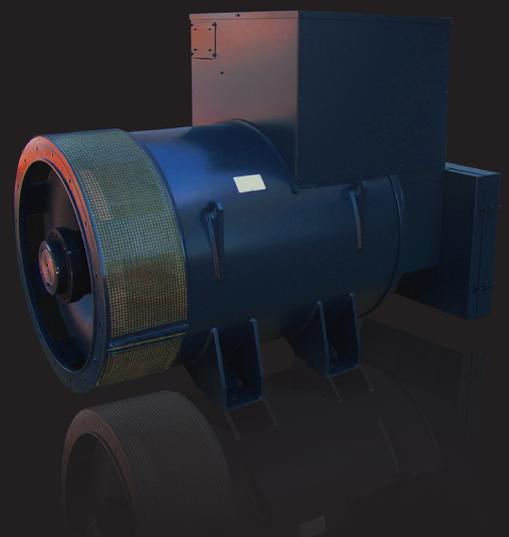




Marine Alternators
up to 2500 kVA 50Hz / 3000kVA 60Hz



Mecc Alte Marine In Depth

Proven Capability

High levels of performance, with the standard alternators filled with performance enhancing features. Supported through an experienced, professional team able to evaluate all tenders and ensure exceptional support both pre and post order. Unique special machines to suit case specific applications are available, for example stainless steel framed, low magnetism machines for naval minesweeper vessels or vertical mounted shaft drive machines. All standard products are extremely versatile and can be adapted to suit even the most demanding applications.

Standards and Certification

The Mecc Alte marine range of alternators are supplied into both essential and non-essential duties, from the very small to the very large vessels. The DNV batch and line approval highlights the company's competence in this market sector. Additional testing and certification can be provided through all major classification societies such as ABS, BV, CCS, DNV, GL, KR, LR, NK, RINA etc.

Exceptional Excitation

The 'MAUX' (Mecc Alte AUXiliary Winding) is used throughout the range of alternators, and has been a proven standard for Mecc Alte in all market sectors. It is a brushless excitation system deriving power from a dedicated auxiliary winding within the main stator. This winding is protected by 4 layers of polyester in addition to the clear varnish and EG43 severe environment protection used in marine applications. Fitted within the main stator, it minimises overall dimensions of the alternator and ensures a compact machine.

This system ensures high levels of performance with compact dimensions, and surpasses the mandatory requirements giving >300% forced current (short circuit maintenance) for 20 seconds – 10 seconds more than the standards require!

Construction

- Rigid steel frames (FeP12)
- Rotors are dynamically balanced with ½ key (ISO 8821), conforms to class G.2.5 (ISO 1940)
- Squirrel damper windings in the rotor for parallel operation
- Only two AVR's (automatic voltage regulators) are used throughout the range ensuring ease of replacement and maximum performance.

Bearings

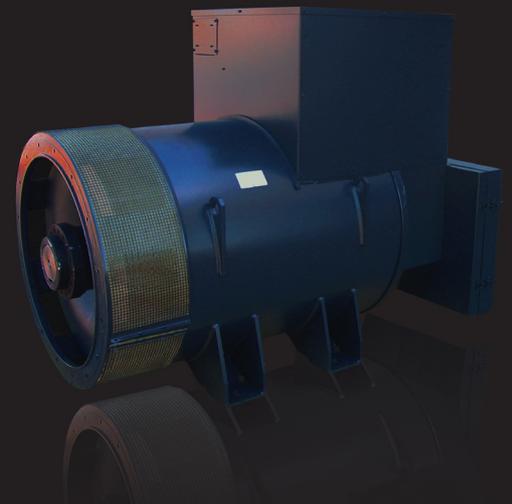
- Sealed for life bearings up to the ECO38 frame
- Regeareasable bearings for ECO40, ECO43 and ECO46

Protection

IP23 with additional protection screen. In addition we also offer IP45 & IP54 protection levels if required.

Insulation and Impregnation

Insulation materials used provide a system insulated to Class H level. Superior processes are employed to add an EG43 compound after insulation over the main and exciter windings to give marine standards of protection. Higher levels such as the black butagiene (rubberised) coating are also available.



Mecc Alte Marine In Depth

Reliability

Standardised components are used with ‘families’ of machines to give very high degrees of interchangeability and reduces levels of spares stock holding on vessels. Lower component count throughout the range, and also within individual machines, has focussed efforts to enhance the reliability of the products. In testimony to this, the reliability prediction according to the military standard MIL-HDBK-217F, was a failure rate of 75,82 fpmh (failures per million hours), 13,189 hours mtbf (mean time between failures).

Minimum Maintenance

The design of the Mecc Alte marine alternators are built with low maintenance in mind. Bearings have up to 40,000 hours life expectancy, and windings, including the auxiliary winding, have high degrees of protection. Where maintenance is necessary, access is very simple (ie no PMG (permanent magnet generator) to remove before replacing and exciter stator. In addition the commonality of parts improves component availability.

Compact Dimensions

Comparing against the competition, the Mecc Alte marine alternators are among the most compact and light alternator packages available. This incredible fact considers machines are among the highest efficiency. This highlights the superior ability of Mecc Alte in the design and production of their alternators.

Accessories

A large number of accessories are available on request. Including:

- Space heaters
- Temperature detectors (thermistors or PT100), for windings and bearings
- Higher degrees of mechanical protection (IP45 or IP54)
- Parallel operation CT’s
- Gland plates (specific to each contract)
- Black butagiene winding protection

Quality Assurance

Products are built in accordance with ISO 9001, accredited by Det Norske Veritas; batch and line production and product approvals also by Det Norske Veritas; approvals by Canadian Standards Authority (CSA) and also Underwriters Laboratory (UL).

Designs are executed according to the most common specifications such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No.14-95 – No.100-95.

Regulators

Simplicity and effectiveness are key in the area of the ‘MAUX’ control system. Power from the auxiliary winding through to the rectifier and brushless excitation system, Mecc Alte use the highly reliable SR7 and UVR6 AVR’s (Automatic Voltage Regulators). Simple in that either may work on any machine in the Mecc Alte range, and even extending the ‘Universal’ UVR6 to work on any other manufacturers self-excited alternators! Effective because voltage control up to +/-0.5% is available (UVR6 HP) and that both are available for parallel operation.



Mecc Alte Marine In Depth

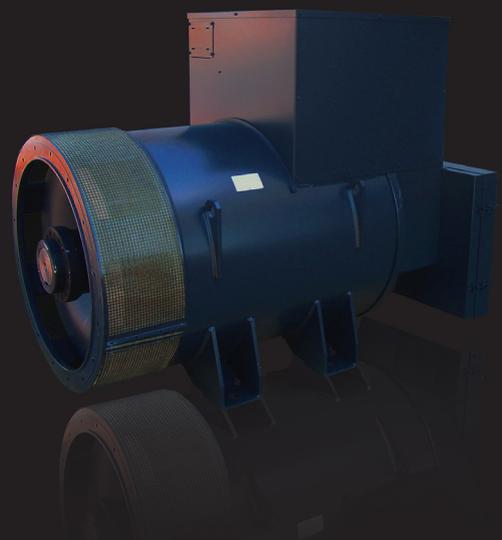
Regulators Continued

The UVR6 has more safety circuit than the SR7 and has LED indications visible through a window in the terminal box to show GREEN - all okay, RED - engine underspeed & ORANGE - alternator overload. All result in voltage reduction to protect the alternators. The UFP module may be ordered with the UVR6 to enhance load acceptance with the engine by reducing voltage for milliseconds allowing the turbocharger to return to optimum speed in a shorter time!

Digital regulators in the form of the DSR (Digital Simplified Regulator) are being introduced which have the added benefits of finer adjustments, remote monitoring, true rms sensing and real-time data logging. Software is supplied by Mecc Alte.

Should more complex operations ie power factor correction, temperature monitoring etc., be required from the regulator, then Mecc Alte have the DIRCI (Digital Regulator with Customer Interface). This is a fully customisable regulator with all the benefits of the DSR, but flexibility built in to provide much, much more!

With Great Knowledge Comes Great Power



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