Three Phase Synchronous Generators

160 - 710 FRAME SIZES
INDUSTRIAL / MARINE APPLICATIONS

FKI Energy Technology



MarelliGenerators®
Innovation and technology since 1891

SIN.CT.024.9 GB

FKI Energy Technology

GENERATING SATISFACTION

MarelliGenerators is a division of Marelli Motori SpA, an international manufacturer of electrical machines.
MarelliGenerators offers a complete selection of low and medium voltage three-phase synchronous generators for continuous prime power and stand-by power applications. Whatever your needs, our qualified engineers will offer you the best solutions to suit your requirements.
The high efficiency, life-long reliability and in accompliance with the international standards give MarelliGenerators the right to be a worldwide leader.

APPLICATION FIELDS

MarelliGenerators offers the best technical solutions for the applications you need.
The main application fields are: general industry, prime power, cogeneration, UPS, marine, petrolchemical and hydroelectric.

RELIABILITY

- Long life endurance of electrical components and housing.
- Generators are impregnated with high-grade resin by a VPI process and an additional protection against tough environmental conditions.
- Large security factors to ensure reliability under difficult operating conditions.

PERFORMANCE

- Active parts are designed by using the latest technologies and the best materials available to guarantee high efficiency values.

SAFETY

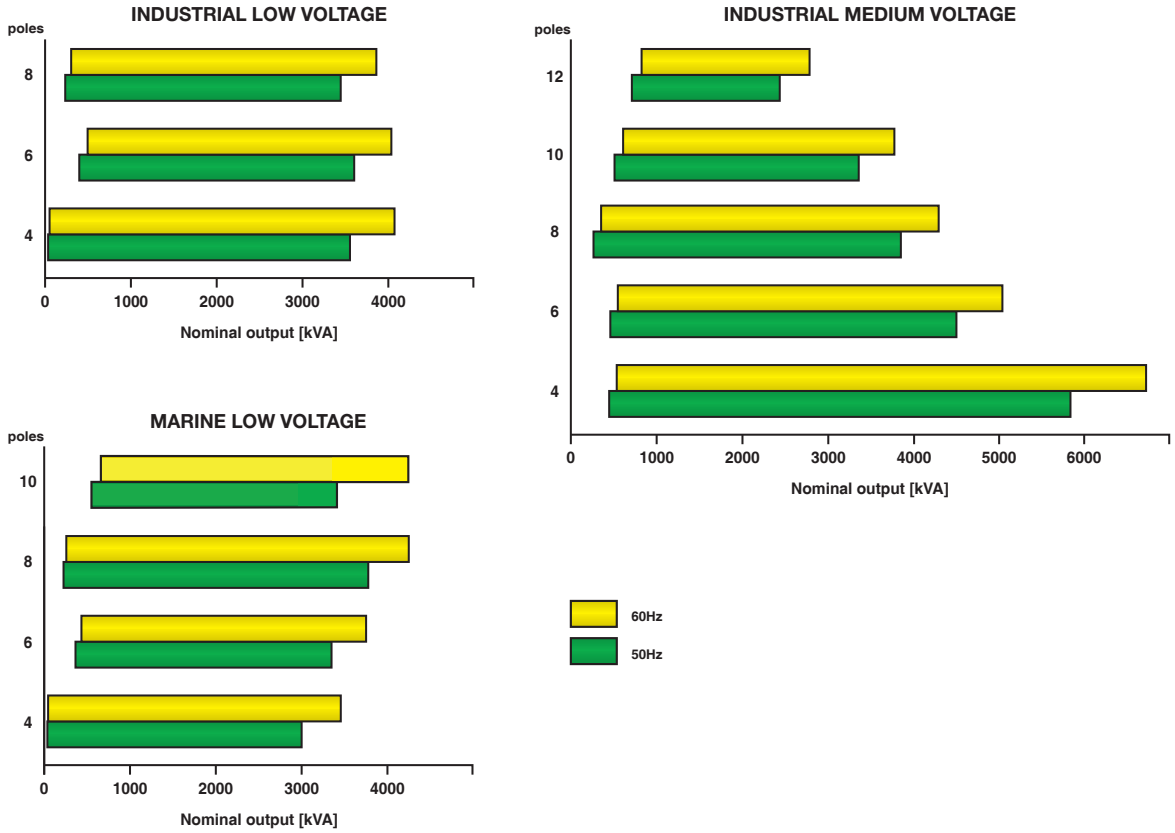
- Anti-condensation heaters are available for all frame sizes.
- Wide range of sensors to monitor the temperature of the stator winding and the bearings.
- Electronic equipment is available for real-time and remote monitoring.

TOTALLY CUSTOMISABLE

All generators are completely customisable following to your requests.

- Nominal voltage from 380 to 6.600 Volts.
- Polarities not mentioned in the following pages are available on request.
- Degree of protection up to IP 55, installing a heat exchanger.
- Auxiliary and neutral point terminal boxes.
- Single and double bearings solutions.
- Ball, roller or sleeve bearings are available.
- Equipped for vibration sensors.
- Three on-board neutral point current transformers (CT) are available both with either single or double core.

PERFORMANCE ENVELOPE



TECHNICAL INFORMATION

STANDARDS

MarelliGenerators are designed in compliance with: IEC 60034-1, CEI EN 60034-1, BS 4999-5000, VDE 0530, NF 51-100, 111, OVE M-10, NEMA MG 1.22. UL1446, 1004B is available on request. MarelliGenerators bear the “CE” mark.

VOLTAGE AND FREQUENCY

The generators can operate at 50 and 60 Hz. Generators can be provided with special voltages, connections and for operation at 400 Hz on request.

Frame Size	Connection	Voltage at 50 Hz [V]	Voltage at 60 Hz [V]
160 - 355 MA	Series star	380 - 440	380 - 480
	Parallel star	190 - 220	190 - 240
	Series delta	220 - 254	220 - 277
355 MB - 500	Star	380 - 415	416 - 480
	Delta	220 - 240	240 - 277
	Star (medium voltage)	3.000 - 6.600	3.000 - 6.600
560 - 710	Star	380 - 415	440 - 480
	Star (medium voltage)	3.000 - 6.600	3.000 - 6.600

EXCITATION SYSTEM

The generators are self-exciting, by means of a brushless type excitation system.
The voltage is maintained within ± 0,5% of the nominal value in steady state condition with a balanced and non distorting load.

Auxiliary winding

The excitation system of generators from frame sizes 200 to 450 are fed by an auxiliary winding which gives a better response to the variation in loads and sustains the power supply in the case of a short-circuit. Auxiliary winding on the 160 frame is available on request.

Permanent Magnet Generators (PMG)

Generators from frame sizes 225 to 560 can be supplied with a Permanent Magnet Generator (PMG) if required, which gives an independent supply to the excitation system. PMG is advisable for use with generators in particular applications such as unbalanced loads and distorting loads.

Manual voltage regulation

Available within ± 5% of the rated value by means of a potentiometer placed inside the voltage regulator. A remote voltage setting is possible by means of an external potentiometer, which can be supplied on request.

Over-excitation protection

Generators from frame sizes 160 to 450 are supplied with adjustable over-excitation protection which will protect the alternator in the event of over-excitation when combined with an external protection system.

Automatic Voltage Regulator (AVR)		ANALOGIC					DIGITAL*
		M16FA655A – MARK V	M40FA640A – MARK I	M40FA610A – MGC I	M63FA310A – MGC II	M40FA644A – MARK X	M71FA300 – MEC 100
Generator frame size	Standard	160 ÷ 225	250 ÷ 450	500 ÷ 560	630 ÷ 710		
	On request	250	160 ÷ 225 and 500 ÷ 630			225 ÷ 560	400 ÷ 710
AVR supply		Auxiliary winding, mains				PMG	Auxiliary winding, mains, PMG
Voltage sensing		Single phase	Three phase	Single phase		Three phase	
Voltage remote control		Arrangement					
Radio interference suppressor		Internal					Arrangement for external filter
Over-excitation device			Arrangement for VARICOMP				
Parallel operation with the mains			Arrangement for external device				Internal
Parallel operation with similar generators			Arrangement				Internal
Standard protections		Over-excitation				**Over-excitation**	Field over-current Field over-voltage Generator over/under voltage Generator over-current Loss of sensing
Limiters		Underfrequency					Underfrequency Over/under-excitation
Functions			Auxiliary inputs				PC interface Soft start Auxiliary inputs Contact inputs

* Other digital regulators available on request

FKI Energy Technology

WINDINGS

Generators from frame sizes 160 to 500 for industrial application are supplied with 2/3 pitch winding to reduce the voltage harmonic content in applications with non-linear loads. The no-load voltage waveform is sinusoidal with a residual harmonic ≤ 2%. Total Harmonic Distortion (THD) ≤ 2%.

TELEPHONE INTERFERENCE

The Telephonic Harmonic Factor (THF) is less than 2% as defined by IEC 60034-1.

RADIO INTERFERENCE

Radio interference conforms to Class B Group 1 as defined by EN55011.

THREE PHASE SHORT CIRCUIT CURRENT

Generators with auxiliary windings or PMG ensure a three phase short-circuit current (Icc) higher than 3 times the rated current (In): Icc > 3 In.
Generators from 500 to 710 frame size are supplied with an overexcitation device VARICOMP which ensures a three phase short circuit current higher than 3 times the rated current.

OVERLOADS

The following overloads are allowed (only for continuous duty): 10% for 1 hour, 15% for 10 minutes, 30% for 4 minutes, 50% for 2 minutes.
These overloads must be occasional and followed by at least one hour of running at nominal load or less.

OPERATING CONDITIONS

Single phase operation

Three phase (12-wire) wound generators can be reconnected and de-rated to 66% for single phase operation (with a zig-zag connection).
Otherwise generators with dedicated (4-wire) single phase windings can be supplied on request.

Parallel operation

All generators are provided with a largely sized damper cage and are suitable for parallel operation with other generators, when equipped with the paralleling unit. A power factor regulator is available on request.

No-load operation at reduced speed

All regulators work to reduce the excitation current in order to protect the excitation system when the generator is being used at reduced speed.

Transient ratings

The voltage drop due to the application of full load at 0,8 power factor inductive on industrial 160 - 400 frame size generators varies between 16 and 20% of the rated voltage: the output voltage recovers to within 3% of the rated value in less than 0,3 seconds.

Altitude

The rated outputs refer to installation up to 1.000 m a.s.l.
Above this level the following derating factors must be applied.

Altitude (m asl)	< 1.000	< 1.500	< 2.000	< 2.500	< 3.000
K Factor	1,00	0,96	0,93	0,90	0,86

Ambient temperature

The rated outputs given in this catalogue are based on a maximum ambient temperature of 40 °C.
When operating at different ambient temperatures the output rating can be obtained by applying the factors as in the following table.

Ambient Temperature [°C]	30	35	40	45	50	55
K Factor	1,04	1,00	1,00	0,96	0,93	0,90

Power factor

The nominal power factor is 0,8 lagging.
For different power factor values the following derating factors must be applied.

Power Factor	1,0	0,8	0,7	0,6	0,5	0,3	0
K Factor	1,00	1,00	0,93	0,88	0,84	0,82	0,80

INSULATION, IMPREGNATION AND PROTECTIVE TREATMENT OF WINDING

Class H insulation system. The generators are impregnated with high grade resin, using the latest technologies (VPI).
A further protective treatment is applied on the whole range, making the generators suitable for tough environmental conditions.
Special degrees of protection and tropicalisation are available on request.

PROTECTION DEGREE

The standard protection degree is IP 23. Generators can be supplied with protection degree IP 55 on request.
Higher protection degrees are available for frame sizes 250 to 710 through the application of air-to-air or air-to-water heat exchangers.

VENTILATION AND DIRECTION OF ROTATION

Generators are axially self-cooled and can run in both directions of rotation.
Air inlet is:

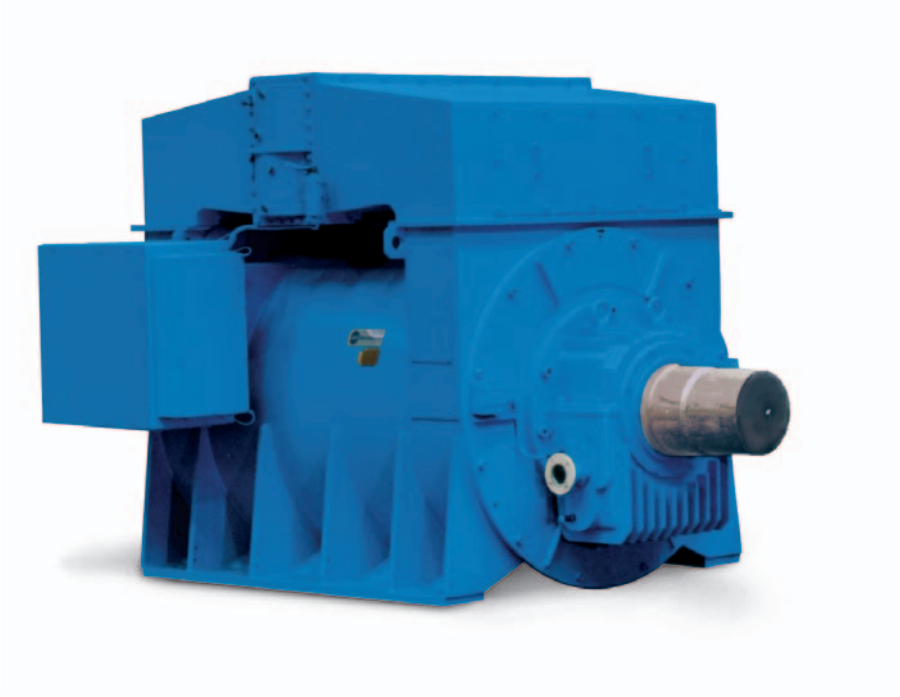
- Radial - Frame size 160.
- Advanced axial + radial - Frame sizes 200 ÷ 355.
- Axial + radial - Frame sizes 400 ÷ 710.

ROTOR BALANCING

Rotors are dynamically balanced with a half key applied to the shaft extension in accordance with IEC 60034 - 14 to vibration grade normal (N) in standard configuration. Generators can be supplied with reduced (R) or special (S) vibration levels on request.

BEARINGS AND OVERSPEED

Generously oversized roller bearings. The permissible overspeed is 1,5 times the rated speed (referred to 50 Hz).
Sleeve bearings from 400 to 710 frame sizes are available on request.



FKI Energy Technology

INDUSTRIAL APPLICATION / LOW VOLTAGE

Type	Leads	kVA rating @ Temperature rise / Ambient temp. [°C]				Efficiency	kVA rating @ Temperature rise / Ambient temp. [°C]				Efficiency	Inertia	Weight
		Continuous duty		Stand-by		125 / 40 pf = 0,8 4/4 [%]	Continuous duty		Stand-by		125 / 40 pf = 0,8 4/4 [%]	B3 Approx. [kgm²]	Approx. [kg]
		125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	163 / 27	150 / 40		125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	163 / 27	150 / 40			
4 pole		**400V 50Hz - 1.500 min⁻¹**					**480V 60Hz - 1.800 min⁻¹**						
MJB 160 SA4	12	17,0	15,6	18,7	18,0	85,6	21,4	19,6	23,5	22,7	86,4	0,109	120
160 SB4	12	20,0	18,3	22,0	21,2	87,4	24,7	22,6	27,2	26,2	88,2	0,124	130
160 SC4	12	23,0	21,1	25,3	24,4	87,5	29,9	27,4	32,9	31,7	88,3	0,135	140
160 MA4	12	28,0	25,7	30,8	29,7	88,2	34,2	31,4	37,6	36,3	89,2	0,160	165
160 MB4	12	32,0	29,3	35,2	33,9	88,3	40,0	36,7	44,0	42,4	89,1	0,170	175
200 SA4	12	42,0	38,5	46,0	44,5	88,5	51,0	46,5	56,0	54,0	89,5	0,275	215
200 SB4	12	48,0	44,0	53,0	51,0	88,7	59,5	54,5	65,5	63,0	89,3	0,301	220
200 MA4	12	62,0	57,0	68,0	65,5	90,1	76,0	69,5	83,5	80,5	90,7	0,361	260
200 MB4	12	72,0	66,0	80,0	76,5	90,5	87,0	79,5	95,5	92,0	90,9	0,426	300
225 SA4	12	85	78	94	90	91,0	108	99	118	114	91,5	0,632	345
225 SB4	12	92	84	101	98	91,5	114	104	125	120	92,0	0,698	350
225 MA4	12	105	96	116	111	91,8	131	120	144	139	92,6	0,789	390
225 LA4	12	132	121	145	140	92,2	158	145	174	168	93,0	0,924	420
250 MA4	12	165	150	180	175	92,9	205	190	225	215	93,6	1,41	530
250 MB4	12	185	170	205	195	93,0	230	210	255	245	93,6	1,66	590
250 LA4	12	220	200	240	235	93,2	270	245	295	285	93,9	1,89	660
250 LB4	12	250	230	275	265	93,4	300	275	330	320	93,9	2,06	710
315 SA4	12	300	275	330	320	93,1	370	340	405	390	93,8	3,66	830
315 SB4	12	350	320	385	370	93,4	425	390	470	450	94,0	4,25	920
315 MA4	12	410	375	450	435	93,7	500	460	550	530	94,2	4,80	1060
315 MB4	12	450	410	500	475	94,0	550	505	605	585	94,8	5,68	1200
355 SA4	12	510	465	560	540	94,0	625	575	690	665	94,5	7,97	1250
355 SB4	12	570	520	625	605	94,6	695	635	765	735	95,1	9,29	1550
355 MA4	12	680	625	750	720	94,7	825	755	910	875	95,1	11,69	1800
355 MB4	6	800	735	880	850	95,0	960	880	1055	1020	95,3	13,12	2050
400 MA4	6	930	850	1025	985	95,2	1175	1075	1295	1245	95,7	16,3	2250
400 MB4	6	1050	960	1155	1115	95,3	1320	1210	1450	1400	95,7	17,0	2300
400 LA4	6	1150	1055	1265	1220	95,6	1420	1300	1560	1505	96,0	19,3	2550
400 LB4	6	1300	1190	1430	1380	95,8	1625	1490	1790	1725	96,3	22,5	2800
450 MB4	6	1500	1375	1650	1590	95,9	1800	1650	1980	1910	96,3	29,0	3200
450 LA4	6	1650	1510	1815	1750	96,0	1980	1815	2180	2100	96,3	34,0	3600
450 LB4	6	1850	1695	2035	1960	96,2	2220	2035	2440	2355	96,4	38,0	4000
500 SC4	6	1930	1770	2080	2045	96,1	2315	2120	2500	2450	96,5	46,7	4000
500 MB4	6	2200	2015	2370	2330	96,2	2635	2415	2845	2790	96,5	52,5	4400
500 LA4	6	2500	2290	2700	2650	96,4	3000	2750	3240	3180	96,7	61,5	5100
560 MA4*	6	2600	2385	on request	on request	96,4	2990	2740	on request	on request	96,5	83	5200
560 LA4*	6	3100	2840	on request	on request	96,5	3565	3265	on request	on request	96,6	95	5700
630 SA4*	6	3000	2750	on request	on request	96,2	3450	3160	on request	on request	96,5	117	6350
630 MA4*	6	3250	2980	on request	on request	96,4	3735	3420	on request	on request	96,7	140	7000
630 LA4*	6	3550	3250	on request	on request	96,5	4080	3740	on request	on request	96,8	158	7800

Type	Leads	kVA rating @ Temp. rise / Ambient temp. [°C]		Efficiency	kVA rating @ Temp. rise /Ambient temp. [°C]		Efficiency	Inertia	Weight
		Continuous duty		125 / 40 pf = 0,8 4/4 [%]	Continuous duty		125 / 40 pf = 0,8 4/4 [%]	B3 Approx. [kgm²]	Approx. [kg]
		125 / 40 ΔT cl. H	105 / 40 ΔT cl. F		125 / 40 ΔT cl. H	105 / 40 ΔT cl. F			
6 pole		**400V 50Hz - 1.000 min⁻¹**			**480V 60Hz - 1.200 min⁻¹**				
MJB 400 SA6	6	400	365	92,6	500	460	93,0	11,8	1450
400 SB6	6	450	410	92,9	565	520	93,4	14,1	1600
400 SC6	6	500	460	93,6	625	575	94,0	16,8	1800
400 MA6	6	620	570	94,0	775	710	94,4	17,9	2200
400 MB6	6	700	640	94,2	875	800	94,6	19,4	2260
400 LA6	6	800	735	94,5	1000	915	94,9	20,9	2530
400 LB6	6	970	890	94,7	1215	1115	95,1	24,2	2750
500 SA6	6	1050	960	94,5	1315	1205	95,2	50,5	3200
500 SC6	6	1330	1220	94,9	1665	1525	95,6	64,7	3800
500 MB6	6	1600	1465	95,1	2000	1835	95,8	73,6	4400
500 LA6	6	1870	1715	95,3	2340	2145	96,0	88,9	5100
560 MA6	6	1930	1770	96,0	2200	2015	96,0	115	5200
560 LA6	6	2300	2110	96,2	2645	2425	96,2	135	5700
630 SC6	6	2050	1880	95,5	2360	2160	96,0	170	6200
630 MA6	6	2450	2250	95,8	2820	2580	96,2	190	6900
630 LA6*	6	2900	2660	96,0	3340	3060	96,4	230	7500
710 SC6*	6	3100	2840	on request	3470	3180	on request		
710 MA6*	6	3600	3300	on request	4030	3690	on request		
8 pole		**400V 50Hz - 750 min⁻¹**			**480V 60Hz - 900 min⁻¹**				
MJB 400 SA8	6	240	220	91,5	300	275	92,0	13,5	1450
400 SB8	6	310	285	92,0	400	365	92,5	16,2	1600
400 SC8	6	360	330	92,3	450	410	92,8	19,1	1800
400 MA8	6	430	395	92,5	540	495	93,0	20,6	2200
400 MB8	6	510	465	93,0	640	585	93,5	22,4	2260
400 LA8	6	600	550	93,2	750	685	93,7	24,1	2530
400 LB8	6	740	680	93,5	925	850	94,0	25,4	2750
500 SA8	6	820	750	94,5	1025	940	95,1	55,1	3200
500 SC8	6	1020	935	95,0	1275	1170	95,5	74,2	3800
500 MB8	6	1270	1165	95,1	1590	1455	95,6	82,2	4400
500 LA8	6	1500	1375	95,2	1875	1720	95,9	95,0	5100
560 MA8	6	1510	1385	95,6	1735	1590	95,6	130	5200
560 LA8	6	1800	1650	95,9	2070	1895	95,9	155	5700
630 SC8	6	1550	1420	95,1	1780	1630	95,9	160	7100
630 MA8	6	1850	1700	95,4	2130	1950	96,2	190	7500
630 LA8	6	2450	2250	96,1	2820	2580	96,5	240	8200
710 SC8*	6	2750	2520	on request	3080	2820	on request		
710 MA8*	6	3200	2930	on request	3580	3280	on request		
710 MB8*	6	3450	3160	on request	3860	3540	on request		

*: 690 V recommended

Ratings refer to the following conditions: balanced non-deforming load, altitude below 1.000 m asl, minimun power factor 0,8.

10-18 POLE GENERATORS AVAILABLE ON REQUEST

MARINE APPLICATION / LOW VOLTAGE

Type	Leads	kVA rating @ Temperature rise / Ambient temp. [°C] Continuous duty 95 / 50 ΔT cl. F	70 / 50 ΔT cl. B	Air to water exchanger 95 / 50 ΔT cl. F	Efficiency 95 / 50 pf = 0,8 4/4 [%]	kVA rating @ Temperature rise / Ambient temp. [°C] Continuous duty 95 / 50 ΔT cl. F	70 / 50 ΔT cl. B	Air to water exchanger 95 / 50 ΔT cl. F	Efficiency 95 / 50 pf = 0,8 4/4 [%]	Inertia B3 Approx. [kgm²]	Weight Approx. [kg]
4 pole		**400V 50Hz - 1.500 min-1**				**450V 60Hz - 1.800 min-1**					
MJBM 160 SA4	12	14,8	12,7	-	80,9	17,6	15,1	-	81,4	0,109	120
160 SB4	12	17,4	15,0	-	82,3	20,5	17,6	-	82,5	0,124	130
160 SC4	12	20,1	17,2	-	83,9	24,1	20,7	-	83,9	0,135	140
160 MA4	12	24,4	21,0	-	85,5	28,9	24,8	-	86,0	0,160	165
160 MB4	12	27,9	23,9	-	86,1	33,5	28,7	-	86,7	0,170	175
200 SA4	12	36,5	31,5	-	86,0	44,5	38,0	-	86,7	0,275	215
200 SB4	12	42,0	36,0	-	87,2	52,0	44,5	-	87,3	0,301	220
200 MA4	12	54,0	46,5	-	88,3	64,0	55,0	-	88,4	0,361	260
200 MB4	12	63,0	54,0	-	89,5	76,0	65,0	-	89,6	0,426	300
225 SA4	12	74	64	-	89,0	91	78	-	89,2	0,632	345
225 SB4	12	80	69	-	89,4	99	85	-	89,5	0,698	350
225 MA4	12	92	79	-	90,2	112	96	-	90,4	0,802	390
225 LA4	12	115	99	-	91,2	136	117	-	91,3	0,924	420
250 MA4	12	145	125	130	91,8	165	140	150	92,3	1,13	530
250 MB4	12	160	135	145	92,1	190	165	170	92,5	1,30	590
250 LA4	12	190	165	170	92,3	220	190	200	92,7	1,47	660
250 LB4	12	220	190	200	92,6	245	210	220	92,8	1,77	710
315 SA4	12	260	225	235	92,0	310	265	280	92,6	3,66	830
315 SB4	12	305	260	275	92,5	355	305	320	93,2	4,25	920
315 MA4	12	355	305	320	93,1	420	360	380	93,7	4,80	1060
315 MB4	12	390	335	350	93,5	460	395	415	94,2	5,68	1200
355 SA4	12	445	380	400	93,6	515	440	465	94,0	7,97	1250
355 SB4	12	495	425	445	93,9	590	505	530	94,5	9,29	1550
355 MA4	12	595	510	535	94,5	690	590	620	94,9	11,69	1800
355 MB4	6	695	595	625	94,8	815	700	735	95,1	13,12	2050
400 MA4	6	810	695	730	94,8	975	835	880	95,0	16,3	2250
400 MB4	6	915	785	825	95,2	1090	935	980	95,4	17,0	2300
400 LA4	6	1005	865	905	95,3	1205	1035	1085	95,6	19,3	2550
400 LB4	6	1135	975	1020	95,6	1345	1155	1210	95,8	22,5	2800
450 MB4	6	1310	1120	1180	95,9	1505	1345	1355	96,4	29,0	3200
450 LA4	6	1440	1235	1295	96,0	1655	1480	1490	96,4	34,0	3600
450 LB4	6	1615	1385	1455	96,2	1855	1660	1670	96,5	38,0	4000
500 SC4	6	1680	1445	1515	95,7	1940	1665	1745	95,9	46,7	4000
500 MB4	6	1920	1650	1730	95,9	2210	1895	1990	96,1	52,5	4400
500 LA4	6	2180	1870	1960	96,1	2570	2205	2315	96,3	61,5	5100
560 MA4	6	2405	2065	2165	96,3	2700	2320	2430	96,3	83	5200
560 LA4*	6	2865	2460	2580	96,5	3220	2765	2900	96,5	95	5700
630 SA4*	6	2770	2380	2490	96,3	3190	2740	2870	96,4	117	6350
630 MA4*	6	3000	2580	2700	96,5	3450	2960	3110	96,6	140	7000
6 pole		**400V 50Hz - 1.000 min-1**				**450V 60Hz - 1.200 min-1**					
MJBM 400 SA6	6	350	300	315	92,7	415	355	375	92,9	11,8	1450
400 SB6	6	390	335	350	93,0	465	400	420	93,3	14,1	1600
400 SC6	6	435	375	390	93,7	515	440	465	93,9	16,8	1800
400 MA6	6	540	465	485	94,1	640	550	575	94,3	17,9	2200
400 MB6	6	610	525	550	94,3	725	620	655	94,5	19,4	2260
400 LA6	6	695	595	625	94,6	825	710	745	94,8	20,9	2530
400 LB6	6	845	725	760	94,8	1000	860	900	95,0	24,2	2750
500 SA6	6	915	785	825	94,6	1085	930	975	95,1	50,5	3200
500 SC6	6	1160	995	1045	95,0	1375	1180	1240	95,5	64,7	3800
500 MB6	6	1395	1195	1255	95,2	1655	1420	1490	95,7	73,6	4400
500 LA6	6	1630	1400	1465	95,4	1930	1655	1735	95,9	88,9	5100
560 MA6	6	1785	1530	1605	96,0	2035	1745	1830	96,0	115	5200
560 LA6	6	2125	1825	1915	96,2	2445	2100	2200	96,2	135	5700
630 SC6	6	1890	1620	1700	95,7	2180	1870	1960	96,3	170	7000
630 MA6	6	2260	1940	2030	95,7	2610	2240	2350	96,3	190	7500
630 LA6	6	2680	2300	2410	96,5	3090	2650	2780	96,8	230	8100
710 SC6*	6	2860	2460	2570	96,0	3210	2760	2890	96,3	on request	
710 MA6*	6	3330	2860	3000	96,7	3720	3190	3350	96,7	on request	
8 pole		**400V 50Hz - 750 min-1**				**450V 60Hz - 900 min-1**					
MJBM 400 SA8	6	210	180	190	91,6	250	215	225	91,9	13,5	1450
400 SB8	6	270	230	245	92,1	330	285	295	92,4	16,2	1600
400 SC8	6	315	270	285	92,4	370	320	335	92,7	19,1	1800
400 MA8	6	375	320	340	92,6	445	380	400	92,9	20,6	2200
400 MB8	6	445	380	400	93,1	525	450	475	93,4	22,4	2260
400 LA8	6	525	450	475	93,3	620	530	560	93,6	24,1	2530
400 LB8	6	645	555	580	93,6	765	655	690	93,9	25,4	2750
500 SA8	6	715	615	645	94,6	845	725	760	95,0	55,1	3200
500 SC8	6	890	765	800	95,1	1055	905	950	95,4	74,2	3800
500 MB8	6	1105	950	995	95,2	1310	1125	1180	95,5	82,2	4400
500 LA8	6	1310	1125	1180	95,3	1550	1330	1395	95,8	95,0	5100
560 MA8	6	1395	1195	1255	95,6	1605	1380	1445	95,6	130	5200
560 LA8	6	1665	1430	1500	95,9	1915	1645	1725	95,9	155	5700
630 SC8	6	1430	1230	1290	95,4	1640	1410	1480	96,2	160	7100
630 MA8	6	1710	1470	1540	95,9	1970	1690	1770	96,4	190	7500
630 LA8	6	2260	1940	2030	96,1	2610	2240	2350	96,5	240	8200
710 SC8	6	2540	2180	2290	96,3	2850	2450	2570	96,5	on request	
710 MA8*	6	2960	2540	2660	96,5	3310	2840	2980	96,7	on request	
710 MB8*	6	3190	2740	2870	96,6	3570	3060	3210	96,8	on request	
710 LA8*	6	3780	3240	3400	96,7	4234	3630	3810	96,9	on request	
10 pole		**400V 50Hz - 600 min-1**				**450V 60Hz - 720 min-1**					
MJBM 500 SA10	6	520	445	470	94,0	645	555	580	94,5	57,0	3300
500 SC10	6	650	560	585	94,3	815	700	735	94,7	67,0	3800
500 MB10	6	760	650	685	94,8	915	785	825	95,2	85,0	4500
500 LA10	6	840	720	755	95,1	1055	905	950	95,5	102,0	4900
630 SC10	6	1040	890	940	95,1	1200	1030	1080	95,4	140	7300
630 MA10	6	1240	1060	1120	95,5	1420	1220	1280	95,8	160	7700
630 MB10	6	1460	1250	1310	95,6	1680	1440	1510	95,9	180	7900
630 LA10	6	1520	1300	1370	95,8	1760	1510	1580	96,1	210	8200
710 SC10	6	2140	1840	1930	95,9	2390	2050	2150	96,3	on request	
710 MA10	6	2570	2210	2310	95,9	2880	2470	2590	96,3	on request	
710 MB10*	6	2740	2350	2470	96,4	3070	2640	2760	96,7	on request	
710 LB10*	6	2960	2540	2660	96,4	3315	2850	2980	96,7	on request	

* 690V recommended
Higher output available on request
Ratings refer to the following conditions: balanced non-deforming load, minimum power factor 0,8.

STANDARD TYPE OF CONSTRUCTION

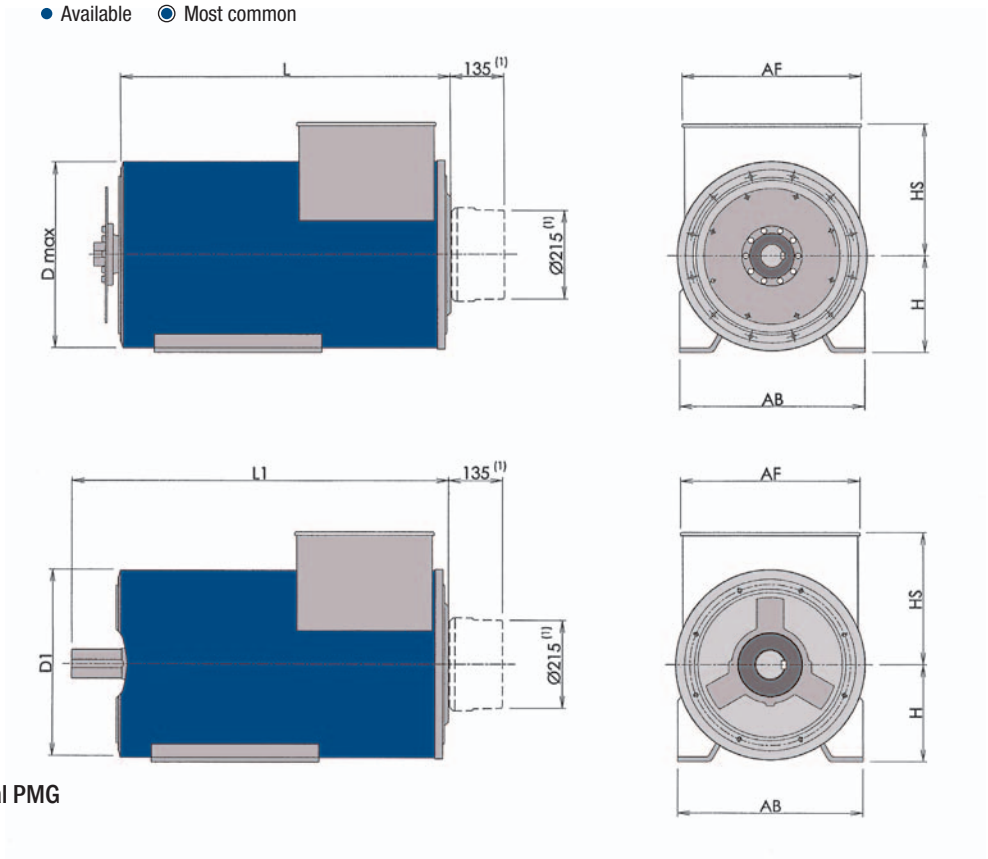
Series	Construction					
	B3	B34	B35	B20/B14	B2*	B16*
MJB	●	●	●	●	●	●
MJH	●	●	●	●	●	●
MJBM	●	●	●	●	●	●
MJR	●	●	●	●	●	●

* Single bearing configuration.

Special configuration and shaft extensions are available on request.

Adaptor	Coupling																															
	MJB 160				MJB 200				MJB 225			MJB 250			MJB 315					MJB 355			MJB 400				MJB 450		MJB 500		MJB 560
	5	4	3	2	4	3	2	1	4	3	2	3	2	1	3	2	1	1/2	0	1	1/2	0	1	1/2	0	00	0	00	0	00	00
6 1/2	●	●																														
7 1/2	●	●																														
8	●	●	●		●	●	●																									
10		●	●	●	●	●	●		●																							
11 1/2			◉			◉	●			◉	●	◉	●	●	●	●	●															
14								●						◉			◉	●	●	◉	●	●	●	●	●			●		●			
16																		●	●			●			●	●	●	●	●	●			
18																			●			●			◉	●	●	●	●	●	●		●
21																										●		●		●			◉

● Available ◉ Most common



(1) Dimensions for optional PMG

OVERALL DIMENSIONS [mm]

Dimension	MJB 160					MJB 200				MJB 225				MJB 250				MJB 315				MJB 355			
	SA	SB	SC	MA	MB	SA	SB	MA	MB	SA	SB	MA	LA	MA	MB	LA	LB	SA	SB	MA	MB	SA	SB	MA	MB
H	160					200				225				250				315				355			
HS	257					323				412				468				555				620			
AB	300					405				446				505				600				670			
AF	328					410				460				502				632				700			
L	587			632		615		710		745		790	845	858		998		945		1.105		1.136		1.366	
D (MAX)	489					552				492				552				711				711			
L1	627			672		685		780		805		850	905	913		1.045		1.052		1.212		1.298		1.528	
D1	354					432				492				532				624				690			

Dimension	MJB 400						MJB 450			MJB 500					MJB 560		MJB 630					MJB 710				
	SA	SB	MA	MB	LA	LB	MB	LA	LB	SA	SC	MA	MB	LA	MA	LA	SA	SB	MA	MB	LA	SA	SC	MA	MB	LA
H	400						450			500					560		630					710				
HS	675						740			867					870		948					1.170				
AB	800						900			1.000					1.100		1.280					1.500				
AF	800						800			900					900		Dimensions are available on request					Dimensions are available on request				
L	1.200		1.400		1.600		1.517	1.777		1.720		1.920		2.020	2.035	2.135										
D (MAX)	883						883			970					1.070											
L1	1.370		1.570		1.770		1.807	1.987		1.970		2.170		2.270	2.305	2.405	2.160		2.360		2.460	2.450		2.650		2.900
D1	780						882			970					1.070		1.200					1.413				

D(max) dimension shown refers to biggest adaptor/coupling.

MarelliGenerators

INDUSTRIAL APPLICATION / MEDIUM VOLTAGE

Type	Leads	kVA rating @ Temperature rise / Ambient temp. [°C] 3.000V Continuous duty 125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	80 / 40 ΔT cl. B	6.000V 125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	80 / 40 ΔT cl. B	kVA rating @ Temperature rise / Ambient temp. [°C] 3.000V Continuous duty 125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	80 / 40 ΔT cl. B	4.160V 125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	80 / 40 ΔT cl. B	6.000V 125 / 40 ΔT cl. H	105 / 40 ΔT cl. F	80 / 40 ΔT cl. B
4 pole		**50Hz - 1.500 min^{-1}**						**60Hz - 1.800 min^{-1}**								
MJH 400 SA4	6	450	415	370	-	-	-	540	500	445	-	-	-	-	-	-
400 MA4	6	650	600	535	600	555	490	780	720	640	750	695	615	720	665	590
400 LA4	6	900	835	740	800	740	655	1080	1000	885	1040	960	850	960	890	785
400 LB4	6	1100	1020	900	1000	925	820	1320	1220	1080	1270	1175	1040	1200	1110	985
450 MB4	6	1050	960	840	975	895	780	1260	1155	1010	1225	1125	980	1170	1070	935
450 LA4	6	1155	1060	925	1075	985	860	1385	1270	1110	1345	1235	1075	1290	1180	1030
450 LB4	6	1295	1185	1035	1205	1105	965	1555	1425	1245	1510	1385	1210	1445	1325	1155
500 MA4	6	1550	1435	1270	1325	1225	1085	1860	1720	1525	1790	1655	1465	1590	1470	1300
500 MB4	6	1850	1710	1515	1550	1435	1270	2220	2055	1820	2135	1975	1750	1860	1720	1520
500 LA4	6	2000	1850	1640	1800	1700	1500	2400	2220	1970	2310	2135	1895	2150	1990	1760
560 MA4	6	2400	2200	1920	2180	2000	1745	2760	2530	2210	2655	2435	2125	2510	2300	2010
560 LA4	6	2730	2500	2180	2475	2270	1980	3135	2875	2510	3015	2765	2415	2850	2610	2280
630 SA4	6	2150	1970	1720	1960	1790	1560	2470	2270	1980	2380	2180	1900	2250	2060	1800
630 MA4	6	2480	2270	1980	2250	2060	1800	2850	2610	2280	2740	2510	2190	2590	2370	2070
630 MB4	6	2800	2560	2240	2550	2330	2040	3220	2950	2580	3100	2840	2480	2930	2680	2340
630 LA4	6	3200	2930	2560	2910	2660	2330	3680	3370	2940	3540	3240	2830	3350	3060	2680
630 LB4	6	3750	3440	3000	3410	3120	2730	4310	3950	3450	4150	3800	3320	3920	3590	3140
710 SC4	6	4400	4030	3520	4000	3660	3200	5060	4630	4050	4870	4460	3890	4600	4210	3680
710 MB4	6	5060	4630	4050	4600	4210	3680	5830	5340	4660	5610	5130	4480	5300	4850	4240
710 LB4	6	5830	5340	4660	5300	4850	4240	6710	6150	5370	6450	5910	5160	6100	5590	4880
6 pole		**50Hz - 1.000 min^{-1}**						**60Hz - 1.200 min^{-1}**								
MJH 400 SA6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
400 MA6	6	460	420	370	-	-	-	550	505	440	-	-	-	-	-	-
400 LA6	6	670	615	535	590	540	470	800	735	640	770	705	615	705	645	565
400 LB6	6	720	660	575	630	575	505	865	795	690	830	760	665	755	690	605
500 SA6	6	820	750	655	710	650	570	985	905	790	945	865	755	850	780	680
500 MA6	6	1010	925	810	880	805	705	1210	1110	970	1165	1070	930	1055	965	845
500 MB6	6	1200	1100	960	1050	960	840	1440	1320	1150	1385	1270	1110	1260	1155	1010
500 LA6	6	1350	1235	1080	1200	1100	960	1620	1485	1295	1560	1430	1250	1440	1320	1150
560 MA6	6	2075	1900	1660	1910	1750	1530	2385	2185	1910	2290	2100	1830	2195	2010	1755
560 LA6	6	2290	2100	1830	2105	1930	1685	2635	2415	2110	2535	2325	2030	2420	2220	1935
630 SA6	6	1600	1470	1280	1450	1330	1160	1840	1690	1470	1770	1620	1420	1670	1530	1340
630 MA6	6	1950	1790	1560	1770	1620	1420	2240	2050	1790	2160	1980	1730	2040	1870	1630
630 MB6	6	2300	2110	1840	2090	1920	1670	2650	2430	2120	2540	2330	2030	2410	2210	1930
630 LA6	6	2430	2230	1940	2210	2030	1770	2790	2560	2230	2680	2460	2140	2540	2330	2030
630 LB6	6	2550	2340	2040	2320	2130	1860	2930	2690	2340	2820	2580	2260	2670	2450	2140
710 SA6	6	2650	2430	2120	2410	2210	1930	2970	2720	2380	2850	2610	2280	2700	2470	2160
710 MA6	6	3550	3250	2840	3230	2960	2580	3980	3650	3180	3820	3500	3060	3620	3320	2900
710 LA6	6	3900	3570	3120	3550	3250	2840	4370	4010	3500	4200	3850	3360	3970	3640	3180
710 LB6	6	4500	4120	3600	4090	3750	3270	5040	4620	4030	4850	4450	3880	4580	4200	3660
8 pole		**50Hz - 750 min^{-1}**						**60Hz - 900 min^{-1}**								
MJH 400 MA8	6	280	255	225	-	-	-	335	305	270	-	-	-	-	-	-
400 LA8	6	480	440	385	415	380	330	575	525	460	555	510	445	500	460	400
400 LB8	6	550	505	440	480	440	385	660	605	530	635	580	510	575	525	460
500 SA8	6	700	640	560	610	560	490	840	770	670	810	740	650	730	670	585
500 MA8	6	850	780	860	740	680	590	1020	935	815	980	900	785	885	810	710
500 MB8	6	1000	915	800	870	795	695	1200	1100	960	1155	1060	925	1045	960	835
500 LA8	6	1150	1055	920	1000	915	800	1380	1265	1105	1325	1215	1060	1200	1100	960
560 MA8	6	1530	1400	1225	1420	1300	1135	1755	1610	1405	1690	1550	1350	1630	1495	1305
560 LA8	6	1690	1550	1350	1570	1440	1255	1945	1785	1555	1870	1715	1495	1805	1655	1445
630 SA8	6	1250	1150	1000	1140	1040	910	1440	1320	1150	1380	1260	1100	1310	1200	1050
630 MA8	6	1400	1280	1120	1270	1160	1020	1610	1480	1290	1550	1420	1240	1460	1340	1170
630 MB8	6	1550	1420	1240	1410	1290	1130	1780	1630	1420	1710	1570	1370	1620	1480	1300
630 LA8	6	1730	1590	1380	1570	1440	1260	1980	1810	1580	1910	1750	1530	1800	1650	1440
630 LB8	6	1900	1740	1520	1730	1590	1380	2190	2010	1750	2100	1920	1680	1990	1820	1590
710 SA8	6	2280	2090	1820	2070	1900	1660	2550	2340	2040	2460	2250	1970	2320	2130	1860
710 MA8	6	3000	2750	2400	2730	2500	2180	3360	3080	2690	3230	2960	2580	3050	2800	2440
710 MB8	6	3400	3120	2720	3090	2830	2470	3810	3490	3050	3660	3350	2930	3460	3170	2770
710 LB8	6	3840	3520	3070	3490	3200	2790	4300	3940	3440	4140	3790	3310	3910	3580	3130
10 pole		**50Hz - 600 min^{-1}**						**60Hz - 720 min^{-1}**								
MJH 500 SA10	6	500	460	400	435	400	350	600	550	480	575	525	460	520	475	415
500 MA10	6	610	560	490	530	485	425	730	670	585	700	640	560	635	580	510
500 MB10	6	720	660	575	630	575	505	865	795	690	830	760	665	750	685	600
500 LA10	6	800	735	640	700	640	560	960	880	770	925	850	740	835	765	670
630 SA10	6	1000	920	800	910	830	730	1150	1050	920	1110	1020	890	1050	960	840
630 MA10	6	1130	1040	900	1020	930	820	1290	1180	1030	1240	1140	990	1180	1080	940
630 MB10	6	1250	1150	1000	1140	1040	910	1440	1320	1150	1380	1260	1100	1310	1200	1050
630 LA10	6	1330	1220	1060	1200	1100	960	1520	1390	1220	1470	1350	1180	1390	1270	1110
630 LB10	6	1530	1400	1220	1390	1270	1110	1760	1610	1410	1690	1550	1350	1600	1470	1280
710 SA10	6	1750	1600	1400	1590	1460	1270	1960	1800	1570	1880	1720	1500	1780	1630	1420
710 MA10	6	2400	2200	1920	2180	2000	1740	2690	2470	2150	2580	2360	2060	2440	2240	1950
710 LA10	6	2730	2500	2180	2480	2270	1980	3060	2800	2450	2940	2690	2350	2780	2550	2220
710 LB10	6	3380	3100	2700	3070	2810	2640	3780	3460	3020	3630	3330	2900	3440	3150	2750
12 pole		**50Hz - 500 min^{-1}**						**60Hz - 600 min^{-1}**								
MJH 630 SA12	6	710	650	570	650	600	520	820	750	660	790	720	630	740	680	590
630 MA12	6	810	740	650	730	670	580	930	850	740	890	820	710	840	770	670
630 MB12	6	900	820	720	820	750	660	1040	950	830	1000	920	800	940	860	750
630 LA12	6	1000	920	800	910	830	730	1150	1050	920	1110	1020	890	1050	960	840
630 LB12	6	1200	1100	960	1090	1000	870	1380	1260	1100	1330	1220	1060	1260	1150	1010
710 SA12	6	1360	1250	1090	1240	1140	990	1560	1430	1250	1500	1370	1200	1420	1300	1140
710 MA12	6	1950	1790	1560	1770	1620	1420	2240	2050	1790	2160	1980	1730	2040	1870	1630
710 LA12	6	2430	2230	1940	2210	2030	1770	2790	2560	2230	2690	2470	2150	2540	2330	2030

- Not available
On request special voltages from 995V to 6.600V.
Ratings refer to the following conditions: balanced non-deforming load, altitude below 1.000 m a.s.l., minimum power factor 0,8.

MarelliGenerators



MarelliMotori®

PART OF THE FKI GROUP OF COMPANIES

www.marellimotori.com

HEADQUARTERS

Marelli Motori S.p.A.
Via Sabbionara, 1
36071 Arzignano (VI) - Italy
Ph. +39 0444 479.711 - Fax +39 0444 479.888
Web: www.marellimotori.com - E-mail: sales@marellimotori.com

ITALIAN OFFICES

MILAN
Tel. +39 02 660.131.66 - Fax +39 02 660.134.83 - E-mail: milan@marellimotori.com

FLORENCE
Tel. +39 055 431.838 - Fax +39 055 433.351 - E-mail: florence@marellimotori.com

OVERSEAS OFFICES

ASIA PACIFIC
FKI Energy Technology AP Sdn Bhd
Lot 7, Jalan Majistret U1/26
Hicom - Glenmarie Industrial Park
40150 Shah Alam
Selangor D.E. - Malaysia
Tel. +60 3 780.537.36 - Fax +60 3 780.396.25 - E-mail: asiapacific@marellimotori.com

CENTRAL EUROPE
Marelli Central Europe GmbH
Heilswannenweg 50
31008 Elze - Germany
Tel. +49 5068 462.400 - Fax +49 5068 462.409 - E-mail: germany@marellimotori.com

UNITED KINGDOM
AMCO Marelli Ltd.
Meadow Lane
Loughborough
Leicester
LE 11 1NB - UK
Tel. +44 1509 615.518 - Fax +44 1509 615.514 - E-mail: uk@marellimotori.com

SOUTH AFRICA
FKI Rotating Machines (Pty) Ltd.
Unit 4
55 Activia Rd. - Activia Park
Elandsfontein, 1406
Gauteng - Republic of South Africa
Tel. +27 11 822.5566 - Fax +27 11 828.8089 - E-mail: southafrica@marellimotori.com

USA
FKI Logistex Automation Inc.
DBA Marelli US Division
1524 Lebanon Road
Danville, KY 40422 - USA
Tel. +1 859 236.6600 - Fax +1 859 236.8877 - E-mail: usa@marellimotori.com

SIN.CT.024.9 GB

MARELLI MOTORI reserves the right to change the design, technical specification and dimensions in order to update or improve its products, without prior notice.