

Disk-Drive Thruster

Compact hub-less thruster with integrated controller

The Hydromea Disk-Drive Thruster is a patented, very compact, direct-drive propulsion unit with integrated motor controller. The hub-less propeller design makes it robust to debris and eliminates the risk of stall due to strings and water plants wrapping around a shaft. The rotor is hydro-lubricated without any dynamic seals, making the design completely oil-free and pressure-proof.

The integrated motor controller has a CAN bus interface and performs brushless commutation and closed-loop speed control in both directions. Our proprietary sinusoidal commutation algorithm continuously monitors and optimises the motor timing parameters, resulting in smooth and efficient operation across the full speed range.

Features

- Ultra-compact
- Thin, low-profile design
- Hub-less propeller
- Direct-drive, no gears or dynamic seals
- Pressure-proof
- Integrated sinusoidal motor controller with bi-directional closed-loop speed control
- Instant start and fast reversal for accurate attitude control
- CAN interface

Applications

- Ideal as stabilisation thrusters for small ROVs/AUVs
- Low profile enables low drag for vertically mounted thrusters
- Deep-sea actuators



Specifications*

Outer Dimensions	82 x 95 x 14 mm
Propeller diameter	50 mm
Max. Thrust	25 N
Weight in air	135 g
Supply voltage	12-22 V
Max. current	21 A
Interface	CAN bus
Depth rating	6000 m

* Preliminary specifications - may change without notice