

Azimuthal Thruster

High efficiency electrical azimuthal thruster

Being both propellers and steering systems, the azimuth thrusters are generally used on ships whose missions demand high responsiveness and maneuverability. This propulsion mode is naturally adopted for tugs, offshore supply vessels, passenger vessels or inland vessels.

The new thruster designed by Masson Marine Engineering differentiates by a power range covering small to medium powers from 70 kw to 1000 kw, an unequalled compactness and a great propeller efficiency. This results from the combination of a “pump-propeller” and a specific, shaft-mounted electrical motor.

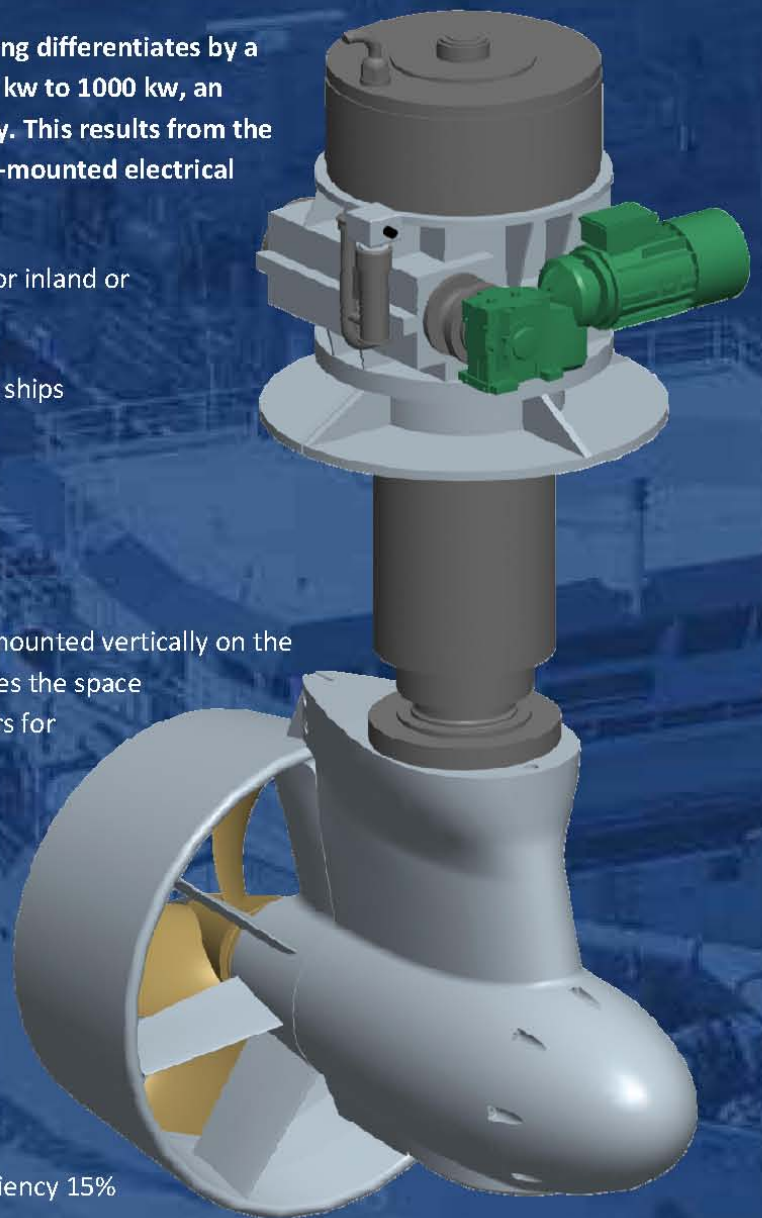
The ships can accommodate a single or several thrusters, for inland or maritime applications.

- Service ships: towing, pushing, offshore service ships
- Passenger boats
- Military transport barges
- Oceanographic research vessels
- Large pleasure crafts
- Inland waterways carriers

In the upper part of the thruster, the electrical motor is mounted vertically on the shaft. This synchronous permanent-magnet motor reduces the space requirement in the engine room, thus spares cubic meters for the passenger area or for cargo capacity. This brushless motor technology reduces the mechanical wear and improves the product's life cycle.

The thruster is 360° rotatable, by means of an hydraulic or electrical command system. It transmits the motor's torque in the most optimal way, whatever the operating mode.

The “pump-propeller” is made of a stator assembly, a specific nozzle and a rotor. Compared to a conventional propeller, the “pump-propeller” delivers a propeller efficiency 15% higher in average, with a diameter 20 to 30% less.



At last, the system is supplied with a full set of control panels, and the associated electronic system. The lever commands both the propeller speed and the steering rotation.



Technical data

- Synchronous permanent-magnet electrical motor, vertically mounted
- Voltage : 400 V
- Power : 70 to 1000 kW
- Steering : 360° or +/- 35°, hydraulic or electrical command

Advantages

- High propeller efficiency
- Maximum maneuverability
- Reduced energy consumption
- Minimum space requirement onboard and under the hull
- Simple to instal & operate
- Low maintenance cost
- Low noise level



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