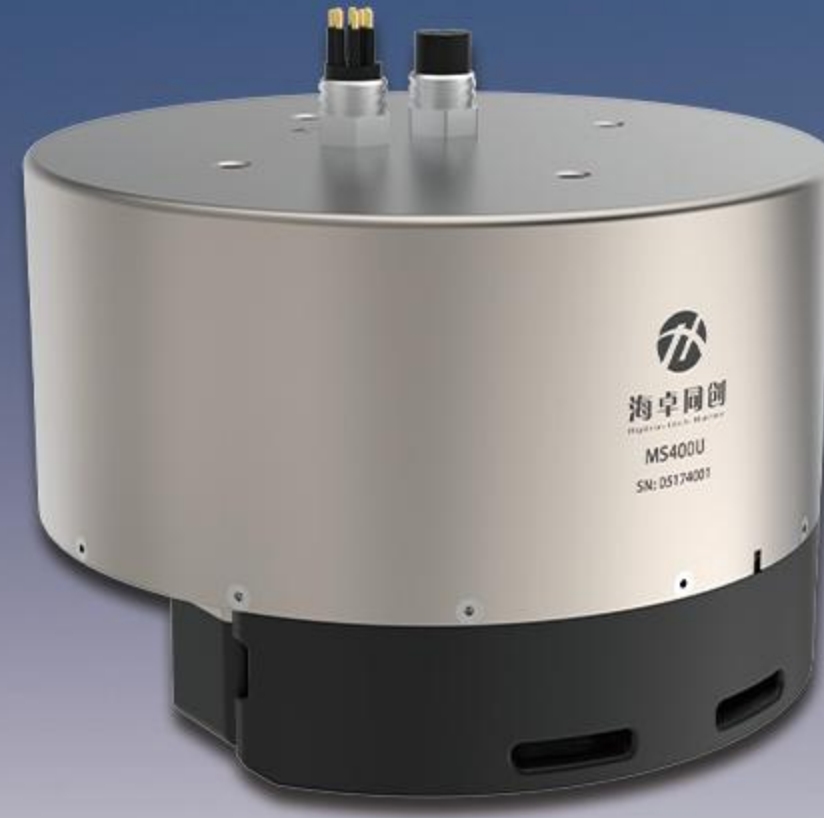


# MS400U (All-in-One)

## Multibeam Echo Sounder



### Highly Functional Integration

Integrate high-precision satellite positioning system, attitude & heading IMU and sound velocity sensors, which can realize non-calibration underwater terrain survey and provide positioning information to USV.



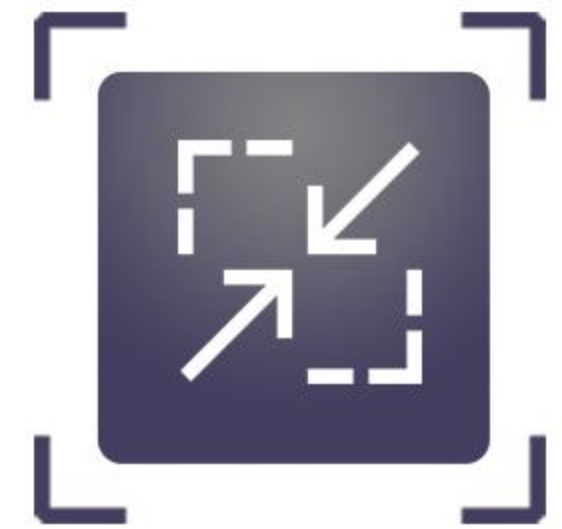
### Full automatic Non-calibration

Automatic measurement without adjustment and manual intervention is suitable for all kinds of unmanned platform integration applications.



### Low Consumption Light Weight

Power Consumption is least 80W Weight around 7.5kg. Easy to install. Suitable for ROV/AUV/USV to underwater terrain surveying.



### Extension Functions

Independent and extensible network interface. It can work together with side scan sonar, ADCP & 3D laser scanning system or other sensor.

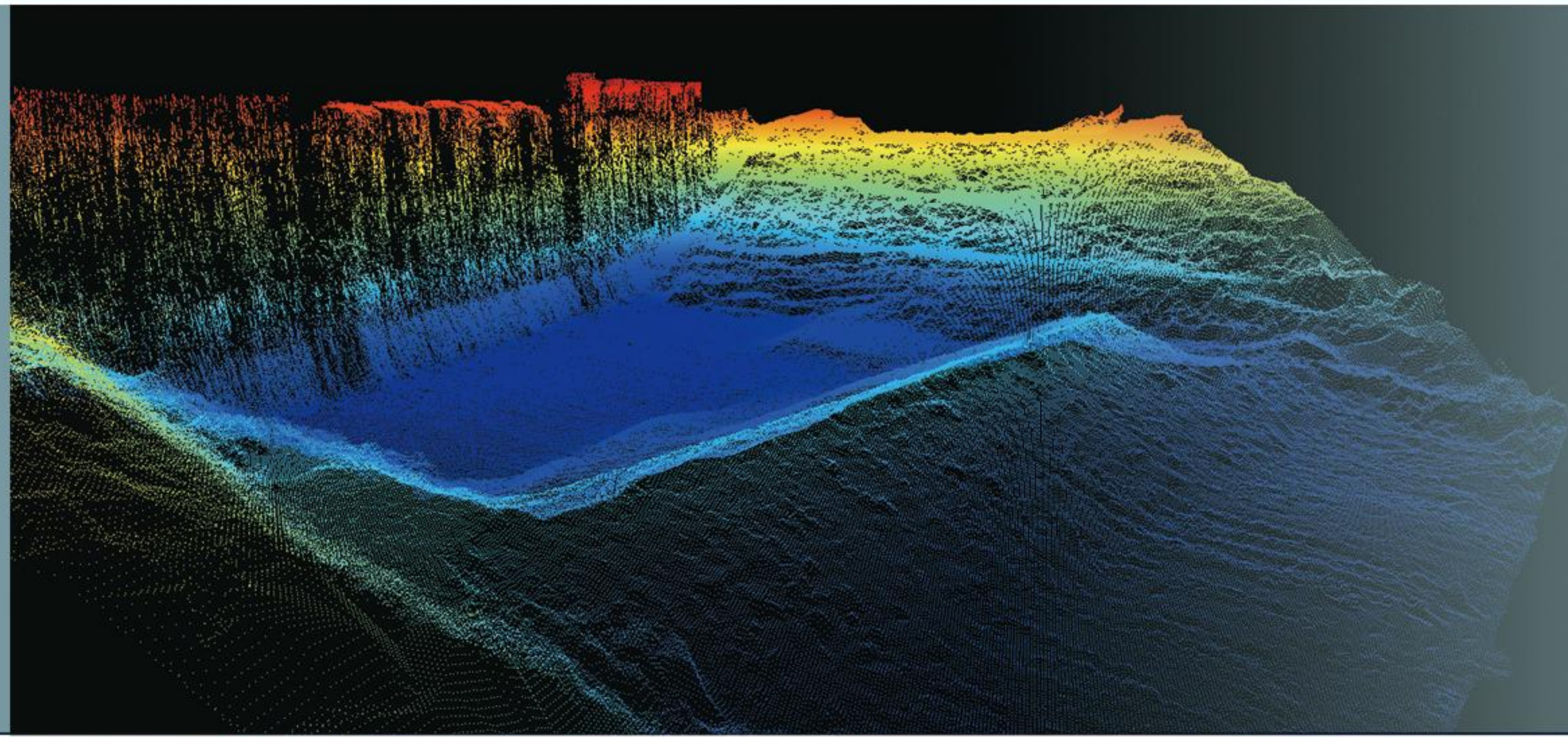


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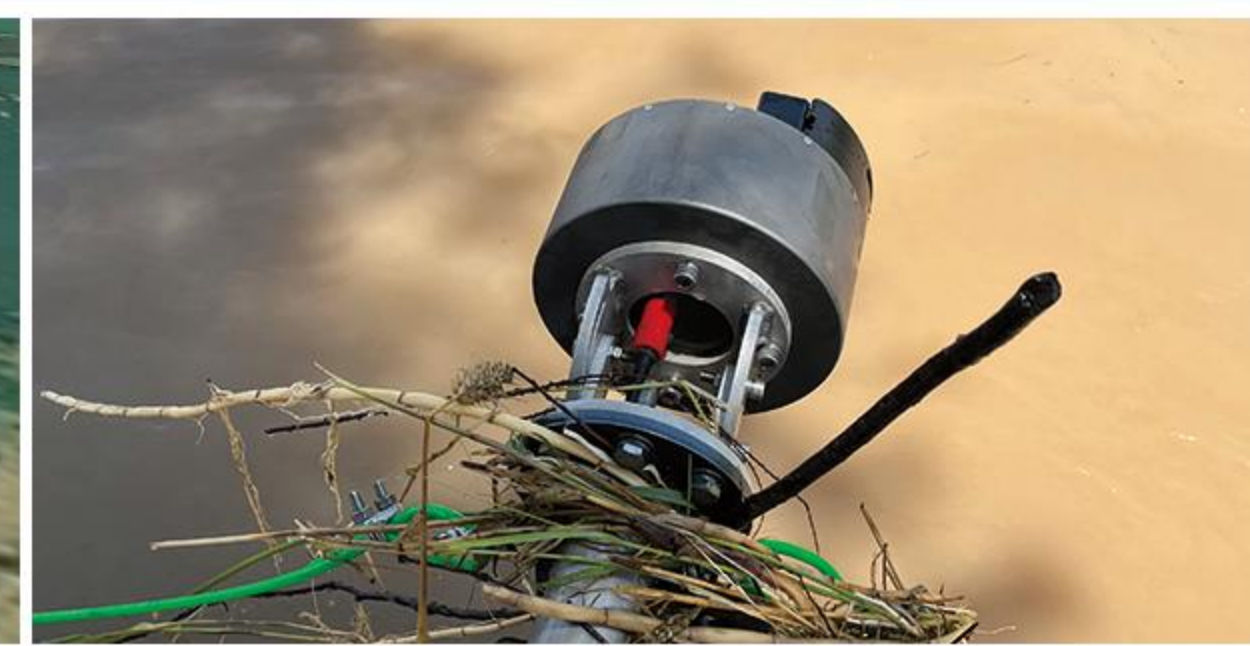
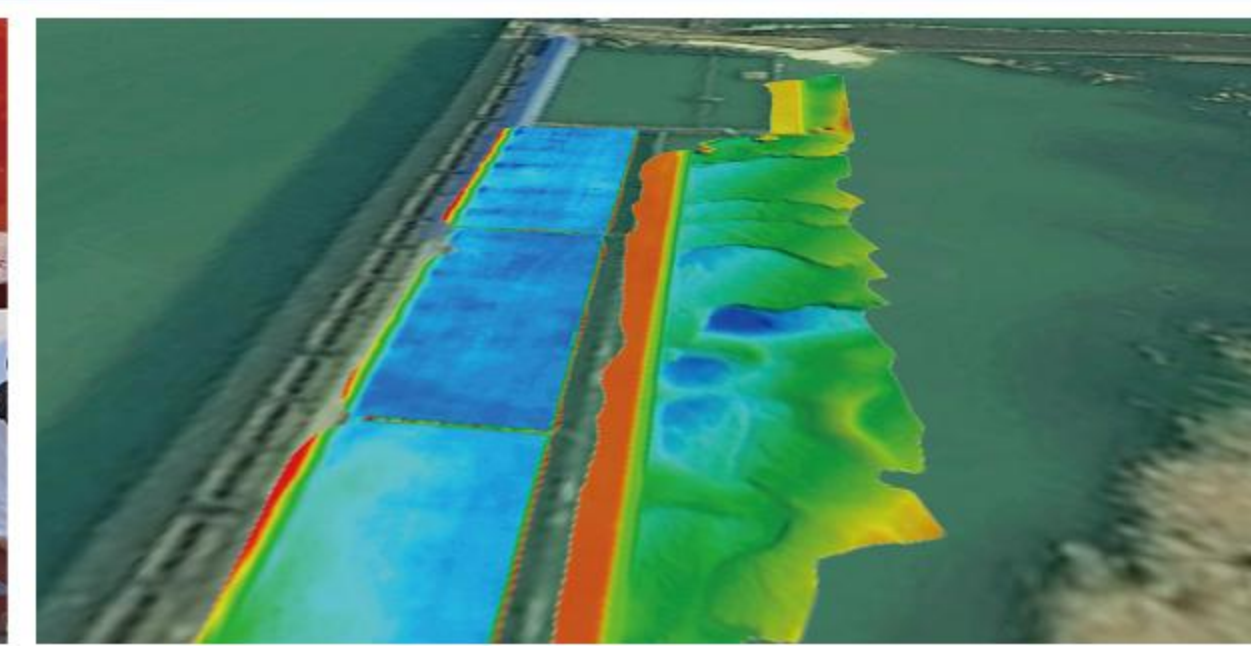
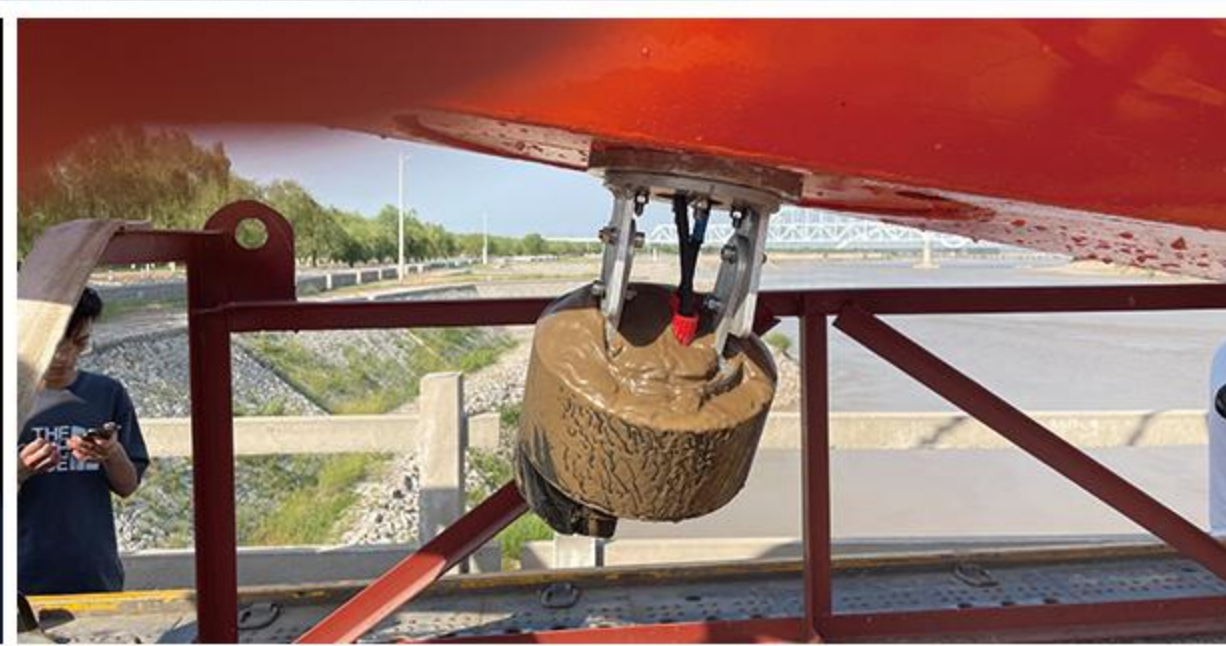
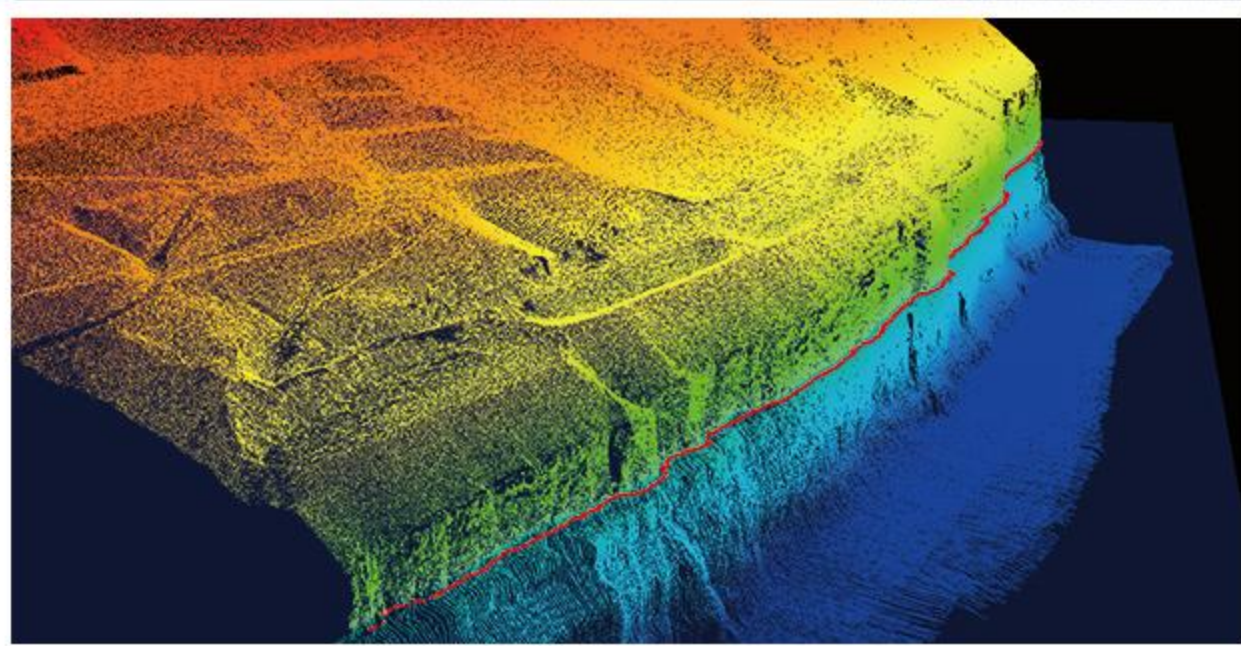


Learn More

# MS400U (All-in-One) Multibeam Echo Sounder



MS400U is a compact multibeam echosounder specially designed for the integration of small USV or other uncrewed platforms. It has built-in sound velocity sensor, IMU sensor and GNSS module. The features of small size, light weight and low power consumption are quite suitable for integration to any autonomy platform. Its functions and performance is perfect for any hydrographic surveying requirements.

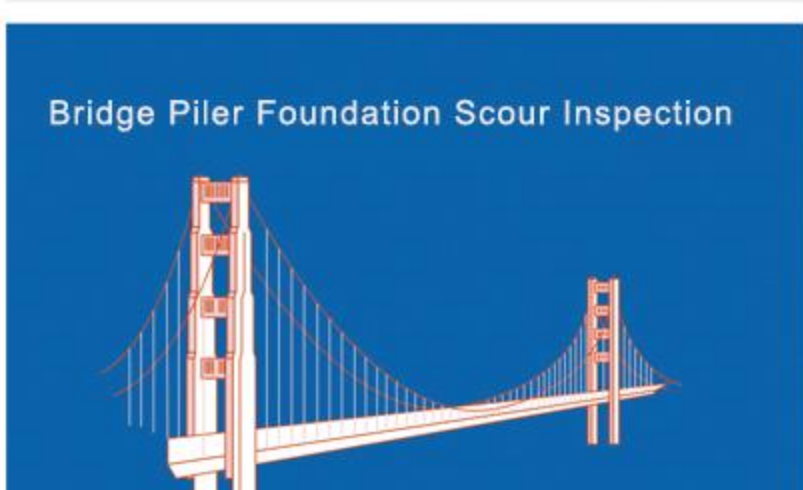
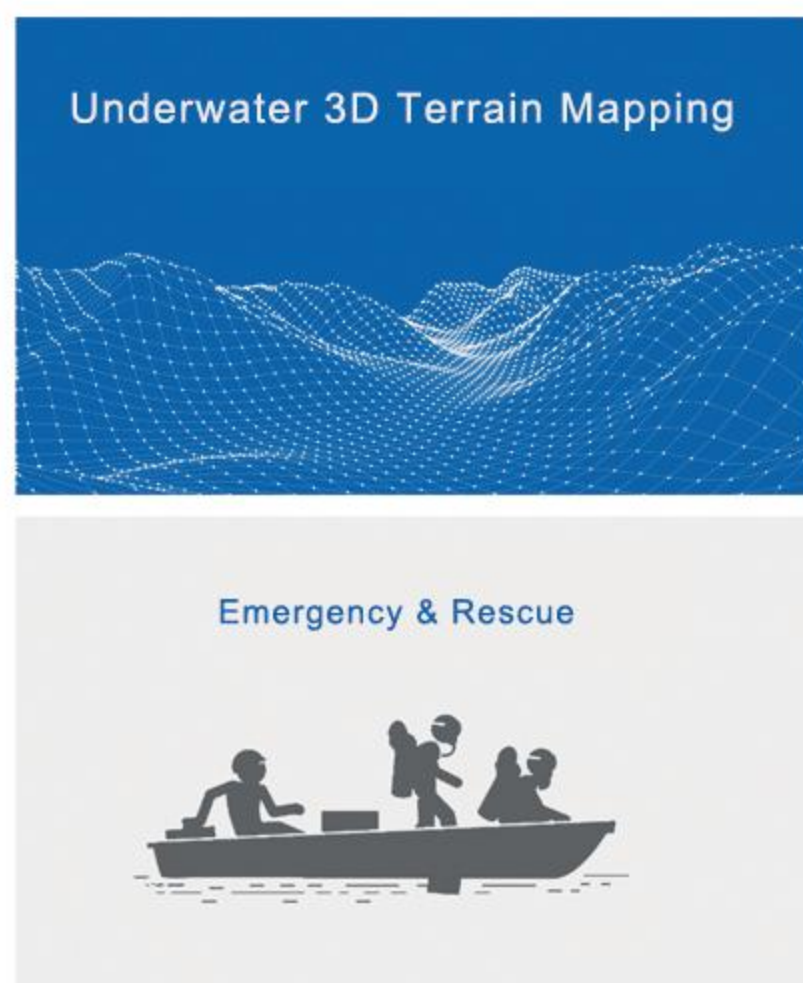
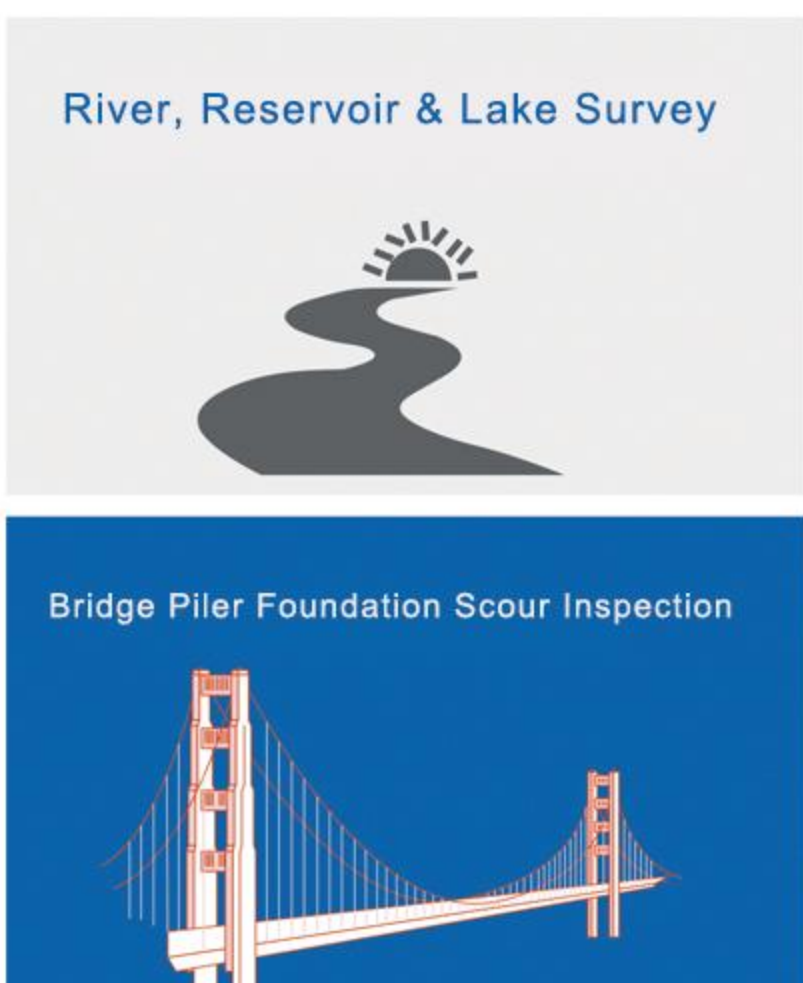


## Recommendations

- Small USV integration with multibeam echo sounder for bathymetric survey in river, reservoir and lake.
- Upgrade Vessel-mounted ADCP with multi-beam echo sounder to high performance hydrographic application.
- Install on surface vessel and USV for underwater terrain mapping.



## Applications



### Technical Specifications

Working frequency	400kHz
Number of beams	512
Cross Track Beam Width	1°
Along Track Beam Width	2°
Swath Coverage	143°
Sounding Depth	0.2-200m+*
Depth Range	0.75cm
Max Ping Rate	60Hz
Sounding Mode	Equiangular / Equidistant
Signal type	CW/Chirp
Pulse Width	30μs – 8ms
Max Working Depth	50m

\* Depending on environmental conditions.



### Features

Near Field Focusing	Yes
Bottom Tracking	Yes
Water Column	Yes
Real-time Roll Stabilization	Yes
Muddy Water Survey	Yes
Auto Survey	Yes



### Physical Specifications

Transducer Size	φ220 × 181mm
Transducer Weight	7.5kg
Deck Unit Size	200 × 145 × 107mm
Deck Unit Weight	2.5kg
Working Temperature	-2°C~40°C
Storage Temperature	-20°C~55°C
Power Supply	DC 10-32V / AC 110~240V
Power Consumption	80W



### Software

Display & Control Software	HydroQuest
Navigation & Data Collection Software	HydroNavi
Compatible with	Hypack, Qinsy, BeamworX



### Auxiliary Sensors

Sound Velocity Sensor	Hydro-Tech SVS1500 (Built-in)
Sound Velocity Profiler	Hydro-Tech SVP1500 (Optional)
IMU Sensor	Applanix SurfMaster (Built-in)
GNSS Module	Trimble BD920 (Built-in)



### Positioning & Attitude Specifications

Positioning	0.5 - 2m (DGPS) / 10cm (PPP) / 8mm+1ppm (RTK)
Attitude	0.03° (RTK) / 0.025° (Post Processing)
Heading	0.06° (4m baseline) / 0.08° (2m baseline)
Heave	5cm or 5% Range / 2cm or 2% (TrueHeave)

\*\*All specifications are subject to change without notice.

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