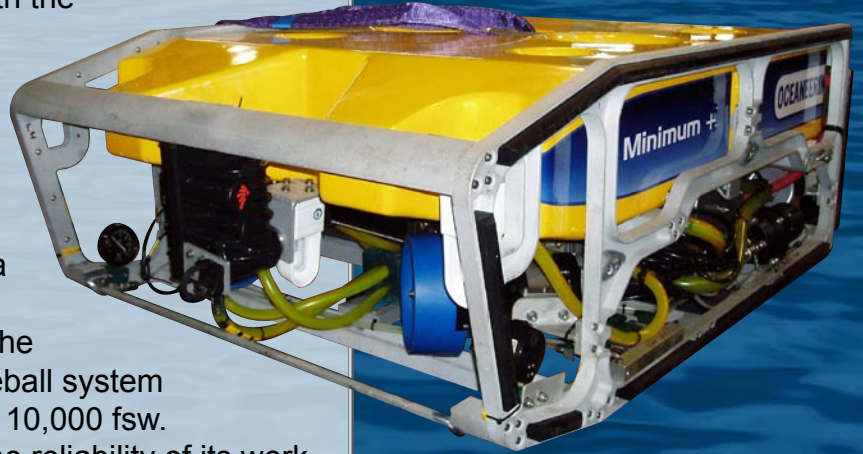


HYDRA MINIMUM®

Oceaneering developed the Hydra Minimum® ROV for tandem operations with the company's work class ROV, the Hydra® Magnum. The Minimum is deployed through a 1,000 ft capacity Tether Management System (TMS) and separate cage attached to the bottom of a standard Hydra Magnum cage. The Minimum can work simultaneously with the Magnum, or perform as an eyeball system rated for an operating depth of 10,000 fsw.

Oceaneering is known for the reliability of its work class ROVs. The Minimum adds redundancy to the company's outstanding record for uptime operations. With six one horsepower, DC powered, brushless electric motors, the Minimum has the ability to operate in currents of up to 3 knots fore, aft and laterally. Should backup operations be required, the Minimum interfaces through the Magnum's umbilical by utilizing dedicated fiber optic telemetry and video transmission between surface and subsea units.

The Minimum's video suite includes a high resolution CCD camera with Pan and Tilt unit. Capabilities for an additional video camera or for optional Obstacle Avoidance Sonar are installed in the system.



The Minimum ROV supporting drilling operations at 9,347 fsw.



Simultaneous deployment of Magnum and Minimum ROV systems.



Size

Length: 65 in
 Width: 39 in
 Height: 20 in
 Weight: 550 lbs (in air)

Performance

Dive Depth: 10,000 fsw (3,050 MSW)
 Payload: 100 lbs.
 Propulsion: 6 each 1 hp DC brushless electric motors consisting of:
 4 x Vectored Horizontal
 2 x Vertical

Thrust

Axial: 170 lbs
 Lateral: 80 lbs
 Vertical: 85 lbs
 Capable of operating in up to 2.5 knot currents

Instrumentation

Video: 1 x high resolution CCD color camera w/ Pan & Tilt unit
 1 x additional CCD camera (optional)
 Lighting: 2 x 250 watt quartz halogen w/ variable intensity
 Sonar: 1 x Obstacle Avoidance Sonar (optional)
 Video / Data: Fiber optic video & data transmission through independent telemetry channel
 Spares: Complete inventory of spares

Tether Management System

Tether: 1,000 ft
 Camera: 1 x B&W CCD
 Lighting: 1 x 250 Watts

