

DiskDrive 50

Compact hubless mixer

User guide

The DiskDrive50 mixer is a direct-drive, brushless mixer with a hubless propeller. The hubless design offers superior resistance to tangling due to debris in the water or other liquid. Its slim-line form factor makes it ideal for space-constrained applications.



Integration guidelines:

The DiskDrive50 is driven by an integrated 3-phase brushless permanent-magnet motor. It can be driven by sensorless brushless electronic speed controllers (ESC). Connect the three mixer wires to the three output wires of the ESC. If the mixer rotates in an undesired direction, swap two wires to reverse.

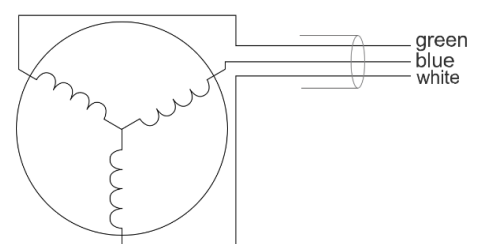
Maximum operating voltage:	16 V
Maximum current:	25 A

The mixer is delivered with a 0.9-1m long cable. It is the user's responsibility to fit a suitable underwater connector or hull penetrator.

For best performance, we recommend using a duct to guide the liquid flow. Our duct offers optimal performance and can be placed on both sides of the motor. Two ducts are suggested for forward and reverse operation. A kit containing 2 ducts with a mounting bracket is also available on our website.

Safety and Handling

- Moving parts: do not touch propeller when motor is powered! Keep away body parts to avoid injury.
- Strong magnets: When changing propellers or disassembling motor, keep the magnetic rings well separated from each other, and away from any ferromagnetic objects. Do not let the magnet rings touch each other directly. Avoid getting skin or body parts getting trapped between the magnet rings.
- Do not run the mixer outside of the liquid. The motor requires water or other liquid for lubrication and cooling.
- Avoid prolonged exposure to direct sunlight and UV radiation.
- Do not operate mixer with broken propellers, damaged cable or other defects



Replacing the Propeller

Propellers may get chipped or damaged when the thruster is exposed to pebbles, rocks or other hard debris. Spare propellers are available from Hydromea in clockwise and counter-clockwise rotation. Follow these steps to replace a propeller:



Place mixer on clean and non-magnetic surface, free of ferromagnetic objects or particles.



Lift mixer and gently push down against a propeller blade near the outer ring until bottom ring falls out.



Place bottom ring on table, leave top ring in mixer. **Careful:** keep rings separate! Strong magnets!



Remove old propeller. Check that magnet rings are clean.



Insert new propeller. Make sure it is seated properly.



Slowly move mixer with top ring above bottom ring.



Slowly decrease distance until bottom ring snaps in place. **Careful:** Never place fingers between rings - pinching hazard!



Check that propeller is fully seated and rings are parallel. Manually rotate rings to check for free movement.

Disclaimer:

The Hydromea DiskDrive50 thruster is an OEM component for integration by experienced equipment manufacturers. It is the customer's responsibility to ensure safe operation of the thruster within their equipment, and avoid injury or harm. Hydromea shall not be held liable for any damage, including but not limited to damage to equipment, environment, any harm or injury to persons, that result from use of its products. The DiskDrive50 mixer shall not be used in safety-critical applications or medical applications.