



EXPLORER Autonomous Underwater Vehicle (AUV)



The Explorer class of AUV is a modular vehicle comprising of a forward free-flooding section, full diameter pressure hull and a free flooding aft section. It is optimized for longevity while adaptable to meet new requirements. It is available in several configurations and depth ratings from 300 m to 6000 m.

Vehicle systems and payload sensors can be customized at any time throughout the vehicle's life. Payload equipment can be fitted in either of the free-flooding sections, with the associated electronics installed inside the pressure hull on a standard 19-inch rack. The wet payload can include side-scan sonar, multibeam echo-sounder and sub-bottom profiler, all of which can operate concurrently. Payload data is easily accessible through a high-speed Ethernet connection.

The Explorer AUV is renowned for its low operating costs, flexibility and exceptional long range autonomous capability. In the spring of 2010, an Explorer completed more than 10 days of continuous operations under ice, covering more than 1000 km of unsupervised survey without being recovered. Charging and data transfer all took place underwater. The Explorer is also a very stable sensor platform, with a maximum deviation of 0.2° per second in roll, pitch and yaw.

Principal Characteristics:

Length	4.5 - 6.0 m
Depth Ratings	300, 1000, 3000, 5000, 6000 m
Hull Diameter	0.69 m (300/3000 m), 0.74 m (5000/6000 m)
Endurance	24 - 85 hrs
Effective Range	120 - 450 km
Speed Range	0.5 - 2.5 m/s
Dry Weight	640 - 1850 kg
Power Source	1.6 kWh Lithium Ion Battery Modules
Control Computer	Rack Mounted Compact PCI System
Hydroplanes	3 Aft Planes, 2 Fore Planes
Navigation	INU
Velocity Sensor	DVL
Positioning	GPS and USBL
Depth Sensor	Depth Transducer
Altitude Sensor	Altimeter
Acoustic Coms	Acoustic Modem
Radio Telemetry	900 OR 2400 MHz radio, Iridium Satellite Communications
Emergency Equip.	Emergency Transponder, Strobe Light, RF Beacon, Drop-Weight
Typical Payload	CTD, Camera, Chemical Sensor, Side-Scan Sonar, Sub-Bottom Profiler, Multibeam Echo-Sounder

