

Mission ROV | High Payload | Enhanced Current Holding

# FIFISH X1

Pioneering a New Era of  
Underwater Non-Destructive  
Inspection



# Offshore • Infrastructure • Shipping

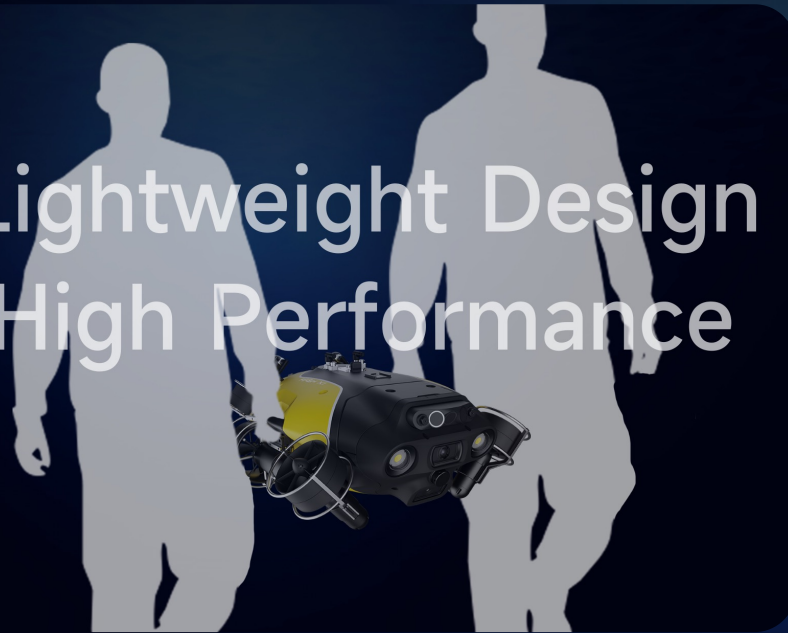
## Mission ROV

### Powerful Precision, Advanced Add-Ons, Superior Stability

Featuring strong current resistance, a high-payload platform with a full suite of NDT tools, and intelligent systems for navigation, measurement, and mapping, FIFISH X1 redefines inspection workflows across offshore energy, subsea infrastructure, and large vessels, delivering a new paradigm of underwater non-destructive testing with continuous operation.



Lightweight Design  
High Performance



Powered for  
Offshore Missions



Efficient Non-  
Destructive Testing



AI-Empowered  
Ecosystem



All-in-One Industrial  
RC Solution



24/7  
Direct Power Supply

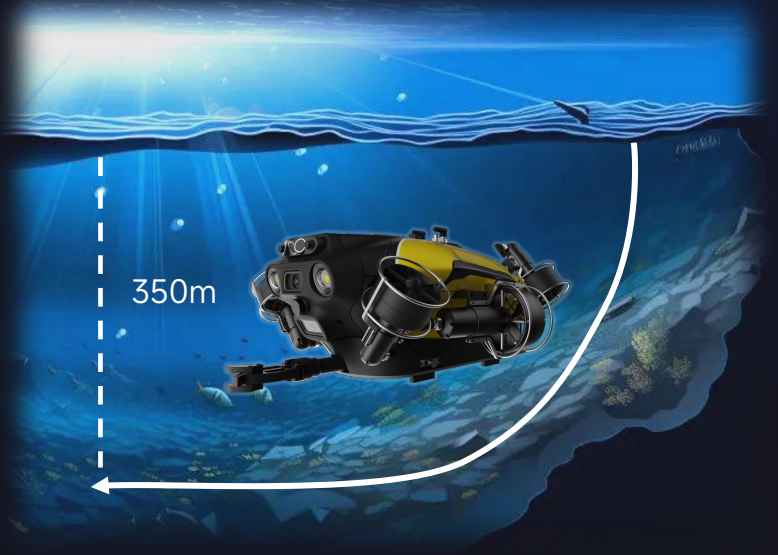


# Lightweight Design, High Performance

## 350m Operating Depth

Majority Offshore Scenarios Covered

Proprietary waterproof and pressure-resistant design, enables easy operation at 0–350m depth



## ≤30 kg Unit Weight

Efficiently Deployable by 1–2 People

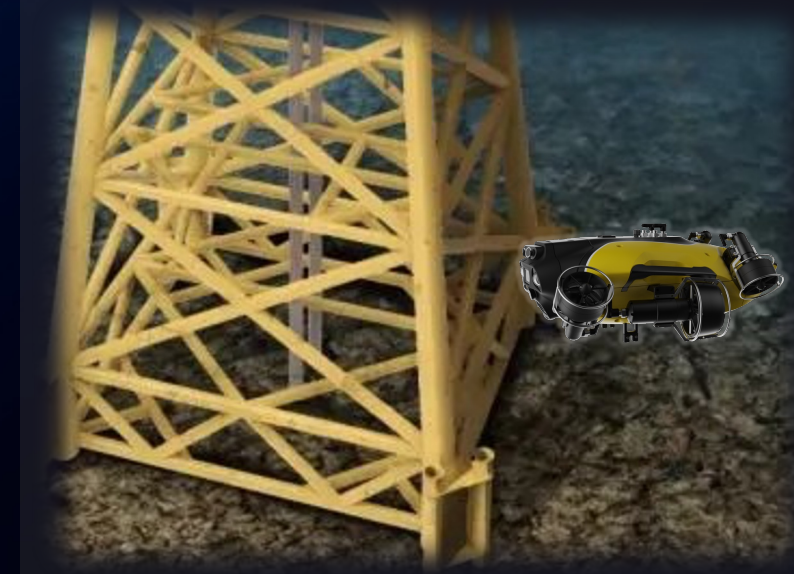
Lightweight body breaks traditional design, optimizing operational efficiency and costs



## 0.17m<sup>3</sup> Compact Size

Seamless Manoeuvrability in Tight Spaces

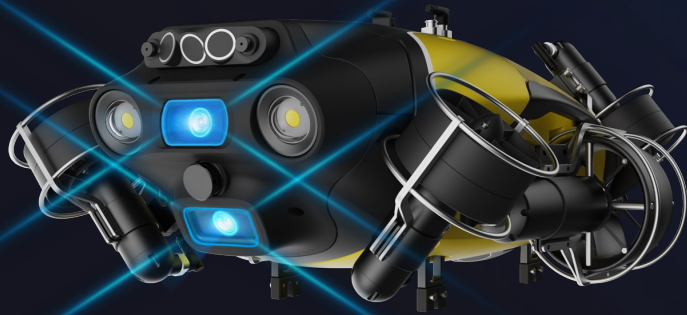
Working in tight-space challenges with lightweight, streamlined design for flexible operation



# Lightweight Design, High Performance

## Dual Camera System 4K UHD & Ultra-Wide FOV

1/1.8" CMOS Dual Camera Sensors,  
Efficient & Coordinated Operation



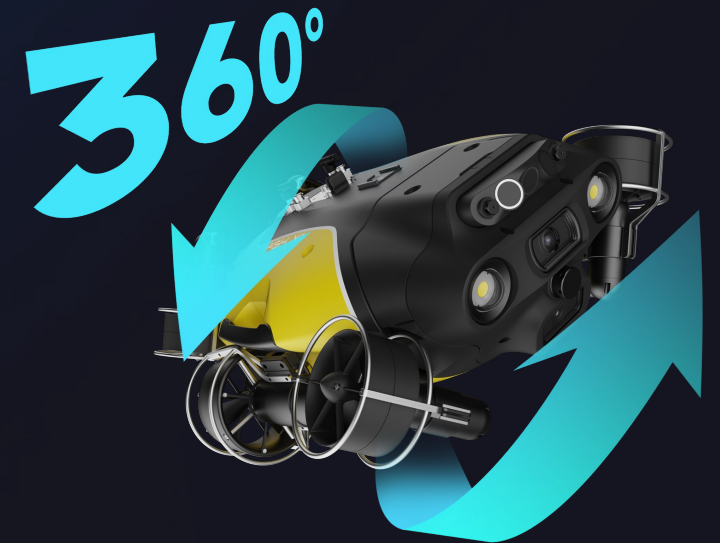
## Dual LED Lighting 12,000 Lumens Unhindered Operation

120° Wide Illumination,  
Exceeding Industry Standards



## 360° Omnidirectional Control

Proprietary Six-Motor Vector Layout,  
±0.1° Precise Operational Angle Control



## Power System

# Enhanced Propulsion

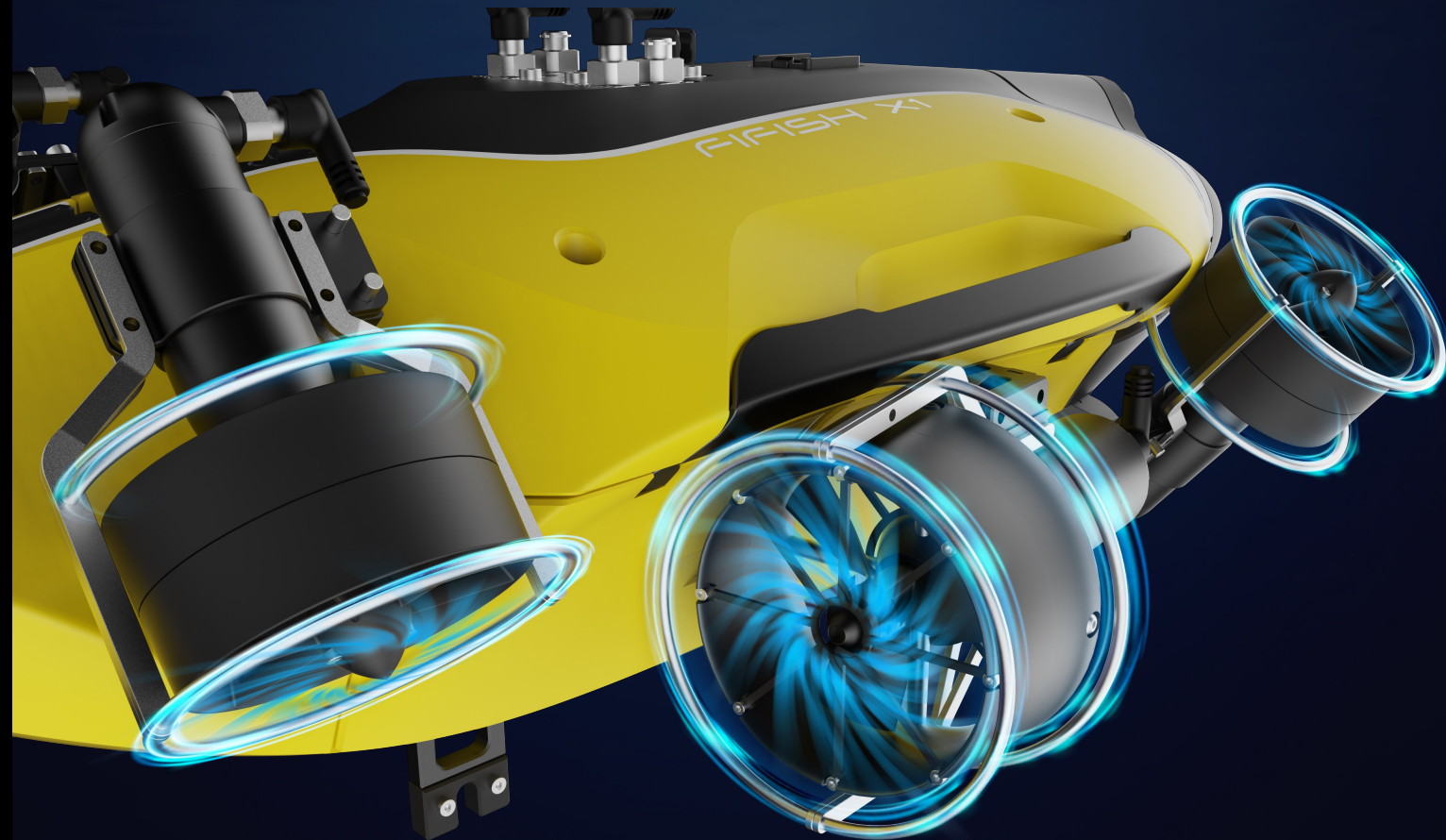
FIFISH X1, powered by the Q-Motor Pro and a six-motor vector layout, enables rapid and precise inspections. Its modular design allows for quick thruster swaps, while built-in alert systems provide adaptive protection against overcurrent, overvoltage, and overload.

**4.5 Knots\***

Max. Forward Speed

**30KG**

Max. Forward Thrust



Current Holding

# Stable Hovering Precise Inspections

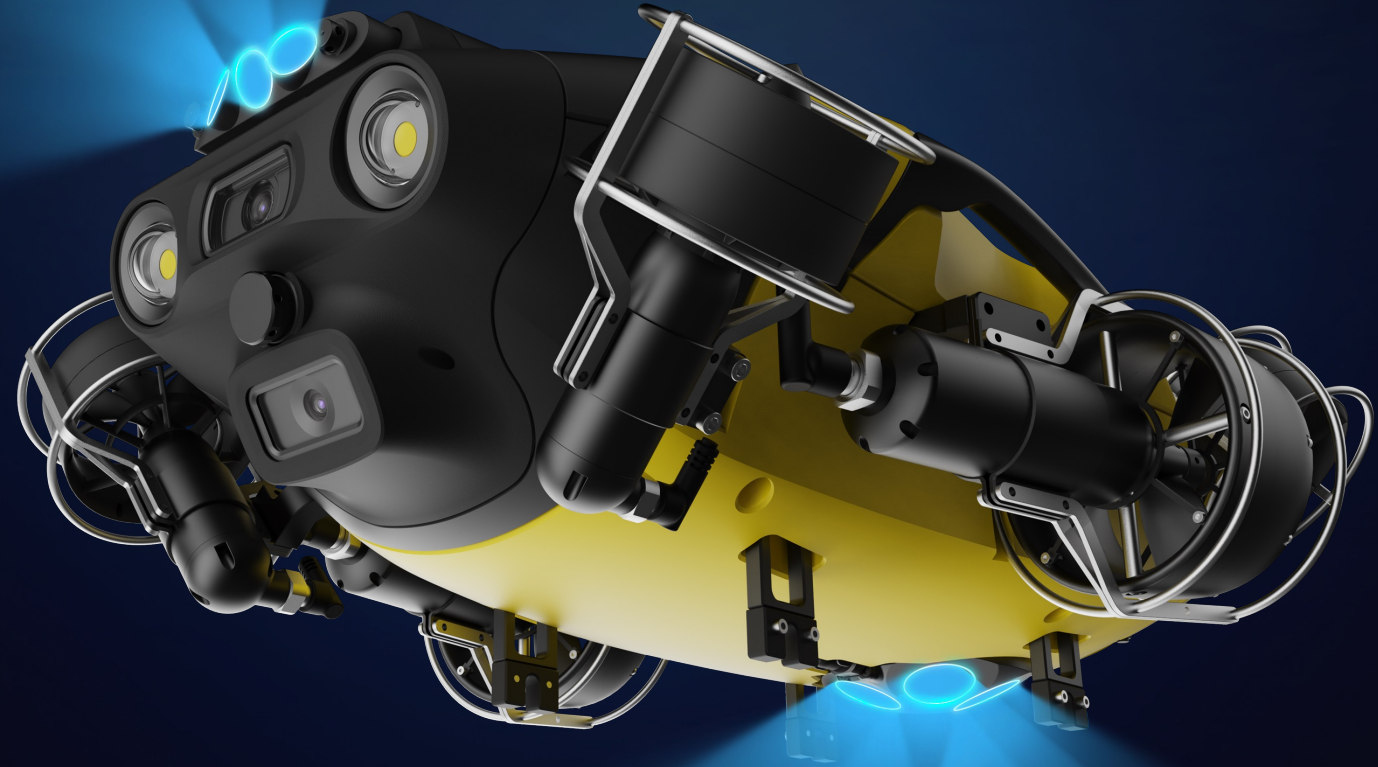
QYSEA redefines subsea sonar with the FIFISH X1, equipped with forward- and downward-facing Q-DVL modules and advanced AI algorithms. This integration delivers unmatched stability for inspections around vertical structures and in complex, dynamic environments, even under strong currents.

Dual DVL

Omnidirectional  
Station Lock Hovering

4.0 Knots\*

Max. Forward  
Current Holding



## Payload

# High Payload, Versatile Applications

FIFISH X1 supports demanding inspection tasks with four Q-Interface power ports and a maximum payload capacity of 15 kg. Its powerful propulsion, combined with QYSEA's core control algorithms, ensures stable, adaptive posture control even under heavy loads, enabling precise and efficient operations.



## Mission Adaptable

# Rapid Add-on Tool Integrations

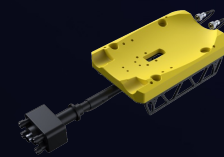
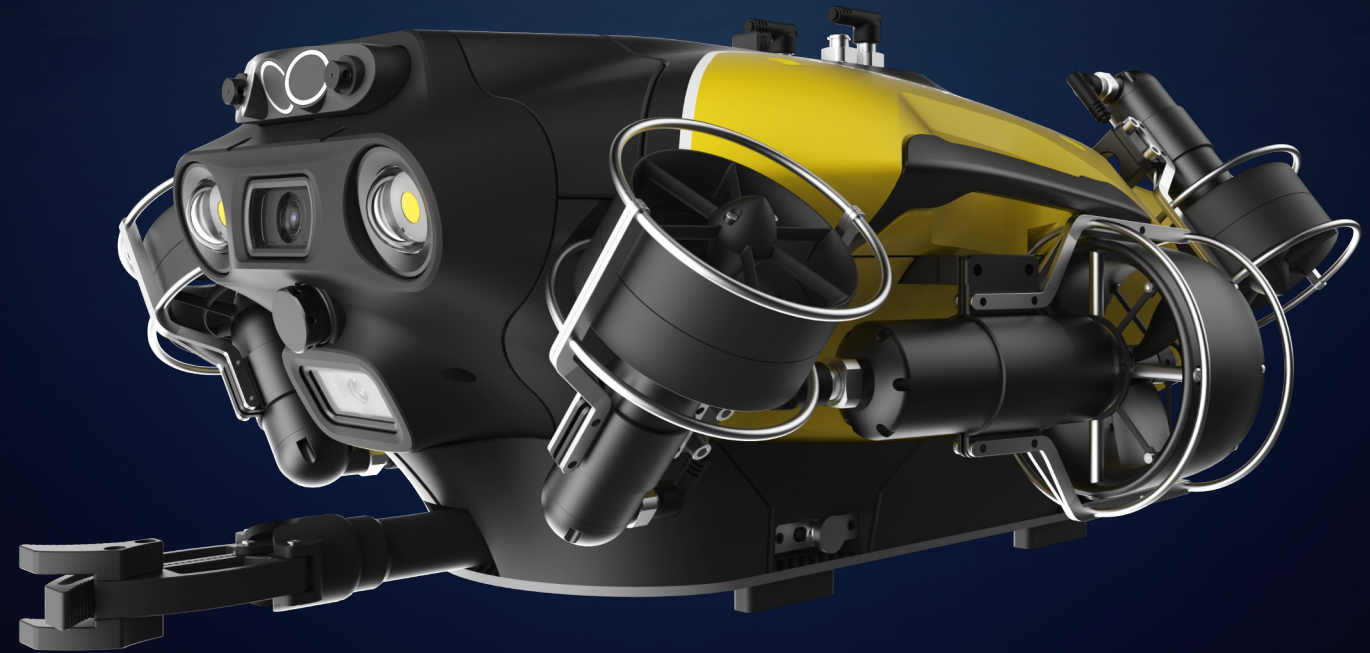
FIFISH X1 features a modular payload design that enables rapid tool changes and integration for maritime and offshore environments. Compatible with a wide range of tools for non-destructive testing, manipulators, and imaging sonars, it delivers enhanced efficiency and adaptability across complex subsea engineering tasks.

# 1+N

1 Platform,  
NDT & Modular Tool Skid

# 5 MIN

Rapid Accessories  
Swap



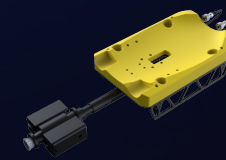
UTG (Ultrasonic  
Thickness Gauge)



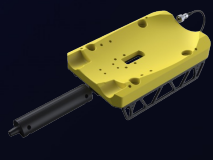
CP (Cathodic  
Protection )



Explosive Gas  
Detector



Electric  
Cleaning Brush

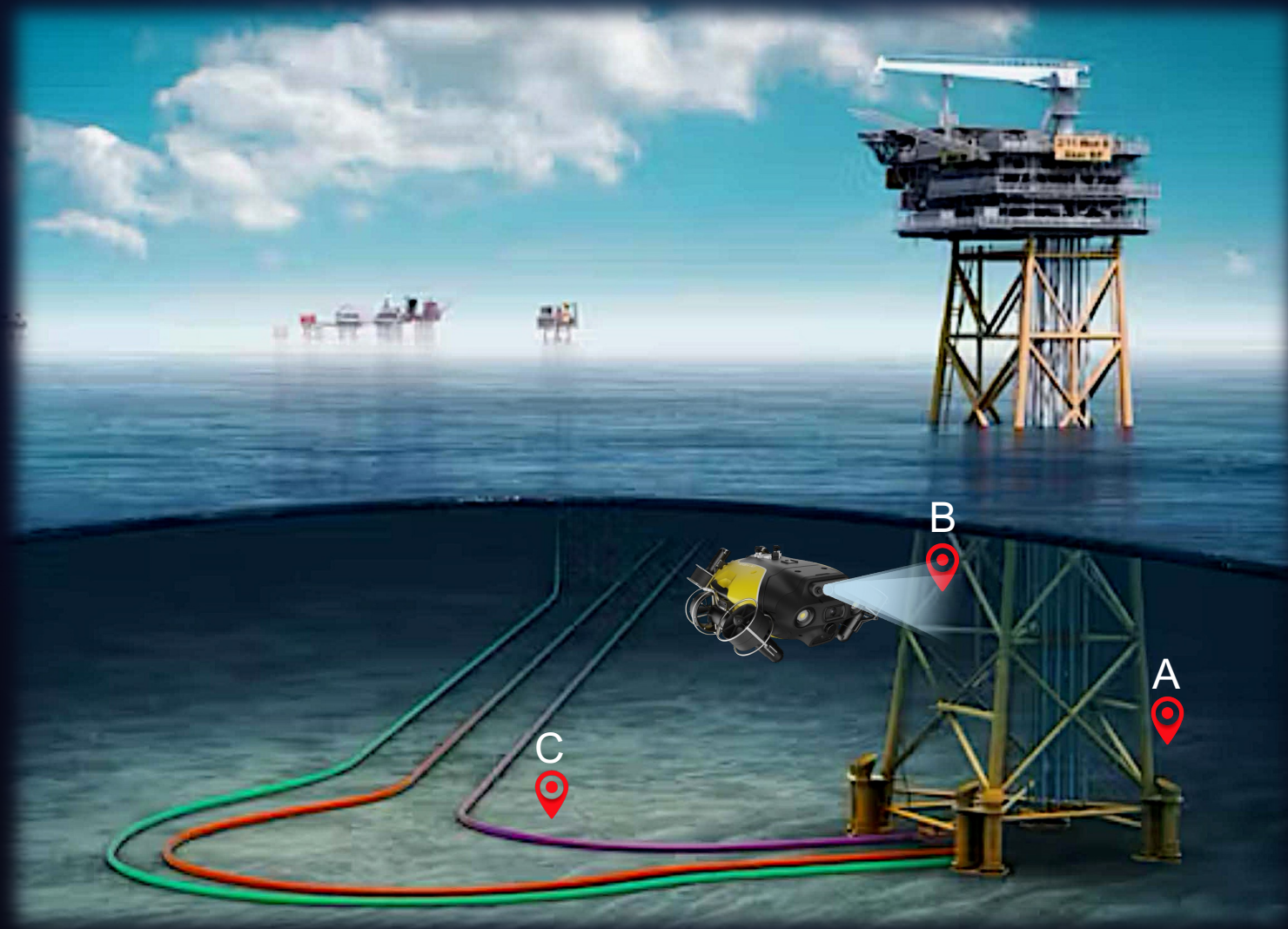


Cavitation Jet  
Cleaner

## Location Tagged Inspections

# AI Positioning & Defect Marking

In complex inspection environments, FIFISH X1 uses its deep-fusion underwater navigation system (U-INS Plus) to receive precise positioning in real time. Detected anomalies can be quickly marked, capturing coordinates and data to produce key reports and 3D models, significantly improving maintenance accuracy and efficiency.



## Underwater Navigation

# AI Inertial Navigation

FIFISH X1 features the U-INS Plus fused navigation system, combining advanced hardware and software. Forward- and downward-facing Q-DVL modules deliver stable current resistance, real-time depth control, 3D route planning, and point marking, making underwater inspections smarter, more intuitive, and efficient.

### Multi-Dimensional

Auto Navigation  
(Vertical & Horizontal)

### Customizable Paths

Mission Route  
Planning

### Surface-Following Navigation

Consistent Data-  
Collection Accuracy

### Station Lock Hover

Multi-Dimensional  
Underwater Inspections



## QY-MT | QYSEA Measurement Tool

# AI Non-Destructive Measurement

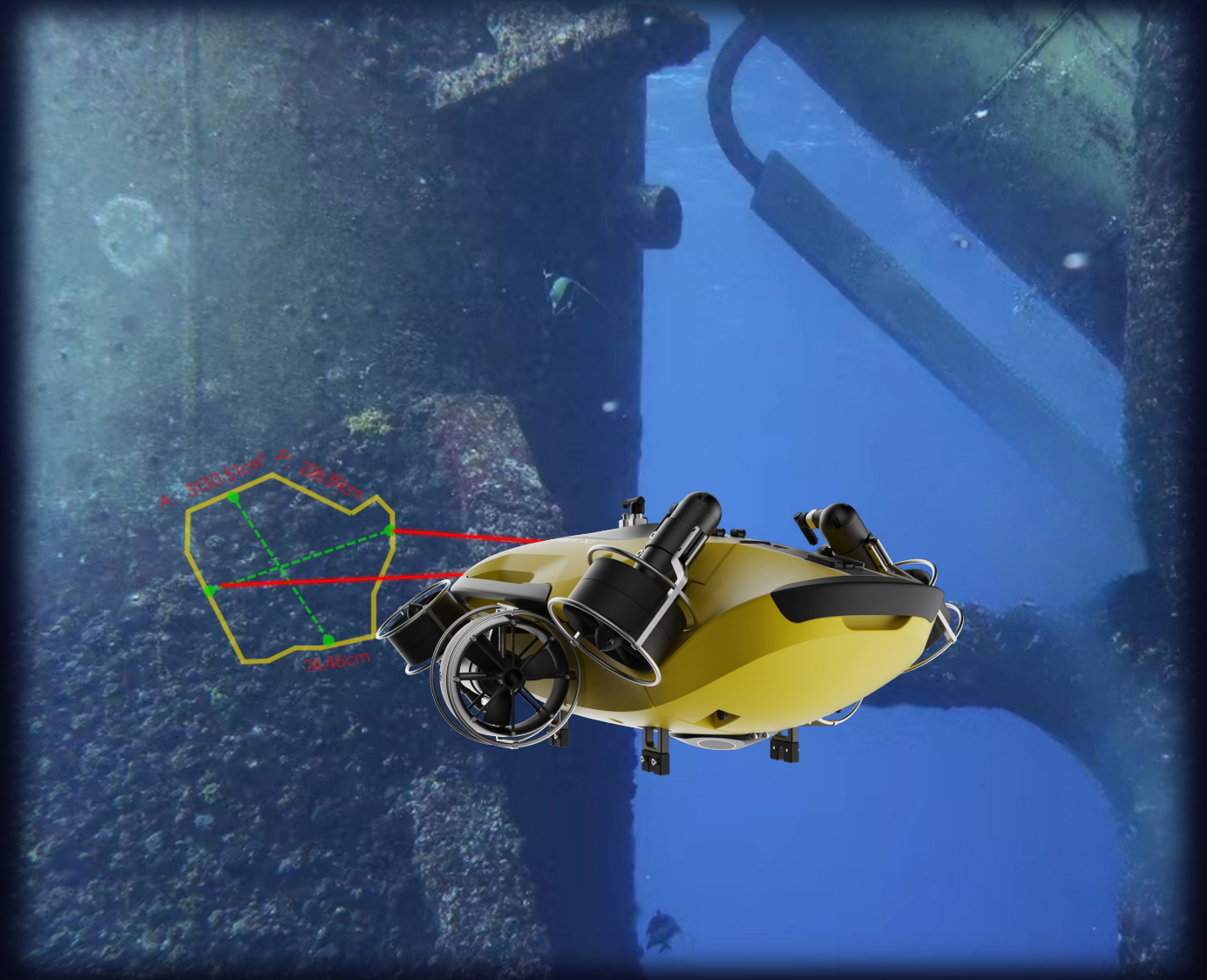
FIFISH X1 features the AI-driven QY-MT NDT system with proprietary vision algorithms, enabling millimeter-accurate measurement of offshore structures, subsea pipeline cracks, bridge scour, and hull coating damage. Offline data capture allows one-click non-destructive measurements, setting a global benchmark for underwater inspections.

**Dual Laser**

Online & Offline  
Measurement Modes

**±1 cm High-Precision**

Non-Destructive Measurement  
(Linear, Angular,  
Circumference & Area)



## Enhanced Safety

# AI Collision Avoidance

FIFISH X1's forward- and downward-facing Q-DVL sonar modules feature AI-powered collision avoidance, using precise distance data to detect risks and predict hazards in milliseconds, effectively navigating complex offshore structures and seabed terrain to reduce accidents or risks, while enhancing operational safety.



## All-In-One Control Solution

# Command with Power Deliver with Precision

The FIFISH X1 control system features the new Q-iRC industry remote controller, designed for clarity, endurance, and precision in the field. It supports customizable smart shortcuts, multi-task window displays, and multiple digital expansion interfaces, meeting the diverse needs of complex industry operations.

## 7-Inches

1600 Nit High-Brightness Screen

## 8-Hours

Extended Operating Time

## 8-Buttons

Multi-Functional Features

## Multi-Expansion

Real-Time Analysis & Co-ordination



## Direct Power Supply System

# 24/7 Continuous Operation

FIFISH X1 is engineered for maximum uptime, featuring a direct power supply system and adaptive safety protections to ensure uninterrupted performance. Its design supports long-duration missions and demanding industrial workflows, delivering reliability around the clock.



# Industry Applications

## Offshore Oil & Gas

Jacket / pile-foundation inspection (general visual & close visual, weld inspection, defect sizing)  
 Marine growth removal (barnacles, algae, etc.)  
 Sacrificial anode potential survey (CP)  
 Ultrasonic thickness gauging (UTG): wall-loss / corrosion assessment  
 Scour / undercutting risk assessment (legs / foundations)

## Offshore Wind

Monopile / jacket structure cleaning (high-efficiency fouling removal)  
 Monopile wall-thickness & anode measurements (UTG / CP)  
 Crack / pitting sizing (QY-MT AI measurement)  
 3D scour-pit mapping (Q-DVL altitude-hold & surface-follow)  
 Close visual inspection of TP access and cable-entry areas

## Subsea Infrastructure

UTG of civil/port structures: sheet piles, gates, jetty members  
 Cathodic protection (CP) survey: anode potentials & compliance assessment  
 Crack / spalling / pitting sizing (QY-MT AI measurement)  
 Scour / undermining survey (piers / revetments) and 3D mapping  
 Marine growth cleaning & antifouling maintenance

## Maritime & Shipping

Hull thickness gauging (UTG): bow/stern, bilge, shell plating  
 Marine growth removal & cleaning (improved antifouling performance)  
 Anode condition monitoring (CP potentials / consumption)  
 Hull structural monitoring (welds / external outfitings)  
 Rapid underwater turn-around survey during port stay

# Add-Ons List

## Standard



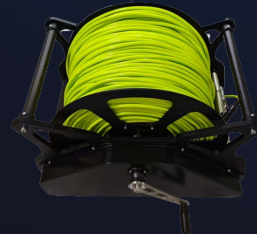
Main ROV Unit ×1  
(incl. Forward Q-DVL/Range Laser & Downward Q-DVL)



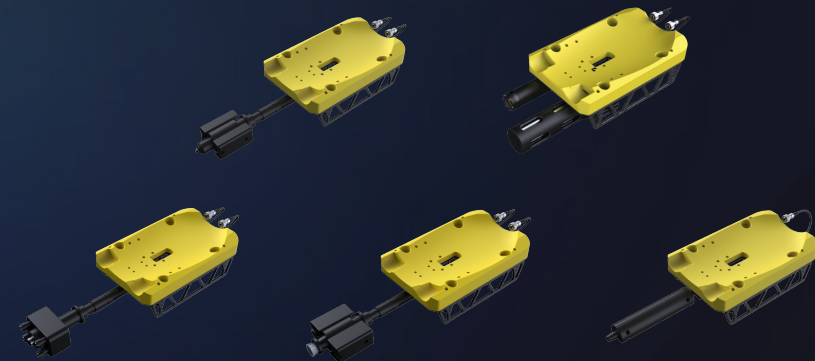
Industrial Remote Controller\* 1



350m Direct Power Supply System



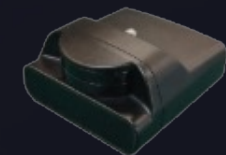
## Optional



NDT Non-Destructive Testing Add-Ons



Single-/Multi-Axis Arm Manipulator



2D Image Sonar

.....

# Technical Specifications



## ROV

Dimensions	770mm(l) x 560mm(w) x 400mm(h)
Weight	≤30 kg
Depth Rating	350m
Payload	15kg
Speed	Forward: 4.5 knots
	Reverse: 3.5 knots
	Lateral: 2.5 knots
	Vertical: 1.5 knots
Current Hold	Up to 4.0 knots (2.0 m/s)
Maneuverability	Six Degrees of Freedom
	Direction: Lateral (Left/Right), Vertical Up/Down), Forward/Backward
	Rotation: 360° Roll, 360° Pitch, 360° Yaw
Propellers	Propeller Material: Aluminum alloy with hard anodized finish
	Quantity: Six arranged in a vector configuration
	Forward Thrust: 30 kg, Reverse Thrust: 24 kg, Lateral Thrust: 15 kg, Vertical Thrust: 21 kg
Operating Temp.	-10 °C ~ 50 °C
Navigation	Underwater Integrated Navigation and Positioning System (U-INS+)
Transport	Dedicated Flight Case (with Wheels)

## Dual Camera System

Quantity	Dual 4K Camera System
Front Camera	Aperture: f/2.5
	FOV-Vertical (Underwater): 69°
	FOV-Horizontal (Underwater): 120°
	FOV-Diagonal (Underwater): 146°
	Focus Range: 0.1m~ + ∞
Lower Camera	Aperture: f/1.8
	FOV-Vertical (Underwater): 52°
	FOV-Horizontal (Underwater): 87°
	FOV-Diagonal (Underwater): 96°
	Focus Range: 0.3m~ + ∞
Sensor	1/1.8" CMOS
Features	Simultaneous Multi-View Display / Instant Screen Switching
Pixels	12 MP
Shutter Speed	5-1/5000 Second
Burst Shooting	1/3/5/10 Frames

ISO	100–6400 (Auto/Manual)
White Balance	2800–9000K (for Seawater & Freshwater, Auto/Manual)
Exposure Compensation	-3.0 EV to +3.0 EV (Auto/Manual)
Photo Resolution	4:3 = 4000 × 3000 16:9 = 3840 × 2160
Photo Format	JPEG, DNG
Video Resolution	4K UHD: 25/30 fps
	1080p FHD: 25/30/50/60/75/90 fps
	720P HD: 25/30/50/60/75/90 fps
Video Encode	H.264
Video Format	MP4 (AVC)
Stabilization	Electronic Stabilization (EIS)
Color System	NTSC & PAL
External Storage (Removable SD Card)	External TF Card, FAT32 File System (128GB*2 Standard, Upgradeable to 256/512GB*2)

\*Specifications & appearance subject to change without notice.

# Technical Specifications



## Dual DVL & IMU sensors

Downward DVL	Detection range: 0.1m-100m	Station Lock & Collision Avoidance
Forward DVL	Detection range: 0.15m-10m	
Gyroscope	±0.1°	Posture Lock: ±0.1° pitch angle or ±0.1° roll angle, moving in any direction
Accelerometer	±0.1°	
Magnetometer	±1°	
Depth Sensor	Suspension within ±1 cm	Depth Lock
Temp. Sensor	±1°	

## Tether & Spool

Cable length	350m
Cable diameter	9.5mm
Tensile strength	300kgf
Spool Dimension	600mm(l) × 430mm(w) × 540mm(h)
Spool Weight	53kg
Protection Level	IP66
Transportation	Dedicated Flight Case (with Wheels)

## Control Console | Q-iRC

Wireless Network	2.4GHz & 5GHz WiFi: 802.11 a/b/g/n/ac
Weight	1420g
Usage Time	Up to 8 hours
Screen Size	7 Inches
Brightness	1,500 nits
Protection Level	IP54
External Ports	TF*1, Ethernet*1, HDMI*1, USB-A*1, Type-C*1, ROV*1
Customization	8 Customizable Buttons
Storage	LPDDR4x 4GB RAM + 64GB eMMC Storage

## Dual LED & Dual Laser

Brightness	6000 Lumen LED * 2	
CCT	5500K	
Beam Angle	120°	
Brightness Levels	3	
Dual Laser Scaler	Type: Dual Spot Laser	Smart Measurement
	Wavelength: 660nm (Red)	
	Distance: 10cm Apart	

## Direct Power Supply | Surface Unit

Dimensions	460mm(l) × 360mm(w) × 190mm(h)
Weight	8.4kg
AC Power Input	AC 110V / 220V
Max. Surface Power Output	2.2 kW
Protection Level	IP55 (Lid Opened) IP66 (Lid Closed)

## Direct Power Supply | Underwater Unit

Dimensions	130mm(l) × 130mm(w) × 260mm(h)
Weight	3.8kg
Input Voltage:	700–800V DC
Output Voltage:	29.2V
Maximum Output Power:	1.8 kW
Depth Rating	350m

## AI Tools

QY-MT	QYSEA Measurement Tool (with built-in laser scaler)
QY-BT	QYSEA Bathymetric Tool (with optional Echosounder add-on)
U-INS Plus	Underwater Inertial Navigation System (with built-in dual DVLs, and optional GNSS compass add-on)
Vision Lock	Vision-Based Intelligent Subject Locking
Visual Enhancement	Image De-Hazing & Plankton Filtering

## Port Interface

Quantity	4
Material	Stainless Steel 316
Interfaces	29V @ 5A ETHERNET, UART
Adjustable Power	Adaptive Voltage Range for External Add-on Accessories
Secure Plug	Self-diagnostic Tests & Leakage Prevention

\*Specifications & appearance subject to change without notice.



---

Shenzhen QYSEA Technology Co., Ltd.

Address: Building 1, Phase 2, Galaxy World, No. 1 Yabao Road, Bantian Subdistrict,  
Longgang District, Shenzhen, Guangdong, China

Tel: +86 755-2266-2313

Website: [www.qysea.com](http://www.qysea.com)



Instagram



Facebook



YouTube



Official Website