

# FIFISH E-MASTER



Inspection Measurement Survey

# Product

## Highlights



The FIFISH E-MASTER is a revolutionary industrial AI underwater robot, engineered for high-precision measurements, inspections, and surveys in complex marine environments. With advanced sensors and sonars, it ensures unmatched accuracy and reliability. Its modular design allows for quick and efficient component changes, including accessory swaps and power replacements.



# Designed

for Masters

## Industries

- Underwater Construction & Inspection
- Shipping & Maritime
- Tank & Pipeline Inspections
- Offshore Energy

## Professions

- Surveyors & Inspectors
- Engineers & Technicians
- Environmental Scientists
- Marine Researchers

## Requirements

- Reliable in inspections strong currents
- Easy-to-repair tool for extended inspections
- Hassle-free subsea measuring, surveying, navigation capability
- Daily/ weekly monitoring solution



# High-Precision

## Technologies



### Q-DVL

#### Dynamic & Steady Hovering

The E-MASTER features forward and downward Q-DVLs for stable hovering and strong omnidirectional flow resistance of up to 3 knots. It remains stable in turbulent conditions and supports functions like collision avoidance, distance measurement, and altitude maintenance. The system automatically prevents collisions with obstacles, ensuring safety during underwater operations while maintaining distance from objects and height from the seabed.

### U-INS

#### Subsea Automatic Navigation

The U-INS system delivers advanced autonomous navigation for the FIFISH E-MASTER by utilizing deep learning and sensor data to provide precise position, velocity, heading, and attitude information. It supports automated path planning, intuitive one-click return, and real-time motion tracking with visual reference of historical paths. Users benefit from efficient, self-guided movement and detailed location and trajectory display, including custom maps and POI recording.



# High-Precision

## Technologies



### QY-MT

#### **Real-time & Offline Smart Measurement**

The QY-MT system offers advanced AI-powered underwater measurement capabilities. Utilizing the Forward Q-DVL and laser, along with proprietary AI algorithms, operators can analyze and measure underwater objects, fractures, and damage with 99.7% accuracy. The system provides users with dynamic, adaptive, and precise multi-angled measurements, real-time data visualization, and customizable displays for comprehensive and non-destructive assessments.

### QY-BT

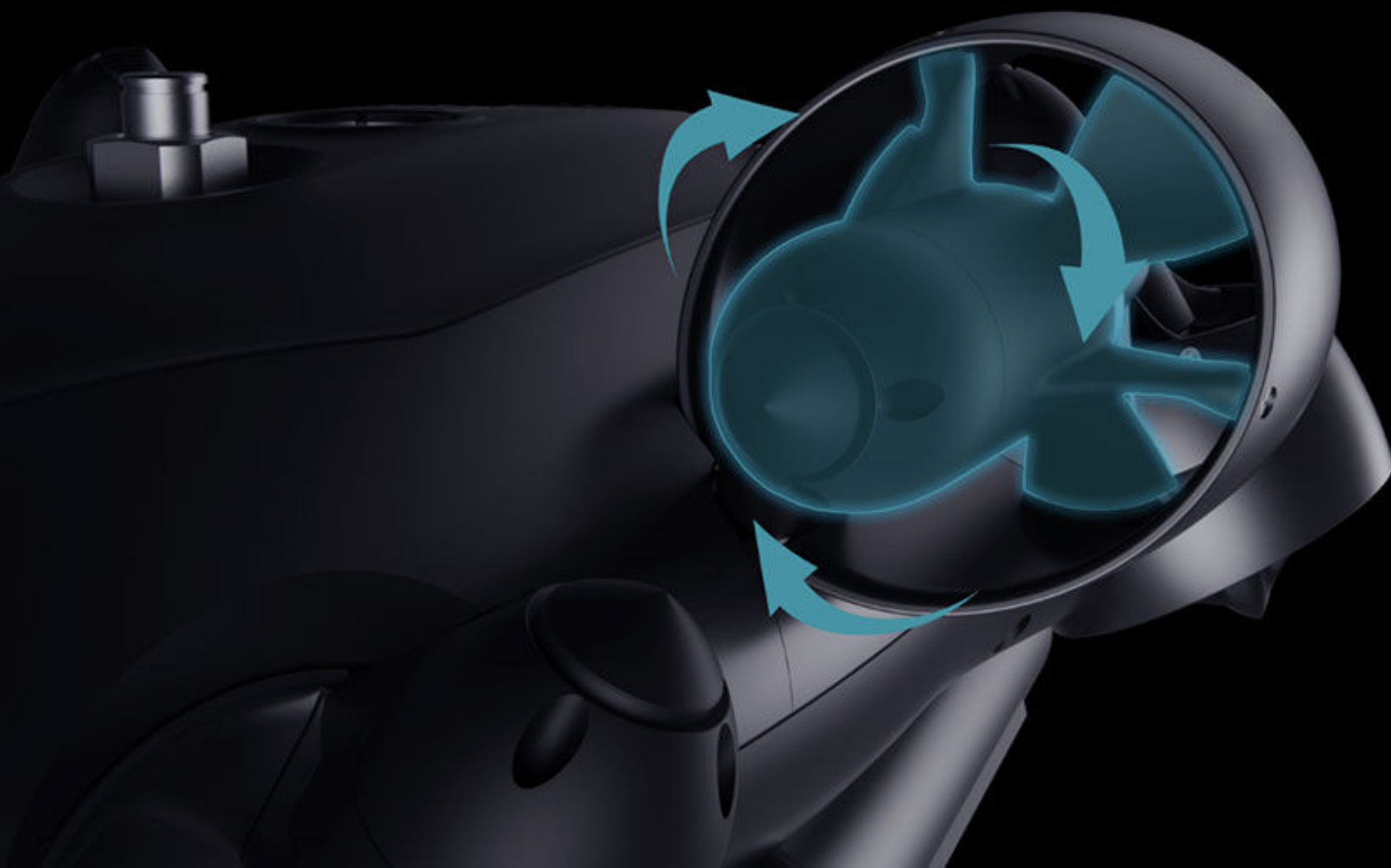
#### **2D & 3D Seafloor Mapping**

The integrated Q-DVL and Echosounder on the E-MASTER enables automated, precise underwater data collection. Users can survey seabeds, riverbeds, and reservoirs, and create customizable 2D/3D topographic maps, estimate reservoir capacities, and generate data reports with a single click. The system streamlines the mapping process and allows for efficient data collection, customizable map outputs, and seamless export and upload of data.



# Powerful Ring-Wing

## Propulsion



At its core, the FIFISH E-MASTER features an innovative ring-wing motor system, achieving speeds of 3 knots and demonstrating strong resistance in challenging waters. It incorporates six high-performance metal wing propellers with an expanded blade area, resulting in a 30%\* power increase while ensuring remarkable reliability, wear resistance, and corrosion protection.



# Vivid Lighting

## System

Boasting multi-lamp LED lights, FIFISH E-MASTER provides up to 10,000 lumens of brightness and a 160° beam angle with adjustable intensity across three levels.



# Design and Expansion

## Fluid Modular Design

The E-MASTER's modular architecture integrates essential components of the robot - including the motor, imaging, lighting, and battery - enabling rapid assembly, disassembly, and precise troubleshooting. Battery and accessory removal is achieved within seconds, while spare part replacement can be completed within 5 minutes, delivering a major boost to operational efficiency.



## Enhanced Multi-Port Expansion

Through a meticulous internal redesign, FIFISH E-MASTER is equipped with dual load interfaces on both the top and bottom of the body. Utilizing professional expansion docks (optional), it can accommodate up to 6 operational tools simultaneously.





# Swappable Dual

## Power System

FIFISH E-MASTER features an upgraded circuit design with a dual battery system, employing advanced hot-swappable technology. This enables seamless alternating battery replacement without powering down or restarting, instantly revitalizing FIFISH E-MASTER to full power.



# FIFISH E-MASTER PLUS (200m Tether)



- 1 x ROV (200m depth rating)
  - 10,000 Lumen (2x5000 Lumen LEDs)
  - 128GB (Pluggable SD card slot)
  - Pre-installed removable battery (2 x 69.12Wh)
- 2 x Extensible Q-interface for multiple add-on options
- 1 x 200m Tether with manual waterproof spool
- 1 x Remote Controller
- 2 x Chargers (1 for RC, 1 for E-GO)
- 1 x Upper tool mount
- 1 x Hard case
- 1 x Tool kit and box
- 1 x Echosounder Altitude lock and Bathymetry
- 1 x Forward Q-DVL (Distance lock & forward station lock hovering)
- 2 x Laser scaler

# FIFISH E-MASTER NAVI (200m Tether)



- 1 x ROV (200m depth rating)
  - 10,000 Lumen (2\*5000 Lumen LEDs)
  - 128GB (Pluggable SD card slot)
  - Pre-installed removable battery (2 \* 69.12Wh)
  - 2 \* Extensible Q-interface for multiple add-on options
- 1 x 200m Tether with manual waterproof spool
- 1 x Remote Controller
- 2 x Chargers (1 for RC, 1 for E-GO)
- 1 x Upper tool mount
- 1 x Hard case
- 1 x Tool kit and box
- 1 x Echosounder□Attitude lock and Bathymetry
- 1 x Forward Q-DVL (Distance lock & forward station lock hovering)
- 2 x Laser scaler
- 1 x Downward Q-DVL-M: Station Lock Hovering/Inertial Navigation(U-INS)
  - Depth Rating□200m
  - Transducer Frequency□600 kHz -Transducer Setup□4-beamconvex array
  - Min. Altitude□15cm
  - Max. Altitude □50m
  - Max. Velocity□4m/s -Velocity Resolution□0.1 mm/s



# Comparison



Attribute	FIFISH E-Master-Plus	FIFISH E-Master-Navi
ROV	Yes	Yes
Depth Rating	200m	200m
Lighting	10,000 Lumen (2x5000)	10,000 Lumen (2x5000)
Storage	128GB + SD Card Slot	128GB + SD Card Slot
Battery	2 x 69.12Wh	2 x 69.12Wh
Q-Interfaces	2	2
Tether	200m + Manual Spool	200m + Manual Spool
Remote Controller	Yes	Yes
Chargers	2	2
Upper Tool Mount	Yes	Yes
Hard Case	Yes	Yes
Tool Kit & Box	Yes	Yes

Attribute	FIFISH E-Master-Plus	FIFISH E-Master-Navi
Tool Kit & Box	Yes	Yes
Echosounder (Attitude/ Bathymetry)	Yes	Yes
Forward Q-DVL (Distance/Hover)	Yes	Yes
Laser Scaler	2	2
Downward Q-DVL-M	No	Yes
Downward Q-DVL-M Features	No	Station Lock Hovering/Inertial Navigation (U-INS)   Depth Rating: 200m   Transducer Frequency: 600 kHz   Transducer Setup: 4-beam convex array   Min. Altitude: 15cm   Max. Altitude: 50m   Max. Velocity: 4m/s   Velocity Resolution: 0.1 mm/s





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