Hz ± 2 % • Output voltage: from 0V to the supply voltage • Power range: 0.25 - 0.37 - 0.55 - 0.75 - 0.9 - 1.1 - 1.5 kW • Maximal number of power ups by hour: 10 - Three-phase mains: • Supply: 200V - 10 % to 480V + 10 % 50-60 Hz ± 2 % • Output voltage: from 0V to the supply voltage • Power range: 0.25 - 0.37 - 0.55 - 0.75 - 0.9 - 1.1 - 1.5 - 1.8 - 2.2 - 3 - 4 - 5.5 - 7.5 - (7.5 kW maximum for mains 230V) - 9 - 11 kW • Maximal number of power ups by hour: 100
Environment	- Stockage temperature: -40°C to + 70°C (IEC 68.2.3). In compliance with the IEC 60068-2-1 standard. - Transportation temperature: -40°C to + 70°C - Operating temperature: -20°C to + 50°C (with a derating of 1 % of power by °C, beyond 40°C) - Altitude: < 1000 m without derating. The maximum authorized altitude is 4000 m, but beyond 1000 m, the permanent output current has to be derated with 1% by a segment of 100 m additional below 1000 m (ex.: for an altitude of 3000 m, derate with 20%). - Ambient humidity: 95% without condensation - Humidity during the storing: 93%, 40°C, 4 days - Vibrations: • Non wrapped product: 0.01 g^2/Hz 1hr according to the IEC 60068-2-34 standard. • Sinusoidal vibrations: - VMA 31/32: 2-9 Hz 3.5 ms^{-2} – 9-100 Hz 10 ms^{-2} - VMA 33/34: 2-6 Hz 3.5 ms^{-2} – 6-100 Hz 5 ms^{-2} according to the IEC 60068-2-6 standard. - Shocks: Wrapped product: 15 g, 6 ms, 500 times/ direction in the 6 directions according to the IEC 60068-2-29 standard. - Immunity: According to the EN61000-6-2 - Conducted and radiant emissions: • In compliance with the EN 61000-6-4 as standard in VMA 31-32 and with industrial filter • In compliance with the EN 61000-6-3 with internal filter option CEM in VMA 31, VMA 31-32 T/TL - UL standards: • In compliance with the UL 508 C (E211799) and c(UL)US
Painting	- system Ia, colour RAL 6000 (green)

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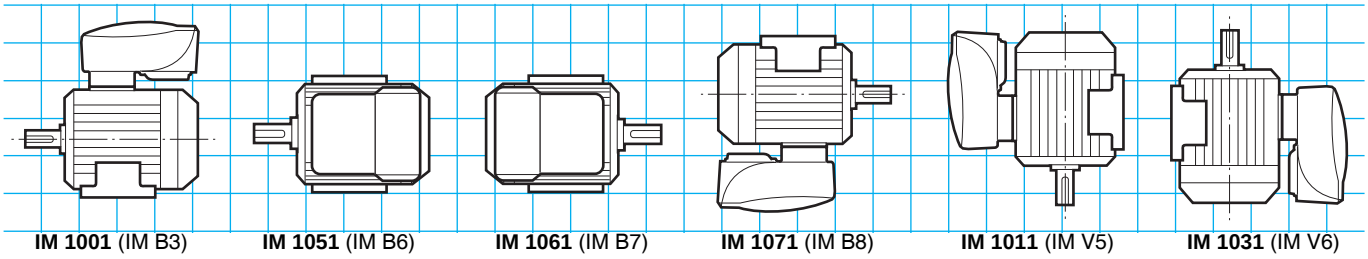
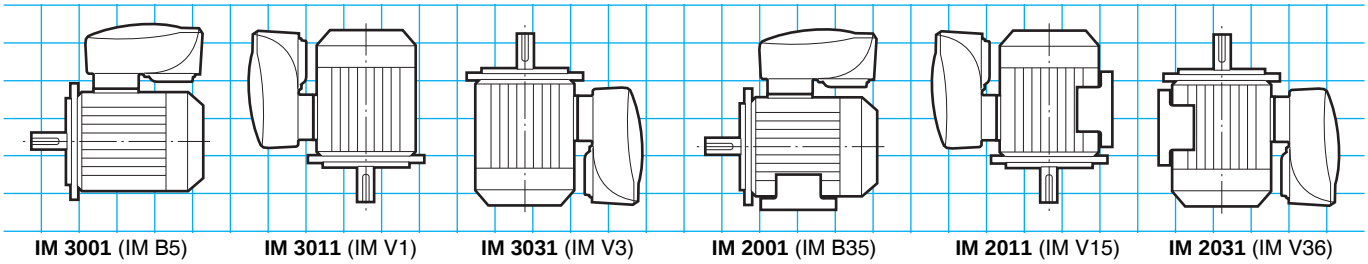
Mounting positions

VARMECA motors with foot mounted



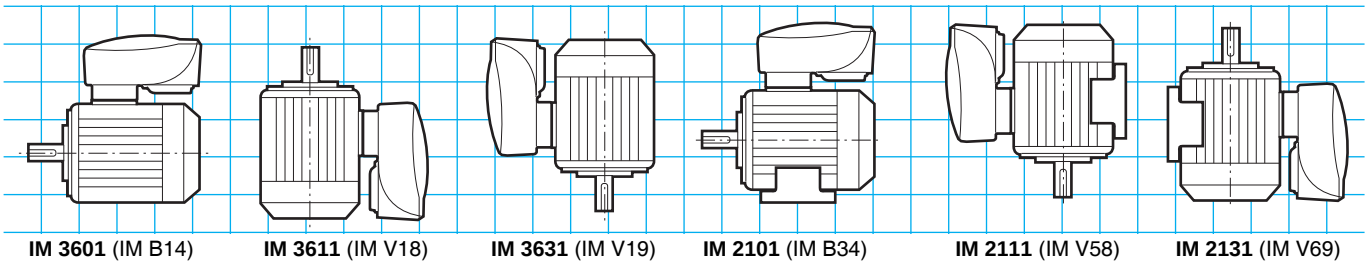
IM 1001 (IM B3) | **IM 1051** (IM B6) | **IM 1061** (IM B7) | **IM 1071** (IM B8) | **IM 1011** (IM V5) | **IM 1031** (IM V6)

VARMECA motors with (FF) flange plain holes



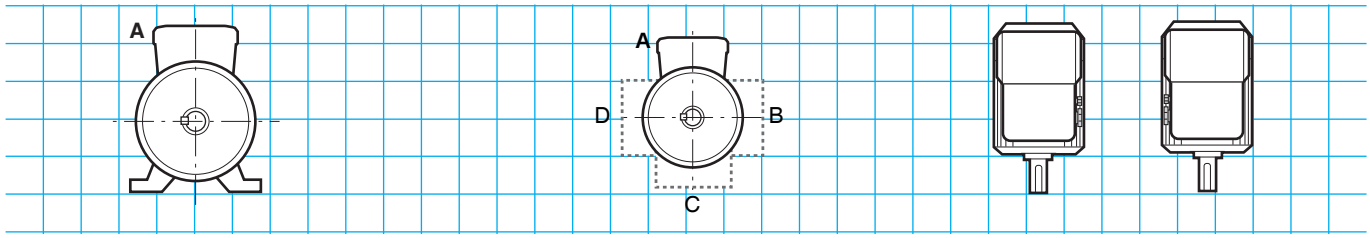
IM 3001 (IM B5) | **IM 3011** (IM V1) | **IM 3031** (IM V3) | **IM 2001** (IM B35) | **IM 2011** (IM V15) | **IM 2031** (IM V36)

VARMECA motors with (FT) flange tapped holes



IM 3601 (IM B14) | **IM 3611** (IM V18) | **IM 3631** (IM V19) | **IM 2101** (IM B34) | **IM 2111** (IM V58) | **IM 2131** (IM V69)

VARMECA positions



Fixation feet mount motor
A : standard

Fixation flange motor
A : standard

Cable glands positions

1 : standard 3

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Adaptation possibilities

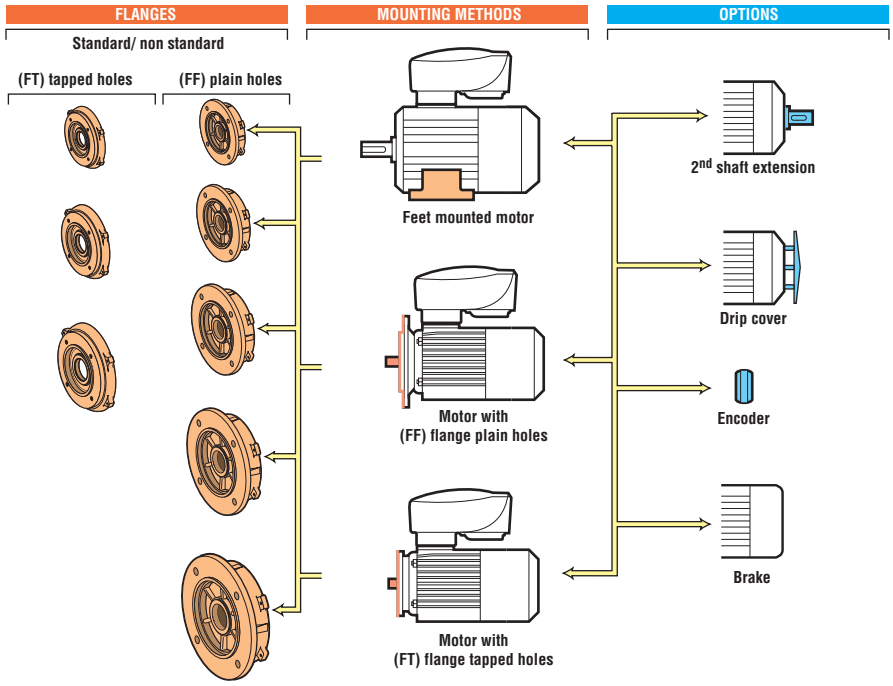
Leroy-Somer suggests, combined with VARMECA variable speed , three-phase and closed motors, more options that answer to very diverse applications. They are described afterwards and in the chapters refering to gearboxes.
For other alternatives or any specific adaptation, consult Leroy-Somer technical specialists.

☞ ***The three-phase variable speed motors VARMECA can be associated with:***

- speed gearboxes
- pumps

☞ ***The options :***

- drip cover
- encoder
- stainless steel plate
- second shaft extension
- non standard flanges
- speed adjustment button
- Run/Stop order
- forward Run/Reverse Run/Stop order
- integrable RFI filter
- CVI VMA order (adjustment potentiometers)
- FCR J01 brake
- external options (potentiometer, speed digital indicator...)



Designation / Coding

4P	LS	90 L	1.5	VMA 32 150	BD	FLTVMA B
No. of poles	Motor type	Frame size	kW power	VARMECA rating	Button position and cable gland	Options

☞ ***Coding example:***
4P LS 90 L 1.5 VMA 32T 150 BD FLTVMA20 for Varmeca motor 4 power poles 1.5 kW with potentiometer to the right and RFI filter option.

The chart below is an example.
It allows the building of the designation concerning the desired product.
This designation corresponds to a product code.
The product codes that are present in the selection grids can be used directly.
They facilitate the order handing over.
The coding table is incorporated in the price list with the list of designations.

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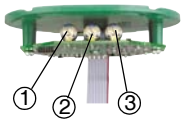
Options designation

Designation	Remarks
 B	**Speed adjustment button option** The speed adjustment is done by graded button from 15 to 100 %. • 2 signalling indicators.
 BMA	**Adjustment button option with integrated run/stop order** In addition to the speed adjustment, a run key and a stop one allow, once the VARMECA 30 is connected to voltage, to control it locally, willingly. In order to be taken into account, the run order needs **a second impulse** on the key. • 2 signalling indicators.
 BMAVAR	**Adjustment button option with forward run/reverse run/stop** In addition to the speed adjustment, a forward run key, a reverse run key and a stop key allow, once the VARMECA 30 is connected to voltage to control it locally, willingly. In order to be taken into account, the run order needs **a second impulse on the key**. • 2 signalling indicators.
 CVIVMA	**Internal speed adjustment option** The speed adjustments are done by accessible potentiometers after the lid is removed. ① a potentiometer Mini. speed : minimal speed calibration, ② a potentiometer Int. speed : speed adjustment that is substituted to the adjusment by button. ③ a potentiometer Max. speed : maximal speed calibration. There are also 2 signalling indicators.
 Integrable : FLT VMA30	**RFI filter option** VARMECA 33-34 abide to the EN 61000-6-4 standard due to the RFI filter, integrable at the front of the VARMECA 30 box. • FLT VMA / A : CEM filter - industrial level • FLT VMA / B : CEM filter = internal level - for VMA 31-32 M up to 1.1 kW inside and for 1.5 kW outside - for VMA 31-32 T up to 2.2 kW inside and from 4 kW outside
 RF100 RF600 RF200 RF800	**Braking resistor option** In order to operate in 4 quadrants and to dissipate the energy the resistors are directly fixed on the VARMECA box. Higher external resistors concerning thermic power can be used, in order to respect the minimal ohm value.
 Shield 4 PE or 3 PE	**4 PE or 3 PE (on request) shield option** A connection terminal on VARMECA allows the direct connection of a second brake motor.
 KEY PAD + 1 cord L=3 m	**Parameter setting micro-console option** The micro-console option allows the access to the drive internal adjustments (terminal configuration, ramps adjustments, of the speeds, of the PI…).

	RF 100			RF 200			RF 600			RF 800		
	Peak power kW	Thermic power kW	Value Ω	Peak power kW	Thermic power kW	Value Ω	Peak power kW	Thermic power kW	Value Ω	Peak power kW	Thermic power kW	Value Ω
VMA 31T	2.8	0.1	200	2.8	0.2	200 (2x100) serial	-	-	-	2.8	0.8	200
VMA 31M/TL	0.65			0.65						0.65		
VMA 32T	2.8			2.8						2.8		
VMA 32M/TL	0.65			0.65						0.65		
VMA 33-34T	-	-	-	-	-	-	11.25	0.6	50	-	-	-
VMA 33-34TL	-	-	-	-	-	-	3.5			-	-	-

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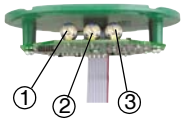
Options coding

Designation	Reference	Code	
 B	B 31/32	4429850	
	B 33/34	4277672	
 BMA	BMA 31/32	4429849	
	BMA 33/34	4277673	
 BMAVAR	BMA VAR 31/32	4429851	
	BMA VAR 33/34	4277674	
 CVIVMA	CVI VMA 31/32	4429852	
	CVI VMA 33/34	4277671	
 Integrable : FLT VMA30		**FLT VMA / A**	**FLT VMA / B**
	VMA 31-32 ML	enclosed into standard box	4487962
	VMA 31-32 M		4487962
	VMA 31-32 TL		4488646
	VMA 31-32 T		4487229
	VMA 33-34 TL		4487229
	VMA 33-34 T	4277677	to come
		4277678	not available
			not available
 RF100 RF200 RF 600 RF 800	RF 100	4017379	
	RF 200	4017380	
	RF 600	4285090	
	RF 800	4501800	
 4 PE or 3 PE shield	4 PE shield	4040129	
	3 PE shield	4228506	
 KEY PAD + 1 cord L=3 m	KEY PAD LCD	4438305	

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Options designation

Designation VMA 31-32	Designation VMA 33-34	Remarks
		**Digital display option for distance reading** Speed digital indicator. Programmable indicator with speed scaling compared to speed image output : connection on the control terminal. • Supply : 10-70V DC
PA 200	PA 200	
		**Operating board option** VARMECA 30 operating board consists of a display, of three order keys and of 3 parameter setting keys. It cannot be mounted on the VMA 32M.
PAD VMA		
		**Parameter setting software option** This option allows the access to the drive internal adjustments starting with a PC. The software is compatible with WINDOWS 95, 98, NT, 2000, XP and subsequent versions.
SOFT VMA 30 + 1 cord L=3 m		
		**Encoder feedback option**
—	COD VMA30	
		**Field bus option** The interface card is fixed on the inside of the box lid. Protocols : Profibus DP, InterBus S, DeviceNet, CAN open. It cannot be mounted on the VMA 32M.
VMA COM PB	VMA COM PB VMA COM IS VMA COM DT VMA COM CN	
		**Duplication key option (XPress Key)** The XPress Key option allows to safeguard a copy of the parameters group regarding VARMECA 30 in order to duplicate them very simply in another drive.
XPress Key		
		**Potentiometer option** The speed adjustment can be obtained by : - Potentiometer 1 round (ref. POT 1T 10K) • Specifications : 10 kΩ with button and protective cover : connection on the control terminal. - Potentiometer 10 rounds (ref. POT 10T 10K) • Specifications : 10 kΩ with button and indicator : connection on the control terminal.
POT 1T 10K - POT 10T 10K		
		Power supply and electromechanical brake control option The motor must be fitted with an FCR brake (only on the VMA T in 400 V). The brake has a built-in power supply. The brake is released as soon as the run command is enabled. The brake is engaged after a stop command, at the end of the deceleration ramp or on disconnection of the power supply.
SO VMA 31/32	—	
		Additional I/O interface and sequential brake control option The brake has a built-in power supply. The brake is controlled according to a sequence which can be adjusted using the VARMECA parameters.
ESFR 31/32	ESFR 33/34	

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Options coding

Designation VMA 31-32	Designation VMA 33-34	Reference	Code	
 PA 200		PA 200	4191124	
 PAD VMA		PAD VMA 31/32	4425477	
		PAD VMA 33/34	4426436	
 SOFT VMA 30 + 1 cord L=3 m		cable CTCOMMS (SUBD plug)	4238391	
		cable USB CONVERTER (USB plug)	4433998	
—	 COD VMA30	COD VMA	4285091	
 VMA COM PB	VMA COM PB VMA COM IS VMA COM DT VMA COM CN		VMA 31/32	VMA 33/34
		VMA COM PB	4437038	4349222
		VMA COM IS	-	4238388
		VMA COM DT	-	4238387
		VMA COM CN	-	4349225
 XPress Key		PX KEY 30	4277675	
 POT 1T 10K - POT 10T 10K		POT 1T 10K	3629849	
		POT 10T 10K	3629851	
SO VMA 31/32	—	SOVMA	4470636	
ESFR 31/32	ESFR 33/34	ESFR 31/32	4469505	
		ESFR 33/34	4320865	

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Selection

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

2 poles 3000 min⁻¹

Type	Rated moment at 3000 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)									Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	600	900	1200	1500	1800	2200	2400	3000	3600	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31M 025	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	1	0.7	1.6	10	10.6
LS 71 L 0.37 kW - VMA 31M 037	1.2	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.4	0.9	2.1	10	10.6
LS 71 L 0.55 kW - VMA 31M 055	1.8	1.5	1.4	1.6	1.7	1.8	1.8	1.8	1.8	1.4	3.6	10	11.5
LS 80 L 0.75 kW - VMA 31M 075	2.4	2.1	2.1	2.3	2.4	2.5	2.7	2.7	2.6	2	4.5	10	12.4
LS 80 L 1.1 kW - VMA 32M 110	3.5	3.3	3.3	3.5	3.5	3.5	3.8	3.8	3.8	2.9	8	10	13.9
LS 90 S 1.5 kW - VMA 32M 150	4.8	4	4	4.3	4.3	4.3	4.5	4.5	4.8	4	9	8	16.2

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

4 poles 1500 min⁻¹

Type	Rated moment at 1500 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)							Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	300	600	900	1200	1500	1800	2200	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31M 025	1.6	1.6	1.6	1.6	1.7	2.2	1.4	1.1	2.9	10	10.6
LS 71 L 0.37 kW - VMA 31M 037	2.4	2.2	2.2	2.2	2.3	2.8	2	1.6	4	10	11.5
LS 71 L 0.55 kW - VMA 31M 055	3.6	2.6	2.6	2.8	3.2	3.6	2.9	2	5.5	10	12.5
LS 80 L 0.75 kW - VMA 31M 075	4.8	3	4	4.4	4.4	4.8	4	3	10	10	13.5
LS 80 L 0.9 kW - VMA 32M 090	5.7	4	4.8	5.4	5.7	5.7	4.8	4	11	10	15.1
LS 90 S 1.1 kW - VMA 32M 110	7	4.7	5.3	6.7	7	7	5.8	4.4	13	10	15.7
LS 90 L 1.5 kW - VMA 32M 150	9.5	6.2	8.2	9.1	9.5	9.5	7.8	6.2	18	8	17.7

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase supply 230V/400V ±10% CONNECTED Δ

6 poles 1000 min⁻¹

Type	Rated moment at 1000 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)						Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	200	400	600	1000	1200	1500	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31M 037	2.4	2.2	2.4	2.4	2.4	2	1.7	8	10	12.6
LS 80 L 0.37 kW - VMA 31M 055	3.5	3.1	3.4	3.7	3.8	3.2	2.6	10	10	13.9
LS 80 L 0.55 kW - VMA 31M 075	5.3	4.3	4.9	5.3	5.3	4.8	4.3	13	10	15.2
LS 90 S 0.75 kW - VMA 32M 090	7.2	6.8	6.8	7.2	7.6	6.3	4.8	16	10	17.7
LS 90 L 1.1 kW - VMA 32M 150	10.5	7.7	7.7	8.7	10.5	8.7	6.7	20	8	19.4

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Selection

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

2 poles 3000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31M 025 SD²	0.25	4470467	2	4470469	2		-	4470471	2		-
LS 71 L VMA A31M 037 SD²	0.37	4470472	2	4470473	2		-	4470475	2		-
LS 71 L VMA A31M 055 SD²	0.55	4470484	2	4470481	2		-	4470479	2		-
LS 80 L VMA A31M 075 SD²	0.75	4472236	2	4472239	2		-	4472243	2		-
LS 80 L VMA A32M 110 SD²	1.1	4472245	2	4472246	2		-	4472249	2		-
LS 90 S VMA A32M 150 SD²	1.5	4472255	2	4472264	2		-	4472270	2		-

2. Without button - Cable gland to the right.

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

4 poles 1500 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31M 025 SD²	0.25	4470455	2	4470456	2		-	4470457	2		-
LS 71 L VMA A31M 037 SD²	0.37	4470458	2	4470459	2		-	4463553	2		-
LS 71 L VMA A31M 055 SD²	0.55	4470462	2	4454959	2		-	4470466	2		-
LS 80 L VMA A31M 075 SD²	0.75	4469953	2	4469965	2		-	4436073	2		-
LS 80 L VMA A32M 090 SD²	0.9	4472212	2	4472213	2		-	4472215	2		-
LS 90 S VMA A32M 110 SD²	1.1	4472217	2	4472219	2		-	4472220	2		-
LS 90 L VMA A32M 150 SD²	1.5	4472223	2	4472225	2		-	4472229	2		-

2. Without button - Cable gland to the right.

SINGLE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

6 poles 1000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31M 037 SD²	0.25	4514655	2	4521148	2		-	4521150	2		-
LS 80 L VMA A31M 055 SD²	0.37	4472274	2	4472298	2		-	4472301	2		-
LS 80 L VMA A31M 075 SD²	0.55	4472311	2	4472315	2		-	4472320	2		-
LS 90 S VMA A32M 090 SD²	0.75	4506721	2	4506723	2		-	4506727	2		-
LS 90 L VMA A32M 150 SD²	1.1	4506732	2	4506737	2		-	4506742	2		-

2. Without button - Cable gland to the right.

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Selection

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%. 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

2 poles 3000 min^{-1}

Type	Rated moment at 3000 min^{-1} M_N N.m	Measured moment (N.m) Speeds (min^{-1}) 600	900	1200	1500	1800	2200	2400	3000	3600	Starting up moment M_D N.m	Switching frequency F_d kHz	IM B3 weight kg
LS 71 L 0.25 kW - VMA 31TL 025[1]	0.8	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.7	1.6	10	10.2
LS 71 L 0.37 kW - VMA 31TL 037[1]	1.2	0.8	1	1.1	1.2	1.2	1.2	1.2	1.2	1	1.9	10	10.6
LS 71 L 0.55 kW - VMA 31TL 055[1]	1.8	1.2	1.4	1.6	1.7	1.8	1.8	1.8	1.8	1.5	3.6	10	11.5
LS 80 L 0.75 kW - VMA 31TL 075[1]	2.4	2.1	2.1	2.3	2.4	2.5	2.7	2.7	2.6	2	4.5	8	12.4
LS 80 L 1.1 kW - VMA 32TL 110[1]	3.5	3.3	3.3	3.5	3.5	3.5	3.8	3.8	3.8	2.9	8	8	13.9
LS 90 S 1.5 kW - VMA 32TL 150[1]	4.8	4	4	4.3	4.3	4.3	4.5	4.5	4.8	4	9	6	15.5
LS 90 L 1.8 kW - VMA 32TL 180[1]	5.7	5.5	5.5	5.8	5.8	6	6	6.2	6.2	4.8	9.7	4	16.2
LS 90 L 2.2 kW - VMA 32TL 220[1]	7	7	7	7.2	7.5	7.5	7.5	7.5	7.5	6	12	4	18.2
LS 100 L 3 kW - VMA 33TL 300	9.5	7	9	9	10	10	10	10	10	8	15	4	28.1
LS 112 M 4 kW - VMA 33TL 400	12.7	11	12	13	13	13	13	13	13	11	21	4	32.5
LS 132 S 5.5 kW - VMA 34TL 550	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	14.6	29	4	42.5
LS 132 S 7.5 kW - VMA 34TL 750	23.9	24	24	24	24	24	24	24	24	20	39	4	47.1

1. A or B version

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

4 poles 1500 min^{-1}

Type	Rated moment at 1500 min^{-1} M_N N.m	Measured moment (N.m) Speeds (min^{-1}) 300	600	900	1200	1500	1800	2200	Starting up moment M_D N.m	Switching frequency F_d kHz	IM B3 weight kg
LS 71 L 0.25 kW - VMA 31TL 025	1.6	1.4	1.4	1.4	1.5	2.1	1.4	1.1	3.2	10	10.6
LS 71 L 0.37 kW - VMA 31TL 037	2.4	1.6	1.8	1.9	2.2	2.4	2	1.6	4.8	10	11.5
LS 71 L 0.55 kW - VMA 31TL 055	3.6	2.7	2.7	2.8	3.2	3.6	2.9	2.1	5.4	10	12.5
LS 80 L 0.75 kW - VMA 31TL 075	4.8	3.4	4.2	4.6	4.6	4.9	4.1	3.2	10	8	13.5
LS 80 L 0.9 kW - VMA 32TL 090	5.7	4.6	5	5.8	6	6	5	4.2	11	8	15.1
LS 90 S 1.1 kW - VMA 32TL 110	7	5.2	5.5	7	7	7	6	4.7	13	8	15.7
LS 90 L 1.5 kW - VMA 32TL 150	9.5	7	8.5	9.5	9.5	9.5	8	6.5	18	6	17.7
LS 90 L 1.8 kW - VMA 32TL 180	11.5	7.7	10	11	12	12	10	8	24	4	19.4
LS 100 L 2.2 kW - VMA 32TL 220	14	9.4	12	13	13	14.5	12	9.5	26	4	24.2
LS 100 L 3 kW - VMA 33TL 300	19.1	13	16	19	19	19	16	13	30	4	30.6
LS 112 MG 4 kW - VMA 33TL 400	25.5	18	20	20	25	25	22	17	38	4	41.4
LS 132 M 5.5 kW - VMA 34TL 550[3]	35	35	35	35	35	35	29	24	52	4	64.4
LS 132 M 7.5 kW - VMA 34TL 750[3]	47.8	48	48	48	48	48	40	32	72	4	70.4

3. Compulsory forced ventilation

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

6 poles 1000 min^{-1}

Type	Rated moment at 1000 min^{-1} M_N N.m	Measured moment (N.m) Speeds (min^{-1}) 200	400	600	1000	1200	1500	Starting up moment M_D N.m	Switching frequency F_d kHz	IM B3 weight kg
LS 71 L 0.25 kW - VMA 31TL 037	2.4	1.7	1.7	1.7	2.1	1.7	1.3	4.2	10	12.6
LS 80 L 0.37 kW - VMA 31TL 055	3.5	3.2	3.5	3.9	4	3.3	2.7	10	10	13.9
LS 80 L 0.55 kW - VMA 31TL 075	5.3	4.5	5	5.5	5.5	5	4.5	13	8	15.2
LS 90 S 0.75 kW - VMA 32TL 090	7.2	7	7	7.5	8	6.5	5	16	8	17.7
LS 90 L 1.1 kW - VMA 32TL 150	10.5	8	8	9	11	9	7	20	6	19.4
LS 100 L 1.5 kW - VMA 32TL 180	14.3	8	10	15	15	12	10	26	4	24.2
LS 112 M 2.2 kW - VMA 33TL 300	21	12	18	21	21	18	15	32	4	32.3
LS 132 S 3 kW - VMA 33TL 400	28.6	21	24	29	29	21	16	44	4	46.4
LS 132 M 4 kW - VMA 34TL 550[3]	38.2	38	34	38	38	32	22.5	57	4	61.4
LS 132 M 5.5 kW - VMA 34TL 750[3]	52.6	53	53	53	53	42	32	78	4	67.5

3. Compulsory forced ventilation

Selection

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

2 poles 3000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31TL 025 SD²	0.25	4551856	2	4551858	2		-	4551860	2		-
LS 71 L VMA A31TL 037 SD²	0.37	4498688	2	4498689	2		-	4498690	2		-
LS 71 L VMA A31TL 055 SD²	0.55	4498685	2	4498686	2		-	4498687	2		-
LS 80 L VMA A31TL 075 SD²	0.75	4470057	2	4470058	2		-	4470060	2		-
LS 80 L VMA A32TL 110 SD²	1.1	4470062	2	4470065	2		-	4470068	2		-
LS 90 S VMA A32TL 150 SD²	1.5	4472172	2	4472174	2		-	4472175	2		-
LS 90 L VMA A32TL 180 SD²	1.8	4472178	2	4472179	2		-	4472181	2		-
LS 90 L VMA A32TL 220 SD²	2.2	4472184	2	4472185	2		-	4472188	2		-
LS 100 L VMA 33TL 300 SD²	3	4277972	1	4277973	1		-	4277974	1		-
LS 112 M VMA 33TL 400 SD²	4	4277975	1	4277976	1		-	4277977	1		-
LS 132 S VMA 34TL 550 SD²	5.5		-		-		-		-		-
LS 132 S VMA 34TL 750 SD²	7.5		-		-		-		-		-

2. Without button - cable gland to the right

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

4 poles 1500 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31TL 025 SD²	0.25	4551853	2	4524519	2		-	4533362	2		-
LS 71 L VMA A31TL 037 SD²	0.37	4498783	2	4498785	2		-	4498786	2		-
LS 71 L VMA A31TL 055 SD²	0.55	4498793	2	4498795	2		-	4498797	2		-
LS 80 L VMA A31TL 075 SD²	0.75	4469970	2	4469977	2		-	4469980	2		-
LS 80 L VMA A32TL 090 SD²	0.9	4469987	2	4469991	2		-	4469994	2		-
LS 90 S VMA A32TL 110 SD²	1.1	4470001	2	4470005	2		-	4470011	2		-
LS 90 L VMA A32TL 150 SD²	1.5	4470022	2	4470025	2		-	4470030	2		-
LS 90 L VMA A32TL 180 SD²	1.8	4470033	2	4470036	2		-	4470043	2		-
LS 100 L VMA A32TL 220 SD²	2.2	4470046	2	4470051	2		-	4470055	2		-
LS 100 L VMA 33TL 300 SD²	3	4277958	1	4277962	1		-	4277964	1		-
LS 112 MG VMA 33TL 400SD²	4	4277965	1	4277966	1		-	4277967	1		-
LS 132 M VMA 34TL 550 SD²	5.5		-		-		-		-		-
LS 132 M VMA 34TL 750 SD²	7.5		-		-		-		-		-

2. Without button - Cable gland to the right

THREE-PHASE SUPPLY : from 200 V -10% to 240 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Δ

6 poles 1000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 L VMA A31TL 037 SD²	0.25	4498737	2	4498738	2		-	4498739	2		-
LS 80 L VMA A31TL 055 SD²	0.37	4472198	2	4472199	2		-	4472195	2		-
LS 80 L VMA A31TL 075 SD²	0.55	4472205	2	4472209	2		-	4472211	2		-
LS 90 S VMA A32TL 090 SD²	0.75	4506673	2	4506675	2		-	4506677	2		-
LS 90 L VMA A32TL 150 SD²	1.1	4506679	2	4506682	2		-	4506684	2		-
LS 100 L VMA A32TL 180 SD²	1.5	4506691	2	4506696	2		-	4506701	2		-
LS 112 M VMA 33TL 300 SD²	2.2	4277982	1	4277984	1		-	4277985	1		-
LS 132 S VMA 33TL 400 SD²	3	4277987	1	4277980	1		-	4277989	1		-
LS 132 M VMA 34TL 550 SD²	4		-		-		-		-		-
LS 132 M VMA 34TL 750 SD²	5.5		-		-		-		-		-

2. Without button - Cable gland to the right

Variable speed motors
VARMECA

Selection

THREE-PHASE SUPPLY : VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

2 poles 3000 min⁻¹

Type	Rated moment at 3000 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)									Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	600	900	1200	1500	1800	2200	2400	3000	3600	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31T 025	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	1	0.7	1.6	10	10.2
LS 71 L 0.37 kW - VMA 31T 037	1.2	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.5	0.9	2.4	10	10.6
LS 71 L 0.55 kW - VMA 31T 055	1.8	1.5	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.1	3.3	10	11.5
LS 80 L 0.75 kW - VMA 31T 075	2.4	2.1	2.1	2.3	2.4	2.5	2.7	2.7	2.6	2	4.5	10	12.4
LS 80 L 1.1 kW - VMA 31T 110	3.5	3.3	3.3	3.5	3.5	3.5	3.8	3.8	3.8	2.9	8	10	13.9
LS 90 S 1.5 kW - VMA 32T 150	4.8	4	4	4.3	4.3	4.3	4.5	4.5	4.8	4	9	8	15.5
LS 90 L 1.8 kW - VMA 32T 180	5.7	5.5	5.5	5.8	5.8	6	6	6.2	6.2	4.8	9.7	8	16.2
LS 90 L 2.2 kW - VMA 32T 220	7	7	7	7.2	7.5	7.5	7.5	7.5	7.5	6	12	8	18.2
LS 100 L 3 kW - VMA 32T 300	9.5	6.7	8.5	9	9.5	9	10	10	10	8	14	6	24.2
LS 112 M 4 kW - VMA 32T 400	12.7	11	12	13	13	13	13	13	13	10.7	19	4	28.6
LS 132 S 5.5 kW - VMA 33T 550	17.5	14	15	15	15	15.8	16.8	18	18	14.6	29	4	47.1
LS 132 S 7.5 kW - VMA 33T 750	23.9	16.1	16.1	20	23.9	24.9	25.2	25.4	24.8	19.8	39	4	57.1
LS 132 M 9 kW - VMA 34T 900	28.7	23	24	26	29	29	29	29	29	24	49	4	62.1
LS 132 M 11 kW - VMA 34T 111	35	26	27	31	35	35	35	35	35	29	52	4	70.1

E

THREE-PHASE SUPPLY : VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

4 poles 1500 min⁻¹

Type	Rated moment at 1500 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)							Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	300	600	900	1200	1500	1800	2200	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31T 025	1.6	1.4	1.4	1.4	1.5	2.1	1.4	1.1	3.2	10	10.6
LS 71 L 0.37 kW - VMA 31T 037	2.4	2.1	2.1	2.1	2.2	2.8	2	1.6	4.2	10	11.5
LS 71 L 0.55 kW - VMA 31T 055	3.6	2.8	2.8	2.8	3.2	3.8	2.9	2.4	5.8	10	12.5
LS 80 L 0.75 kW - VMA 31T 075	4.8	3.4	4.2	4.6	4.6	4.9	4.1	3.2	10	10	13.5
LS 80 L 0.9 kW - VMA 31T 090	5.7	4.6	5	5.8	6	6	5	4.2	11	10	15.1
LS 90 L 1.1 kW - VMA 31T 110	7	5.2	5.5	7	7	7	6	4.7	13	10	15.7
LS 90 L 1.5 kW - VMA 32T 150	9.5	7	8.5	9.5	9.5	9.5	8	6.5	18	8	17.7
LS 90 L 1.8 kW - VMA 32T 180	11.5	7.7	10	11	12	12	10	8	24	8	19.4
LS 100 L 2.2 kW - VMA 32T 220	14	9.4	12	13	13	14.5	12	9.5	26	8	24.2
LS 100 L 3 kW - VMA 32T 300	19.1	12.8	12	15	17	19.1	16	12.8	30	6	26.7
LS 112 MG 4 kW - VMA 32T 400	25.5	18	20	20	25	25	22	17	40	4	37.5
LS 132 M 5.5 kW - VMA 33T 550	35	25	35	35	35	35	30	24	52	4	64.4
LS 132 M 7.5 kW - VMA 33T 750	47.8	31.9	40	47	48	48	40	32	72	4	70.4
LS 132 M 9 kW - VMA 34T 900[3]	57.3	58	58	58	58	58	48	39	85	4	73.1
LS 160 MR 11 kW - VMA 34T 111[3]	70	70	70	70	70	70	58	46	102	4	87.1

3. Compulsory forced ventilation

THREE-PHASE SUPPLY : VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

6 poles 1000 min⁻¹

Type	Rated moment at 1000 min⁻¹ M_N	Measured moment (N.m) Speeds (min⁻¹)						Starting up moment M_D	Switching frequency F_d	IM B3 weight
	N.m	200	400	600	1000	1200	1500	N.m	kHz	kg
LS 71 L 0.25 kW - VMA 31T 025	2.4	1.6	1.6	1.7	2.2	1.8	1.4	4.6	10	12.6
LS 80 L 0.37 kW - VMA 31T 037	3.5	3.2	3.5	3.9	4	3.3	2.7	10	10	13.9
LS 80 L 0.55 kW - VMA 31T 055	5.3	4.5	5	5.5	5.5	5	4.5	13	10	15.2
LS 90 S 0.75 kW - VMA 31T 075	7.2	7	7	7.5	8	6.5	5	16	10	17.7
LS 90 L 1.1 kW - VMA 32T 110	10.5	8	8	9	11	9	7	20	10	19.4
LS 100 L 1.5 kW - VMA 32T 150	14.3	8	10	15	15	12	10	30	8	24.2
LS 112 M 2.2 kW - VMA 32T 220	21	9	12	18	20	18	15	40	8	28.4
LS 132 S 3 kW - VMA 32T 300	28.6	14	18	19	25	21	16	50	6	42.5
LS 132 M 4 kW - VMA 33T 550	38.2	32	34	38	38	32	23	57	4	61.4
LS 132 M 5.5 kW - VMA 33T 750	52.6	47	53	53	53	42	32	78	4	67.5
LS 160 M 7.5 kW - VMA 34T 900[3]	71.7	72	72	72	72	60	48	108	4	89.1
LS 160 L 11 kW - VMA 34T 111[3]	105	105	105	105	105	87	70	156	4	

3. Compulsory forced ventilation

Variable speed motors
VARMECA

Selection

THREE-PHASE SUPPLY : VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

2 poles 3000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 VMA A31T 025 SD[2]	0.25	4470536	2	4470537	2		-	4470539	2		-
LS 71 VMA A31T 037 SD[2]	0.37	4470540	2	4470541	2		-	4470542	2		-
LS 71 VMA A31T 055 SD[2]	0.55	4470543	2	4470544	2		-	4470545	2		-
LS 80 L VMA A31T 075 SD[2]	0.75	4421500	2	4421501	2		-	4421502	2		-
LS 80 L VMA A31T 110 SD[2]	1.1	4421503	2	4421504	2		-	4421505	2		-
LS 90 S VMA A32T 150 SD[2]	1.5	4421506	2	4421507	2		-	4421508	2		-
LS 90 L VMA A32T 180 SD[2]	1.8	4421509	2	4421510	2		-	4421511	2		-
LS 90 L VMA A32T 220 SD[2]	2.2	4421512	2	4421513	2		-	4421514	2		-
LS 100 L VMA A32T 300 SD[2]	3	4421515	2	4421516	2		-	4421521	2		-
LS 112 M VMA A32T 400 SD[2]	4	4421522	2	4421525	2		-	4421529	2		-
LS 132 S VMA 33T 550 SD[2]	5.5	4277928	1	4277929	1		-	4277930	1		-
LS 132 S VMA 33T 750 SD[2]	7.5	4277931	1	4277932	1		-	4277935	1		-
LS 132 M VMA 34T 900 SD[2]	9	4326264	1	4326265	1		-	4326266	1		-
LS 132 M VMA 34T 111 SD[2]	11	4326694	1	4326695	1		-	4326696	1		-

2. Without button - Cable gland to the right

THREE-PHASE SUPPLY: VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

4 poles 1500 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 VMA A31T 025 SD[2]	0.25	4470526	2	4470527	2		-	4470529	2		-
LS 71 VMA A31T 037 SD[2]	0.37	4470530	2	4458810	2		-	4470532	2		-
LS 71 VMA A31T 055 SD[2]	0.55	4470533	2	4470534	2		-	4470535	2		-
LS 80 L VMA A31T 075 SD[2]	0.75	4421447	2	4421448	2		-	4421449	2		-
LS 80 L VMA A31T 090 SD[2]	0.9	4421474	2	4421475	2		-	4421476	2		-
LS 90 S VMA A31T 110 SD[2]	1.1	4421480	2	4421481	2		-	4421482	2		-
LS 90 L VMA A32T 150 SD[2]	1.5	4421483	2	4421485	2		-	4421486	2		-
LS 90 L VMA A32T 180 SD[2]	1.8	4421487	2	4421488	2		-	4421489	2		-
LS 100 L VMA A32T 220 SD[2]	2.2	4421491	2	4421492	2		-	4421493	2		-
LS 100 L VMA A32T 300 SD[2]	3	4421494	2	4421495	2		-	4421496	2		-
LS 112 MG VMA A32T 400SD[2]	4	4421497	2	4421498	2		-	4421499	2		-
LS 132 M VMA 33T 550 SD[2]	5.5	4277100	1	4267454	1		-	4277115	1		-
LS 132 M VMA 33T 750 SD[2]	7.5	4274636	1	4277911	1		-	4277912	1		-
LS 132 M VMA 34T 900 SD[2]	9	4358524	1	4357735	1		-	4388526	1		-
LS 160 MR VMA 34T 111 SD[2]	11		-		-		-		-		-

2. Without bouton - Cable gland to the right

THREE-PHASE SUPPLY : VMA 31/32/33/34 : from 400 V -10% to 480 V +10%, 50/60 Hz ±2%
Three-phase motors 230V/400V ±10% CONNECTED Y

6 poles 1000 min⁻¹

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3) Code	Qty	IM 3001 (IM B5) Code	Qty	IM 2001 (IM B35) Code	Qty	IM 3601 (IM B14) Code	Qty	IM 2101 (IM B34) Code	Qty
LS 71 VMA A31T 025 SD[2]	0.25	4498499	2	4484975	2		-	4498503	2		-
LS 80 L VMA A31T 037 SD[2]	0.37	4421531	2	4421533	2		-	4421534	2		-
LS 80 L VMA A31T 055 SD[2]	0.55	4421535	2	4421536	2		-	4421537	2		-
LS 90 S VMA A31T 075 SD[2]	0.75	4421749	2	4421751	2		-	4421753	2		-
LS 90 L VMA A32T 110 SD[2]	1.1	4421755	2	4421756	2		-	4421758	2		-
LS 100 L VMA A32T 150 SD[2]	1.5	4421760	2	4421762	2		-	4421763	2		-
LS 112 M VMA A32T 220 SD[2]	2.2	4421765	2	4421766	2		-	4421767	2		-
LS 132 S VMA A32T 300 SD[2]	3	4421789	2	4421791	2		-	4421793	2		-
LS 132 M VMA 33T 550 SD[2]	4	4277940	1	4277943	1		-	4277946	1		-
LS 132 M VMA 33T 750 SD[2]	5.5	4277948	1	4277951	1		-	4277953	1		-
LS 160 M VMA 34T 900 SD[2]	7.5		-		-		-		-		-
LS 160 L VMA 34T 111 SD[2]	11		-		-		-		-		-

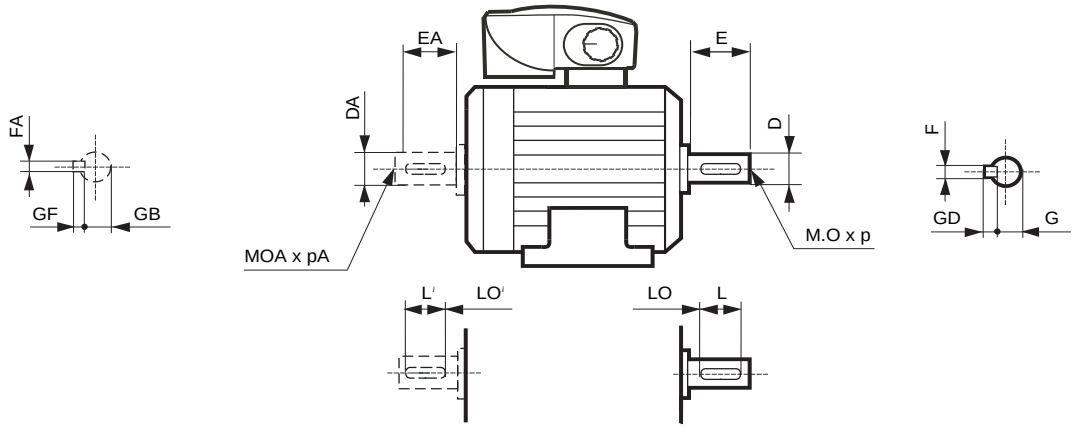
2. Without button - Cable gland to the right

Dimensions

Dimensions of the VARMECA motors

Dimensions in millimetres

–shaft end



Type	Main shaft end																			
	4 and 6 poles										2 poles									
	F	GD	D	G	E	O	p	L	LO	D	F	GD	D	G	E	O	p	L	LO	D
LS 71 L- VMA 31	5	5	14j6	11	30	5	15	25	3.5	14	5	5	14j6	11	30	5	15	25	3.5	14
LS 80 L - VMA 31/32	6	6	19j6	15.5	40	6	16	30	6	19	6	6	19j6	15.5	40	6	16	30	6	19
LS 90 S/L - VMA 31/32	8	7	24j6	20	50	8	19	40	6	24	8	7	24j6	20	50	8	19	40	6	24
LS 100 L - VMA 32/33	8	7	28j6	24	60	10	22	50	6	28	8	7	28j6	24	60	10	22	50	6	28
LS 112 M/MG - VMA 32/33	8	7	28j6	24	60	10	22	50	6	28	8	7	28j6	24	60	10	22	50	6	28
LS 132 S/M - VMA 33/34	10	8	38k6	33	80	12	28	63	10	38	10	8	38k6	33	80	12	28	63	10	38
LS 160 M/MR - VMA 33/34	12	8	42k6	37	110	16	36	100	6	42	12	8	42k6	37	110	16	36	100	6	42

Type	Secondary shaft end																			
	4 and 6 poles										2 poles									
	FA	GF	DA	GB	EA	OA	pA	L'	LO'	D	FA	GF	DA	GB	EA	OA	pA	L'	LO'	D
LS 71 L	5	5	14j6	11	30	5	15	25	3.5	14	5	5	14j6	11	30	5	15	25	3.5	14
LS 80 L - VMA 31/32	5	5	14j6	11	30	5	15	30	6	19	5	5	14j6	11	30	5	15	30	6	19
LS 90 S/L - VMA 31/32	6	6	19j6	15.5	40	6	16	40	6	24	6	6	19j6	15.5	40	6	16	40	6	24
LS 100 L - VMA 32/33	8	7	24j6	20	50	8	19	50	6	28	8	7	24j6	20	50	8	19	50	6	28
LS 112 M/MG - VMA 32/33	8	7	24j6	20	50	8	19	50	6	28	8	7	24j6	20	50	8	19	50	6	28
LS 132 S/M - VMA 33/34	8	7	28j6	24	60	10	22	63	10	38	8	7	28j6	24	60	10	22	63	10	38
LS 160 MR - VMA 33/34	10	8	38k6	33	80	12	28	63	10	42	10	8	38k6	33	80	12	28	63	10	42
LS 160 M - VMA 33/34	12	8	42k6	37	110	16	36	100	6	42	12	8	42k6	37	110	16	36	100	6	42

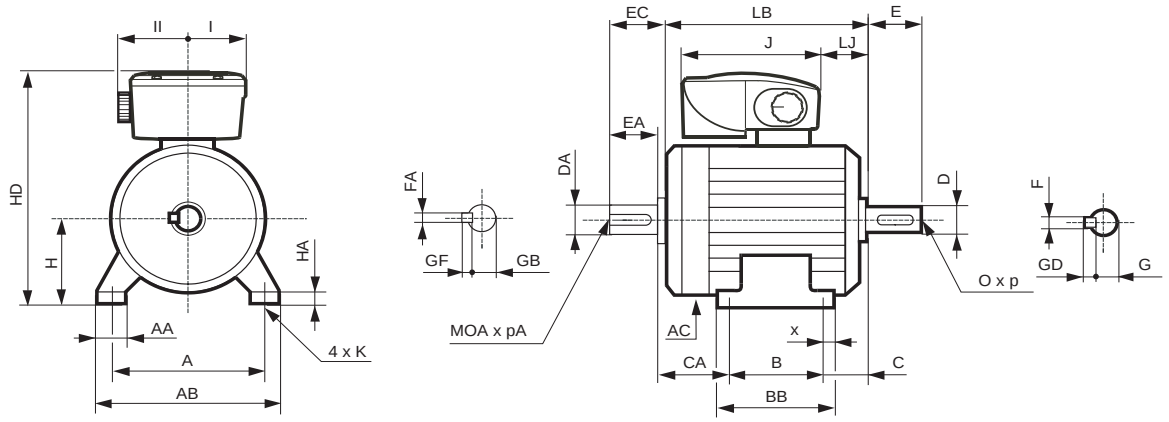
Variable speed motors
VARMECA

Dimensions

Dimensions of the VARMECA motors

Dimensions in millimetres

– foot mounted



Type	Main dimensions																	
	A	AB	B	BB	C	x	AA	K	HA	H	AC	HD	LB	LJ	J	I	II[1]	CA
LS 71 - VMA 31	112	126	90	106	45	7,5	24	7	9	71	140	247	193	10	217	75	88	61
LS 80 L - VMA 31	125	157	100	120	50	10	29	9	10	80	170	270	215	12	217	75	91	68
LS 80 L - VMA 32	125	157	100	120	50	10	29	9	10	80	170	270	215	12	231	75	91	68
LS 90 S - VMA 31	140	172	100	120	56	10	37	10	11	90	190	290	218	12	217	75	91	66
LS 90 S - VMA 32	140	172	100	120	56	10	37	10	11	90	190	290	218	12	231	75	91	66
LS 90 L - VMA 31	140	172	125	162	56	28	37	10	11	90	190	290	245	12	217	75	91	68
LS 90 L - VMA 32	140	172	125	162	56	28	37	10	11	90	190	290	245	12	231	75	91	68
LS 100 L - VMA 32	160	196	140	165	63	12	40	12	13	100	200	305	290	12	231	75	91	93
LS 100 L - VMA 33	160	196	140	165	63	12	40	12	13	100	200	370	290	4	336	115	141	93
LS 112 M - VMA 32	190	220	140	165	70	12	45	12	14	112	200	316	290	12	232	75	91	86
LS 112 M - VMA 33	190	220	140	165	70	12	45	12	14	112	200	382	290	4	336	115	141	86
LS 112 MG - VMA 32	190	220	140	165	70	12	52	12	14	112	235	325	315	21	232	75	91	110
LS 112 MG - VMA 33	190	220	140	165	70	12	52	12	14	112	235	392	315	13	336	115	141	110
LS 132 S - VMA 33/34	216	250	140	170	89	16	50	12	15	132	235	411	350	30	336	115	141	128
LS 132 M - VMA 33/34	216	250	178	208	89	16	59	12	18	132	280	432	387	8	336	115	141	126
LS 160 M - VMA 33/34	254	294	210	294	108	20	60	14,5	25	160	316	469	495	38	336	115	141	182
LS 160 MR - VMA 33/34	254	294	254	294	108	20	64	14,5	25	160	315	469	495	38	336	115	141	138

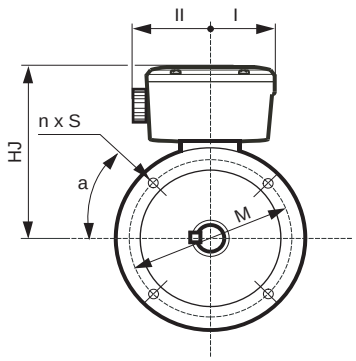
1.The II size consists of the order button : in oder to deliver without button, take size I.

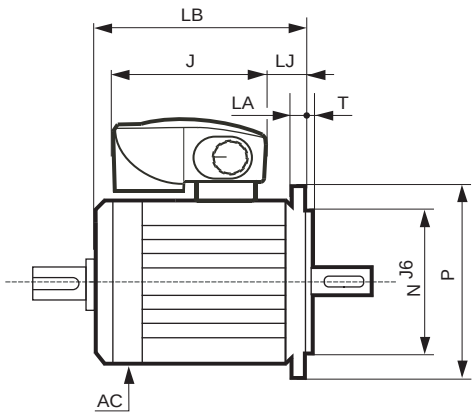
Dimensions

Dimensions of the VARMECA motors

Dimensions in millimetres

– (FF) plain hole flange mounted





Type	Main dimensions						
	AC	LB	HJ	LJ	J	I	II[1]
LS 71 - VMA 31	140	193	176	10	217	75	88
LS 80 L - VMA 31	170	215	190	12	217	75	91
LS 80 L - VMA 32	170	215	190	12	231	75	91
LS 90 S - VMA 31	190	238	200	32	217	75	91
LS 90 S - VMA 32	190	238	200	32	231	75	91
LS 90 L - VMA 31	190	265	200	32	217	75	91
LS 90 L - VMA 32	190	265	200	32	231	75	91
LS 100 L - VMA 32	200	290	205	12	231	75	91
LS 100 L - VMA 33	200	290	270	4	336	115	141
LS 112 M - VMA 32	200	290	204	12	231	75	91
LS 112 M - VMA 33	200	290	270	4	336	115	141
LS 112 MG - VMA 32	235	315	213	21	231	75	91
LS 112 MG - VMA 33	235	315	280	13	336	115	141
LS 132 S - VMA 33/34	235	350	280	30	336	115	141
LS 132 M - VMA 33/34	280	387	300	8	336	115	141
LS 160 M - VMA 33/34	316	495	309	38	336	115	141
LS 160 MR - VMA 33/34	315	495	309	38	336	115	141

1. The II size consists of an order button : in oder to deliver without button, take the I size.

Type	IEC	Flange dimensions (FF)							
	symbol	M	N	P	T	n	a	S	LA
LS 71	**FF 130**	130	110	160	3.5	4	45°	10	10
LS 80 L	**FF 165**	165	130	200	3.5	4	45°	12	10
LS 90 S/L	**FF 165**	165	130	200	3.5	4	45°	12	10
LS 100 L	**FF 215**	215	180	250	4	4	45°	15	12
LS 112 M/MG	**FF 215**	215	180	250	4	4	45°	15	12
LS 132 S/M/SM	**FF 265**	265	230	300	4	4	45°	15	14
LS 160 M/MR	**FF 300**	300	250	350	5	4	45°	18.5	14

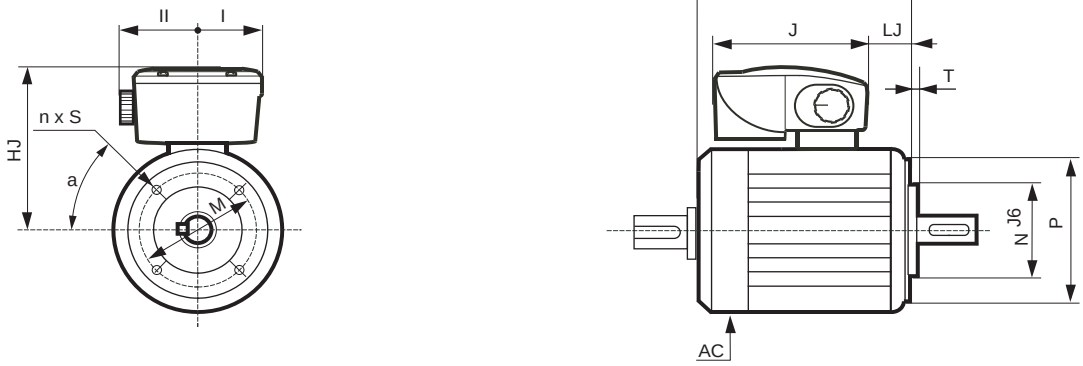
CA dimension and shaft end dimensions identical to those of the foot mounted motors.

Dimensions

Dimensions of the VARMECA motors

Dimensions in millimetres

– (FT) tapped hole flange mounted



	Main dimensions						
Type	AC	LB	HJ	LJ	J	I	II[1]
LS 71 - VMA 31	140	193	176	8	217	75	91
LS 80 L - VMA 31	170	215	190	12	217	75	91
LS 80 L - VMA 32	170	215	190	12	231	75	91
LS 90 S - VMA 31	190	218	200	13	217	75	91
LS 90 S - VMA 32	190	218	200	13	231	75	91
LS 90 L - VMA 31	190	245	200	13	217	75	91
LS 90 L - VMA 32	190	245	200	13	231	75	91
LS 100 L - VMA 32	200	290	205	12	231	75	91
LS 100 L - VMA 33	200	290	270	4	336	115	141
LS 112 M - VMA 32	200	290	204	12	231	75	91
LS 112 M - VMA 33	200	290	270	4	336	115	141
LS 112 MG - VMA 32	235	315	213	21	231	75	91
LS 112 MG - VMA 33	235	315	280	13	336	115	141
LS 132 S - VMA 33/34	235	350	280	30	336	115	141
LS 132 M - VMA 33/34	280	387	300	8	336	115	141
LS 160 M - VMA 33/34	316	495	309	38	336	115	141
LS 160 MR - VMA 33/34	315	495	309	38	336	115	141

1.The II size consists of the order button: in order to deliver without button, take size I.

	IEC	Flange dimensions (FT)						
Type	symbol	M	N	P	T	n	a	S
LS 71	**FT 85**	85	70	105	2.5	4	45°	M6
LS 80 L	**FT 100**	100	80	120	3	4	45°	M6
LS 90 S/L	**FT 115**	115	95	140	3	4	45°	M8
LS 100 L	**FT 130**	130	110	160	3.5	4	45°	M8
LS 112 M/MG	**FT 130**	130	110	160	3.5	4	45°	M8
LS 132 S/M/SM	**FT 215**	215	180	250	4	4	45°	M12
LS 160 M/MR	**FT 265**	265	230	300	4	4	45°	M12

CA dimension and shaft end dimensions identical to those of the foot mounted motors.