MarelliMotori Marine

B4JH B5JH

Model	B4JH B5JH
Power	Up to 4.000 kW
Voltages	Up to 6.600 V
Frame	355 ± 630
Poles	4, 6, 8 and 10
Cooling	IC 71W
IP	IP 55/ 56
Main applications	Propulsion, thruster, dredge pump, hybrid machine, PTO-PTI system
Other applications	Fi - Fi system
Sector	Marine

Poles	**4 Poles**	**6 Poles**	**8 Poles**	**10 Poles**	**12 Poles**
| kW | 60 Hz	4.000	3.800	2.900		

Certificates and testing	
Certificate	Marine Survey Certificate supplied with the machine. Shaft, housing (propulsion) and exchanger are certified by the Marine Classification Society. Motors are ABS, RRR and DNV type approved.
Main components	
Housing	Rigid frame, rugged welded steel fabrication (EN 10025 - S235 JR). Frame is provided with side ribs to increase the strength. Marelli Motori motors for continuous duty operation are designed to meet vibration levels per IEC 60034-14, ISO 10816-1 and BS 5000-3.
Shield	Made of grey cast-iron (EN 1561 – GJL 200) up to 500 frame size motors. Made of hot-rolled structural steel (EN 10025 – S235 JR) from size 560 and above
Shaft	General data Made in carbon steel (EN 10083 – 2 C40 – TN) up to 450 frame and hotrolled structural steel from 500 frame (EN 10025 – S355 JR). Shaft design Cylindrical shaft with key
Main terminal box	Mounted on top or side (with vertical mounting) and made in cast iron or cold rolled formable steels depending from size.
Internal Fan	Made of aluminium alloy for 450 and 500 frame size. Made of hot-rolled structural steel from frame size 560 and above (EN 10025 – S235 JR).
Heat Echanger	General data Heat exchanger is part of the housing and built on the machine. The material of the frame is carbon steel according to the standard EN 10025-S275JR. Equipped with water leakage detector as standard. Exchanger data Working pressure < 6 bar Test pressure 9 bar Max glycol : 20% Coolant : fresh water only

Construction	
Enclosure	TEWC – Totally Enclosed Water Cooled
Cooling System	IC 71W as per IEC60034-6. 7 : Heat exchanger. The primary coolant is circulated in a closed circuit which is built as integral part of the machine. 1 : Self-circulation. The coolant is moved by a fan mechanically driven by the rotor. W : Coolant. Cooling water must be clean water.
Degree of protection	IP 55 as per IEC60034-5.
Mounting	IM B3, V1 and V10 as per IEC60034-7.
Technical data	
Stator/Rotor core	Laminated and enamel-insulated on both sides to minimise eddy-current losses. The stator winding is made of flat copper or round copper wire depending on the machine size. The completely wound stator pack with housing is thereby impregnated in an epoxy-resin VPI. The subsequent heat treatment hardens the resin.
Rotor	Squirrel cage rotor type. Depending on machine size, the rotor construction is either a solid shaft or welded ribbed shaft. The rotor winding can be either a pressure die cast aluminum or a copper bar construction.

Bearing

General data

Antifriction bearings 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.

Both bearings are fitted with a regreasing system.

The used grease is removed through a valve locked in the outer bearing cover. Sleeve bearings available as an option.

On request special bearings are designed where high radial and axial forces are applied. All configurations are designed to withstand the following marine inclination.

Static		Dynamic	
List	15°	Rolling	±22.5°
Trim	5°	Pitch	±7.5°

Dedicated constructions available for different values.

Impregnation system

Stator and rotor are VPI treated with an unsaturated polyester amide resin which is polymerised in an oven.

Insulation system

Low voltage

Stator: F class insulated with a synthetic enamel.

(H class insulation available on request)

Protective treatments

Marine dedicated protective enamel is applied on the winding.

Optional features

List

Dual/multiple winding configuration
flanged shaft or special shaft end on both sides
increase protection degree up to IP 56
encoder
vibration sensors
special frame design to suite the application
special bearings (sleeve or angular contact bearings)
reinforced winding for VFD operation
insulated bearings design for VFD application
shaft earth brush for VFD application
other options available on request.