

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

General information



VARMECA, the result of long experience in variable speed, benefits from a compact size and reduced weight. Currently it is available up to 11 kW.

VARMECA generates no noise pollution due to the selection of an inaudible cut out frequency.

Enclosed three phase variable speed motor according to IEC and Low Voltage Instruction (€ C).

Power : 0.25 to 11 kW frame size 71 to 160. VARMECA offers high operation flexibility on account of the options : parameter setting by microconsole or PC ; process management through international standard communication systems (Profibus, InterBus S, DeviceNet, ...).

Description of VARMECA

Component	Remarks
Construction	<ul style="list-style-type: none"> - IP 65 protection, class F - Aluminium housing and polyamide cable glands - Captive cover screws - Connection of power and control cables through a flexible blade connector - Electronics encapsulated in the resin to provide good mechanical protection and resistance to humidity
Characteristics	<ul style="list-style-type: none"> - Single phase power supply : <ul style="list-style-type: none"> • Mains supply : 208V - 10 % to 240V + 10 % 50-60 Hz \pm 2 % • Output voltage : from 0V to the mains supply voltage • Power range : 0.25 - 0.37 - 0.55 - 0.75 - 0.9 - 1.1 - 1.5 kW • Maximum number of starts per hour : 10 - Three phase power supply : <ul style="list-style-type: none"> • Mains supply : 208V - 10 % to 480V + 10 % 50-60 Hz \pm 2 % • Output voltage : from 0V to the mains 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 power supply 230V) - 9 - 11 kW • Maximum number of starts per hour : 100
FCR brake	<ul style="list-style-type: none"> - Failsafe electromechanical brake, IP55 : <ul style="list-style-type: none"> • Incorporated mains supply • Enables a safe and precise reduced stop time • The brake responds immediately the run command is activated. • The braking take places after a stop command, when the motor comes to rest. - FCR brake management, three phase power supply : <ul style="list-style-type: none"> • VMA 31-32T : SOVMA (fixed brake control) or VMA ESFR (sequential brake control) • VMA 33-34 : VMA ESFR (sequential brake control) - Brake motor frequency variation range : <ul style="list-style-type: none"> • from 10 to 80 Hz constant torque (modifiable factory setting with parameter setting option KEYPAD LCD or SOFT VMA) • from 10 to 50 Hz general use (modifiable factory setting with parameter setting option KEYPAD LCD or SOFT VMA) - Efficiency : 97.5 % of the brake motor efficiency - Overload : <ul style="list-style-type: none"> • 150 % of I_n during 60 s • 10 times per hour
Environment	<ul style="list-style-type: none"> - Storage temperature : -40°C to + 70°C (IEC 68.2.3). In accordance with the standard IEC 60068-2-1. - Transport temperature : -40°C to + 70°C - Operation temperature : -20°C to + 50°C (with derating of 1 % of power by °C, beyond 40 °C. - Altitude : < 1000m without derating . The maximum authorised temperature is of 4000 m, but beyond 1000 m, the permanent output current must be subject to a derating of 1% for every additional 100 m above 1000 m (ex.: for an altitude of 3000 m, derate of 20%). - Ambient humidity : 95% without condensation - Humidity during storage : 93%, 40 °C, 4 days - Vibrations : <ul style="list-style-type: none"> • Non packed product : 0.01 g²/Hz 1hr according to the standard IEC 60068-2-34. • Sinusoidal vibrations : <ul style="list-style-type: none"> - VMA 31/32 : 2-9 Hz 3.5 ms⁻² – 9-200 Hz 10 ms⁻² - VMA 33/34 : 2-6 Hz 3.5 ms⁻² – 6-100 Hz 5 ms⁻² - Shocks : Packed product : 15 g, 6 ms, 500 times/direction in the 6 directions according to the standard IEC 60068-2-29. - Immunity : According to EN61000-6-2 - Conducted and radiated emissions : <ul style="list-style-type: none"> • According to EN 61000-6-4 - VMA 31-32 and VMA 33-34 with internal filter option • According to EN 61000-6-3 with internal filter in VMA 31, VMA 31-32/TL - UL standards : <ul style="list-style-type: none"> • According to UL 508 C (E211799) and cULUS
Painting	<ul style="list-style-type: none"> - system Ia, colour RAL 6000 (green) - resistance to saline mist : 72 h (following NFX 41002)

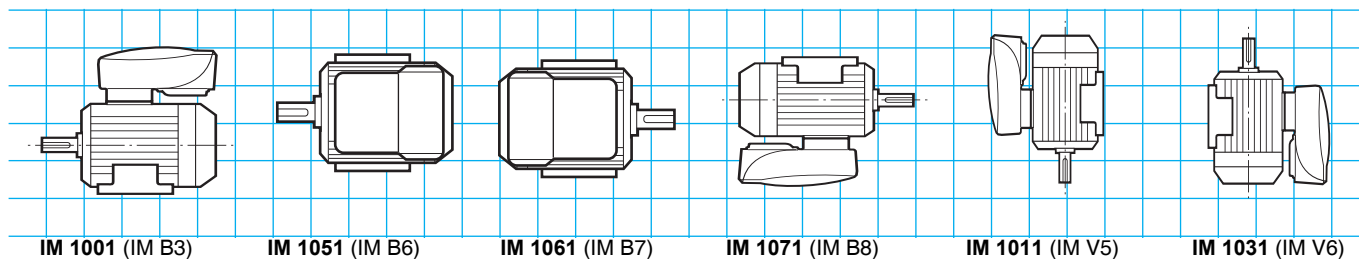
VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

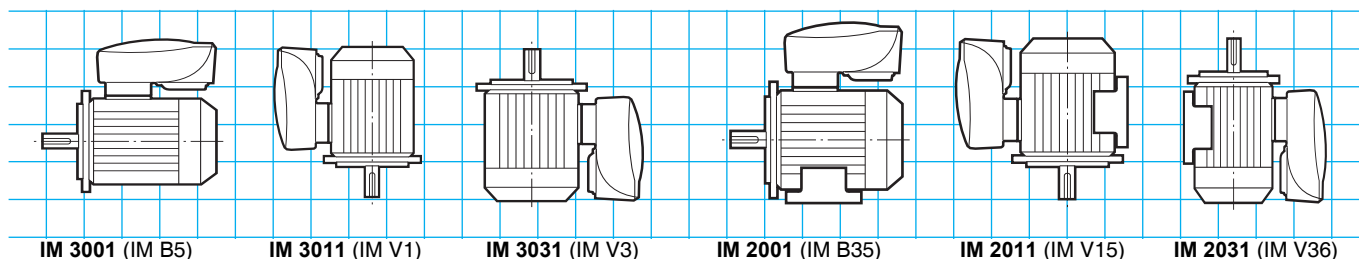
Mounting - Operating positions

Reference position is viewed from side F (drive end shaft)

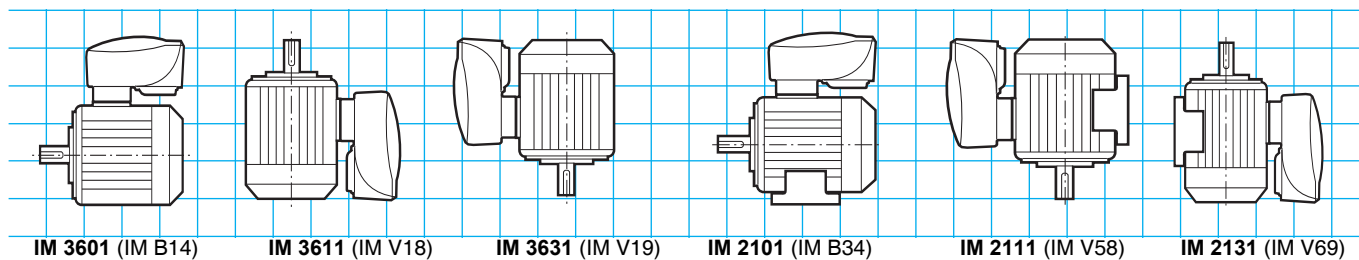
Foot mounted VARMECA motor



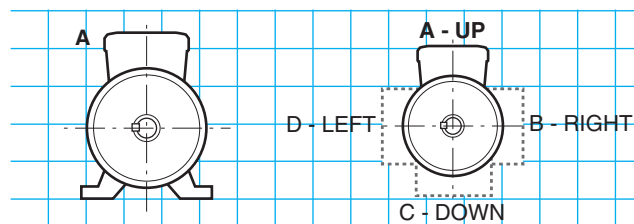
(FF) plain hole flange mounted VARMECA motor



(FT) tapped hole flange mounted VARMECA motor



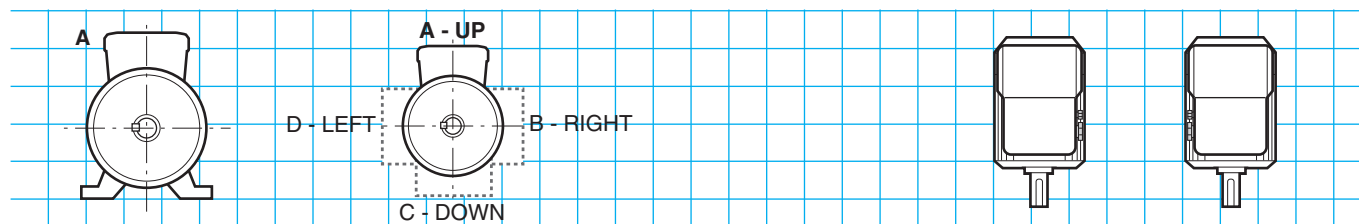
VARMECA positions



Foot mounted motor
A: standard

Flange mounted motor
A - UP: standard

Cable gland positions



1: RIGHT: standard

3: LEFT

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Adaptation possibilities

Leroy-Somer offers, for use with their brake motors, many options which meet the needs of highly diverse applications. They are described below and in the chapter on gearboxes (D). For other variants or any specific adaptation, consult the technical specialists at Leroy-Somer who will be pleased to advise you.

☞ **VARMECA three phase variable speed FCR brake motors may be integrally mounted (fitted motor), or with universal mounting (IEC standardised motor) with the following gearboxes :**

- Compabloc
- Orthobloc
- Manubloc
- Multibloc

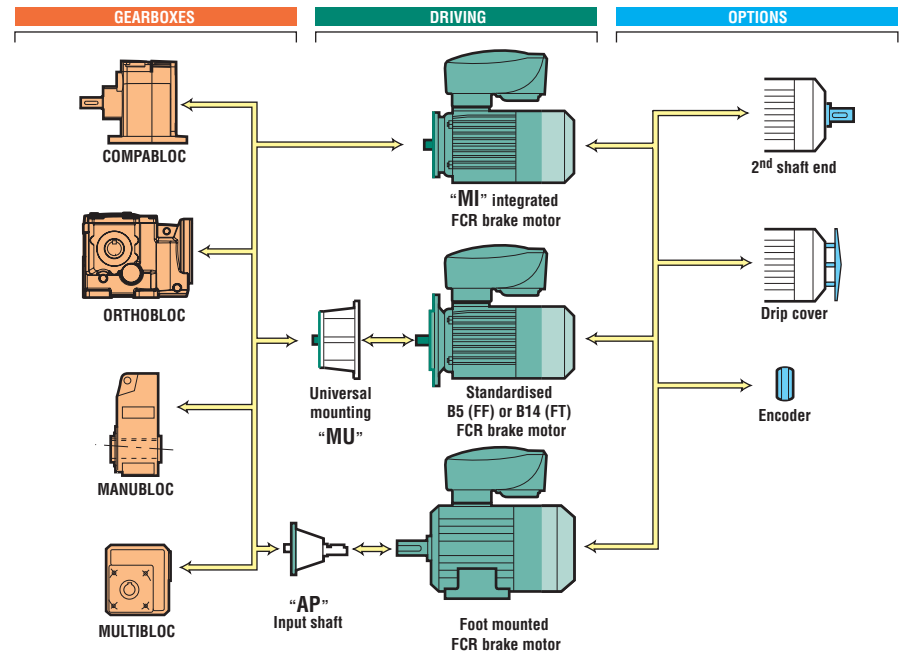
☞ **The options :**

Motor :

- Drip cover
- Encoder
- Stainless steel nameplate
- Second shaft end
- Non standard flanges

VARMECA :

- Speed setting switch
 - Run/Stop order
 - Forward run/Reverse run/Stop order
 - CVI VMA order (adjustment potentiometers)
 - CEM filter
 - Brake management and mains supply
 - Local display or remote reading
 - Parameter setting software
 - External options (potentiometer, speed digital indicator, ...)
 - Field bus interface (Profibus DP, InterBus S, DeviceNet, CAN open, ...)
- See the following pages



Designation / Codification

4P 320-2350 min ⁻¹	LS	80	L	0.9	VMA 31T090	SOVMA	400-480 V 50-60 Hz	U.G.	FCR J01	6 N.m	A1
Polarity, Speed range	Motor series	Motor frame size	Manuf. index (motor)	Power in kW	VARMECA size	Brake mains supply card	Rated frequency and voltage	Use	Inertia and brake type	Brake torque	VMA and PE position

☞ **Codification example :**

4P LS 80 L 0.9 kW VMA 31T090 FCR J01 6 N.m A1 for a Varmeca motor, 4 poles power 0.9 kW




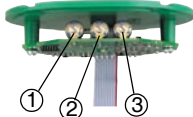
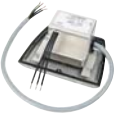




All the products in this catalogue have a code. The coding table is incorporated in the price list together with the list of designations. Each brake motor product is classified first in order of power and then in order of speed.

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Options Designation / Codification

Description of the VARMECA options








Component VMA 31-32	Component VMA 33-34	Remarks																																																																																		
		Speed setting switch option The speed setting is made by graduated switch from 15 to 100 %. • 2 indicator lights.																																																																																		
B31-32	B33-34																																																																																			
		Setting switch option with integrated Stop/Run control Aswell as the speed setting, a run key and a stop key allow, once the VARMECA is powered up, to drive it locally if desired. To activate, the run command key needs to be pressed for at least a second . • 2 indicator lights.																																																																																		
BMA31-32	BMA33-34																																																																																			
		Setting switch option with Forward run/Reverse run/Stop control Aswell as the speed setting, a forward run key, a reverse run key and a stop key, allow,once VARMECA is powered up to drive it locally if desired. To activate, the run command key needs to be pressed for at least a second . • 2 indicator lights.																																																																																		
BMAVAR31-32	BMAVAR33-34																																																																																			
		Internal speed setting option The speed settings are made by potentiometers accessible after cover removal. ① a Minimum speed potentiometer : standardisation of the minimum speed, ② an Integrated speed potentiometer : setting of the speed that reverts to the switch setting, ③ a Maximum speed potentiometer : setting of the maximum speed. There are also 2 indicator lights.																																																																																		
CVIVMA31-32	CVIVMA33-34																																																																																			
		CEM filter option The VARMECA 31-32 are in accordance with the standard EN 61000-6-4 due to the CEM integral filter mounted in front of the VARMECA box. • FLT VMA 31-32 CEM filter industrial level • FLT VMA 31-33 CEM filter option = 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 The VARMECA 33-34 are in accordance with the standard EN 61000-6-4 with industrial filter option.																																																																																		
Integral : FLT VMA31 FLT VMA32	Integral : FLT VMA33 FLT VMA34																																																																																			
		Brake resistor option In order to operate in 4 quadrants and to dissipate the energy, resistors are directly fixed to the VARMECA box. External resistors having high thermal powers may be used, on condition that minimum Ohmic value is respected.																																																																																		
RF100 RF200	RF 600	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">RF 100</th> <th colspan="3">RF 200</th> <th colspan="3">RF 600</th> <th colspan="3">RF 800</th> </tr> <tr> <th>Top P kW</th> <th>Thermal P kW</th> <th>Value Ω</th> <th>Top P kW</th> <th>Thermal P kW</th> <th>Value Ω</th> <th>Top P kW</th> <th>Thermal P kW</th> <th>Value Ω</th> <th>Top P kW</th> <th>Thermal P kW</th> <th>Value Ω</th> </tr> </thead> <tbody> <tr> <td>VMA 31T/TL</td> <td>3.2</td> <td rowspan="3">0.1</td> <td rowspan="3">200</td> <td>3.2</td> <td rowspan="3">0.2</td> <td rowspan="3">200 (2x100 serial)</td> <td rowspan="3">-</td> <td rowspan="3">-</td> <td rowspan="3">-</td> <td>3.2</td> <td rowspan="3">0.8</td> <td rowspan="3">200</td> </tr> <tr> <td>VMA 31M</td> <td>0.8</td> <td>0.8</td> </tr> <tr> <td>VMA 32T/TL</td> <td>3.2</td> <td>3.2</td> </tr> <tr> <td>VMA 32M</td> <td>0.8</td> <td>0.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.8</td> <td></td> <td></td> </tr> <tr> <td>VMA 33-34T</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>12.8</td> <td rowspan="2">0.6</td> <td rowspan="2">50 (2x100 in/l)</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>VMA 33-34TL</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>12.8</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		RF 100			RF 200			RF 600			RF 800			Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω	VMA 31T/TL	3.2	0.1	200	3.2	0.2	200 (2x100 serial)	-	-	-	3.2	0.8	200	VMA 31M	0.8	0.8	VMA 32T/TL	3.2	3.2	VMA 32M	0.8	0.8								0.8			VMA 33-34T	-	-	-	-	-	-	12.8	0.6	50 (2x100 in/l)	-	-	-	VMA 33-34TL	-	-	-	-	-	-	12.8	-	-	-	-
	RF 100			RF 200			RF 600			RF 800																																																																										
	Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω	Top P kW	Thermal P kW	Value Ω																																																																								
VMA 31T/TL	3.2	0.1	200	3.2	0.2	200 (2x100 serial)	-	-	-	3.2	0.8	200																																																																								
VMA 31M	0.8			0.8																																																																																
VMA 32T/TL	3.2			3.2																																																																																
VMA 32M	0.8	0.8								0.8																																																																										
VMA 33-34T	-	-	-	-	-	-	12.8	0.6	50 (2x100 in/l)	-	-	-																																																																								
VMA 33-34TL	-	-	-	-	-	-	12.8			-	-	-	-																																																																							
		Electromechanical brake management and mains supply The motor must be fitted with a FCR brake adapted to VARMECA (three phase mains supply 400V to 480V ± 10 %) The brake mains supply is integral. The brake responds immediately the run command is activated. The braking effect take place after a stop command, at the end of the deceleration or on a cut in the mains supply. The rectifier circuit is fixed on the terminal board.																																																																																		
Three phase 400V : SO VMA31-32	—																																																																																			
		Additional inputs/outputs interface and brake sequential management The brake mains supply is integral. The brake is controlled through a sequence set by the VARMECA parameters. An additional digital input allows a preset speed to be obtained or the electrical release of the brake.																																																																																		
ESFR VMA 31-32	ESFR VMA 33-34																																																																																			

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Options Designation / Codification

Description of the VARMECA options

Component VMA 31-32	Component VMA 33-34	Remarks
	Flange 4 PE	4 PE flange option A connection terminal block on VARMECA allows the direct installation of a second FCR brake motor.
Flange 4 PE	Flange 4 PE	
	KEY PAD LCD	Parameter setting micro-console option The micro-console option allows access to the internal settings of the variable speed drive (configuration of the terminal block, settings of ramps, of speed, of Pl...).
KEY PAD LCD + 1 cord L=3 m	KEY PAD LCD + 1 cord L=3 m	
	LEC VMA	Digital display option for remote reading Speed digital indicator. Programmable indicator with speed scaling in relation to the speed image output : connection on the control terminal block. Mains supply 10 - 70 V DC
LEC VMA	LEC VMA	
	PAD VMA 33-34	Operator panel option The operator panel of VARMECA 33-34 is composed of a display, three control keys and three parameter setting keys. Consult the factory. It cannot be mounted on the VMA 32M.
PAD VMA 31-32	PAD VMA 33-34	
	SOFT VMA	Parameter setting software option This option allows access to the internal settings of the variable speed drive from a PC. The software is compatible with WINDOWS 95, 98, NT, 2000, XP and subsequent versions.
SOFT VMA + 1 cord L=3 m	SOFT VMA + 1 cord L=3 m	
—		Encoder feedback option Consult us.
—	COD VMA 33-34	
	VMA COM PB 33-34	Field bus option The interface card is set inside the terminal block. Protocols : Profibus DP, InterBus S, DeviceNet, CAN open. It cannot be mounted on the VMA 32M.
VMA COM PB 31-32	SM INTERBUS VMA COM IS 33-34 VMA COM DT 33-34 VMA COM CN 33-34 SM CAN OPEN	
	XPress Key	Duplication key option (XPress Key) The XPress Key option allows a copy of the parameters series of VARMECA 30 to be saved for easy duplication to another variable speed drive.
XPress Key	XPress Key	
	POT 1T 10K - POT 10T 10K	Potentiometer option The speed adjustment may be obtained by : <ul style="list-style-type: none"> - Potentiometer 1 turn (ref. POT 1T 10K) • Characteristics : 10 kΩ with switch and plate : connection to the control terminal block. - Potentiometer 10 turns (ref. POT 10T 10K) • Characteristics : 10 kΩ with switch and indicator : connection to the control terminal block.



VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Selection

• LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use

• Three-phase motors 4 poles 230/400 V connected Δ - Brake management set in factory (VMA ESFR)

Single phase mains supply : from 200 V -10 % to 240 V +10 %

4
poles
1500 min⁻¹

Type moteur	Type VMA	Type Frein	Rated power	Rated current	Rated torque	Starting torque /	Moment of inertia	Brake torque	Weight ¹ IM B5
			P_N kW	I_N 230 V A	M_N N.m	M_D / M_N			
LS 71 L	VMA 31 M 025	FCR J01	0.25	1.22	1.1	2.2	1.07	2.5	16
LS 71 L	VMA 31 M 037	FCR J01	0.37	1.95	1.6	3	1.25	4	17
LS 71 L	VMA 31 M 055	FCR J01	0.55	2.9	2.35	3	1.5	4	18
LS 80 L	VMA 31 M 075	FCR J01	0.75	3.5	3.2	3	2.8	6	21
LS 80 L	VMA 32 M 090	FCR J01	0.9	4	3.8	2.9	3.4	6	22.6
LS 90 L	VMA 32 M 110	FCR J01	1.1	4.7	4.7	2.7	5	10	27
LS 90 L	VMA 32 M 150	FCR J01	1.5	6.1	6.4	2.8	5.7	10	29

1. These values are given for information only.

• LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use

• Three-phase motors 4 poles 230/400 V connected Δ - Brake management set in factory (VMA ESFR)

Single phase mains supply : from 200 V -10 % to 240 V +10 %

4
poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power	Rated current	Rated torque	Starting torque /	Moment of inertia	Brake torque	Weight ¹ IM B5
			P_N kW	I_N 230 V A	M_N N.m	M_D / M_N			
LS 71 L	VMA 31 TL 025	FCR J01	0.25	1.22	1.1	2.2	1.07	2.5	16
LS 71 L	VMA 31 TL 037	FCR J01	0.37	1.95	1.6	3	1.25	4	17
LS 71 L	VMA 31 TL 055	FCR J01	0.55	2.9	2.35	3	1.5	4	18
LS 80 L	VMA 31 TL 075	FCR J01	0.75	3.5	3.2	3	2.8	6	21
LS 80 L	VMA 32 TL 090	FCR J01	0.9	4	3.8	2.9	3.4	6	22.6
LS 90 L	VMA 32 TL 110	FCR J01	1.1	4.7	4.7	2.7	5	10	27
LS 90 L	VMA 32 TL 150	FCR J01	1.5	6.1	6.4	2.8	5.7	10	29
LS 90 L	VMA 32 TL 180	FCR J01	1.8	7.1	7.7	3	6.7	15	30.7
LS 100 L	VMA 32 TL 220	FCR J01	2.2	8.85	9.4	2.7	7.4	15	34.5
LS 100 L	VMA 33 TL 300	FCR J01	3	12.5	12.2	2.5	8.3	15	37.5
LSMV 112 MG	VMA 33 TL 400	FCR J01	4	13.9	16.3	2.5	19.3	22	53.5
LSMV 132 SM	VMA 34 TL 550	FCR J02	5.5	19	22.5	2.3	60.4	40	80
LSMV 132 M	VMA 34 TL 750	FCR J02	7.5	24.3	30.6	2.3	62	50	86

1. These values are given for information only.

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Selection

4
poles
1500 min⁻¹

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz ± 5 % - U.G. General Use
- Three-phase motor 4 poles 230/400 V connected Δ - Brake management set in factory (VMA EFR)
- Single phase mains supply : from 200 V - 10 % to 240 V + 10 %

Motor type	VMA type	Brake type	Rated power at 50 Hz P_N kW	Braking torque $M_f \pm 20\%$ N.m	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 3601 (IM B14)	
					Code	Qty	Code	Qty	Code	Qty
LS 71 L	VMA 31 M 025	FCR J01	0.25	2.5		-	4559229	3	4559258	3
LS 71 L	VMA 31 M 037	FCR J01	0.37	4		-	4559266	3	4559271	3
LS 71 L	VMA 31 M 055	FCR J01	0.55	4		-	4559280	3	4559479	3
LS 80 L	VMA 31 M 075	FCR J01	0.75	6		-	4559477	3	4557572	3
LS 80 L	VMA 32 M 090	FCR J01	0.9	6		-	4559482	3	4559485	3
LS 90 L	VMA 32 M 110	FCR J01	1.1	10		-	4559491	3	4559500	3
LS 90 L	VMA 32 M 150	FCR J01	1.5	10		-	4559504	3	4559507	3
Options VMA pages C12.4, C12.5						-		3		3

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz ± 5 % - U.G. General Use
- Three-phase motor 4 poles 230/400 V connected Δ - Brake management set in factory (VMA EFR)
- Single phase mains supply : from 200 V - 10 % to 240 V + 10 %

4
poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power at 50 Hz P_N kW	Braking torque $M_f \pm 20\%$ N.m	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 3601 (IM B14)	
					Code	Qty	Code	Qty	Code	Qty
LS 71 L	VMA 31 TL 025	FCR J01	0.25	2.5		-	4559511	3	4559515	3
LS 71 L	VMA 31 TL 037	FCR J01	0.37	4		-	4559517	3	4559519	3
LS 71 L	VMA 31 TL 055	FCR J01	0.55	4		-	4560488	3	4560491	3
LS 80 L	VMA 31 TL 075	FCR J01	0.75	6		-	4560493	3	4560495	3
LS 80 L	VMA 32 TL 090	FCR J01	0.9	6		-	4560499	3	4560518	3
LS 90 L	VMA 32 TL 110	FCR J01	1.1	10		-	4560521	3	4560526	3
LS 90 L	VMA 32 TL 150	FCR J01	1.5	10		-	4560532	3	4560543	3
LS 90 L	VMA 32 TL 180	FCR J01	1.8	15		-	4560555	3	4560560	3
LS 100 L	VMA 32 TL 220	FCR J01	2.2	15		-	4560729	3	4560731	3
LS 100 L	VMA 33 TL 300	FCR J01	3	15		-	4320879	3	4320887	3
LSMV 112	VMA 33 TL 400	FCR J01	4	22		-	4562111	3	4562892	3
LSMV 132	VMA 34 TL 550	FCR J02	5.5	40		-	4562816	3	4562894	-
LSMV 132 M	VMA 34 TL 750	FCR J02	7.5	50		-	4562877	3	4562897	-
Options VMA pages C12.4, C12.5						-		3		3

Selection example :

Required power :	1.1 kW
Mains supply :	Three-phase 230V Δ
Required rated torque :	10 N.m
Mounting and position :	IM 3001 (IM B5)
flange	

Required speed :	600 to 1600 min ⁻¹
Mounting and position :	IM 3001 (IM B5)
flange	

Designation :

4P LS 90 L 1.1 kW VMA 32 TL 110 (VMA EFR) 200/240V - 50/60 Hz UG FCR J01 10 N.m A1

Code : 4560521

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Selection

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use
 - Three-phase motors 4 poles 230/400 V connected Y - Brake management set in factory (SOVMA)
- Three-phase mains supply : from 400 V -10 % to 480 V +10 %

4 poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power	Rated current	Rated torque 320 to 2350 min ⁻¹	Starting torque / Rated torque	Moment of inertia	Brake torque	Weight ¹ IM B5
			P_N kW	I_N 400 V A	M_N N.m	M_D / M_N	J 10 ⁻³ kg.m ²	$M_B \pm 20\%$ N.m	kg
LS 71 L	VMA 31 T 025	FCR J01	0.25	0.7	1.1	2.2	1.07	2.5	16
LS 71 L	VMA 31 T 037	FCR J01	0.37	1.12	1.6	3	1.25	4	17
LS 71 L	VMA 31 T 055	FCR J01	0.55	1.65	2.35	3	1.5	4	18
LS 80 L	VMA 31 T 075	FCR J01	0.75	2	3.2	3	2.8	6	21
LS 80 L	VMA 31 T 090	FCR J01	0.9	2.3	3.8	2.9	3.4	6	22.6
LS 90 L	VMA 31 T 110	FCR J01	1.1	2.7	4.7	2.7	5	10	27
LS 90 L	VMA 32 T 150	FCR J01	1.5	3.5	6.4	2.8	5.7	10	29
LS 90 L	VMA 32 T 180	FCR J01	1.8	4.1	7.7	3	6.7	15	30.7
LS 100 L	VMA 32 T 220	FCR J01	2.2	5.1	9.4	2.7	7.4	15	34.5
LS 100 L	VMA 32 T 300	FCR J01	3	7.2	12.8	2.3	8.3	15	37.5
LSMV 112 MG	VMA 32 T 400	FCR J01	4	8	17	2.3	19.3	22	53.5

1. These values are given for information only.

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use
 - Three-phase motors 4 poles 230/400 V connected Y - Brake management set in factory (VMA ESFR)
- Three-phase mains supply : from 400 V -10 % to 480 V +10 %

4 poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power	Rated current	Rated torque 320 to 2350 min ⁻¹	Starting torque / Rated torque	Moment of inertia	Brake torque	Weight ¹ IM B5
			P_N kW	I_N 400 V A	M_N N.m	M_D / M_N	J 10 ⁻³ kg.m ²	$M_B \pm 20\%$ N.m	kg
LS 71 L	VMA 31 T 025	FCR J01	0.25	0.7	1.1	2.2	1.07	2.5	16
LS 71 L	VMA 31 T 037	FCR J01	0.37	1.12	1.6	3	1.25	4	17
LS 71 L	VMA 31 T 055	FCR J01	0.55	1.65	2.35	3	1.5	4	18
LS 80 L	VMA 31 T 075	FCR J01	0.75	2	3.2	3	2.8	6	21
LS 80 L	VMA 31 T 090	FCR J01	0.9	2.3	3.8	2.9	3.4	6	22.6
LS 90 L	VMA 31 T 110	FCR J01	1.1	2.7	4.7	2.7	5	10	27
LS 90 L	VMA 32 T 150	FCR J01	1.5	3.5	6.4	2.8	5.7	10	29
LS 90 L	VMA 32 T 180	FCR J01	1.8	4.1	7.7	3	6.7	15	30.7
LS 100 L	VMA 32 T 220	FCR J01	2.2	5.1	9.4	2.7	7.4	15	34.5
LS 100 L	VMA 32 T 300	FCR J01	3	7.2	12.8	2.3	8.3	15	37.5
LSMV 112 MG	VMA 32 T 400	FCR J01	4	8	17	2.3	19.3	22	53.5
LSMV 132 SM	VMA 33 T 550	FCR J02	5.5	11	22.5	2.3	60.4	40	80
LSMV 132 M	VMA 33 T 750	FCR J02	7.5	14	30.6	2.3	62	50	86
LSMV 132 M	VMA 34 T 900	FCR J02	9	16.8	36.8	2.3	65.5	80	88.5
LSMV 160 MR	VMA 34 T 111	FCR J02	11	20.2	44.9	2.3	96	80	110.5

1. These values are given for information only.

VARMECA variable speed asynchronous motors with FCR brake

LS VARMECA FCR

Selection

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use
 - Three-phase motors 4 poles 230/400 V connected Y - Brake management set in factory (SOVMA)
- Three-phase mains supply : from 400 V -10 % to 480 V +10 %

4
poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power at 50 Hz P_N kW	Braking torque $M_f \pm 20\%$ N.m	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 3601 (IM B14)	
					Code	Qty	Code	Qty	Code	Qty
LS 71 L	VMA 31 T 025	FCR J01	0.25	2.5		-	4558086	5	4558088	3
LS 71 L	VMA 31 T 037	FCR J01	0.37	4		-	4558089	5	4558091	3
LS 71 L	VMA 31 T 055	FCR J01	0.55	4		-	4470643	5	4558108	3
LS 80 L	VMA 31 T 075	FCR J01	0.75	6		-	4558121	5	4558124	3
LS 80 L	VMA 31 T 090	FCR J01	0.9	6		-	4558134	5	4558137	3
LS 90 L	VMA 31 T 110	FCR J01	1.1	10		-	4558183	5	4558201	3
LS 90 L	VMA 32 T 150	FCR J01	1.5	10		-	4558239	5	4558243	3
LS 90 L	VMA 32 T 180	FCR J01	1.8	15		-	4558246	5	4558247	3
LS 100 L	VMA 32 T 220	FCR J01	2.2	15		-	4558253	5	4558255	3
LS 100 L	VMA 32 T 300	FCR J01	3	15		-	4558268	5	4558273	3
LSMV 112	VMA 32 T 400	FCR J01	4	22		-	4562094	5	4562098	3
Options VMA pages C12.4, C12.5						-		5		3

- LS VMA FCR series brake motors - IP 55 - 50/60 Hz \pm 5 % - U.G. General Use
 - Three-phase motors 4 poles 230/400 V connected Y - Brake management set in factory (VMA ESFR)
- Three-phase mains supply : from 400 V -10 % to 480 V +10 %

4
poles
1500 min⁻¹

Motor type	VMA type	Brake type	Rated power at 50 Hz P_N kW	Braking torque $M_f \pm 20\%$ N.m	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 3601 (IM B14)	
					Code	Qty	Code	Qty	Code	Qty
LS 71 L	VMA 31 T 025	FCR J01	0.25	2.5		-	4558900	5	4558994	3
LS 71 L	VMA 31 T 037	FCR J01	0.37	4		-	4558911	5	4558998	3
LS 71 L	VMA 31 T 055	FCR J01	0.55	4		-	4558916	5	4559001	3
LS 80 L	VMA 31 T 075	FCR J01	0.75	6		-	4558921	5	4559193	3
LS 80 L	VMA 31 T 090	FCR J01	0.9	6		-	4558923	5	4559195	3
LS 90 L	VMA 31 T 110	FCR J01	1.1	10		-	4558927	5	4559197	3
LS 90 L	VMA 32 T 150	FCR J01	1.5	10		-	4558931	5	4559200	3
LS 90 L	VMA 32 T 180	FCR J01	1.8	15		-	4558937	5	4559202	3
LS 100 L	VMA 32 T 220	FCR J01	2.2	15		-	4558987	5	4559205	3
LS 100 L	VMA 32 T 300	FCR J01	3	15		-	4558991	5	4559225	3
LSMV 112 MG	VMA 32 T 400	FCR J01	4	22		-	4562984	5	4562990	3
LSMV 132 SM	VMA 33 T 550	FCR J02	5.5	40		-	4562996	3	4562998	-
LSMV 132 M	VMA 33 T 750	FCR J02	7.5	50		-	4563002	3	4563004	-
LSMV 132 M	VMA 34 T 900	FCR J02	9	80		-	4563008	1	4563010	-
LSMV 160 MR	VMA 34 T 111	FCR J02	11	80		-	4563013	-	4563015	-
Options VMA pages C12.4, C12.5						-		n ¹		3

1. Quantity identical to the number of ordered brake motors.

Selection example :

Required power :	1.1 kW
Mains supply :	Three-phase 400V Y
Required rated torque :	10 N.m
Mounting and position : flange	IM 3001 (IM B5)

Required speed :	600 to 1600 min ⁻¹
Mounting and position : flange	IM 3001 (IM B5)

Designation :

4P LS 90 L 1.1 kW VMA 31 T 110 (VMA ESFR) 400/480V - 50/60 Hz UG FCR J01 10 N.m A1

Code : 4558927

VARMECA variable speed asynchronous motors with FCR brake

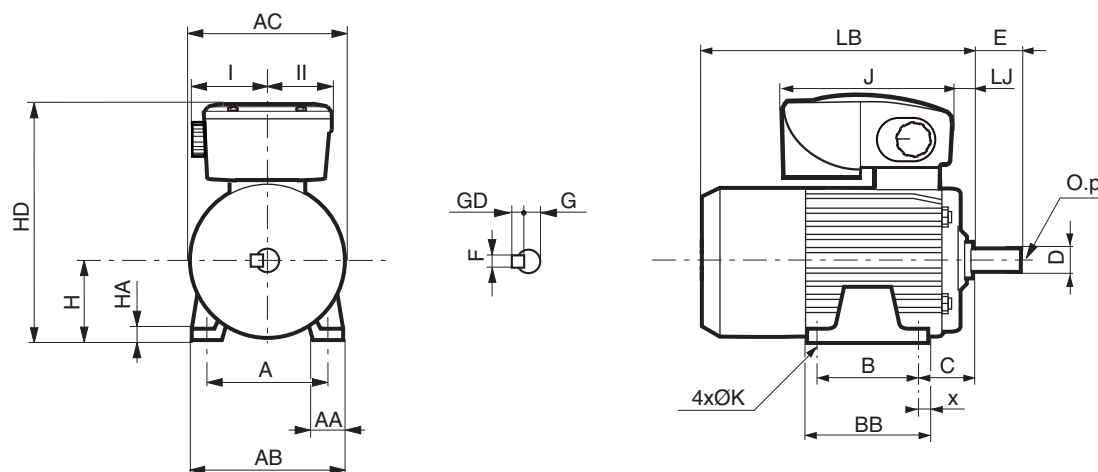
LS VARMECA FCR

Dimensions

Dimensions of the LS VMA FCR asynchronous brake motors

Dimensions in millimetres

– foot mounted



VARMECA integrated variable speed brake motor

Type	A	AA	AB	AC	B	BB	C	HD	H	HA	J	I'	II	K	LB	LJ	x
LS 71 L VMA 31 FCR	112	23	126	140	90	104	45	249	71	9	218	94	75	7	245	8	7
LS 80 L VMA 31 FCR	125	29	157	172	100	120	50	272	80	10	218	94	75	9	265	12	10
LS 80 L VMA 32 FCR	125	29	157	172	100	120	50	272	80	10	231	94	75	9	265	12	10
LS 90 L VMA 31 FCR	140	38.5	172	184	125	162	56	292	90	11	218	94	75	10	304	12	28
LS 90 L VMA 32 FCR	140	38.5	172	184	125	162	56	292	90	11	231	94	75	10	304	12	28
LS 100 L VMA 32 FCR	160	44	196	200	140	165	63	307	100	13	231	94	75	12	352	12	12
LS 100 L VMA 33 FCR	160	44	196	200	140	165	63	370	100	13	336	141	115	12	352	⁴	12
LSMV 112 MG VMA 32 FCR	190	52	220	235	140	164	70	328	112	14	231	94	75	12	396	21	12
LSMV 112 MG VMA 33 FCR	190	52	220	235	140	164	70	392	112	14	336	141	115	12	396	13	12
LSMV 132 SM VMA 33 FCR	216	59	250	280	178	208	89	402	132	18	336	141	115	12	493	8	16
LSMV 132 SM VMA 34 FCR	216	59	250	280	178	208	89	402	132	18	336	141	115	12	493	8	16
LSMV 132 M VMA 33 FCR	216	59	250	280	178	208	89	402	132	18	336	141	115	12	493	8	16
LSMV 132 M VMA 34 FCR	216	59	250	280	178	208	89	402	132	18	336	141	115	12	672 ²	8	16
LSMV 160 MR VMA 34 FCR	254	64	294	316	210	294	108	471	160	25	336	141	115	14.5	747 ²	38	20

1. The I dimension includes the optional switch ; for delivery without switch, take the II dimension.

2. Axial forced ventilation included.

Output shaft

Type	D	E	F	G	GD	O.p
LS 71 L VMA FCR	14j6	30	5	11	5	M5.12.5
LS 80 L VMA FCR	19j6	40	6	15.5	6	M6.16
LS 90 L VMA FCR	24j6	50	8	20	7	M8.19
LS 100 L VMA FCR	28j6	60	8	24	7	M10.22
LSMV 112 MG VMA FCR	28j6	60	8	24	7	M10.22
LSMV 132 SM,M VMA FCR	38k6	80	10	33	8	M12.28
LSMV 160 MR VMA FCR	42k6	110	12	37	8	M16.36

VARMECA variable speed asynchronous motors with FCR brake

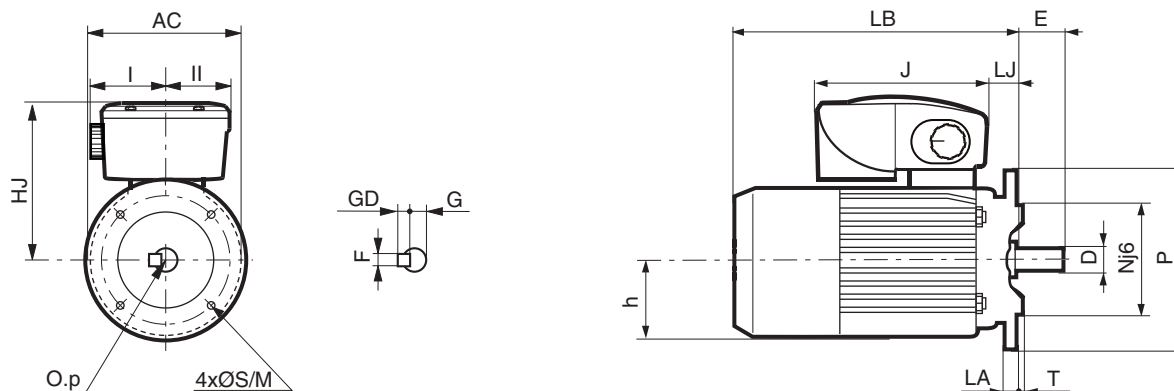
LS VARMECA FCR

Dimensions

Dimensions of the LS VMA FCR asynchronous brake motors

Dimensions in millimetres

– (FF) plain hole flange mounted



Type	VARMECA integrated variable speed brake motor								Output shaft					
	AC	HJ	h	J	I'	II	LB	LJ	D	E	F	G	GD	O.p
LS 71 L VMA 31 FCR	140	178	70	218	94	75	271	35	14j6	30	5	11	5	M5.12.5
LS 80 L VMA 31 FCR	172	192	80	218	94	75	292	38	19j6	40	6	15.5	6	M6.16
LS 80 L VMA 32 FCR	172	192	80	231	94	75	292	38	19j6	40	6	15.5	6	M6.16
LS 90 L VMA 31 FCR	184	202	90	218	94	75	324	12	24j6	50	8	20	7	M8.19
LS 90 L VMA 32 FCR	184	202	90	231	94	75	324	12	24j6	50	8	20	7	M8.19
LS 100 L VMA 32 FCR	200	207	98	231	94	75	388	48	28j6	60	8	24	7	M10.22
LS 100 L VMA 33 FCR	200	270	98	336	141	115	388	30.5	28j6	60	8	24	7	M10.22
LSMV 112 MG VMA 32 FCR	235	216	110	231	94	75	425	50	28j6	60	8	24	7	M10.22
LSMV 112 MG VMA 33 FCR	235	280	110	336	141	115	425	32.5	28j6	60	8	24	7	M10.22
LSMV 132 SM VMA 33 FCR	280	300	130	336	141	115	532	48	38k6	80	10	33	8	M12.28
LSMV 132 SM VMA 33 FCR	280	300	130	336	141	115	532	48	38k6	80	10	33	8	M12.28
LSMV 132 M VMA 33 FCR	280	300	130	336	141	115	532	48	38k6	80	10	33	8	M12.28
LSMV 132 M VMA 34 FCR	280	300	130	336	141	115	712 ²	48	38k6	80	10	33	8	M12.28
LSMV 160 MR VMA 34 FCR	316	311	131	336	141	115	747 ²	38.5	42k6	110	12	37	8	M16.36

1. The I dimension includes the optional switch ; for delivery without switch, take the II dimension.

2. Axial forced ventilation included.

Type	FF flange							
	Symb.	M	N	n	P	S	T	LA
LS 71 L VMA... FCR	FF 130	130	110	4	160	10	3.5	10
LS 80 L VMA... FCR	FF 165	165	130	4	200	12	3.5	10
LS 90 L VMA... FCR	FF 165	165	130	4	200	12	3.5	10
LS 100 L VMA... FCR	FF 215	215	180	4	250	14.5	4	12
LSMV 112 MG VMA... FCR	FF 215	215	180	4	250	14.5	4	12
LSMV 132 SM,M VMA... FCR	FF 265	265	230	4	300	15	4	14
LSMV 160 MR VMA... FCR	FF 300	300	250	4	350	19	5	16

VARMECA variable speed asynchronous motors with FCR brake

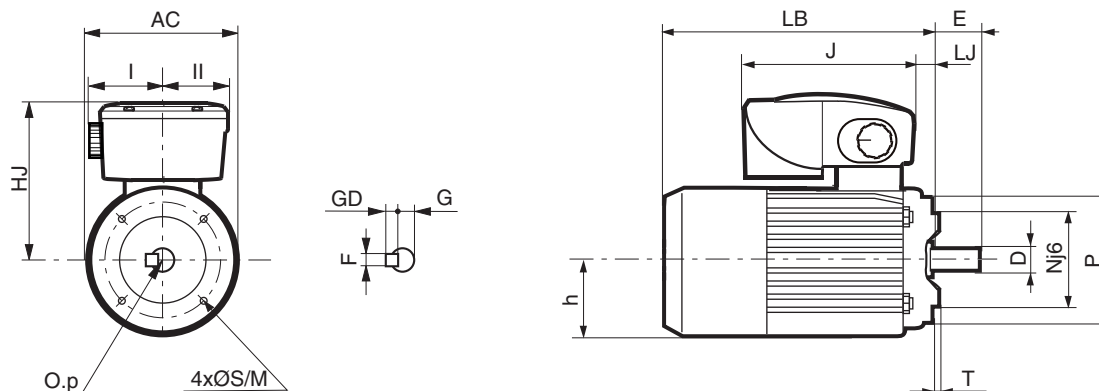
LS VARMECA FCR

Dimensions

Dimensions of the LS VMA FCR asynchronous brake motors

Dimensions in millimetres

– (FT) tapped hole flange mounted



Type	VARMECA integrated variable speed brake motor							Output shaft						
	AC	HJ	h	J	I ¹	II	LB	LJ	D	E	F	G	GD	O.p
LS 71 L VMA 31 FCR	140	178	70	218	94	75	245	8	14j6	30	5	11	5	M5.12.5
LS 80 L VMA 31 FCR	172	192	80	218	94	75	265	12	19j6	40	6	15.5	6	M6.16
LS 80 L VMA 32 FCR	172	192	80	231	94	75	265	12	19j6	40	6	15.5	6	M6.16
LS 90 L VMA 31 FCR	184	202	89	218	94	75	304	12	24j6	50	8	20	7	M8.19
LS 90 L VMA 32 FCR	184	202	89	231	94	75	304	12	24j6	50	8	20	7	M8.19
LS 100 L VMA 32 FCR	200	207	98	231	94	75	352	12	28j6	60	8	24	7	M10.22
LS 100 L VMA 33 FCR	200	270	98	336	141	115	352	4	28j6	60	8	24	7	M10.22
LSMV 112 MG VMA 32 FCR	235	216	110	231	94	75	396	21	28j6	60	8	24	7	M10.22
LSMV 112 MG VMA 33 FCR	235	280	110	336	141	115	396	13	28j6	60	8	24	7	M10.22
LSMV 132 SM VMA 33 FCR	280	300	130	336	141	115	493	8	38k6	80	10	33	8	M12.28
LSMV 132 SM VMA 34 FCR	280	300	130	336	141	115	493	8	38k6	80	10	33	8	M12.28
LSMV 132 M VMA 33 FCR	280	300	130	336	141	115	493	8	38k6	80	10	33	8	M12.28
LSMV 132 M VMA 34 FCR	280	300	130	336	141	115	672 ²	8	38k6	80	10	33	8	M12.28
LSMV 160 MR VMA 34 FCR	316	311	131	336	141	115	747 ²	38	42k6	110	12	37	8	M16.36

1. The I dimension includes the optional switch ; for delivery without switch, take the II dimension.

2. Axial forced ventilation included.

Type	Symb.	FT flange					
		M	N	n	P	S	T
LS 71 L VMA... FCR	FT 85	85	70	4	105	M6	2.5
LS 80 L VMA... FCR	FT 100	100	80	4	120	M6	3
LS 90 L VMA... FCR	FT 115	115	95	4	140	M8	3
LS 100 L VMA... FCR	FT 130	130	110	4	160	M8	3.5
LSMV 112 MG VMA... FCR	FT 130	130	110	4	160	M8	3.5
LSMV 132 SM,M VMA... FCR	FT 215	215	180	4	250	M12	4
LSMV 160 MR VMA... FCR	FT 215	215	180	4	250	M12	4