



ADVSR

Advanced
Dynamic
Vertical
Sampling
Resolution



ADVSR™ (Advanced Dynamic Vertical Sampling Resolution) is a next-generation ROV platform using 5 digital thrusters for 3-dimensional control with **active stabilization**. ADVSR is optimized for precise descent control and near surface measurements.

Engineered for high precision vertical profiling—Improved VSR (Vertical Sampling Resolution) allows for increased sampling times and controlled incremental depth changes in Case 1 and Case 2 waters.

Single Operator Deployable ROV for quick and easy deployments

Dynamic Stabilization allows for slow descent and hovering at target depths

Compact Package, Neutrally Buoyant Cable for shallow waters, coral reef studies, or manmade structure avoidance

Standardized Power and Communication Interfaces to support maximum versatility for sensor integration and customization

Learn More At www.biospherical.com
Contact Us sales@biospherical.com

San Diego, California

ADVSR Specifications



Physical and Performance Specifications

Nominal Platform Dimensions:

Dimensions: 21 in x 21 in x 11 in

Weight in Air 21 lb

Weight in Water -0.1 lb (buoyant)

Payload Capacity: 3 lb nominal (configuration dependent)

Maximum Forward Speed: 1 m/s
(configuration dependent)

Platform Decent Rate: Variable, 1 cm/s to 10 cm/s while maintaining stable platform attitude

Platform Attitude: Pitch and Roll controlled to within 1 degree from horizontal in calm waters

Depth Rating: Standard rating to 100 m; deeper versions available

Water Temperature Range: 0 to 30°C

Electronic Specifications

Power Requirement: 14.8 V DC lithium battery (265 Wh), carry-on luggage allowable option available (148 Wh)

Power Consumption: Idle power < 1.5 W, 25% thrust on all 5 thrusters < 50 W (exceeds typical demand)

Endurance: Deployment dependent, > 5 h for 265 Wh battery, ~3 h for 148 Wh battery

Surface Controller Wireless Range: 5 m nom from controller to mission control computer

Communication Interface: USB 2.0 to mission control computer

Features and Integration Options

Deployment Cable: Neutrally buoyant cable up to 200 m length

High Resolution Depth Sensor: Independent millimeter resolution pressure transducer for precise measurements at sensor apertures

HD Video Camera: 1080p video camera for situational awareness and observation target confirmation

Customizable Integration Ports: ADVSR provides bulkhead ports for a wide range of sensors and protocols: Ethernet, USB, RS-232, and RS-485 interfaces are supported. 12V nom DC power standard; other voltages available

Configurable Payload Mounting: Custom foam, ballast, and open frame concept supports specialized deployment configurations for 3rd-party sensors

Integration Support Services: BSI engineering team can provide hardware and software integration support services for your custom sensing solution



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