

HARDSUIT™ ATMOSPHERIC DIVING SYSTEM (ADS)

QUANTUM

As the only Atmospheric Diving System with the required classifications to be used in both commercial and military applications, The HARDSUIT™ ADS QUANTUM offers a unique and cost effective solution for completion of many under-water tasks in depths of up to 610 meters. Smaller crew sizes, reduced training requirements, no decompression, unlimited vertical excursions, system portability and lower capital equipment costs are only some of the advantages the HARDSUIT™ ADS has over traditional diving.

Working in tandem with traditional and emerging ROVs, and due to the complex nature of subsea tasks the tethered ADS still stands as a strong contender in the realm of manned and unmanned submersibles, particularly when weighted against cost and dexterity. The HARDSUIT™ not only offers an alternative to traditional diving or ROV use, but bridges the gap between them.

The HARDSUIT™ maintains the operator in a safe, one atmosphere environment throughout the water column, eliminating significant physiological factors that affect saturation divers.



Quantum - Some Key Elements

- Maintains clear voice communication at all times
- Makes unlimited vertical excursions without concern for decompression
- Return to the surface at any time to consult with supervisory personnel and return to the job site without changing pilots or losing time for personnel change over.
- Suit sizing and ballast can be adjusted for individual pilot requirements
- One month pilot training

Height	81.2 in (206 cm) adjustable
Weight	800 lbs (363 kg) in air
Hull Material	A356 Aluminum
Umbilical	1650 feet (381 m) - 2300 feet (700 m) nominal; 9000 lb breaking strength
Power Requirement	DC Brushless - variable speed
Propulsion	4 x 2.4 HP (1.8 kw) each thrusters 214 lb (97 kg) vertical thrust 219 lb (99 kg) horizontal thrust
Communication	Hard wire - Digital voice over data Thru water - 8 or 27 kHz acoustic
Navigation	High resolution Pan, Tilt, Zoom, Focus Video Camera Digital compass with tilt sensor and turns counter Depth Acoustic tracking beacon (Optional) Colour Imaging Sonar Altimeter (Optional)
Lighting	Two Halogen or LED lights
Life Support	Oxygen re-circulation with fan powered CO2 Removal System Backup oral/nasal lung powered scrubber Dual Independent Oxygen systems - port and starboard
Life Support Duration	6 - 8 hours normal dive time 30 to 40 hours reserve
Emergency Equipment	Thruster jettison capability Tether Cut / Jettison capability VHF Strobe; Direction and range finder 37.5 kHz subsea pinger
Surface Monitoring & Control	AMS (Atmospheric Monitoring System) Surface monitoring/recording of: <ul style="list-style-type: none"> • HPO2 supply • CO2 % • Cabin Pressure and Temperature • Depth • Temperature - External Water • System status and built-in test • Software based adjustment and switching
Launch & Recovery	Configuration to suit operation including: surface tended, crane based (5 ton min) full A-frame and tether management system (TMS), fly away configuration, built in and custom configurations
Sensors and Tooling	Data interface in expansion can for: <ul style="list-style-type: none"> • CP, UT, additional video, ACFM • Digital stills camera, 2nd video camera and their tools and sensors Standard Diver Tool Packages (and modified for ADS Interface) <ul style="list-style-type: none"> • Hydraulic tools - impact, drill, chipper, concrete breaker, chop saw and other standard diver tools • Flange connection tools - standard bolt tension, pull-in and alignment systems • Rigging and lifting • Torque tools • Subsea HPU • Dredge and jetting systems • Hot stabs, gasket carriers • Custom tools and adapters



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OceanWorks International is a subsea solutions engineering company, providing almost 30 years of service to the Military, Scientific & Environmental, and Oil & Gas markets.