

# PM-Prop electric propulsion



The PM-Prop is an electric steerable propulsion system.

## The technic

The unit is placed into a so called 'hat'. This hat must be welded into to hull. Due the use off unique rubber seals in the hat the mechanical rotating parts under water unit are completely isolated from the hull itself. This unique system avoids negative vibrations from (a) the propeller and (b) the noise from the gears, bearings and E-motor to be transported into the vessel as contact noises or vibration. During operation there are no moving parts inside the vessel and thus cannot harm people.

The propulsion motor is mounted with its shaft down straight on top of the propulsion set in the center of the steering shaft.

The main propeller shaft is driven by the E-motor through a high efficient gear set in the tail of the gearbox unit.

The Electro (E)-motor is fixed on the housing and can not move during steering.

The steering gear is mounted underneath this E-motor, which can be driven by (a) a small hydraulic motor (as in the displayed model at the METS) or (b) by a conventional Electromotor. The shape from the casted tail drive is hydrodynamic for optimum efficiency. All materials in contact with the water are made from seawater resistible Aluminum-Bronze and Duplex Stainless Steel.

## Control

Hydrosta's exclusive Navio product line (e.g. follow-up steering and drive control) complements the units operation and control.



## E-motor

The employment of a standard industry norm, i.e. the Permanent Magnet (PM) motor, also ensures the chosen E-motor's reliability by virtue of its proven and accepted endurance tests. The great advantage of this type of motor is the light weight, compact design and the very fast response time in operation. This PM motor's basic power requirement is 750 Volt Direct current. Without loss of control, this power can be provided by a PM generator of the same kind.

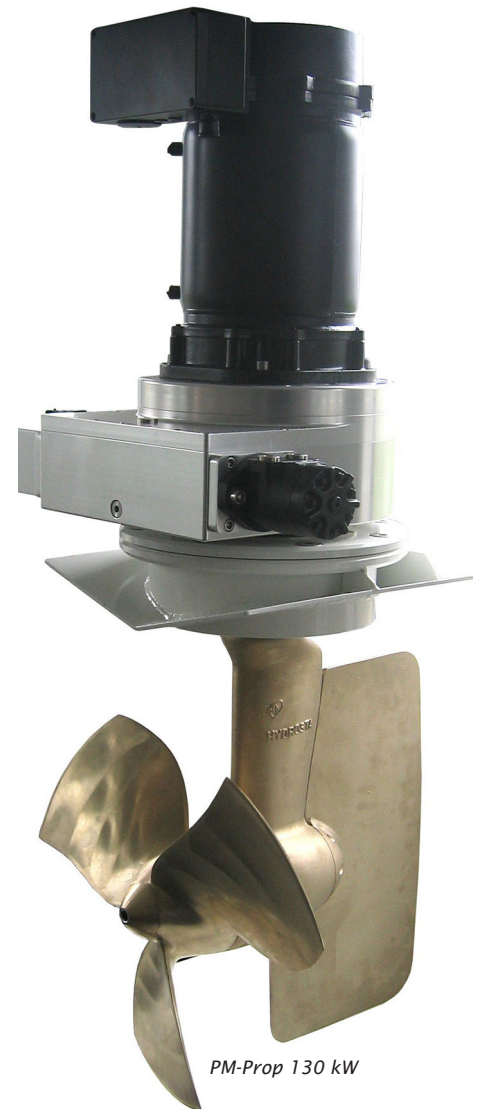
## Maximized manoeuvrability

The "one in all" system (i.e. propeller and rudder is one unit) forces the propeller to be turned in the same direction as the rudder blade, 100% conversion of direction. Depending on the rotation direction of the propeller trust is available in the direction as requested.

For leisure crafts the steering angle is purposely limited to 2 x 90 degrees. For professional crafts Hydrosta offers endless 360 degree steering.

This system results in a very precise drive-unit. Even with a single system the end user is in maximum control of his vessel.

The wheel effect of a reverse move is easily compensated by turning the rudder a few degrees to the opposite side.



PM-Prop 130 kW



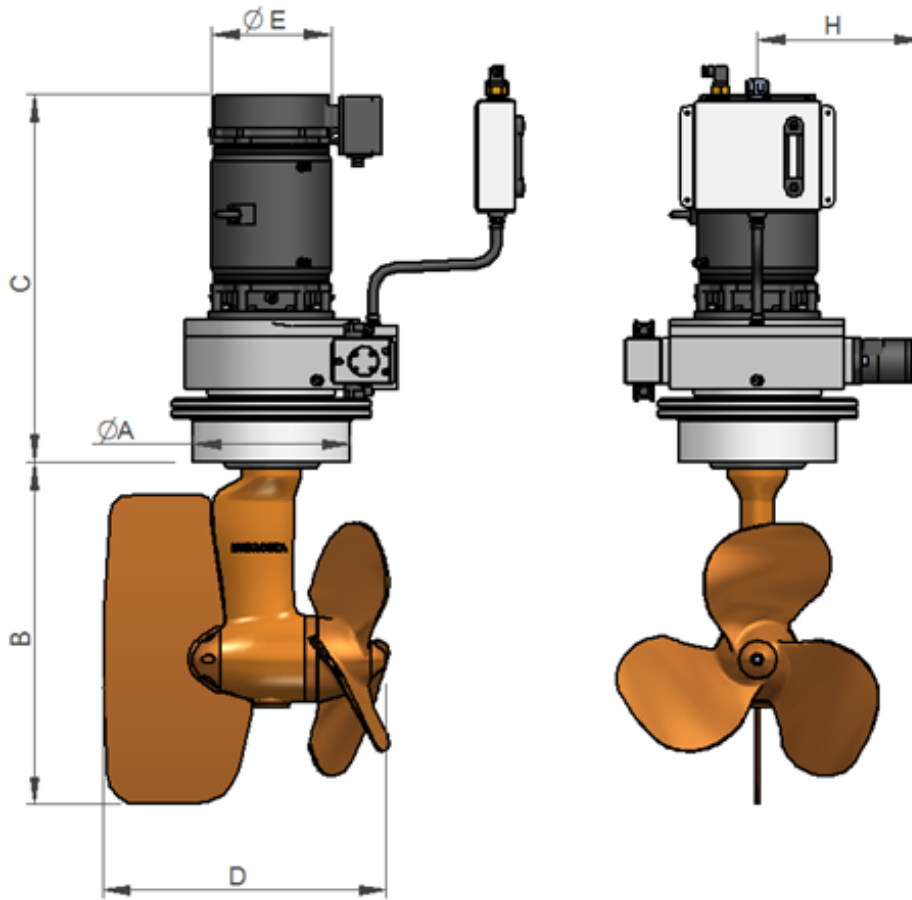
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# Dimensions

## General dimensions



Dimensions	26 / 35 kW		55 / 75 kW		130 / 150kW		185 / 220kW	
A mm	324		324		385			
B mm	547		707		751			
C mm	750		750		910			
D mm	480		585		726			
E mm	247		247		247			
F inch	18"		23"		26" - 28"			
G mm	275		275		272			
H mm	340		340		335			
Specifications	26kW	35kW	55kW	75 kW	130kW	150kW		
Voltage E-motor	750 DC	750 DC	750 DC	750DC	750 DC	750 DC		
Propeller output kW	26	35	55	75	130	150		