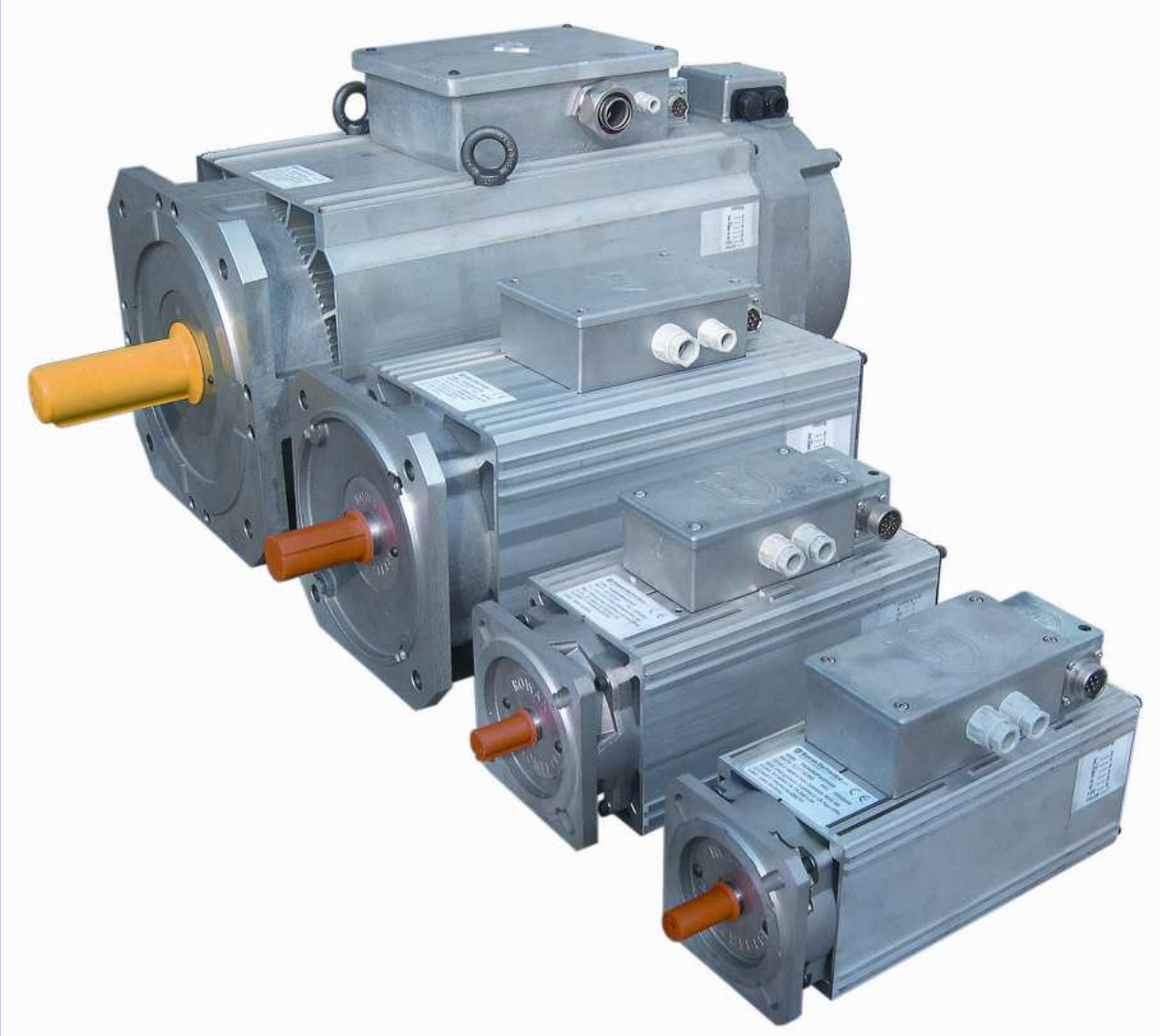
Rowan Elettronica

The Italian Answer to Automation Problems

BRUSHLESS ASYNCHRONOUS VECTOR MOTORS

G SERIES MOTORS

CATALOGUE



UNI EN ISO 9001

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ROWAN ELETTRONICA

G SERIES VECTOR MOTORS

IMPORTANT!

ROWAN ELETTRONICA s.r.l. declines any responsibility for inaccuracies contained in this manual, due to printing errors and/or transcription. It also reserves the right to make at its discretion and without notice the changes it deems necessary for the better functioning of the product.
As for the details and characteristics reported in this manual there is a maximum tolerance of ±10%, unless otherwise stated. The relative diagrams are approximate and are to be perfected by the user.
The warranty on the products is understood as ex-works under the conditions specified in the appropriate document to be requested from the Commercial Department or through the website www.rowan.it

Rowan Elettronica s.r.l

COMPANY

Rowan Elettronica S.r.l. was established in the Seventies to manufacture variable speed motors and actuators based on proprietory patents. It has progressively developed and consolidated its standing thanks to the quality and reliability of its products and the high professionality and experience of its consultancy and assistence services, growing from its first factory of 200m² in Cresole of Caldogno (VI) to its current 3,000m², which include the manufacturing base and after sales assistance centre. Rowan Elettronica has a highly specialised technical staff who offer their tried and tested experience in the following departments:

- the **Electronics Research Laboratory,** which studies and creates new technological solutions, equipped with anechoic chamber and all necessary instrumentation for measuring and testing electromagnetic compatibility;
- the **Technical Department**, which produces the printed circuit board masters and electrical wiring diagrams using cutting edge IT instruments and a high level of professionalism and know-how;
- the **Quality Management Department**, responsible for the co-ordination of all activities concerning the Rowan Elettronica Quality System and supervision of the quality controls on all products entering and leaving the company;
- the **Mechanical Prototyping Department** studies and creates new mechanical solutions and versions of nonstandard motors;
- the **Production Departments:** ***AC Actuators - Inverters - Instruments/Interfaces/DC actuators - Motors***, which assemble and test all standard products;
- the **Automation Department,** where appliances equipment and switchboards receive a high portion of standard Rowan products and thereby offering the possibility to verify every detail in the application of Rowan components, particularly in their installation and improvement;
- the **Technical Assistance/Consultancy Department,** widely appreciated for its willingness (on average, the staff dedicate approx 8 hours a day on telephone assistance).

In addition to the technical departments, Rowan Elettronica has an efficient support organisation such as **Administration-Accounts**, **Sales Department**, **Commercial Department and Buying Department.**

PRODUCTION

- Single and three phase high speed AC motors and related one or two-way actuators for speed and/or torque control.
- Three-phase AC motors for inverters.
- Vector inverters and related motors with inner functions for positioning, synchronism, winding/unwinding and converters for voltage/frequency.
- Inverters for three-phase asynchronous motors.
- Single axis control instruments for electric axis, loading in motion, cutting in motion and positioner functions.
- Soft starters for three-phase asynchronous motors.
- Speed regulators for three and single phase commercial fan motors both indipendent or multiple.
- Three and single phase voltage regulators for resistive and inductive loads for DC power units.
- Drives for unidirectional/bidirectional DC motors
- Voltmeters/ammeters with displays for readings and set thresholds by on/off or PI outputs.
- Interface boards for signal converting, for setting proportional speeds between several motors, for converting signals from temperature probes, sensors, loading cells.
- Accessories for industrial automation such as safety devices, boards for ramp generating, thermoregulators, photoelectric bars, battery chargers and servo-diameter instruments.

QUALITY

Rowan Elettronica has received certification for its ***Quality System*** *according to UNI-EN ISO9001:2000, keeping in line with the increasing demand to univocally guarantee quality levels in implementing company procedures .*

With regards to Rowan product quality, this is a list of the main company control procedures:

- **Quality control of goods on arrival** carried out by specialist staff who strictly fulfill the procedures and test methods established for each single type of component, a continous thread of information is maintained with suppliers on material conformity and the possibility of improving aspects of performance and reliability.
- **Quality control on products on dispatch:** every product is individually tested according to specific procedures. On completion of the test each article is given a serial number that guarantees its traceability and identification at any time.

For example in **electronic products** sector the test procedure prescribes:

SPECIAL RESIN TREATMENT FOR BOARDS to prevent any malfunctions caused by humidity in the switchboards within the statutory limits.

GENERAL BOARD TEST CYCLE in real operating conditions. As each board enters the production line, it is assigned a test manual containing the procedures that are then rigorously and integrally carried out by the assigned technical staff. The test manual, among other important indications, also specifies the auxiliary equipment required for the test (which also undergo periodical controls and calibrations), the step by step sequence of tests and the standard setup.

For **motors,** the test procedure includes:

VERIFICATION OF RESISTENCE, IMPEDENCE, INSULATION (2000V).

VERIFICATION OF CHARACTERISTICS in no load operating conditions: this step tests characteristics such as absorption and noise levels and functionality of any other related components such as tachymetric dynamo, brake, encoder, fan, etc.

MOTORI VETTORIALI SERIE G

TECHNICAL FEATURES

Introduction

Rowan El. three-phase asynchronous motor with cage rotor can be called "**INVERTER DUTY**"; they have been designed to work with inverters that use PWM technique and in particular with Rowan El. vector inverters.
The hardness, the indipendent ventilation, the thermal circuit breaker and the high insulation ensure the reliability of the motors and the best performances available on the market. Moreover, the vacuum impregnation of the winding pack ensure a partial attenuation of the background noise caused by the frequency modulation.
The sizes of Rowan El. vector motor are in conformity to MEC standards of the equivalent series, therefore are perfectly interchangeable with equivalent power commercial asynchronous motors.

General features

Stator winding

Power supply ..... three-phase
Available Voltages ..... (125△ / 220人)...(230△ / 400人)...(270△ / 470人)...(300△ / 520人)...(400△ / 690人)
Frequency 50Hz
Poles ..... 4 poles standard, 2 poles and 6 poles on request
Maximum temperature ..... +180°C
Insulation ..... **tropicalized to H class with vacuum process** (to guarantee more environmental protection ..... and less noise, thanks to a better blockage to the spools)
Protections ..... thermic probe with N.C.contact (opening at 160°C) ..... contact capacity 1A - 230VAC

Rotor

Type ..... squirrel-cage without any touching parts (collectors, brushes, rings, etc...)

Cooling

Type ..... forced ventilation indipendent to motor speed
Fans mounted ..... axial single-phase 230Vac, IP22÷IP55 protection ..... scroll single-phase 230Vac, IP44 protection ..... axial three-phase 230/400Vac, IP55 protection ..... scroll three-phase, 230/400Vac, IP55 protection .....water cooling (on request)

Mechanical Features

Material ..... **aluminium,** (housing, shields, brake housing)
Versions ..... **brakeless** ..... **with 24Vdc front and rear safety spring actuated brake,** (the shaft is blocked with no power)
Available shapes ..... **B3** (footed)...**B5** (flanged)...**B3/B5** (footed and flanged)
Bearings ..... **C3 2RS and ZZ**
Maximum speed ..... 6000rpm to 12000rpm (it depends on the motor, see table in this chapter)
Noise ..... less than 70dB
Speed transducer ..... standard, without transducer on request

Speed feedback transducer features

Type ..... LINE DRIVER encoder, PUSH PULL output
Supply ..... +12Vdc standard, +5Vdc or + 24Vdc on request
Pulse/rotation .... 1000 standard, from 360 to 4096 on request
12 Vdc and 5 Vdc channel max load 20mA

Environment characteristics

Motor protection level ..... IP54 (the final protection level depends on the connected type of fan); MEC 160, 160L, 160XL may be assembled with IP23 on request, so their nominal torque will be 15% greater than standard IP54 motors.
Environmental temperature ..... -20°C to +40°C
Motor max. temperature on the external body ..... 70°C with fan, 110°C without fan
Altitude ..... 1000mt a.s.l. (over and up to 2000mt a.s.l. the motor load must be reduced by 1% every 100mt)
Relative humidity ..... 5% to 95% without condensation

Compliance regulations

Conformity to **EMC 2014/30/UE** and **2014/35/UE(Low Voltage)** directives, in reference to **CEI EN 60034-1** and **CEI EN60204 -1** standard.

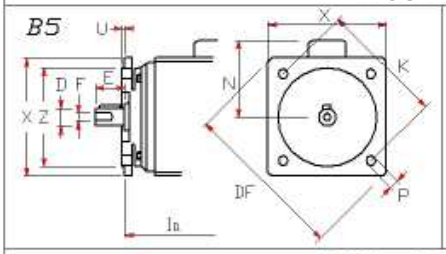
Certifications ..... **on request ATEX certification**

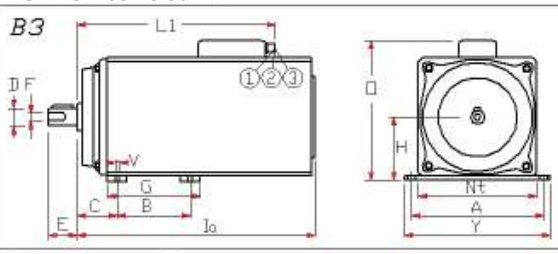
With particular building solutions Rowan El. is in keeping with **ATEX 2014/34/EU** directive, with reference to **Ex II 3G Ex ec IIC T3 Gc - Ex II 3D Ex tc IIIB T135°C Dc** standards for working in zones 2 and 22 (environment with gas or dusty and low hazard of explosion).

G SERIES VECTOR MOTORS

DIMENSIONAL DRAWINGS BRAKELESS MOTORS

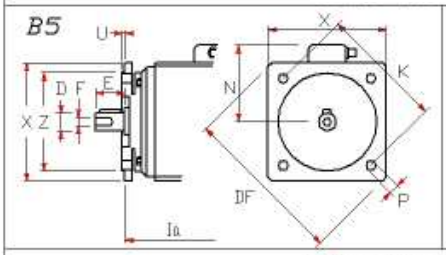
MEC SERIES FROM 63 TO 80L

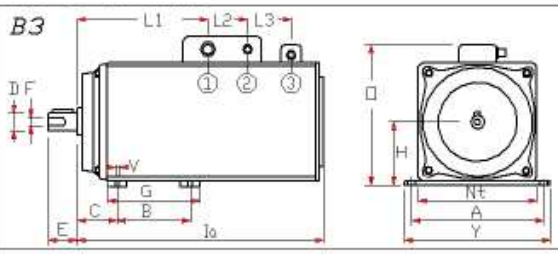




1. Cable sleeve connection: **fan, temperature probe (+ rear brake in special version)**
2. Cable sleeve connection: **three-phase power supply + earth**
3. Cable sleeve connection: **encoder**

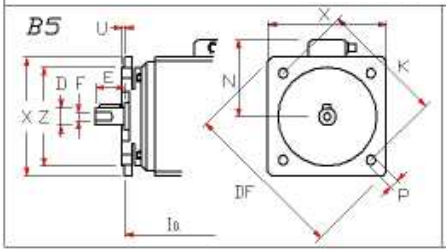
MEC SERIES FROM 90 TO 112XL

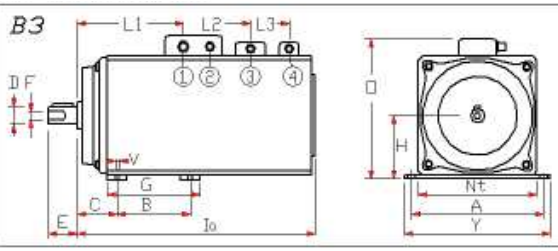




1. Cable sleeve connection: **three-phase power supply + earth**
2. Cable sleeve connection: **fan, temperature probe (+ rear brake in special version)**
3. Cable sleeve connection: **encoder**

MEC SERIES FROM 132 TO 200 - MEC 180 IS ROUNDED

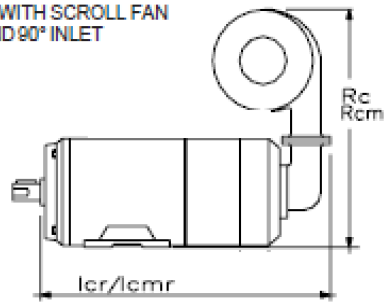




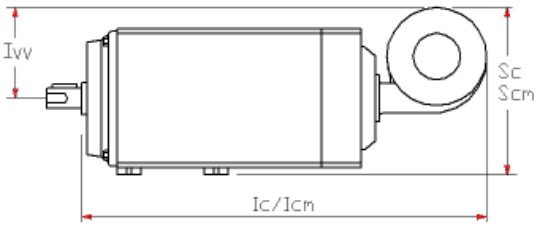
1. Cable sleeve connection: **three-phase power supply + earth**
2. Cable sleeve connection: **temperature probe (+ rear brake in special version)**
3. Cable sleeve connection: **encoder**
4. Cable sleeve connection: **fan**

VERSIONS ON REQUEST

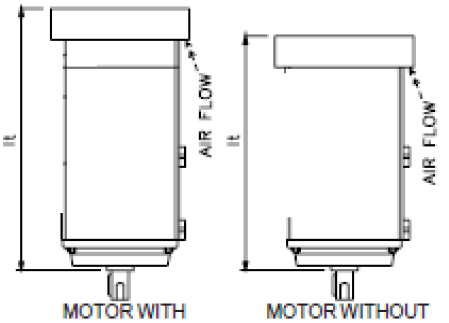
MOTORS WITH SCROLL FAN AND 90° INLET



MOTORS WITH SCROLL FAN



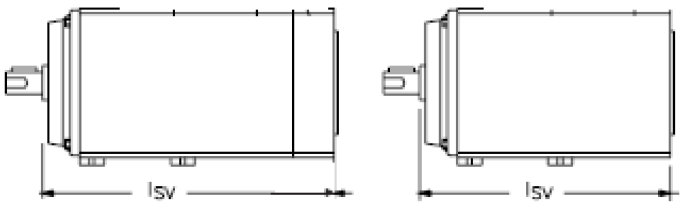
MOTORS WITH PROTECTING DOME, IP44 OR IP54 PROTECTION RATING, ONLY ON MOTORS WITH AXIAL FAN



MOTOR WITH ENCODER

MOTOR WITHOUT ENCODER

MOTORS WITHOUT VENTILATION, IP54 PROTECTION RATING ONLY FOR INTERMITTENT OPERATION WITH CUTY CICLE 50%, MAX WORK-TIME 1min - STANDBY 1min



MOTOR WITH ENCODER

MOTOR WITHOUT ENCODER OR WITH TACHO-GENERATOR

G SERIES VECTOR MOTOR

MECHANICAL DIMENSIONS of BRAKELESS MOTORS from MEC 63 to MEC 100L

Quote in mm

MEC SIZE		63	63L	71	71L	80	80L	90	90M	90L	100	100L
A		125		148		175		190			220	
B		80	145	90	165	100	180	125		207	140	265
C		45		54		60		70			75	
D		11	14	14		19		24			28	
E		23	30	30		40		50			60	
F		M6		M6		M8		M8			M8	
G		105	170	115	190	130	210	155		237	180	305
H		63		71		80		90			100	
Ia (see note 1)		275	340	295	370	320	400	370	400	470	400	525
It (see note 2)		/	/	/	/	/	/	/	/	/	/	/
Ic (see note 3)		390	460	400	455	460	560	505	535	595	530	685
Icr (see note 4)		/	/	/	/	/	/	/	/	/	/	/
Icm (see note 5)		/	/	/	/	/	/	/	/	/	/	/
Icmr (see note6)		/	/	/	/	/	/	/	/	/	/	/
Isv (see note 7)		260	335	275	345	305	385	330	360	430	355	480
Ivv		95		95		160		160			160	
L1		225	290	237	312	252	332	195	225	298	220	345
L2		/	/	/	/	/	/	235	265	337	260	383
L3		/	/	/	/	/	/	295	325	392	315	442
N		105		120		130		140			150	
Nt		106		130		152		164			184	
O		156		175		198		230			250	
P		8,5		9.5		12		12			14	
Sc (NORMAL SCROLL)		158		168		230		250			260	
Scm (UPRATED SCROLL)		/	/	/	/	/	/	/	/	/	/	/
Rc (NORMAL SCROLL + elbow)		/	/	/	/	/	/	/	/	/	/	/
Rcm (UPRATED SCROLL + elbow)		/	/	/	/	/	/	/	/	/	/	/
Tc		/	/	/	/	/	/	/	/	/	/	/
U		3		3.5		4		4			4	
V		7		7		9		9			12	
Z		95	110	110		130		130			180	
X		108x108	122x122	120x120		150x150		155x155			200x200	
DF (FLANGE DIAMETER)		140	157	160		200		200			250	
K		115	130	130		165		165			215	
Y		140		160		195		214			250	
TONGUE		4x4x15	5x5x20	5x5x20		6x6x30		8x7x35			8x7x40	
REDUCED SHAFT	D	/	/	/	/	14*	/	19*		/	24*	/
	E	/	/	/	/	30	/	40		/	50	/
	F	/	/	/	/	M6	/	M8		/	M8	/
	TONGUE	/	/	/	/	5x5x20	/	6x6x30		/	8x7x35	/
REDUCED FLANGE	P	8.5		9.5		9.5		9.5			12	
	Z	80	95	95		110		110			130	
	DF (Diam.Fl.)	125	140	145		160		160			200	
	X	110x110	110x110	120x120		150x150		155x155			200	
	K	100		115		130		130			165	
WEIGHT 2 POLE MOTORS (Kg)		/	/	/	/	/	/	19,5	24,5	31	29	43
WEIGHT 4 POLE MOTORS (Kg)		6	9,5	9,4	14,5	13,5	21,5	19,4	22,8	30	26,8	44

Further notes on motors dimensions:

1) dimension I related to the motor bulk with axial fan
2) dimension I related to the motor bulk with axial fan + protection
3) dimension I related to the motor bulk with normal scroll fan
4) dimension I related to the motor bulk with normal and 90° return scroll fan
5) dimension I related to the motor bulk with uprated scroll fan
6) dimension I related to the motor bulk with uprated and 90° return scroll fan
7) dimension I related to the motor bulk without fan

G SERIES VECTOR MOTOR

MECHANICAL DIMENSIONS of BRAKELESS MOTORS from MEC 112 to MEC 200

Quote in mm

MEC SIZE		112	112L	112X	112XL	132	132L	132XL	160	160L	160XL	160R	180	200
A		230				285			320				280	318
B		140	180		330	240			255	300	300	200	240/280	305
C		75				90			120				115	135
D		28				38	42		42				48	55
E		60				80	110		110				110	110
F		M8				M10			M10			M12	M16	M20
G		180	220		370	290			305	350	350	250	325	355
H		112				132			160				180	200
Ia (see note 1)		420	490	560	640	560	610	690	620	710	810	495	815	910
It (see note 2)		/				/			/				/	/
Ic (see note 3)		580	655	725	855	780	830	930	870	960	1060	735	1110	1140
Icr (see note 4)		/				/	/	820	760	845	950	635	940	980
Icm (see note 5)		630	705	775	/	810	860	940	905	995	1100	785	/	/
Icmr (see note 6)		/				/			760	845	950	635	/	/
** Isv (see note 7)		400	475	545	625	560	610	690	510	590	690	495	740	840
Ivv		160			210	210	210	210	260				260	450
L1		250	325	543	473	315	362	445	355	440	545	230	155	580
L2		288	362	580	510	400	450	530	470	550	655	360	480	100
L3		375	450	670	600	510	560	650	580	665	760	480	160	180
N		160				190			230				260	310
Nt		205				245			276				200	350
O		277				322			390				440	510
P		14				14	16		16				18,5	18,5
Sc (NORMAL SCROLL)		272			322	342			420				430	460
Scm (UPRATED SCROLL)		322			/	352		/	420				/	/
Rc (NORM. SCROLL + elbow)		/				/			570				450	610
Rcm (UPR. SCROLL + elbow)		/				/			610				/	/
Tc		/				/			/				/	/
U		4				4			4				5	5
V		12				13			14				14	18
Z		180				230	250		250				250	300
X		205x205				255x255			280x280				350	355x355
DF (FLANGE DIAM.)		250				300	350		350				350	400
K		215				265	300		300				300	350
Y		260				315			365				360	375
TONGUE		8x7x45				10x8x70	12x8x90		12x8x90				14x9x90	16x10x90
REDUCED SHAFT	D	24*		/		28*	38*		38*					
	E	50		/		60	80		80					
	F	M8		/		M8	M10		M10					
	TONGUE	8x7x35		/		8x7x45	10x8x70		10x8x70					
REDUCED FLANGE	P	12				M12	14		M12					
	Z	130				180	230		230					
	X	200				252x252	252x252		280x280					
	DF (FL. DIAM.)	200				250	300		300					
	K	165				215	265		265					
2 POLE MOTOR WEIGHT (Kg)		38	51	63	78	72	85	104	111	140	174		190	285
4 POLE MOTOR WEIGHT (Kg)		38	48,8	62	77	70,5	84	104	105	139,5	169	76,5	203	283

Caution

The dimensions in the table concern motors without brake: to know the dimensions of the motor with front brake, it is necessary to add "l" dimension to the brake-holder bell measures shown in the table **"Electromechanical characteristics of brakes"**. In case of rear brake, it is necessary to add "l" dimension to the I delta lenght shown in the same table.
The mounting of the line driver encoder to any motor (in any version) does not mean any change in the motor bulk.

Description motors with brake

MOTOR WITH FRONT BRAKE

In **standard version** Rowan El. motors (MEC180 excluded) can be equipped with a spring brake by a holder bell fixed on the motor front side. In this case the motor shaft is extended in order for the brake-holder bell to be placed, which reproduces common standard motors flanges; one of the positive aspects of this kind of mounting is the fact that load and brake are close, so braking is safe and efficient, without involving the whole shaft length.

CAUTION! It is not possible to equip a normal G series Rowan motor with a brake later, since the shaft replacement would be necessary.

Electomagnetic brakes chose by Rowan El. for its motors are strong and reliable, just as the motor itself. The spring brake operates at 24V direct voltage and must be supplied independently.

The spring brake (called safety brake as well) operates without power supply. When it is powered at 24V, the electromagnet presses the springs and frees the motor shaft: on the contrary, without power supply, springs are released, thus blocking the motor shaft. If necessary, it is possible to soften the braking by adjusting its regulation ring.

Motors from MEC80 to MEC160XL can be supplied on request equipped with spring brake and manual unlocking lever, while smaller size motors can be manufactured without manual unlocking lever.

The spring brake is used as safety brake in case of power lack for applications implying hanging or inertial loads, such as overhead loads as cranes, shovel loaders, trippers, pump bobs, trolleys. The spring brake standard protection level is IP54.

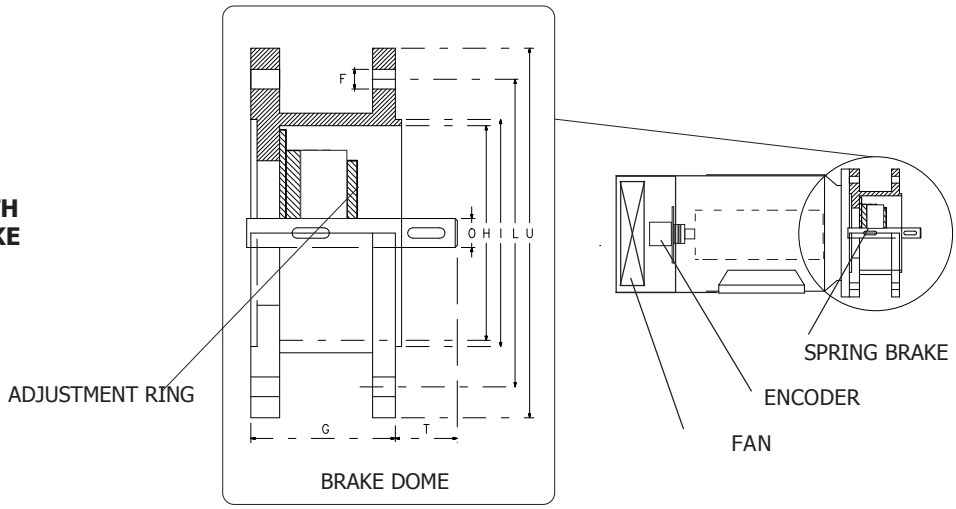
Operating features are kept by 0,3 mm ± 0,05 gap.

Please remind that **in some cases, with spring brake application to a motor, a reduction of the shaft dimensions may be necessary**, if compared to the standard, as explained in the table "**Electromechanical characteristics of brakes"**; because of this reason and the fact that motors with brake have an extended shaft it is advised to see paragraph **"Possible motor installation position and speed limits"**, above all if side stresses need to be applied to the shaft.

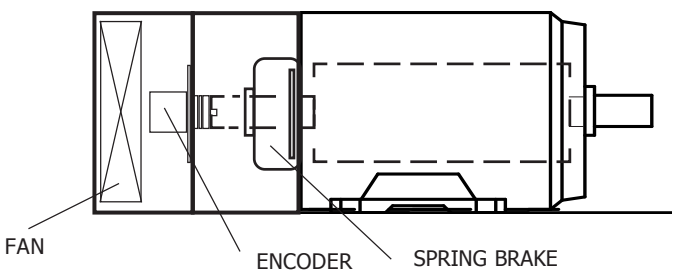
MOTOR WITH REAR BRAKE

A special version equipped with rear brake can be supplied on request for size from 80 to 180 . This solution has a lower braking capacity if compared to the standard. In this case the motor is extended for the I delta length, which can be verified in the table **"Electromechanical characteristics of brakes"**.

MOTOR WITH FRONT BRAKE



MOTOR WITH REAR BRAKE



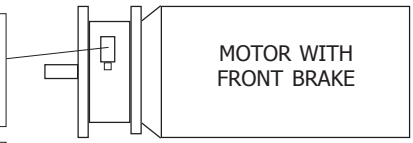
ELECTROMECHANICAL CHARACTERISTICS OF BRAKES

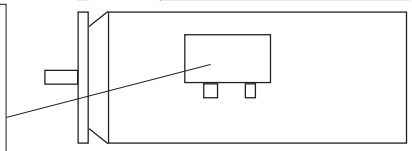
FRONT BRAKE DOME DIMENSIONS (Measures in mm, measures into brakets are on demand)									REAR BRAKE delta I lenght	BRAKE ELECTRICAL DATA				WEIGHT
										FRONT		REAR		
MEC	G	I	O	T	F	U	L	Chiavetta	mm	POWER ABSORBED W	BRAKING TORQUE Nm	POWER ABSORBED W	BRAKING TORQUE Nm	kg
63	60.5	95	11	23	9.5	140	115	4x4x15	/	15	5	/	/	9
63L	67	110	14	30	9.5	160	130	5x5x20	/	20	12	/	/	12.8
71	67	110	14	30	9.5	160	130	5x5x20	/	20	12	/	/	14
71L	67	110	14	30	9.5	160	130	5x5x20	/	20	12	/	/	19.5
80	92	130	19	40	11.5	200	165	6x6x30	125	30	20	15	5	21
80L	92	130	19	40	11.5	200	165	6x6x30	130	30	20	15	5	28.5
90	92	130	24	50	12	200	165	8x7x40	85	30	20	20	8	26
90M	92	130	24	50	12	200	165	8x7x40	85	30	20	20	8	29
90L	92	130	24	50	12	200	165	8x7x40	85	30	20	20	8	32
100	100	180	28	60	14	250	215	8x7x45	80	45	40	30	16	33.4
										50 (uprated)	60 (uprated)	/	/	38
100L	100	180	28	60	14	250	215	8x7x45	85	45	40	30	16	54.4
										50 (uprated)	60 (uprated)	/	/	59
112	100	180	28	60	14	250	215	8x7x45	110	45	40	45	35	44.4
										50 (uprated)	60 (uprated)	/	/	49
112L	100	180	28	60	14	250	215	8x7x45	110	45	40	45	35	54.4
										50 (uprated)	60 (uprated)	/	/	59
112X	100	180	28	60	14	250	215	8x7x45	110	45	40	45	35	65
										50 (uprated)	60 (uprated)	/	/	70
112XL	100	180	28	60	14	250	215	8x7x45	110	50	60	45	35	92
132	127	230	38	80	14	300	265	10x8x70	85	55	90	45	35-60	77
132L	127	230(250)	42	80	14(16)	300(350)	265(300)	10x8x70	80	55	90	45	35-60	102
132XL	127	230(250)	42	80	14(16)	300(350)	265(300)	10x8x70	/	55	90	45	35-60	122
160	127	230(250)	42	80	14(16)	300(350)	265(300)	10x8x70	95	55	90	50	60	136
160L	127	230(250)	42	80	14(16)	300(350)	265(300)	10x8x70	95	55	90	50	60	170
160XL	127	250	42	110	18,5	350	300	12x8x90	/	60	200	50	60	180
160R	127	230(250)	42	80	14(16)	300(350)	265(300)	10x8x60	95	55	90	50	60	102
180	130	250	48	110	18,5	350	300	14x9x90	120	65	300	65	300	240
200	150	300	48	110	18,5	400	350	14x9x90	260	65	600	65	600	330

Brake connection

On standard version with front brake, the brake has a numbered 4 pin connector on the brake dome.
Connect the brake to terminals 1 and 2 of the connector.

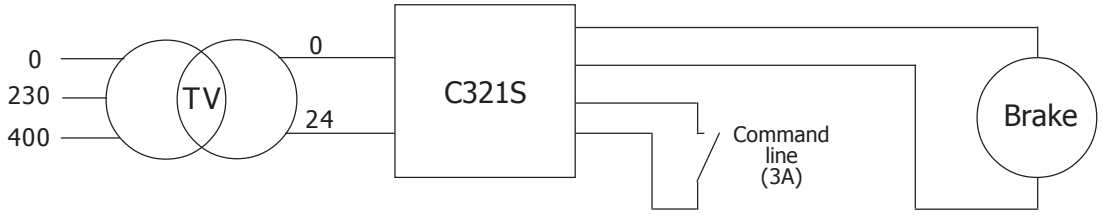
On special version with rear brake, the brake connection is available on the services terminal block mounted by the power terminal block (see also **Dimensional drawings of brakeless motors and connection terminal boards**).
Connect the brake at terminals 1 and 2 of the connector.





MOTOR WITH REAR BRAKE

The brake operates with 24VDC. in S6 functioning with 5' excitation and 5' de-energizing maximum.
It is always good practice to connect a flywheel diode or a R/C in parallel with the brake, especially in proximity to appliances that are particularly sensitive to disturbances (the diode has a better filtering effect, but delays the brake release).
N.B. For optimum control of the brakes, Rowan El. offers the C321S board which wiring is reported below:



The C321S provides a start current of 34Vdc maximum and a working voltage of 24Vdc. This will speed up the separation of the brake and prevents overheating during continuous operation. For repeated excitations, wait for 1 second, at least, between brake de-energizing and re-excitation.

Ventilation system and protection rating of motors and fans

The table below provides the characteristics of **standard fans** mounted on G series motors and the characteristics of fans that can be mounted on request; it also gives the standard and on request protection ratings.

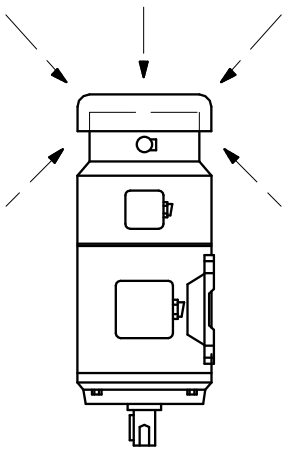
ATEX G2 Cat.3 protection can be supplied on demand.

MEC SIZE	MOTOR PROTECTION DEGREE	STANDARD VENTILATION				FORCED VENTILATION ON REQUEST			
		TYPE	FAN PROTECTION DEGREE	FAN POWER W	FAN SUPPLY (50/60Hz)	TYPE	FAN PROTECTION DEGREE	FAN POWER W	FAN SUPPLY (50/60Hz)
63 / 63L	IP54	AXIAL	IP22 **IP44 *** IP55	10	single-phase 230Vac	SCROLL	IP44	29	single-phase 230Vac
71 / 71L	IP54	AXIAL	IP22 **IP44 *** IP55	16	single-phase 230Vac	SCROLL	IP44	29	single-phase 230Vac
80 / 80L	IP54	AXIAL	IP22 **IP44 ***IP55	18	single-phase 230Vac	SCROLL	IP44	35	single-phase 230Vac
90 / 90M 100/112	IP54	AXIAL	IP22 **IP44 IP55	26	single-phase 230Vac	SCROLL	IP44	42	single-phase 230Vac
90L/ 100L/ 112L/ 112X/ 112XL	IP54	AXIAL	IP22 **IP44 ***IP55	46	single-phase 230Vac	AXIAL	IP55	68	three-phase 230V delta 400V star
132/ 132L/132XL	IP54	AXIAL	IP22 **IP44	65	single-phase 230Vac	AXIAL	IP55	140	three-phase 230V delta 400V star
160/160L/ 160XL/160R	IP54	AXIAL	IP22 **IP44	125	single-phase 230Vac	AXIAL	IP55	203	three-phase 230V delta 400V star
180	IP54	AXIAL	IP55	137 200	three-phase 230/400Vac	SCROLL	IP55	550	three-phase 230V delta 400V star
200	IP54	AXIAL	IP55	137 200	three-phase 230/400Vac	SCROLL	IP55	550	three-phase 230V delta 400V star

*** IP55 or IP65 on demand.**

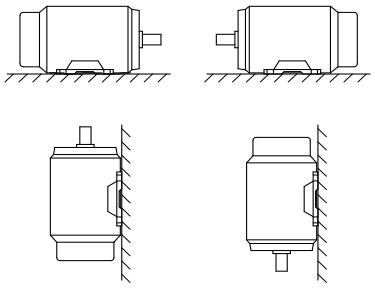
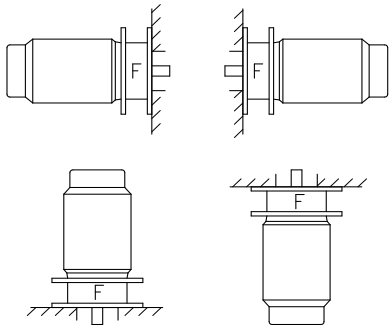
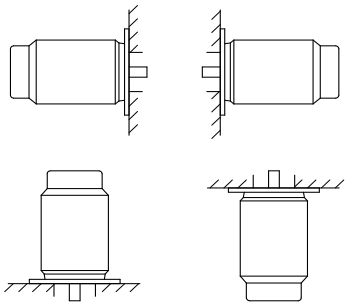
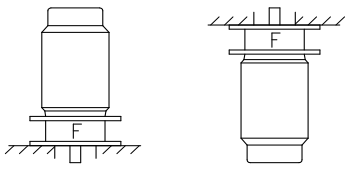
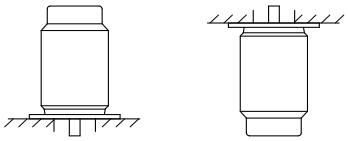
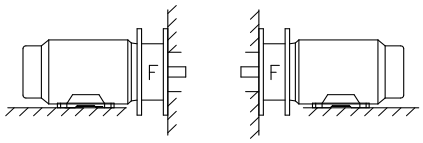
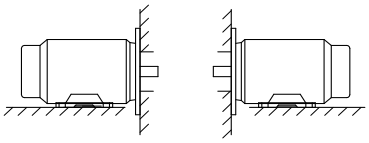
**** IP44 with motor vertically mounted + protection dome**

***** with auto-ventilated motor.**

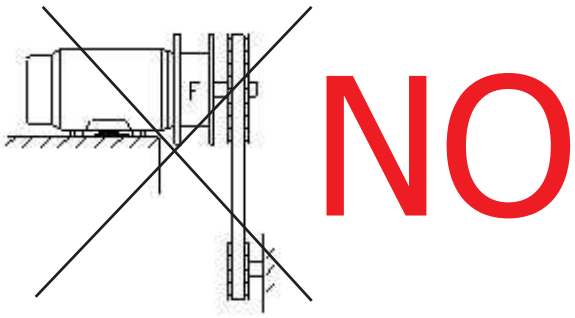


G SERIES VECTOR MOTOR

POSSIBLE INSTALLATION POSITIONS and SPEED LIMITS

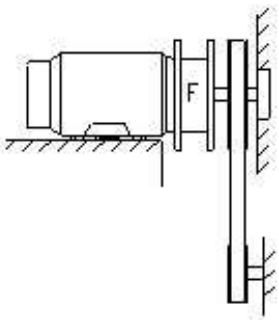
STANDARD MOTORS (EVEN WITH REAR BRAKE)		FRONT BRAKE MOTORS (NOTE: OUTPUT WITH JUNCTION or REDUCER ONLY)	
B3 VERSION MOTORS: 63 - 63L - 71 - 71L 80 - 80L - 90 -90M 90L-100 - 100L - 112-112X - 112L - 112XL132 - 132L 132XL-160- 160L 160XL - 180		**B5 VERSION** MOTORS: 63 - 63L 71 - 71L 80 - 80L 90 - 90M - 90L 100	
B5 VERSION MOTORS: 63 - 63L 71 - 71L 80 - 80L 90 - 90M - 90L 100 - 100L 112 - 180		**B5 VERSION** MOTORS: 100L 112 - 112L - 112X - 112XL - 132 - 132L - 132XL -160 - 160L - 160XL	
B5 VERSION MOTORS: 112L-112X-112XL 132 - 132L - 132XL 160 - 160L - 160XL - 180		**B3/B5 VERSION** MOTORS: 100L 112 - 112L - 112X - 112XL - 132 - 132L - 132XL -160 - 160L - 160XL	
B3/B5 VERSION MOTORS: 112L-112X-112XL 132 - 132L - 132XL 160 - 160L - 160XL -180			

MOTOR WITH BRAKE and LATERALLLY LOADED (PULLEY)



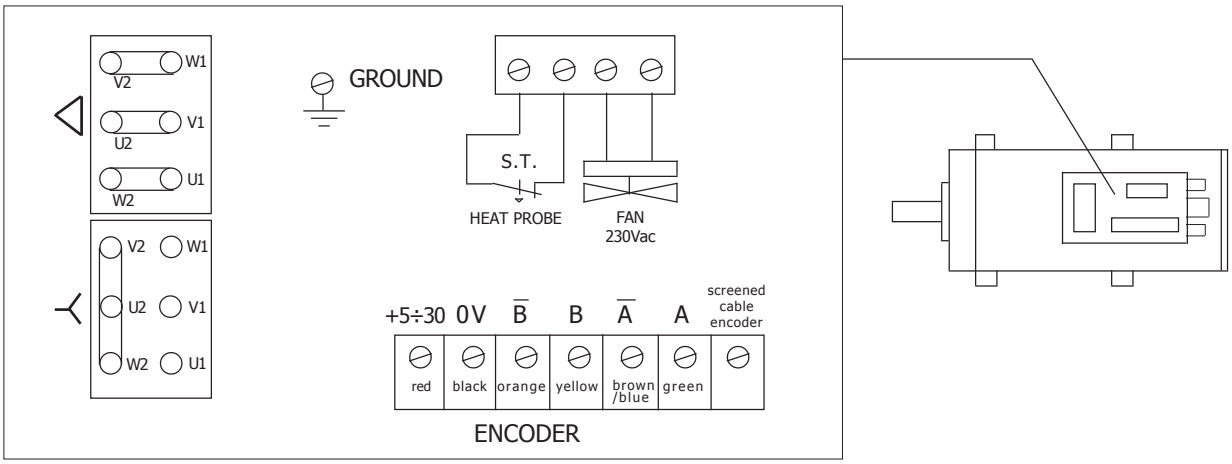
NO

MOUNTING ADVISE AGAINST



CORRECT MOUNTING

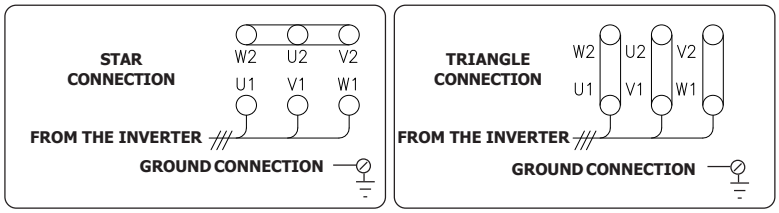
Connecting the three-phase supply to motors from MEC 63 to MEC 80L



Motors can be STAR or DELTA connected.
The service terminal board and the encoder terminal board are inside the same box.

Connecting the three-phase supply to motors from MEC 90 to MEC 200

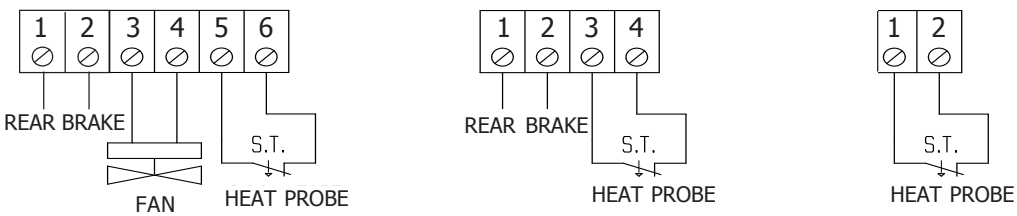
Motors can be STAR or DELTA connected.



The choiche between star or delta connection depends on the combination with the inverter.
For this purpose, see tables regarding **"Inverter 400 parameter setting"** on the following pages.
The encoder is connected by external connector (see on the opposite page).

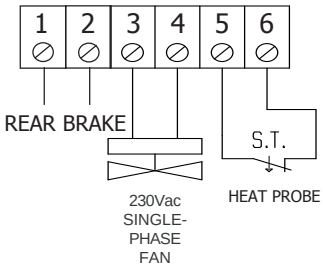
Connecting the heat probe

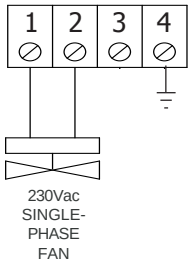
The heat probe is a N.C. contact that opens when the motor winding temperature rise above 150°C, this safety limit corresponds to H class (180°C). It is used as an emergency for the run relay, accounting for the fact that the maximum contact capacity is 1A - 230 Vac
Depending on the type of motor, the probe connection can be found in the following types of terminal blocks:

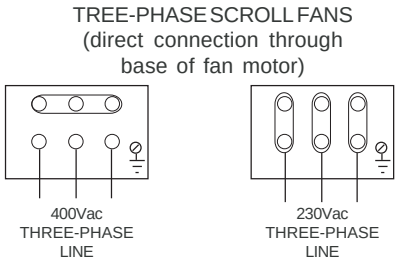


Connecting the fan

Fan characteristics are provided by the table on Paragraph VENTILATION.
Power the fan even when the motor is shutdown so to optimise cooling also during standby.
Depending on the type of motor, the fan connection can be found in the following types of terminal blocks

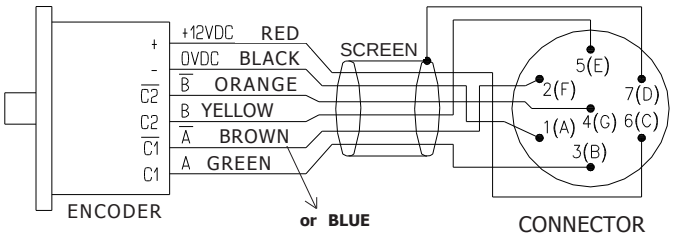


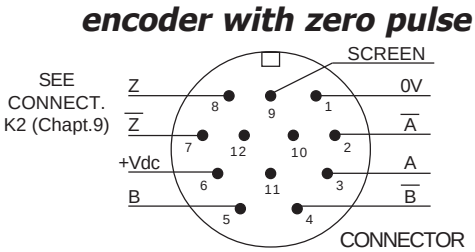




Connecting the LINE DRIVER Encoder

Standard Rowan "G" series motors are fitted with a LINE DRIVER encoder with a +12 Vdc supply voltage and 1000 pulses/rev resolution.
On request encoders with different resolutions, +5 Vdc supply voltage and with inpulse of zero can be provided.
For a +5 Vdc supply the inverter will also have to be modified for this voltage.
The encoder power supply and phase signals are taken to the connector according to the wiring diagram below:





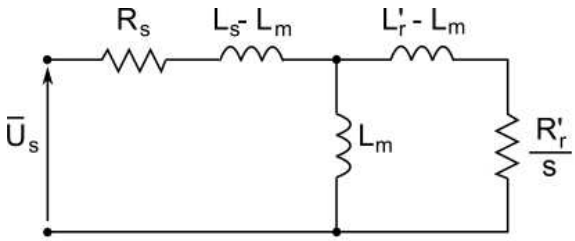
HOW TO USE THE ENCODER FOR ADDITIONAL INVERTERS 400 OR OTHER DEVICES
It is possible to connect the motor encoder signals at the following conditions:
- connect by **screened cable.**
- the maximum absorbion for each encoder channel **must not get over 20mA** in both cases of 12Vdc and 5Vdc.

TERMINALS CLOSURE

IMPORTANT: At least once a year, is it suggested to check the terminals closure, especiallly the power ones, both on the inverter and on the motor, in order to avoid possible loosenings and consequent overheating of the contact point and the connected cable.

G SERIES VECTOR MOTOR — EQUIVALENT CIRCUIT

The equivalent circuit allows the identification of the vector motors characteristics in certain operating conditions. The values corresponding to each size are shown in the data sheets for each individual motor.



$\bar{U}_s$ Phase Voltage
R_s Stator Resistance
R'_r Rotor Resistance
L_s Stator Inductance
L'_r Rotor Inductance
L_m Mutual Inductance

G SERIES VECTOR MOTORS — HOW TO CALCULATE THE RESISTANCE VALUE for ROTORS and STATORS

The resistance value for Stators and Rotors mentioned onto next pages, have been detected at 25°C environment temperature. In presence of different temperatures, it is possible to re-calculate the resistance value by using the following formula:

T0 = 25°C
T1 = XXX°C

$$R(T1) = R(T0) \times \frac{1 + A \times T1}{1 + A \times T0}$$

Acu = 1/235 (copper winding)
Aal = 1/225 (aluminium cage)

Bearing Types

The bearings we use are single-row, preloaded ones, of the most reliable brands such as NTN, SKF.
They are radial ball type with metal screens on both sides 2RS or ZZ, at increased radial clearance C3 and prelubricated with special permanent grease (-30 °C to +160 °C).
On 4 pole motors we mount FRONT and BACK bearings 2RS C3 type, on 2 pole motors, instead, ZZ C3 type ones. The FRONT bearing is fixed to the motor shield with a SEEGER RING (on MEC 63, 71 and 80 only in presence of the brake); the rear bearing is free (see motor parts on page 19).

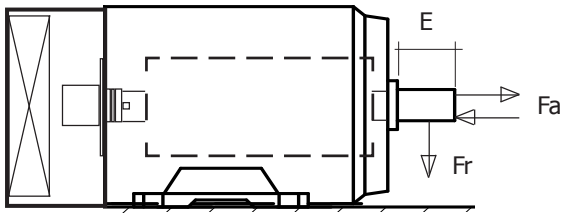
Motor mechanical limits

CAUTION! To avoid malfunctions and breakdowns in mechanical parts it is recommended that the parameter 1.3.1 MAX MOTOR SPEED does not exceed the mechanical limits given in the table below.

MAXIMUM SPEED COMPATIBLE WITH MECHANICAL CHARACTERISTICS OF MOTORS													
MEC SIZE	63	63L	71	71L	80	80L	90	90M	90L	100	100L	112	112L
MAX rpm	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	9800	9800
MEC SIZE	112X	112XL	132	132L	132XL	160	160L	160XL	160R	180	200		
MAX rpm	9800	9800	7800	7800	7800	7000	7000	7000	7000	6000	6000		

Maximum radial and axial loads on the motor shaft

In this paragraph we will talk about the maximum radial forces (Fr) and axial forces (Fa) determined for Vector Rowan motors; once considered the useful values as described, they are then compared with the ones written on the following tables.



Fr (Radial Force) is calculated basing on **E/2** of the sticking out shaft.
Fa (Axial Force)

When the mechanical transmission produce a radial load, you can calculate the value by the following formula:

$$F_r = K \cdot \frac{P_M \cdot 19{,}1 \cdot 10^6}{n \cdot D_{pr}} [N]$$

key:

P_M: power necessary to the motor [kW]
n: rotational speed of the motor shaft [rpm/min]
D_{PR}: pitch diameter [mm]
K: coefficient depending on the transmission type, se following table.

TRANSMISSION TYPE	K
Chain	1,2 ... 1,5
Trapezoidal belt	1,5 ... 2,0
Cogged belt	1,1 ... 1,3
Flat belt and belt tightener	2,5 ... 3,0
Flat belt	3,0 ... 4,0

G SERIES VECTOR MOTOR | BEARINGS

In the following tables, radial and axial loads are calculated for 20.000 working hours at the speed indicated (approximated and not guaranted since conditioned by the load matching chracteristics).

4 POLE ROWAN MOTORS MAXIMUM RADIAL OR AXIAL LOAD ON THE SHAFT for BEARINGS LASTING 20.000 Hours (indicative)							
MEC	MAX REV. [rpm]	Front Bearing (2RSC3)	Nr. of BEARINGS	Rear Bearing (2RSC3)	Nr. of BEARINGS	Fr [N]	Fa [N]
63	1500	6002	1	6001	1	460,4	135
63L	1500	6003	1	6001	1	559	175
71	1500	6004	1	6003	1	772,7	230
71L	1500	6004	1	6003	1	772,7	248
80	1500	6304	1	6203	1	1307,1	383
80L	1500	6304	1	6203	1	1307,1	415
90	1500	6205	1	6203	1	1150,9	345
90M	1500	6205	2	3204	1	1876	577
90L	1500	6205	2	3204	1	1876	605
100	1500	6206	1	6204	1	1603	464
100L	1500	6206	2	3204	1	2613	830
112	1500	6207	1	6205	1	2112,7	642
112L	1500	6207	2	3206	1	3443,7	1068
112X	1500	6207	2	3206	1	3443,7	1103
112XL	1500	6207	2	3206	1	3443,7	1132
132	1500	6209	2	6206	2	4354,9	1363
132L	1500	6209	2	6206	2	4354,9	1315
132XL	1500	6209	2	6206	2	4354,9	1327
160	1500	6309	2	6206	2	7101,9	2156
160R	1500	6309	2	6206	2	7101,9	1970
160L	1500	6309	2	6206	2	7101,9	2235
160XL	1500	6309	2	6206	2	7101,9	2298
180	1500	6310	1	6009	2	5096,8	1630
200	1500	6212	2	6209	2	7034,9	2282

G SERIES VECTOR MOTOR | BEARINGS

In the following tables, radial and axial loads are calculated for 20.000 working hours at the speed indicated (approximated and not guaranted since conditioned by the load matching chracteristics).

2 POLE ROWAN MOTORS MAXIMUM RADIAL OR AXIAL LOAD ON THE SHAFT for BEARINGS LASTING 20.000 Hours (indicative)							
MEC	MAX rev. [rpm]	Front Bearing (ZZC3)	Nr. of Bearings	Rear Bearing (ZZC3)	Nr. of Bearings	Fr [N]	Fa [N]
63	3000	6002	1	6001	1	365,4	107
63L	3000	6003	1	6001	1	443,7	139
71	3000	6004	1	6003	1	613,3	182
71L	3000	6004	1	6003	1	613,3	197
80	3000	6304	1	6203	1	1037,4	304
80L	3000	6304	1	6203	1	1037,4	329
90	3000	6205	1	6203	1	913,5	273
90M	3000	6205	2	3204	1	1489	457
90L	3000	6205	2	3204	1	1489	480
100	3000	6206	1	6204	1	1272,3	368
100L	3000	6206	2	3204	1	2073,9	658
112	3000	6207	1	6205	1	1676,9	509
112L	3000	6207	2	3206	1	2733,3	847
112X	3000	6207	2	3206	1	2733,3	875
112XL	3000	6207	2	3206	1	2733,3	898
132	3000	6209	2	6206	2	3456,5	1081
132L	3000	6209	2	6206	2	3456,5	1043
132XL	3000	6209	2	6206	2	3456,5	1053
160	3000	6309	2	6206	2	5636,8	1711
160R	3000	6309	2	6206	2	5636,8	1563
160L	3000	6309	2	6206	2	5636,8	1773
160XL	3000	6309	2	6206	2	5636,8	1822
180	3000	6310	1	6009	2	4045,4	1292
200	3000	6212	2	6209	2	5583,6	1809

"ROWAN" Vector type motors are purposely designed to be controlled by Vector inverters and their intrinsic characteristics are especially suited to support repeated start-up surges and dynamic braking.
Since they are brushless motors, their maintenance is reduced to a bare minimum and normally merely concerns the bearings and changing the encoder.

Changing bearings or encoder

Disassemble the motor proceeding as follows:

1- remove the screws on the rear axial fan (or scroll fan) housing and pull it out, disconnecting the wires on the service terminal block
2- take out the encoder by removing the two screws from the flange
3- remove the screws from the front shield
4- remove the front shield that comes out and the rotor attached to it
5- when replacing the front bearing, remove the dust seal screws and remove the seeger ring (if present) on the shaft
6- slide the shaft out of the bearing
7- remove the seeger ring (if mounted) that holds the bearing on the shield
8- pull out the bearing and replace it with an equivalent type 2RSC3 (4 pole) or ZZC3 (2 pole) version lubricated with high temperature stringy grease (160 °C)
9- the rear bearing must be type 2RSC3 (4 pole) or ZZC3 (2 pole).
10- If necessary, replace the encoder while assembling the motor.

Calibration of the air gap on the spring or direct brake

If the **spring brake** is mounted and needs an adjustment of the air gap, you must do the following:

1 remove the bolts of coupling between motor and brake carrying-bell;
2 remove the carrying-bell with its brake from the tree;
3 remove the screws that secure the brake to the carrying-bell,
4 remove the brake cable from the Terminal Board;
5 remove the brake from the carrying-bell.

At this point you can register using the 3 bolts until obtaining an air gap between 0,2 and 0,3 mm. If the brake is equipped with a anti-dust ring, remove it to access the bolts. The spring brake comes with maximum braking torque, which can be reduced, by unscrewing the ring nut, up to a maximum of 40%, making anyway care not to unscrew it until it gets out from its seating.

If the **brake** mounted is a **direct** one, there is no need to disassemble it but just check the air gap (maximum 0.3 mm) with a feeler gauge through lateral slots and adjust it by loosening the fixing point on the brake-carrying hub.

Rowan Motors require continuous ventilation and it is therefore necessary that all motor internal and external air passages are not obstructed by foreign bodies and it should also provide sufficient air exchange.

Rowan vector motors are normally **IP54**.

Higher degree of protection you can get up is **IP55**, **IP56** and **IP65**

The motor has a **temperature probe** inserted in the windings and rated for operation at 160° C (Rowan motor windings are class H with 180° C working limit temperature). This probe provides a normally closed contact that opens at 160° C and must be used to disconnect the power supply to the motor using the special remote control switch in case of overheating. The probe can carry a maximum load of 1A at 230VAC.

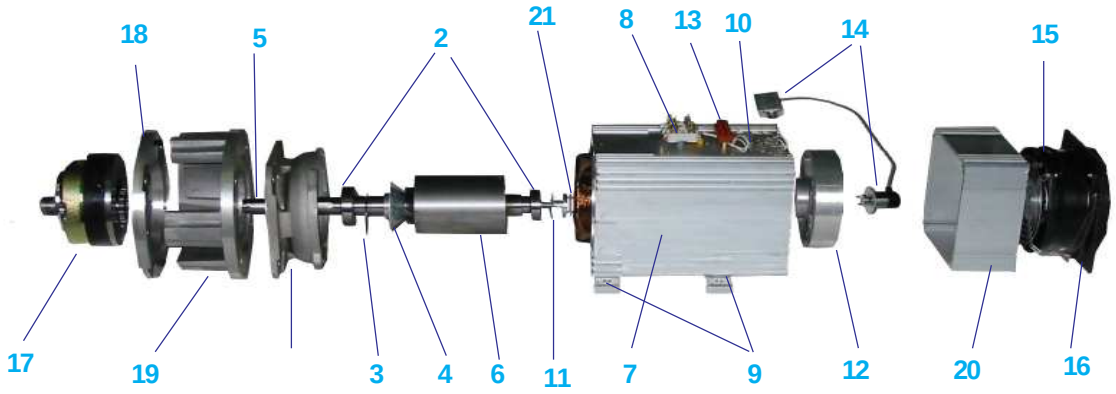
In case of over-temperature it is necessary to check:

- the fan operation;
- the correct passage of airflow;
- the electrical demand of the motor, that if it is over the plate data, can be caused by excessive load or worn bearings.

The three-phase or Single-phase asynchronous motor stator winding is particularly cured with insulation class H; can be executed, if necessary, by any mechanical technician provided that the winder data, which are available from our Technical Department, are respected.

G SERIES VECTOR MOTOR

VECTOR MOTOR PARTS



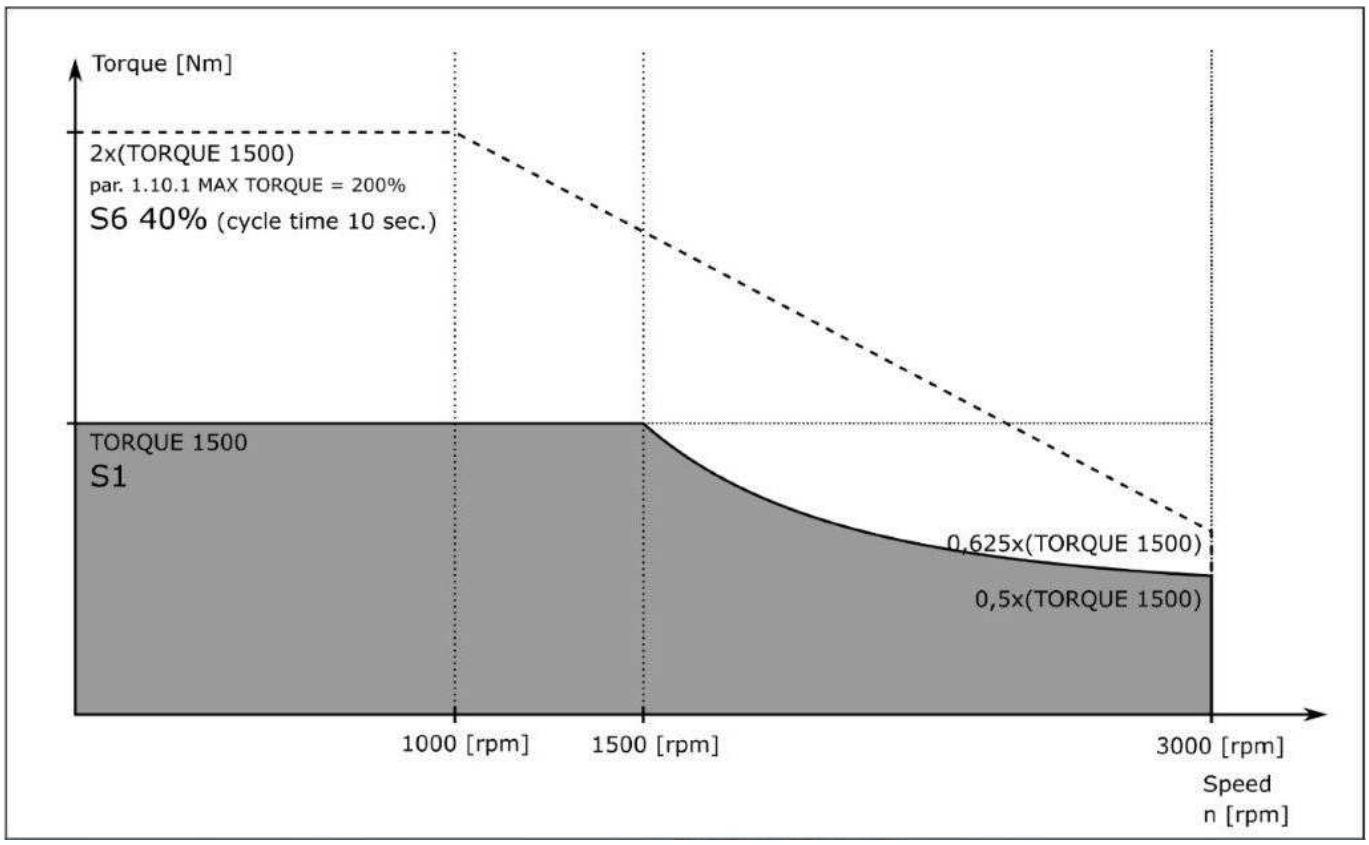
This is a general parts list for a Rowan Vector Motor. The list is given as a guideline and includes all the main variants; the above
blow out refers to a typical 1.5kW B3/B5 motor with spring brake and axial fan

1 > FRONT SHIELD (aluminium), available in 2 versions:
FLANGED for motor versions B5, B3/B5 or with auxiliary electromagnetic brake;
FOOTED for motor versions B3 and B3/B5.
2 > FRONT AND REAR BEARINGS in C3 2RS.
3 > SEEGER RING, (on MEC 63, 71 and 80 motors only in versions with brake).
4 > "fan" CONED BAFFLE (aluminium).
5 > MOTOR SHAFT (C40 steel) normally supplied in the following versions:
STANDARD SHAFT for B3 or B5 motors without brake;
LONG SHAFT for motors fitted with auxiliary electromagnetic brake.
SHORT SHAFT (tempered steel) with output reduced end.
6 > SQUIRREL CAGE ROTOR
7 > STATOR HOUSING, including:
FINNED HOUSING with power terminal case (aluminium F91);
STATOR PACK (iron);
STATOR WINDING (iron).
8 > POWER TERMINAL BLOCK for connecting motor windings, with cover.
9 > FEET for versions B3 or B3/B5.
10 > HEAT PROBE IN WINDING
11 > COMPENSATION RING
12 > REAR RING for bearing support.
13 > SERVICE TERMINAL BLOCK, for connecting tacho-generator, fan and heat probe.
14 > ENCODER WITH CONNECTOR
15 > INDEPENDENT FAN for motor cooling, with two types available: *Axial* and *Scroll*.
16 > FAN HOOD for axial fan; not mounted on motors with scroll fans where, instead of the fan hood, the fan support is mounted.
17 > ELECTROMAGNETIC SPRING BRAKE *or safety brake* (with no power it locks the motor SHAFT);
on request the *spring safety* brake can be fitted with a manual release lever.
18 > FLANGED BRAKE DOME DISK, separated from brake dome (19) only on motors Mec 90, 100, 112 and 112L.
19 > BRAKE DOME (aluminium)
20 > REAR SPACER
21 > ENCODER JOINT

Torque diagrams and operating areas

See the useful data for each motor in the tables described on the following pages.

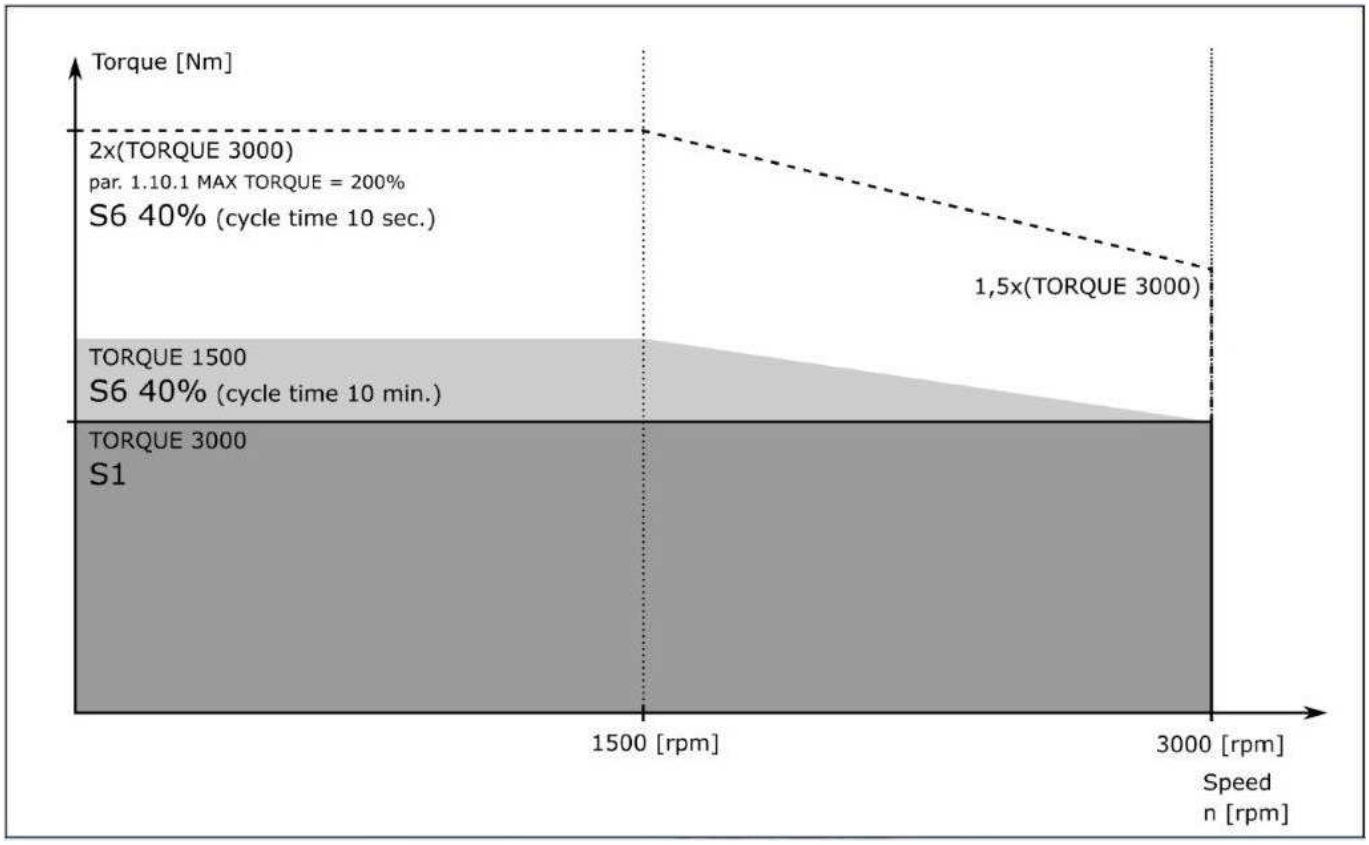
STAR CONNECTION



Torque diagrams and operating areas

See the useful data for each motor in the tables described on the following pages.

DELTA CONNECTION



G SERIES VECTOR MOTOR	4 POLE

MEC 63 - Cod. TGA4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	0,25	0,44
RATED VOLTAGE	V	345	336
RATED FREQUENCY	Hz	57,3	106,8
RATED CURRENT	A	1,2	1,9
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	1,6	1,6
TORQUE at 3000	Nm	/	1,4
COSf	-	0,697	0,591
EFFICIENCY	%	57,4	66,1
ROTOR RESISTANCE (25°C)	mW	18465,8	
STATOR RESISTANCE (25°C)	mW	27781,5	
ROTOR IMPEDANCE	mH	538,2	
STATOR IMPEDANCE	mH	538,2	
MUTUAL IMPEDANCE	mH	467,7	
MOMENT OF INERTIA J	Kgm²	0,00025	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 63 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/P	400/P
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	1.2	1.9
par. 1.1.3 MOTOR NOM FREQUE	Hz	57.3	106.8
par. 1.1.4 MOTOR NOM VOLTAG	V	345	336
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	5	20
par. 1.6.3 KI GAIN	-	5	20
par. 1.6.4 VECT MAGNET CURR	%	79.2	85
par. 1.6.5 ROTOR COSTANT	Hz	70.7	47.4
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	538.2	179.4
par. 1.7.3 ROTOR L	mH	538.2	179.4
par. 1.7.4 MUTUAL INDUC	mH	467.7	155.9
par. 1.10.15 ADAPT PERC TORQ.	%	163.8	189.9
par. 1.10.16 ADAPT TORQ. [Nm]	%	88.7	56.8
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 63L - Cod. TGI4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	0,5	0,94
RATED VOLTAGE	V	357	351
RATED FREQUENCY	Hz	57	106,9
RATED CURRENT	A	1,9	3,2
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	3,2	3,2
TORQUE at 3000	Nm	/	3
COSf	-	0,695	0,638
EFFICIENCY	%	63,9	74,5
ROTOR RESISTANCE (25°C)	mW	11603,1	
STATOR RESISTANCE (25°C)	mW	12338,3	
ROTOR IMPEDANCE	mH	372,6	
STATOR IMPEDANCE	mH	372,6	
MUTUAL IMPEDANCE	mH	338,6	
MOMENT OF INERTIA J	Kgm²	0,00047	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 63L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/P	400/R
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	1.9	3.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	57	106.9
par. 1.1.4 MOTOR NOM VOLTAG	V	357	351
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	10	33
par. 1.6.3 KI GAIN	-	10	33
par. 1.6.4 VECT MAGNET CURR	%	80.6	80
par. 1.6.5 ROTOR COSTANT	Hz	41.2	42
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	372.6	124.2
par. 1.7.3 ROTOR L	mH	372.6	124.2
par. 1.7.4 MUTUAL INDUC	mH	338.6	112.9
par. 1.10.15 ADAPT PERC TORQ.	%	168.9	158
par. 1.10.16 ADAPT TORQ. [Nm]	%	115.6	56.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 71 - Cod. TGB4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	0,6	1,13
RATED VOLTAGE	V	365	397
RATED FREQUENCY	Hz	54,5	105
RATED CURRENT	A	1,8	3
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	3,8	3,8
TORQUE at 3000	Nm	/	3,6
COSf	-	0,8	0,732
EFFICIENCY	%	69,8	77,5
ROTOR RESISTANCE (25°C)	mW	9468,5	
STATOR RESISTANCE (25°C)	mW	13579,7	
ROTOR IMPEDANCE	mH	461,3	
STATOR IMPEDANCE	mH	461,3	
MUTUAL IMPEDANCE	mH	409,3	
MOMENT OF INERTIA J	Kgm²	0,00072	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 71 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/P	400/P
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	1.8	3
par. 1.1.3 MOTOR NOM FREQUE	Hz	54.5	105
par. 1.1.4 MOTOR NOM VOLTAG	V	365	397
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	15	50
par. 1.6.3 KI GAIN	-	15	50
par. 1.6.4 VECT MAGNET CURR	%	74.4	75
par. 1.6.5 ROTOR COSTANT	Hz	25.7	20
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	461.3	153.8
par. 1.7.3 ROTOR L	mH	461.3	153.8
par. 1.7.4 MUTUAL INDUC	mH	409.3	136.4
par. 1.10.15 ADAPT PERC TORQ.	%	149.7	151.2
par. 1.10.16 ADAPT TORQ. [Nm]	%	128.4	73.7
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 71L - Cod. TGQ4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	1,15	1,9
RATED VOLTAGE	V	365	389
RATED FREQUENCY	Hz	54,6	104,4
RATED CURRENT	A	3,2	4,8
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	7,3	7,3
TORQUE at 3000	Nm	/	6,1
COSf	-	0,783	0,706
EFFICIENCY	%	73,9	83,1
ROTOR RESISTANCE (25°C)	mW	5361,1	
STATOR RESISTANCE (25°C)	mW	4913,7	
ROTOR IMPEDANCE	mH	301,5	
STATOR IMPEDANCE	mH	301,5	
MUTUAL IMPEDANCE	mH	274,6	
MOMENT OF INERTIA J	Kgm²	0,0013	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 71L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/P	400/R
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	3.2	4.8
par. 1.1.3 MOTOR NOM FREQUE	Hz	54.6	104.4
par. 1.1.4 MOTOR NOM VOLTAG	V	368	389
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	15	50
par. 1.6.3 KI GAIN	-	15	50
par. 1.6.4 VECT MAGNET CURR	%	71.9	70
par. 1.6.5 ROTOR COSTANT	Hz	23.1	15
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	301.5	100.5
par. 1.7.3 ROTOR L	mH	301.5	100.5
par. 1.7.4 MUTUAL INDUC	mH	274.6	91.5
par. 1.10.15 ADAPT PERC TORQ.	%	144.9	135.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	123.9	65
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 80 - Cod. TGC4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	1,2	2
RATED VOLTAGE	V	365	410
RATED FREQUENCY	Hz	53,4	103,7
RATED CURRENT	A	3	4,7
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	7,6	7,6
TORQUE at 3000	Nm	/	6,4
COSf	-	0,857	0,802
EFFICIENCY	%	74,9	82,4
ROTOR RESISTANCE (25°C)	mW	5400,6	
STATOR RESISTANCE (25°C)	mW	5931,9	
ROTOR IMPEDANCE	mH	327,1	
STATOR IMPEDANCE	mH	327,1	
MUTUAL IMPEDANCE	mH	306,7	
MOMENT OF INERTIA J	Kgm²	0,0020	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 80 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/R	400/R
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	3	4.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	53.4	103.7
par. 1.1.4 MOTOR NOM VOLTAG	V	365	410
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	20	50
par. 1.6.3 KI GAIN	-	20	50
par. 1.6.4 VECT MAGNET CURR	%	68	78.7
par. 1.6.5 ROTOR COSTANT	Hz	19.7	15
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	327.1	109.0
par. 1.7.3 ROTOR L	mH	327.1	109.0
par. 1.7.4 MUTUAL INDUC	mH	306.7	102.2
par. 1.10.15 ADAPT PERC TORQ.	%	135.7	156.3
par. 1.10.16 ADAPT TORQ. [Nm]	%	129.8	80
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 80L - Cod. TGW4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	1,75	2,9
RATED VOLTAGE	V	356	375
RATED FREQUENCY	Hz	54,4	103,2
RATED CURRENT	A	4,6	7,2
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	11,2	11,2
TORQUE at 3000	Nm	/	9,2
COSf	-	0,802	0,771
EFFICIENCY	%	77,1	82,3
ROTOR RESISTANCE (25°C)	mW	2807,5	
STATOR RESISTANCE (25°C)	mW	2498,2	
ROTOR IMPEDANCE	mH	198,4	
STATOR IMPEDANCE	mH	198,4	
MUTUAL IMPEDANCE	mH	188,2	
MOMENT OF INERTIA J	Kgm²	0,0040	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 80L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/R	400/0M
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	4.6	7.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	54.4	103.2
par. 1.1.4 MOTOR NOM VOLTAG	V	356	375
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	68.7	69.4
par. 1.6.5 ROTOR COSTANT	Hz	12.7	13.5
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	198.4	66.1
par. 1.7.3 ROTOR L	mH	198.4	66.1
par. 1.7.4 MUTUAL INDUC	mH	188.2	62.7
par. 1.10.15 ADAPT PERC TORQ.	%	135.1	133.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	121.5	63.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 90 - Cod. TGD4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	1,9	3,3
RATED VOLTAGE	V	378	400
RATED FREQUENCY	Hz	54,2	103,6
RATED CURRENT	A	4,9	7,7
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	12,1	12,1
TORQUE at 3000	Nm	/	10,5
COSf	-	0,808	0,754
EFFICIENCY	%	75,4	83,2
ROTOR RESISTANCE (25°C)	mW	2965,1	
STATOR RESISTANCE (25°C)	mW	3401,2	
ROTOR IMPEDANCE	mH	197,1	
STATOR IMPEDANCE	mH	197,1	
MUTUAL IMPEDANCE	mH	185,0	
MOMENT OF INERTIA J	Kgm²	0,0024	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/R	400/0M
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	4.9	7.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	54.2	103.6
par. 1.1.4 MOTOR NOM VOLTAG	V	378	400
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	60	72
par. 1.6.5 ROTOR COSTANT	Hz	13.5	14.6
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	197.1	65.7
par. 1.7.3 ROTOR L	mH	197.1	65.7
par. 1.7.4 MUTUAL INDUC	mH	185.0	61.7
par. 1.10.15 ADAPT PERC TORQ.	%	125.7	140
par. 1.10.16 ADAPT TORQ. [Nm]	%	116	71
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 90M - Cod. TGV4R...

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	2,7	4,3
RATED VOLTAGE	V	385	421
RATED FREQUENCY	Hz	54,2	102,7
RATED CURRENT	A	6,6	10,7
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	17,2	17,2
TORQUE at 3000	Nm	/	13,7
COSf	-	0,829	0,774
EFFICIENCY	%	77,5	79,6
ROTOR RESISTANCE (25°C)	mW	2091,7	
STATOR RESISTANCE (25°C)	mW	2091,7	
ROTOR IMPEDANCE	mH	153,4	
STATOR IMPEDANCE	mH	153,4	
MUTUAL IMPEDANCE	mH	146,1	
MOMENT OF INERTIA J	Kgm²	0,00304	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90M PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/0	400/1
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	6.6	10.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	54.2	102.7
par. 1.1.4 MOTOR NOM VOLTAG	V	385	421
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	66.7	79
par. 1.6.5 ROTOR COSTANT	Hz	14.5	17
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	153.4	51.1
par. 1.7.3 ROTOR L	mH	153.4	51.1
par. 1.7.4 MUTUAL INDUC	mH	146.1	48.7
par. 1.10.15 ADAPT PERC TORQ.	%	130	163.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	118	66
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 90L - Cod. TGE4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	3,7	6,2
RATED VOLTAGE	V	392	412
RATED FREQUENCY	Hz	53,3	102,9
RATED CURRENT	A	8,7	14,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	23,6	23,6
TORQUE at 3000	Nm	/	19,7
cosf	-	0,825	0,769
EFFICIENCY	%	79,7	85,9
ROTOR RESISTANCE (25°C)	mW	1247,2	
STATOR RESISTANCE (25°C)	mW	1344,7	
ROTOR IMPEDANCE	mH	121,1	
STATOR IMPEDANCE	mH	121,1	
MUTUAL IMPEDANCE	mH	114,9	
MOMENT OF INERTIA J	Kgm²	0,00456	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/1	400/L	400/2
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	8.8	13.7	
par. 1.1.3 MOTOR NOM FREQUE	Hz	53.9	103.3	
par. 1.1.4 MOTOR NOM VOLTAG	V	396	413	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	45	54	35
par. 1.6.3 KI GAIN	-	45	54	35
par. 1.6.4 VECT MAGNET CURR	%	67	70	
par. 1.6.5 ROTOR COSTANT	Hz	18.9	12.4	19.3
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1	
par. 1.7.2 STATOR L	mH	127.1	42.4	
par. 1.7.3 ROTOR L	mH	127.1	42.4	
par. 1.7.4 MUTUAL INDUC	mH	120.3	40.1	
par. 1.10.15 ADAPT PERC TORQ.	%	136.6	136.5	136.7
par. 1.10.16 ADAPT TORQ. [Nm]	%	113	52	
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 100 - Cod. TGF4R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	3,3	5,8
RATED VOLTAGE	V	380	423
RATED FREQUENCY	Hz	53,2	102,5
RATED CURRENT	A	7,6	12,7
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	21	21
TORQUE at 3000	Nm	/	18,5
cosf	-	0,797	0,781
EFFICIENCY	%	80,7	86,2
ROTOR RESISTANCE (25°C)	mW	1051,8	
STATOR RESISTANCE (25°C)	mW	1854,8	
ROTOR IMPEDANCE	mH	136,0	
STATOR IMPEDANCE	mH	136,0	
MUTUAL IMPEDANCE	mH	128,1	
MOMENT OF INERTIA J	Kgm²	0,00486	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 100 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/0M	400/L
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	7.6	12.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	53.2	102.5
par. 1.1.4 MOTOR NOM VOLTAG	V	380	423
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	75	77
par. 1.6.5 ROTOR COSTANT	Hz	11	11
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	136.0	45.3
par. 1.7.3 ROTOR L	mH	136.0	45.3
par. 1.7.4 MUTUAL INDUC	mH	128.1	42.7
par. 1.10.15 ADAPT PERC TORQ.	%	139	144.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	142	63
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 100L - Cod. TGK4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	6,6	10,7
RATED VOLTAGE	V	385	407
RATED FREQUENCY	Hz	52,7	102,4
RATED CURRENT	A	16,2	23,6
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	42	42
TORQUE at 3000	Nm	/	34,1
COSf	-	0,824	0,775
EFFICIENZY	%	83,1	88,8
ROTOR RESISTANCE (25°C)	mW	496,8	
STATOR RESISTANCE (25°C)	mW	710	
ROTOR IMPEDANCE	mH	81,7	
STATOR IMPEDANCE	mH	81,7	
MUTUAL IMPEDANCE	mH	78,0	
MOMENT OF INERTIA J	Kgm²	0,00911	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 100L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)		DELTA (3000 rpm)
with INVERTER		400/L 6,3kW 40,1Nm	400/2 6,6kW 42Nm	400/2,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	14.8	16.2	23.6
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.6	52.7	102.4
par. 1.1.4 MOTOR NOM VOLTAG	V	379	385	407
par. 1.1.5 MOTOR POLES	-	4	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	1500	3000
par. 1.6.2 KP GAIN	-	40	35	51
par. 1.6.3 KI GAIN	-	40	35	51
par. 1.6.4 VECT MAGNET CURR	%	61.7		64.8
par. 1.6.5 ROTOR COSTANT	Hz	8.5		9.8
par. 1.6.13.1 KP ID REGULATOR	-	0.95		0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1		0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95		0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1		0.1
par. 1.7.2 STATOR L	mH	81.7		27.2
par. 1.7.3 ROTOR L	mH	81.7		27.2
par. 1.7.4 MUTUAL INDUC	mH	78.0		26.0
par. 1.10.15 ADAPT PERC TORQ.	%	129	126.4	129.7
par. 1.10.16 ADAPT TORQ. [Nm]	%	104.5	97.8	57.7
par. 1.12.1 PWM FREQUENCY	kHz	5	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 112 - Cod. TGG4R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	4,6	7,7
RATED VOLTAGE	V	386	429
RATED FREQUENCY	Hz	52,6	102
RATED CURRENT	A	10,8	17,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	29,3	29,3
TORQUE at 3000	Nm	/	24,5
COSf	-	0,82	0,79
EFFICIENCY	%	83,6	88,8
ROTOR RESISTANCE (25°C)	mW	725,6	
STATOR RESISTANCE (25°C)	mW	1000,6	
ROTOR IMPEDANCE	mH	109,2	
STATOR IMPEDANCE	mH	109,2	
MUTUAL IMPEDANCE	mH	101,3	
MOMENT OF INERTIA J	Kgm²	0,00915	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/1	400/2
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	10.8	17.5
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.6	102
par. 1.1.4 MOTOR NOM VOLTAG	V	386	429
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	55	63
par. 1.6.5 ROTOR COSTANT	Hz	9.4	9.8
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	109.2	36.4
par. 1.7.3 ROTOR L	mH	109.2	36.4
par. 1.7.4 MUTUAL INDUC	mH	101.3	33.8
par. 1.10.15 ADAPT PERC TORQ.	%	122.5	136.6
par. 1.10.16 ADAPT TORQ. [Nm]	%	108.5	57.1
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR — 4 POLE

MEC 112L - Cod. TGH4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	6,2	9,5
RATED VOLTAGE	V	388	418
RATED FREQUENCY	Hz	52,2	101,8
RATED CURRENT	A	14	21,2
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	39,5	39,5
TORQUE at 3000	Nm	/	30,2
COSf	-	0,812	0,766
EFFICIENZY	%	84,9	88,0
ROTOR RESISTANCE (25°C)	mW	584,2	
STATOR RESISTANCE (25°C)	mW	669,6	
ROTOR IMPEDANCE	mH	79,8	
STATOR IMPEDANCE	mH	79,8	
MUTUAL IMPEDANCE	mH	76,0	
MOMENT OF INERTIA J	Kgm²	0,012996	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/L	400/2	400/3
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	14	21.2	
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.2	101.8	
par. 1.1.4 MOTOR NOM VOLTAG	V	388	418	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	50	64	50
par. 1.6.3 KI GAIN	-	50	64	50
par. 1.6.4 VECT MAGNET CURR	%	60.7	63.2	
par. 1.6.5 ROTOR COSTANT	Hz	7	6.7	8.7
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1	
par. 1.7.2 STATOR L	mH	79.8	26.6	
par. 1.7.3 ROTOR L	mH	79.8	26.6	
par. 1.7.4 MUTUAL INDUC	mH	76.0	25.3	
par. 1.10.15 ADAPT PERC TORQ.	%	127.2	134.8	134.9
par. 1.10.16 ADAPT TORQ. [Nm]	%	106.8	57.3	54.4
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 112X - Cod. TGY4R....

MOTOR VERSION		5	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	7,2	11
RATED VOLTAGE	V	385	411
RATED FREQUENCY	Hz	52,2	101,7
RATED CURRENT	A	17,6	25,7
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	45,8	45,8
TORQUE at 3000	Nm	/	35
COSf	-	0,781	0,714
EFFICIENCY	%	86,4	89,4
ROTOR RESISTANCE (25°C)	mW	472,5	
STATOR RESISTANCE (25°C)	mW	438,7	
ROTOR IMPEDANCE	mH	63,9	
STATOR IMPEDANCE	mH	63,9	
MUTUAL IMPEDANCE	mH	61,0	
MOMENT OF INERTIA J	Kgm²	0,01737	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112X PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/2	400/2,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	17.6	25.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.2	101.7
par. 1.1.4 MOTOR NOM VOLTAG	V	385	411
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	51
par. 1.6.3 KI GAIN	-	50	51
par. 1.6.4 VECT MAGNET CURR	%	66.5	71.6
par. 1.6.5 ROTOR COSTANT	Hz	9.6	7
par. 1.6.13.1 KP ID REGULATOR	-	0.45	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.045	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.45	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.045	0.045
par. 1.7.2 STATOR L	mH	63.9	21.3
par. 1.7.3 ROTOR L	mH	63.9	21.3
par. 1.7.4 MUTUAL INDUC	mH	61.0	20.3
par. 1.10.15 ADAPT PERC TORQ.	%	130	141.7
par. 1.10.16 ADAPT TORQ. [Nm]	%	101	59.4
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 112XL - Cod. TGJ4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	8,2	12,5
RATED VOLTAGE	V	348	377
RATED FREQUENCY	Hz	51,9	101,6
RATED CURRENT	A	21,9	32,6
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	52,2	52,2
TORQUE at 3000	Nm	/	39,8
COSf	-	0,727	0,684
EFFICIENCY	%	89,0	92,4
ROTOR RESISTANCE (25°C)	mW	288,1	
STATOR RESISTANCE (25°C)	mW	295,1	
ROTOR IMPEDANCE	mH	48,0	
STATOR IMPEDANCE	mH	48,0	
MUTUAL IMPEDANCE	mH	46,1	
MOMENT OF INERTIA J	Kgm²	0,022279	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112XL PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/2	400/3	400/3,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	21.9	32.6	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.9	101.6	
par. 1.1.4 MOTOR NOM VOLTAG	V	348	377	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	50	76	50
par. 1.6.3 KI GAIN	-	50	76	50
par. 1.6.4 VECT MAGNET CURR	%	66.7	72	
par. 1.6.5 ROTOR COSTANT	Hz	6.6	5.4	8.2
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	48.0	16.0	
par. 1.7.3 ROTOR L	mH	48.0	16.0	
par. 1.7.4 MUTUAL INDUC	mH	46.1	15.4	
par. 1.10.15 ADAPT PERC TORQ.	%	131	151.1	151.2
par. 1.10.16 ADAPT TORQ. [Nm]	%	93	52.1	49.7
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 132 - Cod. TGL4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	11	16,5
RATED VOLTAGE	V	369	416
RATED FREQUENCY	Hz	52	101,4
RATED CURRENT	A	23,7	35,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	70	70
TORQUE at 3000	Nm	/	52,5
COSf	-	0,891	0,828
EFFICIENCY	%	86,5	87,2
ROTOR RESISTANCE (25°C)	mW	263,1	
STATOR RESISTANCE (25°C)	mW	284,7	
ROTOR IMPEDANCE	mH	51,3	
STATOR IMPEDANCE	mH	51,3	
MUTUAL IMPEDANCE	mH	49,6	
MOMENT OF INERTIA J	Kgm²	0,028125	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)		DELTA (3000 rpm)	
with INVERTER		400/2 9,7kW 61,8Nm	400/2,5 11kW 70Nm	400/3	400/3,5
PARAMETERS	unit				
par. 1.1.1 LINE VOLTAGE	V	400	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	22	23.7	35.5	
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.7	52	101.4	
par. 1.1.4 MOTOR NOM VOLTAG	V	363	369	416	
par. 1.1.5 MOTOR POLES	-	4	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	1500	3000	
par. 1.6.2 KP GAIN	-	50	41	76	50
par. 1.6.3 KI GAIN	-	50	41	76	50
par. 1.6.4 VECT MAGNET CURR	%	45	45.5	58	
par. 1.6.5 ROTOR COSTANT	Hz	4.5	6.9	4.1	6.3
par. 1.6.13.1 KP ID REGULATOR	-	0.95		0.6	
par. 1.6.13.2 KI ID REGULATOR	-	0.1		0.06	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95		0.6	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1		0.06	
par. 1.7.2 STATOR L	mH	51.3		17.1	
par. 1.7.3 ROTOR L	mH	51.3		17.1	
par. 1.7.4 MUTUAL INDUC	mH	49.6		16.5	
par. 1.10.15 ADAPT PERC TORQ.	%	108.5	112.8	143.2	143.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	90.8	102.6	59.8	57
par. 1.12.1 PWM FREQUENCY	kHz	5	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 132L - Cod. TGM4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	13	17,5
RATED VOLTAGE	V	357	403
RATED FREQUENCY	Hz	51,7	101,1
RATED CURRENT	A	28,5	38,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	82,8	82,8
TORQUE at 3000	Nm	/	55,7
COSf	-	0,885	0,855
EFFICIENCY	%	85,4	88,4
ROTOR RESISTANCE (25°C)	mW	205,6	
STATOR RESISTANCE (25°C)	mW	210,7	
ROTOR IMPEDANCE	mH	43,6	
STATOR IMPEDANCE	mH	43,6	
MUTUAL IMPEDANCE	mH	53,6	
MOMENT OF INERTIA J	Kgm²	0,036133	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/2,5	400/3,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	28.5	38.5
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.7	101.1
par. 1.1.4 MOTOR NOM VOLTAG	V	357	403
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	51	50
par. 1.6.3 KI GAIN	-	51	50
par. 1.6.4 VECT MAGNET CURR	%	47	68
par. 1.6.5 ROTOR COSTANT	Hz	5.0	4.7
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.6
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.06
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.6
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.06
par. 1.7.2 STATOR L	mH	43.6	14.5
par. 1.7.3 ROTOR L	mH	43.6	14.5
par. 1.7.4 MUTUAL INDUC	mH	53.6	17.9
par. 1.10.15 ADAPT PERC TORQ.	%	113.3	145.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	101.4	56.4
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 132XL - Cod. TGN4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	15	20
RATED VOLTAGE	V	366	409
RATED FREQUENCY	Hz	51,5	101
RATED CURRENT	A	34,1	47,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	95,5	95,5
TORQUE at 3000	Nm	/	63,7
COSf	-	0,836	0,781
EFFICIENCY	%	86,9	87,7
ROTOR RESISTANCE (25°C)	mW	183,3	
STATOR RESISTANCE (25°C)	mW	154,5	
ROTOR IMPEDANCE	mH	37,7	
STATOR IMPEDANCE	mH	37,7	
MUTUAL IMPEDANCE	mH	36,4	
MOMENT OF INERTIA J	Kgm²	0,046875	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132XL PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/3	400/5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	34.1	47.5
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.5	101
par. 1.1.4 MOTOR NOM VOLTAG	V	366	409
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	54.5	70.7
par. 1.6.5 ROTOR COSTANT	Hz	4.3	5.1
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	37.7	12.6
par. 1.7.3 ROTOR L	mH	37.7	12.6
par. 1.7.4 MUTUAL INDUC	mH	36.4	12.1
par. 1.10.15 ADAPT PERC TORQ.	%	121.7	148.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	95.8	59.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 160 - Cod. TGP4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	19	28,5
RATED VOLTAGE	V	359	410
RATED FREQUENCY	Hz	51,3	101,3
RATED CURRENT	A	44,3	64,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	121	121
TORQUE at 3000	Nm	/	90,7
COSf	-	0,812	0,805
EFFICIENCY	%	88,9	92,0
ROTOR RESISTANCE (25°C)	mW	146,3	
STATOR RESISTANCE (25°C)	mW	137,3	
ROTOR IMPEDANCE	mH	31,0	
STATOR IMPEDANCE	mH	31,0	
MUTUAL IMPEDANCE	mH	29,4	
MOMENT OF INERTIA J	Kgm²	0,061875	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/3,5	400/6	400/6,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	44.3	64.5	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.3	101.3	
par. 1.1.4 MOTOR NOM VOLTAG	V	359	410	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	50	61	50
par. 1.6.3 KI GAIN	-	50	61	50
par. 1.6.4 VECT MAGNET CURR	%	58.9	67.4	
par. 1.6.5 ROTOR COSTANT	Hz	4.6	3.6	4.5
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	31.0	10.3	
par. 1.7.3 ROTOR L	mH	31.0	10.3	
par. 1.7.4 MUTUAL INDUC	mH	29.4	9.8	
par. 1.10.15 ADAPT PERC TORQ.	%	133.5	134.8	135.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	97.7	55	54.8
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 160R - Cod. TGT4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	10	16
RATED VOLTAGE	V	383	426
RATED FREQUENCY	Hz	51,2	101
RATED CURRENT	A	22	33,4
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	63,7	63,7
TORQUE at 3000	Nm	/	50,9
COSf	-	0,825	0,8
EFFICIENCY	%	88,7	90,9
ROTOR RESISTANCE (25°C)	mW	288,7	
STATOR RESISTANCE (25°C)	mW	336,3	
ROTOR IMPEDANCE	mH	62,6	
STATOR IMPEDANCE	mH	62,6	
MUTUAL IMPEDANCE	mH	59,4	
MOMENT OF INERTIA J	Kgm²	0,039375	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160R PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/2	400/3
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	22	33.4
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.2	101
par. 1.1.4 MOTOR NOM VOLTAG	V	383	426
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	50	60
par. 1.6.5 ROTOR COSTANT	Hz	3,8	3.2
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	62.6	20.9
par. 1.7.3 ROTOR L	mH	62.6	20.9
par. 1.7.4 MUTUAL INDUC	mH	59.4	19.8
par. 1.10.15 ADAPT PERC TORQ.	%	110	130
par. 1.10.16 ADAPT TORQ. [Nm]	%	95	55.8
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 160L - Cod. TGR4R....

MOTOR VERSION		4	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	22,5	33,7
RATED VOLTAGE	V	384	428
RATED FREQUENCY	Hz	51,1	100,8
RATED CURRENT	A	49	71
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	143	143
TORQUE at 3000	Nm	/	107,3
COSf	-	0,804	0,75
EFFICIENCY	%	86,6	90,2
ROTOR RESISTANCE (25°C)	mW	109,2	
STATOR RESISTANCE (25°C)	mW	106,5	
ROTOR IMPEDANCE	mH	31,1	
STATOR IMPEDANCE	mH	31,1	
MUTUAL IMPEDANCE	mH	29,9	
MOMENT OF INERTIA J	Kgm²	0,08719	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160L PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/5	400/6	400/6,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	49	71	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.1	100.8	
par. 1.1.4 MOTOR NOM VOLTAG	V	384	428	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	50	37	30
par. 1.6.3 KI GAIN	-	50	37	30
par. 1.6.4 VECT MAGNET CURR	%	52.4	46.5	
par. 1.6.5 ROTOR COSTANT	Hz	4	3.2	4
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1	
par. 1.7.2 STATOR L	mH	31.1	10.4	
par. 1.7.3 ROTOR L	mH	31.1	10.4	
par. 1.7.4 MUTUAL INDUC	mH	29.9	10.0	
par. 1.10.15 ADAPT PERC TORQ.	%	122.5	119	130
par. 1.10.16 ADAPT TORQ. [Nm]	%	106.8	52.3	57.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 160XL - Cod. TGX4R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	29,5	44
RATED VOLTAGE	V	410	467
RATED FREQUENCY	Hz	51,2	100,9
RATED CURRENT	A	60	89,5
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	187,8	187,8
TORQUE at 3000	Nm	/	140
COSf	-	0,84	0,816
EFFICIENCY	%	89,6	92,1
ROTOR RESISTANCE (25°C)	mW	110,0	
STATOR RESISTANCE (25°C)	mW	81,4	
ROTOR IMPEDANCE	mH	27,6	
STATOR IMPEDANCE	mH	27,6	
MUTUAL IMPEDANCE	mH	26,5	
MOMENT OF INERTIA J	Kgm²	0,1167188	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160XL PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/5	400/7
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	60	89.5
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.2	100.9
par. 1.1.4 MOTOR NOM VOLTAG	V	410	467
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	41.6	51.7
par. 1.6.5 ROTOR COSTANT	Hz	3.7	4.1
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.95
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.1
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.95
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.1
par. 1.7.2 STATOR L	mH	27.6	9.2
par. 1.7.3 ROTOR L	mH	27.6	9.2
par. 1.7.4 MUTUAL INDUC	mH	26.5	8.8
par. 1.10.15 ADAPT PERC TORQ.	%	120.5	143
par. 1.10.16 ADAPT TORQ. [Nm]	%	112.5	64.3
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	4 POLE

MEC 180 - Cod. TGO4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	37	54
RATED VOLTAGE	V	360	402
RATED FREQUENCY	Hz	51,1	100,8
RATED CURRENT	A	87	125
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	6000	6000
TORQUE at 1500	Nm	236	236
TORQUE at 3000	Nm	/	169
COSf	-	0,8	0,78
EFFICIENCY	%	89,0	88,5
ROTOR RESISTANCE (25°C)	mW	95,8	
STATOR RESISTANCE (25°C)	mW	46,7	
ROTOR IMPEDANCE	mH	15,3	
STATOR IMPEDANCE	mH	15,3	
MUTUAL IMPEDANCE	mH	14,7	
MOMENT OF INERTIA J	Kgm²	0,1896563	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 180 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)	
with INVERTER		400/6,5	400/8	400/8,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	87	125	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.1	100.8	
par. 1.1.4 MOTOR NOM VOLTAG	V	360	402	
par. 1.1.5 MOTOR POLES	-	4	4	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000	
par. 1.6.2 KP GAIN	-	50	50	50
par. 1.6.3 KI GAIN	-	50	50	50
par. 1.6.4 VECT MAGNET CURR	%	50	50	
par. 1.6.5 ROTOR COSTANT	Hz	3.3	3.4	4
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.33	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.033	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.33	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.033	
par. 1.7.2 STATOR L	mH	15.3	5.1	
par. 1.7.3 ROTOR L	mH	15.3	5.1	
par. 1.7.4 MUTUAL INDUC	mH	14.7	4.9	
par. 1.10.15 ADAPT PERC TORQ.	%	113	118.5	119
par. 1.10.16 ADAPT TORQ. [Nm]	%	88	44	44
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	4 POLE

MEC 200 - Cod. TGS4R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	55	75
RATED VOLTAGE	V	363	363
RATED FREQUENCY	Hz	51,1	100,8
RATED CURRENT	A	120	165
RATED SPEED	RPM	1500	3000
MAX SPEED	RPM	6000	6000
TORQUE at 1500	Nm	350	238
TORQUE at 3000	Nm	/	238
COSf	-	0,83	0,81
EFFICIENCY	%	94,1	96,0
ROTOR RESISTANCE (25°C)	mW	90,1	
STATOR RESISTANCE (25°C)	mW	24,8	
ROTOR IMPEDANCE	mH	11,5	
STATOR IMPEDANCE	mH	11,5	
MUTUAL IMPEDANCE	mH	11,2	
MOMENT OF INERTIA J	Kgm²	0,3045938	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

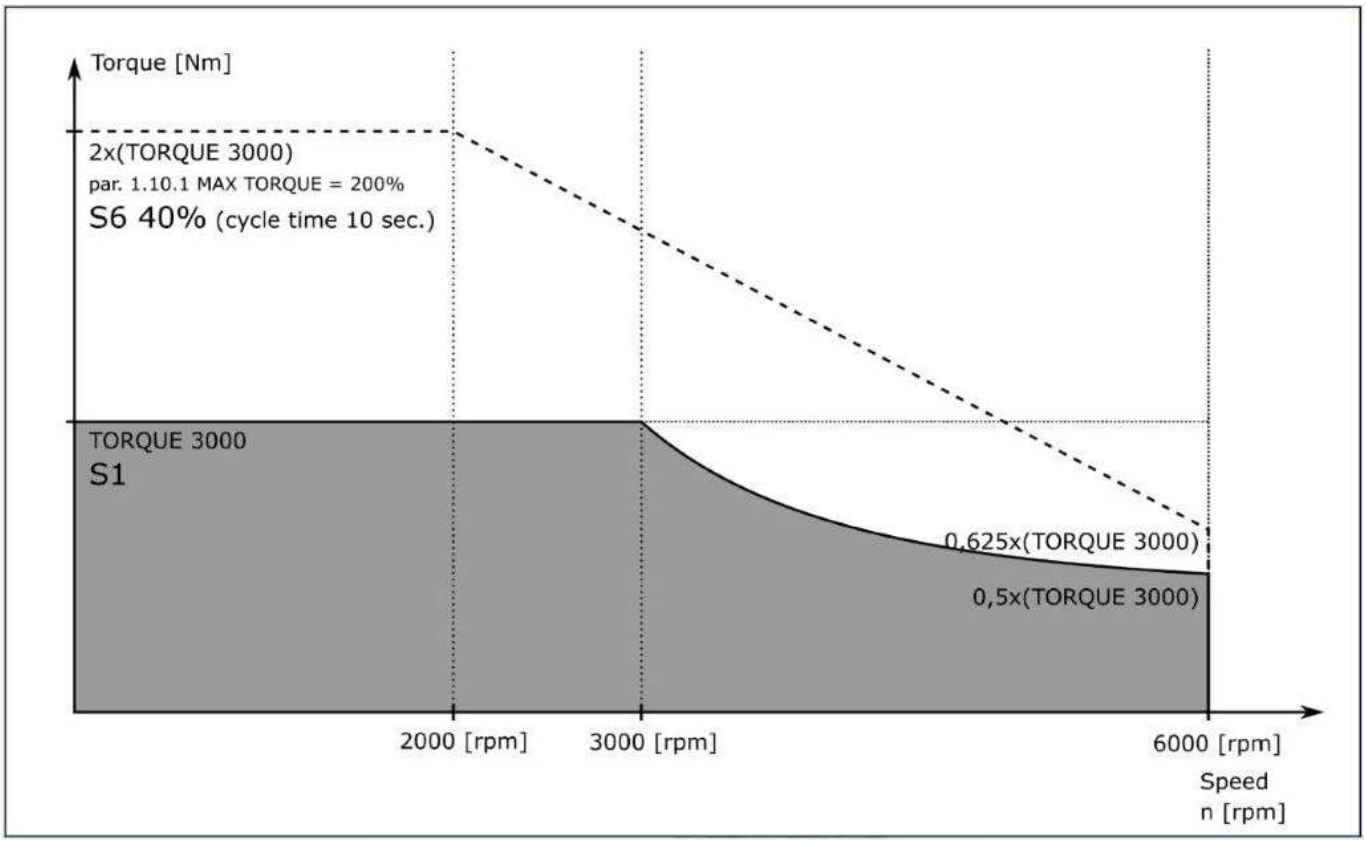
MEC 200 PAR. SETTING for inverter 400

CONNECTION		STAR (1500 rpm)	DELTA (3000 rpm)
with INVERTER		400/8	400/8,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	120	165
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.1	100.8
par. 1.1.4 MOTOR NOM VOLTAG	V	363	363
par. 1.1.5 MOTOR POLES	-	4	4
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	1500	3000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	45	45
par. 1.6.5 ROTOR COSTANT	Hz	3.4	2.4
par. 1.6.13.1 KP ID REGULATOR	-	0.6	0.33
par. 1.6.13.2 KI ID REGULATOR	-	0.06	0.033
par. 1.6.13.3 KP IQ REGULATOR	-	0.6	0.33
par. 1.6.13.4 KI IQ REGULATOR	-	0.06	0.033
par. 1.7.2 STATOR L	mH	11.5	3.8
par. 1.7.3 ROTOR L	mH	11.5	3.8
par. 1.7.4 MUTUAL INDUC	mH	11.2	3.7
par. 1.10.15 ADAPT PERC TORQ.	%	110	116
par. 1.10.16 ADAPT TORQ. [Nm]	%	88.5	46.3
par. 1.12.1 PWM FREQUENCY	kHz	5	5

Torque diagrams and operating areas

See the useful data for each motor in the tables described on the following pages.

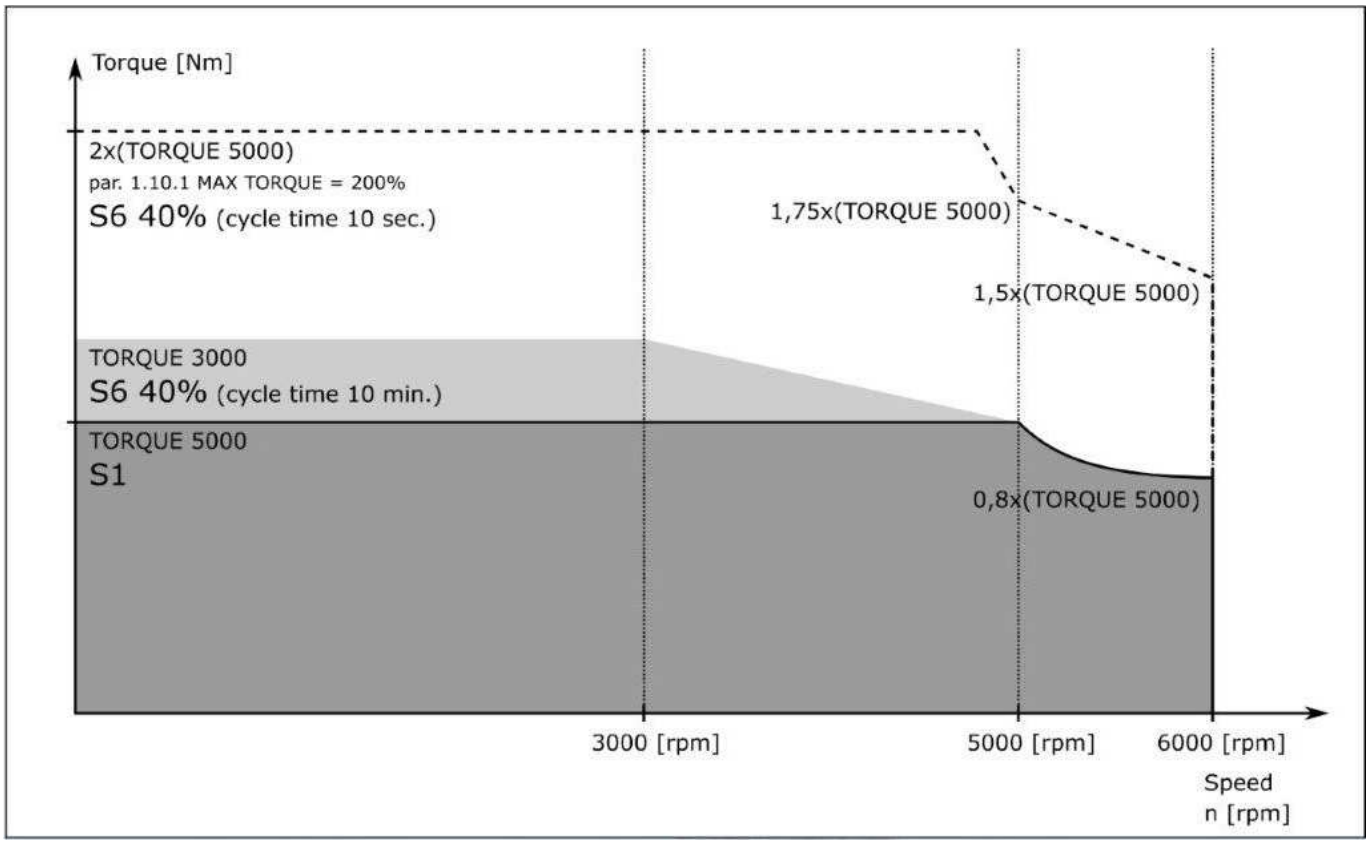
STAR CONNECTION



Torque diagrams and operating areas

See the useful data for each motor in the tables described on the following pages.

DELTA CONNECTION



G SERIES VECTOR MOTOR	2 POLE

MEC 90 - Cod. TGD2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	2	3
RATED VOLTAGE	V	427	398
RATED FREQUENCY	Hz	53,4	86,1
RATED CURRENT	A	4,2	6,2
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	6,4	6,4
TORQUE at 3000	Nm	/	5,7
COSf	-	0,877	0,876
EFFICENCY	%	79,7	84,0
ROTOR RESISTANCE (25°C)	mW	4673,9	
STATOR RESISTANCE (25°C)	mW	2300	
ROTOR IMPEDANCE	mH	473,4	
STATOR IMPEDANCE	mH	473,4	
MUTUAL IMPEDANCE	mH	458,6	
MOMENT OF INERTIA J	Kgm²	0,001225	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/R	400/0
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	4.2	6.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	53.4	86.1
par. 1.1.4 MOTOR NOM VOLTAG	V	427	398
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	45.2	54.8
par. 1.6.5 ROTOR COSTANT	Hz	12.5	9.5
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	473.4	157.8
par. 1.7.3 ROTOR L	mH	473.4	157.8
par. 1.7.4 MUTUAL INDUC	mH	458.6	152.9
par. 1.10.15 ADAPT PERC TORQ.	%	126	115
par. 1.10.16 ADAPT TORQ. [Nm]	%	72	37.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 90M – Cod. TGV2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	3,3	5,5
RATED VOLTAGE	V	420	392
RATED FREQUENCY	Hz	52,5	85,7
RATED CURRENT	A	7	12
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	10,5	10,5
TORQUE at 3000	Nm	/	10,5
COSf	-	0,831	0,852
EFFICIENCY	%	82,4	87,8
ROTOR RESISTANCE (25°C)	mW	2100,7	
STATOR RESISTANCE (25°C)	mW	1400	
ROTOR IMPEDANCE	mH	262,7	
STATOR IMPEDANCE	mH	262,7	
MUTUAL IMPEDANCE	mH	253,5	
MOMENT OF INERTIA J	Kgm²	0,0015313	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90M PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/0	400/1
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	7	12
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.5	85.7
par. 1.1.4 MOTOR NOM VOLTAG	V	420	392
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	50	52.5
par. 1.6.5 ROTOR COSTANT	Hz	7.6	7.2
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	262.7	87.6
par. 1.7.3 ROTOR L	mH	262.7	87.6
par. 1.7.4 MUTUAL INDUC	mH	253.5	84.5
par. 1.10.15 ADAPT PERC TORQ.	%	125.5	122
par. 1.10.16 ADAPT TORQ. [Nm]	%	65.9	35
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 90L - Cod. TGE2R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	4,5	6,5
RATED VOLTAGE	V	416	394
RATED FREQUENCY	Hz	52	85,2
RATED CURRENT	A	9,4	14
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	14,3	14,3
TORQUE at 3000	Nm	/	12,4
COSf	-	0,855	0,852
EFFICIENCY	%	84,9	82,7
ROTOR RESISTANCE (25°C)	mW	1008,1	
STATOR RESISTANCE (25°C)	mW	820	
ROTOR IMPEDANCE	mH	192,8	
STATOR IMPEDANCE	mH	192,8	
MUTUAL IMPEDANCE	mH	187,3	
MOMENT OF INERTIA J	Kgm²	0,0023275	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 90L PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA
with INVERTER		400/1	400/L
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	9.4	14
par. 1.1.3 MOTOR NOM FREQUE	Hz	52	85.2
par. 1.1.4 MOTOR NOM VOLTAG	V	416	394
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	40	50
par. 1.6.3 KI GAIN	-	40	50
par. 1.6.4 VECT MAGNET CURR	%	42.6	50
par. 1.6.5 ROTOR COSTANT	Hz	8.6	6.1
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	192.8	64.3
par. 1.7.3 ROTOR L	mH	192.8	64.3
par. 1.7.4 MUTUAL INDUC	mH	187.3	62.4
par. 1.10.15 ADAPT PERC TORQ.	%	123.5	124.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	61	32.7
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 100 - Cod. TGF2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	4	6
RATED VOLTAGE	V	418	394
RATED FREQUENCY	Hz	52,2	85,1
RATED CURRENT	A	9	14
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	12,7	12,7
TORQUE at 3000	Nm	/	11,5
COSf	-	0,87	0,82
EFFICIENCY	%	80,1	79,7
ROTOR RESISTANCE (25°C)	mW	1439,7	
STATOR RESISTANCE (25°C)	mW	526,5	
ROTOR IMPEDANCE	mH	235,5	
STATOR IMPEDANCE	mH	235,5	
MUTUAL IMPEDANCE	mH	229,9	
MOMENT OF INERTIA J	Kgm²	0,0028	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 100 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/0M	400/L
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	9	14
par. 1.1.3 MOTOR NOM FREQUE	Hz	52.2	85.1
par. 1.1.4 MOTOR NOM VOLTAG	V	418	394
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	50	53.6
par. 1.6.5 ROTOR COSTANT	Hz	6.8	6.4
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	235.5	78.5
par. 1.7.3 ROTOR L	mH	235.5	78.5
par. 1.7.4 MUTUAL INDUC	mH	229.9	76.6
par. 1.10.15 ADAPT PERC TORQ.	%	128.5	130.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	81.5	32
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 100L - Cod. TGK2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	7,5	11
RATED VOLTAGE	V	388	370
RATED FREQUENCY	Hz	52	85,1
RATED CURRENT	A	15	22,8
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	12000	12000
TORQUE at 1500	Nm	23,9	23,9
TORQUE at 3000	Nm	/	21
COSf	-	0,866	0,856
EFFICIENCY	%	89,0	92,0
ROTOR RESISTANCE (25°C)	mW	469,7	
STATOR RESISTANCE (25°C)	mW	400	
ROTOR IMPEDANCE	mH	124,4	
STATOR IMPEDANCE	mH	124,4	
MUTUAL IMPEDANCE	mH	120,8	
MOMENT OF INERTIA J	Kgm²	0,00504	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 100L PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/L	400/2,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	15	22.8
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.6	84.8
par. 1.1.4 MOTOR NOM VOLTAG	V	407	376
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	51
par. 1.6.3 KI GAIN	-	50	51
par. 1.6.4 VECT MAGNET CURR	%	46.6	50.9
par. 1.6.5 ROTOR COSTANT	Hz	4.5	5.6
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	124.4	41.5
par. 1.7.3 ROTOR L	mH	124.4	41.5
par. 1.7.4 MUTUAL INDUC	mH	120.8	40.3
par. 1.10.15 ADAPT PERC TORQ.	%	121.2	114.1
par. 1.10.16 ADAPT TORQ. [Nm]	%	57.6	32.4
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 112 - Cod. TGG2R....

MOTOR VERSION		2	
TECNHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	6	9
RATED VOLTAGE	V	413	392
RATED FREQUENCY	Hz	51,6	84,7
RATED CURRENT	A	12	19,2
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	19,1	19,1
TORQUE at 3000	Nm	/	17,2
COSf	-	0,848	0,855
EFFICIENCY	%	87,5	88,0
ROTOR RESISTANCE (25°C)	mW	737,2	
STATOR RESISTANCE (25°C)	mW	563,8	
ROTOR IMPEDANCE	mH	127,9	
STATOR IMPEDANCE	mH	127,9	
MUTUAL IMPEDANCE	mH	122,7	
MOMENT OF INERTIA J	Kgm²	0,0046575	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/1	400/2
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	12	19.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.6	84.7
par. 1.1.4 MOTOR NOM VOLTAG	V	413	392
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	50
par. 1.6.3 KI GAIN	-	50	50
par. 1.6.4 VECT MAGNET CURR	%	43.3	54.7
par. 1.6.5 ROTOR COSTANT	Hz	4.7	4.8
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	127.9	42.6
par. 1.7.3 ROTOR L	mH	127.9	42.6
par. 1.7.4 MUTUAL INDUC	mH	122.7	40.9
par. 1.10.15 ADAPT PERC TORQ.	%	117.5	119
par. 1.10.16 ADAPT TORQ. [Nm]	%	61	32
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 112L - Cod. TGH2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	8,3	12
RATED VOLTAGE	V	391	367
RATED FREQUENCY	Hz	51,5	84,7
RATED CURRENT	A	17,7	26,2
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	24,5	24,5
TORQUE at 3000	Nm	/	22,9
COSf	-	0,879	0,84
EFFICIENCY	%	88,0	91,5
ROTOR RESISTANCE (25°C)	mW	370,3	
STATOR RESISTANCE (25°C)	mW	310,6	
ROTOR IMPEDANCE	mH	119,4	
STATOR IMPEDANCE	mH	119,4	
MUTUAL IMPEDANCE	mH	116,0	
MOMENT OF INERTIA J	Kgm²	0,0065813	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112L PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/2	400/2,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	17.7	26.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.5	84.7
par. 1.1.4 MOTOR NOM VOLTAG	V	391	367
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	NO
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	46
par. 1.6.3 KI GAIN	-	50	46
par. 1.6.4 VECT MAGNET CURR	%	46.9	48.1
par. 1.6.5 ROTOR COSTANT	Hz	5.8	4.3
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	119.4	39.8
par. 1.7.3 ROTOR L	mH	119.4	39.8
par. 1.7.4 MUTUAL INDUC	mH	116.0	38.7
par. 1.10.15 ADAPT PERC TORQ.	%	116.6	114.9
par. 1.10.16 ADAPT TORQ. [Nm]	%	52	30.9
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 112X - Cod. TGY2R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	9,8	13,5
RATED VOLTAGE	V	395	369
RATED FREQUENCY	Hz	51,2	84,4
RATED CURRENT	A	20,6	29,7
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	31,2	31,2
TORQUE at 3000	Nm	/	25,8
COSf	-	0,852	0,796
EFFICIENCY	%	91,0	92,9
ROTOR RESISTANCE (25°C)	mW	247,5	
STATOR RESISTANCE (25°C)	mW	216,6	
ROTOR IMPEDANCE	mH	115,6	
STATOR IMPEDANCE	mH	115,6	
MUTUAL IMPEDANCE	mH	113,3	
MOMENT OF INERTIA J	Kgm²	0,0087075	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112X PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/2	400/2,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	20.6	29.7
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.2	84.4
par. 1.1.4 MOTOR NOM VOLTAG	V	395	369
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	YES	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	50	51
par. 1.6.3 KI GAIN	-	50	51
par. 1.6.4 VECT MAGNET CURR	%	49.5	56.2
par. 1.6.5 ROTOR COSTANT	Hz	4.1	2.9
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	115.6	38.5
par. 1.7.3 ROTOR L	mH	115.6	38.5
par. 1.7.4 MUTUAL INDUC	mH	113.3	37.8
par. 1.10.15 ADAPT PERC TORQ.	%	117.7	117.1
par. 1.10.16 ADAPT TORQ. [Nm]	%	53.2	31.3
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 112XL - Cod. TGJ2R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	11,2	14,5
RATED VOLTAGE	V	398	367
RATED FREQUENCY	Hz	51	84,1
RATED CURRENT	A	23,2	33,8
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	9800	9800
TORQUE at 1500	Nm	35,7	35,7
TORQUE at 3000	Nm	/	27,7
COSf	-	0,838	0,766
EFFICIENCY	%	92,0	91,8
ROTOR RESISTANCE (25°C)	mW	188,8	
STATOR RESISTANCE (25°C)	mW	190,2	
ROTOR IMPEDANCE	mH	71,4	
STATOR IMPEDANCE	mH	71,4	
MUTUAL IMPEDANCE	mH	69,5	
MOMENT OF INERTIA J	Kgm²	0,0114413	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 112XL PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/2,5	400/3	400/3,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	23.4	33.8	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51	84.1	
par. 1.1.4 MOTOR NOM VOLTAG	V	398	367	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-	51	76	50
par. 1.6.3 KI GAIN	-	51	76	50
par. 1.6.4 VECT MAGNET CURR	%	50.8	61.2	
par. 1.6.5 ROTOR COSTANT	Hz	3.8	2.5	3.8
par. 1.6.13.1 KP ID REGULATOR	-	0.95	045	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	045	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	71.4	23.8	
par. 1.7.3 ROTOR L	mH	71.4	23.8	
par. 1.7.4 MUTUAL INDUC	mH	69.5	23.2	
par. 1.10.15 ADAPT PERC TORQ.	%	123.3	133.5	134.2
par. 1.10.16 ADAPT TORQ. [Nm]	%	57.9	30.9	29.6
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 132 - Cod. TGL2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	12	16,5
RATED VOLTAGE	V	390	370
RATED FREQUENCY	Hz	51,3	84,3
RATED CURRENT	A	24,5	36,2
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	38,2	38,2
TORQUE at 3000	Nm	/	31,5
COSf	-	0,891	0,844
EFFICIENCY	%	90,0	91,6
ROTOR RESISTANCE (25°C)	mW	308,1	
STATOR RESISTANCE (25°C)	mW	215,8	
ROTOR IMPEDANCE	mH	86,9	
STATOR IMPEDANCE	mH	86,9	
MUTUAL IMPEDANCE	mH	85,1	
MOMENT OF INERTIA J	Kgm²	0,015125	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/2,5	400/3,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	24.5	36.2
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.3	84.3
par. 1.1.4 MOTOR NOM VOLTAG	V	390	370
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	46	50
par. 1.6.3 KI GAIN	-	46	50
par. 1.6.4 VECT MAGNET CURR	%	43.7	56.6
par. 1.6.5 ROTOR COSTANT	Hz	4.6	3.8
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	86.9	29.0
par. 1.7.3 ROTOR L	mH	86.9	29.0
par. 1.7.4 MUTUAL INDUC	mH	85.1	28.4
par. 1.10.15 ADAPT PERC TORQ.	%	118.6	129
par. 1.10.16 ADAPT TORQ. [Nm]	%	57	30.2
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 132L - Cod. TGM2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	14	18,5
RATED VOLTAGE	V	410	370
RATED FREQUENCY	Hz	51,2	84,3
RATED CURRENT	A	28,2	40,9
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	44,6	44,6
TORQUE at 3000	Nm	/	35,3
COSf	-	0,883	0,846
EFFICIENCY	%	91,6	92,1
ROTOR RESISTANCE (25°C)	mW	332	
STATOR RESISTANCE (25°C)	mW	78,9	
ROTOR IMPEDANCE	mH	80,6	
STATOR IMPEDANCE	mH	80,6	
MUTUAL IMPEDANCE	mH	79,2	
MOMENT OF INERTIA J	Kgm²	0,019662	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132L PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)
with INVERTER		400/2,5	400/3,5
PARAMETERS	unit		
par. 1.1.1 LINE VOLTAGE	V	400	400
par. 1.1.2 MOTOR NOM CURRENT	A	28.2	40.9
par. 1.1.3 MOTOR NOM FREQUE	Hz	51.2	84.3
par. 1.1.4 MOTOR NOM VOLTAG	V	410	370
par. 1.1.5 MOTOR POLES	-	2	2
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000
par. 1.6.2 KP GAIN	-	51	40
par. 1.6.3 KI GAIN	-	51	40
par. 1.6.4 VECT MAGNET CURR	%	44.7	63.5
par. 1.6.5 ROTOR COSTANT	Hz	2.9	3
par. 1.6.13.1 KP ID REGULATOR	-	0.95	0.45
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	0.45
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045
par. 1.7.2 STATOR L	mH	80.6	26.9
par. 1.7.3 ROTOR L	mH	80.6	26.9
par. 1.7.4 MUTUAL INDUC	mH	79.2	26.4
par. 1.10.15 ADAPT PERC TORQ.	%	121.8	135.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	59.3	31.2
par. 1.12.1 PWM FREQUENCY	kHz	5	5

G SERIES VECTOR MOTOR	2 POLE

MEC 132XL - Cod. TGN2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	20	26
RATED VOLTAGE	V	407	386
RATED FREQUENCY	Hz	50,9	84
RATED CURRENT	A	40,6	57
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7800	7800
TORQUE at 1500	Nm	63,7	63,7
TORQUE at 3000	Nm	/	49,7
COSf	-	0,879	0,832
EFFICIENCY	%	90,0	92,3
ROTOR RESISTANCE (25°C)	mW	209,6	
STATOR RESISTANCE (25°C)	mW	109,0	
ROTOR IMPEDANCE	mH	56,0	
STATOR IMPEDANCE	mH	56,0	
MUTUAL IMPEDANCE	mH	55,0	
MOMENT OF INERTIA J	Kgm²	0,02541	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 132XL PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/3,5	400/5	400/6
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	40.6	57.8	57.0
par. 1.1.3 MOTOR NOM FREQUE	Hz	50.9	84	
par. 1.1.4 MOTOR NOM VOLTAG	V	407	386	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-	50	50	50
par. 1.6.3 KI GAIN	-	50	50	50
par. 1.6.4 VECT MAGNET CURR	%	58	64	63.8
par. 1.6.5 ROTOR COSTANT	Hz	3.7	2.7	3.1
par. 1.6.13.1 KP ID REGULATOR	-	0.95	045	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	045	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	56.0	18.7	
par. 1.7.3 ROTOR L	mH	56.0	18.7	
par. 1.7.4 MUTUAL INDUC	mH	55.0	18.3	
par. 1.10.15 ADAPT PERC TORQ.	%	141.5	137.8	132.5
par. 1.10.16 ADAPT TORQ. [Nm]	%	59.5	35.4	33.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 160 - Cod. TGP2R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	19,5	25
RATED VOLTAGE	V	408	388
RATED FREQUENCY	Hz	51	84
RATED CURRENT	A	39,5	55,3
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	62,1	62,1
TORQUE at 3000	Nm	/	47.8
COSf	-	0,891	0,852
EFFICIENCY	%	91,2	92,5
ROTOR RESISTANCE (25°C)	mW	184	
STATOR RESISTANCE (25°C)	mW	143,9	
ROTOR IMPEDANCE	mH	62,8	
STATOR IMPEDANCE	mH	62,8	
MUTUAL IMPEDANCE	mH	61,5	
MOMENT OF INERTIA J	Kgm²	0,0396394	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/3,5	400/5	400/6
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	39.5	55.3	
par. 1.1.3 MOTOR NOM FREQUE	Hz	51	84	
par. 1.1.4 MOTOR NOM VOLTAG	V	408	388	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-	50	60	50
par. 1.6.3 KI GAIN	-	50	60	50
par. 1.6.4 VECT MAGNET CURR	%	57.2	66	
par. 1.6.5 ROTOR COSTANT	Hz	3.7	2.5	3.1
par. 1.6.13.1 KP ID REGULATOR	-	0.95	045	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	045	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	62.8	20.9	
par. 1.7.3 ROTOR L	mH	62.8	20.9	
par. 1.7.4 MUTUAL INDUC	mH	61.5	20.5	
par. 1.10.15 ADAPT PERC TORQ.	%	138	137.1	137.8
par. 1.10.16 ADAPT TORQ. [Nm]	%	58.2	35.4	34.5
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 160R - Cod. TGT2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	12,5	19
RATED VOLTAGE	V		
RATED FREQUENCY	Hz		
RATED CURRENT	A		
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	39,8	39,8
TORQUE at 3000	Nm	/	36,3
COSf	-		
EFFICIENCY	%		
ROTOR RESISTANCE (25°C)	mW		
STATOR RESISTANCE (25°C)	mW		
ROTOR IMPEDANCE	mH		
STATOR IMPEDANCE	mH		
MUTUAL IMPEDANCE	mH		
MOMENT OF INERTIA J	Kgm²		
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160R PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/	400/	400/
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A			
par. 1.1.3 MOTOR NOM FREQUE	Hz			
par. 1.1.4 MOTOR NOM VOLTAG	V			
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-			
par. 1.6.3 KI GAIN	-			
par. 1.6.4 VECT MAGNET CURR	%			
par. 1.6.5 ROTOR COSTANT	Hz			
par. 1.6.13.1 KP ID REGULATOR	-			
par. 1.6.13.2 KI ID REGULATOR	-			
par. 1.6.13.3 KP IQ REGULATOR	-			
par. 1.6.13.4 KI IQ REGULATOR	-			
par. 1.7.2 STATOR L	mH			
par. 1.7.3 ROTOR L	mH			
par. 1.7.4 MUTUAL INDUC	mH			
par. 1.10.15 ADAPT PERC TORQ.	%			
par. 1.10.16 ADAPT TORQ. [Nm]	%			
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

MOTORI VETTORIALI SERIE G	2 POLI

MEC 160L - Cod. TGR2R....

MOTOR VERSION		2	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	26,5	32
RATED VOLTAGE	V	381	364
RATED FREQUENCY	Hz	50,8	83,9
RATED CURRENT	A	53,5	73,3
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	84,4	84,4
TORQUE at 3000	Nm	/	61,1
COSf	-	0,879	0,802
EFFICIENCY	%	93,3	91,8
ROTOR RESISTANCE (25°C)	mW	151,7	
STATOR RESISTANCE (25°C)	mW	54,8	
ROTOR IMPEDANCE	mH	41,5	
STATOR IMPEDANCE	mH	41,5	
MUTUAL IMPEDANCE	mH	40,7	
MOMENT OF INERTIA J	Kgm²	0,0539916	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160L PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/5	400/6	400/6,5
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	53.5	72	73.3
.3par. 1.1.3 MOTOR NOM FREQUE	Hz	50.8	83.9	
par. 1.1.4 MOTOR NOM VOLTAG	V	381	364	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-	50	73	60
par. 1.6.3 KI GAIN	-	50	73	60
par. 1.6.4 VECT MAGNET CURR	%	47.5	61.4	
par. 1.6.5 ROTOR COSTANT	Hz	2.7	2	2.5
par. 1.6.13.1 KP ID REGULATOR	-	0.95	045	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	045	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	41.5	13.8	
par. 1.7.3 ROTOR L	mH	41.5	13.8	
par. 1.7.4 MUTUAL INDUC	mH	40.7	13.6	
par. 1.10.15 ADAPT PERC TORQ.	%	119.5	132.1	132.4
par. 1.10.16 ADAPT TORQ. [Nm]	%	56.3	32	31.8
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 160XL - Cod. TGX2R....

MOTOR VERSION		5	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	39	50
RATED VOLTAGE	V	406	398
RATED FREQUENCY	Hz	50,8	84
RATED CURRENT	A	82	106
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	7000	7000
TORQUE at 1500	Nm	124,1	124,1
TORQUE at 3000	Nm	/	95,5
COSf	-	0,906	0,887
EFFICIENCY	%	92,1	93,1
ROTOR RESISTANCE (25°C)	mW	120,8	
STATOR RESISTANCE (25°C)	mW	42,5	
ROTOR IMPEDANCE	mH	37,2	
STATOR IMPEDANCE	mH	37,2	
MUTUAL IMPEDANCE	mH	36,5	
MOMENT OF INERTIA J	Kgm²	0,0729	
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 160XL PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/6,5	400/7	400/8
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	82	106	
par. 1.1.3 MOTOR NOM FREQUE	Hz	50.8	84	
par. 1.1.4 MOTOR NOM VOLTAG	V	406	398	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-	50	67	50
par. 1.6.3 KI GAIN	-	50	67	50
par. 1.6.4 VECT MAGNET CURR	%	31.1	44.5	
par. 1.6.5 ROTOR COSTANT	Hz	2.9	2.1	2.9
par. 1.6.13.1 KP ID REGULATOR	-	0.95	045	
par. 1.6.13.2 KI ID REGULATOR	-	0.1	0.045	
par. 1.6.13.3 KP IQ REGULATOR	-	0.95	045	
par. 1.6.13.4 KI IQ REGULATOR	-	0.1	0.045	
par. 1.7.2 STATOR L	mH	37.2	12.4	
par. 1.7.3 ROTOR L	mH	37.2	12.4	
par. 1.7.4 MUTUAL INDUC	mH	36.5	12.2	
par. 1.10.15 ADAPT PERC TORQ.	%	129	127.5	127.7
par. 1.10.16 ADAPT TORQ. [Nm]	%	55.6	33	31.6
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 180 - Cod. TGO2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW		
RATED VOLTAGE	V		
RATED FREQUENCY	Hz		
RATED CURRENT	A		
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	6000	6000
TORQUE at 1500	Nm		
TORQUE at 3000	Nm	/	153
COSf	-		
EFFICIENCY	%		
ROTOR RESISTANCE (25°C)	mW		
STATOR RESISTANCE (25°C)	mW		
ROTOR IMPEDANCE	mH		
STATOR IMPEDANCE	mH		
MUTUAL IMPEDANCE	mH		
MOMENT OF INERTIA J	Kgm²		
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 180 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/	400/	400/
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A			
par. 1.1.3 MOTOR NOM FREQUE	Hz			
par. 1.1.4 MOTOR NOM VOLTAG	V			
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-			
par. 1.6.3 KI GAIN	-			
par. 1.6.4 VECT MAGNET CURR	%			
par. 1.6.5 ROTOR COSTANT	Hz			
par. 1.6.13.1 KP ID REGULATOR	-			
par. 1.6.13.2 KI ID REGULATOR	-			
par. 1.6.13.3 KP IQ REGULATOR	-			
par. 1.6.13.4 KI IQ REGULATOR	-			
par. 1.7.2 STATOR L	mH			
par. 1.7.3 ROTOR L	mH			
par. 1.7.4 MUTUAL INDUC	mH			
par. 1.10.15 ADAPT PERC TORQ.	%			
par. 1.10.16 ADAPT TORQ. [Nm]	%			
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR	2 POLE

MEC 200 - Cod. TGS2R....

MOTOR VERSION		1	
TECHNICAL CHARACTERISTICS		CONNECTION	
		STAR	DELTA
RATED POWER	kW	65	80
RATED VOLTAGE	V	392	374
RATED FREQUENCY	Hz	50,6	83,7
RATED CURRENT	A	123	165
RATED SPEED	RPM	3000	5000
MAX SPEED	RPM	6000	6000
TORQUE at 1500	Nm	207	207
TORQUE at 3000	Nm	/	153
COSf	-	0,89	0,84
EFFICIENCY	%		
ROTOR RESISTANCE (25°C)	mW		
STATOR RESISTANCE (25°C)	mW		
ROTOR IMPEDANCE	mH		
STATOR IMPEDANCE	mH		
MUTUAL IMPEDANCE	mH		
MOMENT OF INERTIA J	Kgm²		
MAX ENVIRONMENT TEMPERATURE	°C	40	
MIN ENVIRONMENT TEMPERATURE	°C	- 20	
INSULATION CLASS	-	H	
THERMIC PROBE INTERVENTION AT	°C	160	

MEC 200 PAR. SETTING for inverter 400

CONNECTION		STAR (3000 rpm)	DELTA (5000 rpm)	
with INVERTER		400/8	400/8,5	400/9
PARAMETERS	unit			
par. 1.1.1 LINE VOLTAGE	V	400	400	
par. 1.1.2 MOTOR NOM CURRENT	A	123	165	
par. 1.1.3 MOTOR NOM FREQUE	Hz	50.6	83.7	
par. 1.1.4 MOTOR NOM VOLTAG	V	392	374	
par. 1.1.5 MOTOR POLES	-	2	2	
par. 1.1.10 MOTOR LOAD FUNC	-	NO	YES	
par. 1.3.1 MAX MOTOR SPEED	rpm	3000	5000	
par. 1.6.2 KP GAIN	-			
par. 1.6.3 KI GAIN	-			
par. 1.6.4 VECT MAGNET CURR	%			
par. 1.6.5 ROTOR COSTANT	Hz			
par. 1.6.13.1 KP ID REGULATOR	-			
par. 1.6.13.2 KI ID REGULATOR	-			
par. 1.6.13.3 KP IQ REGULATOR	-			
par. 1.6.13.4 KI IQ REGULATOR	-			
par. 1.7.2 STATOR L	mH			
par. 1.7.3 ROTOR L	mH			
par. 1.7.4 MUTUAL INDUC	mH			
par. 1.10.15 ADAPT PERC TORQ.	%			
par. 1.10.16 ADAPT TORQ. [Nm]	%			
par. 1.12.1 PWM FREQUENCY	kHz	5	5	

G SERIES VECTOR MOTOR — CODING

1	2	3	4	5	6	7	8	9	10	11	12	13
T	G	D	4	R	5	M	A	X	F	X	5	X

Example:
THREEPHASE G-SERIES ASYNCHRONOUS MOTOR - MEC 90 - 4 POLE - 230/400VAC 50Hz - ENCODER LD 1000rpm - AXIAL FAN - B5 STANDARD SHAPE - IP54, WITHOUT FILTER.

1 Power supply

T = three-phase

2 Motor Series

G = *G series*
""with squirrel-cage rotor"

3 MEC

	1500rpm	*3000rpm*
A = 63	0.25	0.44
I = 63L	0.5	0.94
B = 71	0.6	1.13
Q = 71L	1.15	1.9
C = 80	1.2	2
W = 80L	1.75	2.9
D = 90	1.9	3.3
V = 90M	2.7	4.3
E = 90L	3.7	6.2
F = 100	3.3	5.8
K = 100L	6.6	10.7
G = 112	4.6	7.7
H = 112L	6.2	9.5
Y = 112X	7.2	11
J = 112XL	8.2	12.5
L = 132	11	16.5
M = 132L	13	17.5
N = 132XL	15	20
P = 160	19	28.5
T = 160R	10	16
R = 160L	22.5	33.7
X = 160XL	29.5	44
O = 180	37	54
S = 200	55	75

4 Pole number

2 = 2 pole **4** = 4 pole
6 = 6 pole **8** = 8 pole

5 Motor Voltage

Three-phase supply
R = 230/400 **K** = 125/220
V = 400/690 **V** = 400/690
T = 265/460 **N** = 230 **P** = 400

6 Hertz

5 = 50 Hz
6 = 60 Hz

7 Transducer

G = encoder LD 512 ppr without zero
I = encoder LD 900 ppr without zero
K = encoder LD 2048 ppr 5V with zero
L = encoder LD 500 ppr without zero
M = encoder LD 1000 ppr without zero
N = encoder LD 1024 ppr without zero
O = encoder LD 1024 ppr 5V with zero
P = encoder LD 2000 ppr without zero
Q = encoder LD 1024 ppr with zero
R = encoder LD 2000 ppr with zero
S = encoder LD 2000 ppr 5V with zero
T = encoder LD 1000 ppr with zero
U = encoder LD 750 ppr without zero
V = encoder LD 1000 ppr 5V without zero
X = no transducer
Y = encoder PP 1024 ppr with zero
W = encoder LD 1024 ppr 5V without zero
Z = encoder PP 74 ppr with zero

8 Fan type and accessories

A = axial
B = axial + cover
C = normal scroll
D = axial 3 phase
G = increased scroll
H = mechanically self-ventilated
X = fanless

9 Brake type and accessories

M = 24Vdc spring brake
L = 24Vdc spring brake + unlocking lever
A = increased spring brake
B = increased spring brake + unlocking lever
P = 24Vdc rear spring brake
X = brakeless

10 Motor shape

F = B5 standard
Z = B3 standard
S = B3/B5 standard
R = B5 reduced shaft and flange
G = B5 standard shaft and reduced flange
H = B5 reduced shaft and standard flange
B = B3 reduced shaft
L = B3/B5 reduced shaft and flange
M = B3/B5 standard shaft and reduced flange
P = B3/B5 reduced shaft and standard flange
A = B5 increased shaft and reduced flange

11 Shape peculiarity

X = none
S = left terminal board
I = external encoder connector
L = polished flange
C = short back

12 Motor protection degree

5 = IP 54
6 = IP 54 fanless
7 = IP 55
8 = IP 56
9 = IP 65

13 Free position for further information

X = no further informations

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Ultima Modifica 13/05/24

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