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Product Name :
Watertight Propeller Dynamometer

Product Code :
LBNY-0005-1970001



Description :

The Watertight Propeller Dynamometer of high capacity is sealed against pressure of up to 1 bar above atmospheric pressure and against relatively high vacuum (1 bar = 10 to the power 5 N/m² = 0.1 MPa). Idle friction of the measuring shaft is small despite the use of sealing rings and is approximately 0.3 Nm for dynamometer and 0.4 Nm for dynamometer. The dynamometer can be used also for propulsion tests with relatively high torque and thrust values in ship models under water. That has slightly larger dimensions, but is of similar appearance. It is thus suitable for use in the measuring section of cavitation tunnels, as an inner drive dynamometer in ship models or in dummy bodies mounted in the measuring section of a cavitation tunnel.

Technical Specification :

Measuring system for torque and thrust measurement full bridge strain gauge type
Input resistance of the full bridge for thrust and torque measurement (supply diagonal) about 256 Ω
Output resistance of the full bridge about 240 Ω
Rated torque ± 80 Nm
Rated thrust ± 2.2 kN
Overload in torque and thrust permitted for a short moment 30%
Sensitivity at rated load for thrust and torque measurement about 1.5 mV/V
Corresponding to an apparent strain at rated load of about 3000 /m
Pulse generator for speed measurement 60 pulses/1rev.
Maximum constant speed in water 4500 rpm
Material of the casing stainless steel(Cr-Ni-type) and Plexiglas
Material of the shaft ends stainless steel(Cr-type)
Recommended supply voltage for thrust and torque measurement (do not use constant current) d.c. or a.c. up to

8 V

Maximum supply voltage for thrust and torque measurement 20 V

Air pressure for brush lifting, above atmospheric pressure 1.2 0.2 bar

1 bar = 10 to the power 5 N/m² = 0.1 MPa

Weight without cables, about 11.3 kg.



Laboratory Instrument India