MarelliMotori
Power generation

MJB

Model	MJB
Power	Up to 6.500 kVA
Voltages	Up to 690 V
Frame	160 ± 900
Poles	4, 6, 8, 10 and 12 (over contact MM)
Cooling	IC 01
IP	IP 23. Available up to IP 44 with filters.
Enclosure	ODP - Open Drip Proof
Main Applications	Data center, Emergency, PRP and COP, Stand-by, UPS
Sector	Power generation

Poles	**4 Poles**	**6 Poles**	**8 Poles**	**10 Poles**	**12 Poles**
| kVA | 60 Hz	5.000	5.000	6.500	6.000	5.400

Certificates and testing	
Applicable standards	Generators are designed in compliance with: IEC EN 60034 - 1 BS 4999 - 5000 VDE 0530 NF 51 - 100 NF 51 - 111 OVE M - 10 NEMA MG 1.32 Generators conform to EU rules. UL/CSA certifications available on request. Aderence to ISO 8528 group G preformance classes.
Certificate	Test Certificate supplied with the machine. Material certificates in accordance with EN 10204 : 2001 can be supplied.
Main components	
Housing	Rigid frame, rugged welded steel fabrication (EN 10025 - S235 JR). Frame is provided with side ribs to increase the strength. Marelli Generators for continuous duty operation are designed to meet vibration levels per IEC 60034-14, ISO 10816-1 and BS 5000-3.
Shield	Made of spheroidal graphite cast-iron (EN 1563) or grey cast-iron (EN 1561) up to 630 frame size. Made of structural steel (EN 10025 – S235 JR) above.
Shaft	General data Made in carbon steel and obtained by lamination (EN 10083 – 2 C40 – TN). Shaft is obtained by forging from 290 mm diameter and above. The shaft is tested at the manufacturer in order to check it is defect-free. Shaft design Double bearing generator: cylindrical shaft with key.
Main terminal box	Mounted on top up to 630 frame size. Mounted on side from 710 frame size. Made of formable steels EN 10130.

Fan	Made of aluminum alloy (EN 1706) or structural steel (EN 10025–S235 JR) depending on application requirements.
Construction	
Cooling System	IC 01 as per IEC60034-6
Degree of protection	IP 23 as per IEC60034-5
Mounting	Horizontal - IM 1001 or IM 1101 as per IEC 60034-7. Other mounting available on request.
Technical data	
Stator/Rotor core	Laminated and enamel-insulated on both sides to minimise eddy-current losses
Rotor	Salient pole type. Made by copper flat wire. H class insulated with enamel coating. Winding retaining by pass-through bars of high quality steel. Rotating rectifier: Graetz diode bridge with 6 diodes. Rotors are dynamically balanced with a half key applied to the shaft extension in accordance with IEC 60034-14 to vibration grade normal A. Special vibration level construction are available.

Bearing	General data Single or double antifriction bearing grease lubricated (ball or roller type) or oil lubricated sleeve bearing. The theoretical lifetime of bearings, L10h according to ISO 281/1 standard, of standard horizontal construction generators, without external forces (radial and / or axial) is in excess of 50.000 hours. On request, the lifetime of bearings, L10h can be in excess of 100.000 hours. Locating bearings are on the D end side and floating bearings on the ND end side. Bearing selection Antifriction bearings up to 800 frame size included. Sleeve bearings from 900 frame size included (available for smaller frame sizes). Regreasing system: Up to 250 frame size: D-end bearing is prelubricated with inner bearing cap and without grease nipple ND-end bearing is with shield (2Z) without regreasing system 315 - 355 frame size: D-end bearing is prelubricated with inner bearing cap and without grease nipple ND-end bearing is with shield (2Z) without regreasing system 400 frame size: D-end bearing is fitted with inner bearing cap and with gerase nipple ND-end bearing is prelubricated with inner bearing cap and without grease nipple 450 frame size and above: both bearings are fitted with grease nipple. Bearing insulation ND end bearing can be insulated to prevent any harmful circulating current from passing through the bearing surfaces. Insulated antifriction bearings in standard configuration: 4, 6 poles: insulated ND end bearing from 630 frame size 8 poles: insulated bearing from 400 frame size 10 poles: insulated bearing from 500 frame size All ND end sleeve bearings are insulated as standard.
Impregnation system	Stator and rotor are VPI treated with an unsaturated polyester amide resin which is polymerised in an oven.

Insulation system	Stator: H class insulated with a synthetic enamel (class F standard for generators with H>=800 or form wound form H=400. Class H option with BH technology). Rotor: H class insulated with a synthetic enamel.
Protective treatments	Epoxivinilic and polyacrylic. Total minimum thickness 120 micromillimeters. Epoxivinilic: Epoxy two component products, with vinyl change. Polyacrylic: Two components polyurethane product formulated with unmodified hydroxyl acrylic resin.
Operating conditions	
Overloads	During continuous duty (S1), the following overloads are allowed: 10% for 1 hour 15% for 10 minutes 30% for 4 minutes 50% for 2 minutes These overloads must be occasional and followed by one hour of running at normal load or less.
Parallel operations	All generators are provided with a amply sized damper cage and are suitable for parallel operations with other generators, when equipped with the paralleling unit. A power factor regulator (to work in parallel with the main) is available on request.
Transient ratings	All generators can be designed to meet specific reactance values (x'd and x''d). Values can be confirmed by contacting Marelli Motori.
Three pahse short circuit current	All generators equipped with overboosting device ensure a three phase short circuit current (Icc) higher than 3 times the rated current (In): Icc > 300% In
Radio interference	All generators are equipped with Class B Group 1 radio interference filters as defined by EN 55011.
THD (Total Harmonic Distortion)	The no-load voltage wave form is sinusoidal with THD content less than 2%.

Vibrations

Vibration level is in accordance with ISO 10816. Measurement, evaluation and limits of vibration severity are in accordance with IEC 60034-14.

Auxiliary device

AVR

Automatic voltage regulator mounted on board.

Size	Type
160 - 250	MARK V analog
315 - 450	MEC 20 analog/digital
500 - 560	M40FA610A analog
630 - 710	M63FA310A analog
800 - 900	MEC 100 digital

Digital AVR available for all sizes on request.

Overboosting device

Low Voltage

	Size	Type
Low voltage	160 - 450 (4 poles)	Auxiliary winding
	160 - 450 (>4 poles)	Varicomp
	500 - 710 (all polarities)	Varicomp
	800 - 900	PMG

Space heaters

Heaters installed at ND end side.

Size	Power(W)
400 - 560	400
630 - 710	600
800 - 900	800

RTD-PT100

RTD devices in standard configuration:
1+1 RTD on each phase of stator winding
1 RTD on each bearing
Terminals in auxiliary terminal box.
Other configurations available:
DUPLEX type
RTD for inlet / outlet air

Optional features	
List	Reinforced construction for high linear vibrations flanged shaft for direct coupling with engine flywheel (in case of single bearing solution) neutral point terminals in separate terminal box increase protection degree up to IP 44 lifted feet to couple the generator with engine on existing baseframe redundant rotating rectifier with 12 diodes insulated bearing and earthing brush AVR supplied loose automatic power factor control (analog type) digital AVR MEC100 for frame 400 – 710 (supplied loose) digital AVR MEC100D with diode failure monitoring redundant AVR system excitation/overboosting PMG mounted on generator lubrication system for sleeve bearing other options available on request.