

The FUSION is a fresh approach at providing a highly capable, multipurpose underwater vehicle with intuitive user interface and control system. A unique system for a diverse range of demanding tasks.

**Elegant Design**

Innovative technical solutions are implemented into the FUSION to maximize capability while minimizing maintenance. The use of composite materials, the elimination of cables, the tool-less design approach and the bespoke sensors form a new standard in underwater vehicles. Sophisticated and simple.

**Operator in Mind**

Thousands of hours of field experience are embodied in the small details, with the understanding that not all operators are as experienced as others. This makes the FUSION not only intuitive to operate, but also practical to maintain.

**Automated Control & Navigation**

Capitalizing on the high end sensor suite, a clever automation and control system brings a new era in stability and ease of operation. The use of sensor integration, efficient mechanical design and clever algorithms make the FUSION a simple to operate yet robust underwater vehicle.



**TETHER OPTIONAL**

As standard the FUSION is a battery powered tethered ROV system, however, an optional module enables untethered AUV capability. Combine the AUV module with a sidescan sonar and the FUSION can be used to autonomously collect a wide variety of high resolution data.



Fully programmable autonomous vehicle capable of complex maneuvers and high quality sensor data collection.



High performance vectored thruster ROV with real time sensor feedback and full automation control system.



# COMPLETE SYSTEM

The FUSION is equipped with a comprehensive suite of high end sensors to deliver maximum capability. Imaging sensors provide visual feedback in all modes, while the navigation sensors enable sophisticated automation and control in a tightly integrated form factor.

## Navigation

Complete navigation package with USBL, DVL, GNSS and IMU for precise positioning and control.

## Propulsion

Powerful and efficient quick release brush-less DC thrusters utilizing out-runner style motors for ultimate reliability.

## Power

Rapid change high density battery packs with safety and duration as the highest priority.

## Imaging

1080p video, forward looking multi-beam sonar and optional sidescan sonar for complete visual imaging solution.

## Construction

High tech composite materials for strength, corrosion resistance and minimal maintenance.

## Payload Bay

Versatile payload bay for optional sensor integration. Mechanical and electrical interface.



## FUSION SPECIFICATIONS

Depth rating:	300m (1,000ft)	Camera:	HD 1080p, 135° tilt, 110° FOV in water
Length:	686mm (27in)	Lighting:	2 x LED, 1500 Lumen each
Width:	477mm (18.8in)	Forward Sonar:	Dual Frequency (750kHz/1.2MHz) 130°/80° horizontal beam width 20°/12.5° vertical beam width 100m/40m (328ft/115ft) max range 0.1m (4in) min range 4mm/2.5mm (0.16/0.1in) range resolution 1°/0.6° acoustic angular resolution 15Hz update rate 256 beams
Height:	275mm (10.8in)		1km (3,280ft) hemispherical range 1° angular resolution ±50mm (2in) range resolution 24-32kHz frequency
Minimum pipe diameter:	508mm (20in)		1MHz
Weight in air:	27.5kg (60lbs)		50m (164ft) max range 0.2m (0.65ft) min range ±0.2% long range accuracy 0.01mm/s velocity resolution ±16m/s velocity range
Thrusters:	4 vectored, 2 vertical, 1 pitch		GPS/GLONASS
Vector angles:	Horizontal - 35°, vertical - 10°	USBL:	2.5m (8.2ft) accuracy
Motor type:	Brushless DC	DVL:	0.1° pitch/roll accuracy 0.8° yaw accuracy
Battery chemistry:	Lithium Ion		Options:
Available power:	914whr		Dual function grabber, dual five function grabber, 1.2/2.1MHz forward sonar, sidescan sonar, AUV mode, USBL
Voltage:	23.5-29.05VDC		
Endurance:	3-4+ hours (typical)		
Charging time:	0-90% - 2 hours (pair)		
Certification:	UN38.3		
Tether diameter:	2.4mm (0.09in)		
Length:	500/1,000m/2,000m (1,640/3,280ft/6,561ft)		
Strength:	113.4kgf (250lbf)		
Type:	Single mode fiber, Gigabit, kink free, ruggedized		
Buoyancy:	Neutral in fresh water		
HMI Configuration:	Rugged controller with touchscreen tablet		
Operating system:	Windows 10		
Control modes:	Normal, Control, Mission & Direct		
Automation:	Auto depth, auto heading, auto altitude, waypoint navigation, path following, station hold, return to home		
Aux Ports:	2 x Serial RS232/485, 1 x Ethernet 10/100		