

## Hydros II Remotely Operated Vehicle (ROV)

Phoenix developed the Hydros II as an air transportable, hydraulically powered, small footprint, high thrust-to-weight, light work ROV system (vehicle, launch and recovery unit, and control suite) to meet unique U.S. Navy technical criteria while providing commonality across its ROV fleet. Design criteria for the ROV system included Vessel of Opportunity (VOO) operability, ability to power/use work tools, through-frame lift capability, automated vehicle controls, operation in 5,000 fsw, and reduced maintenance and repair costs.

The design effort took advantage of Phoenix's Programmable Logic Controller (PLC) based vehicle control developments providing automated vehicle depth altitude, heading, speed-over-ground control, hands free vehicle position keeping, auto translation, pre-programmed route following, and a "go to" position capability.

Two 5-function manipulators, high definition pan and tilt video cameras, LED lighting, tool skid, and 4,500-pound through-frame lift capability support diverse underwater work and salvage tasks. Additional equipment includes:

- Forward-Looking Sonar
- Doppler Velocity Logger (DVL)
- Global Positioning System (GPS)
- Inertial Navigation System (INS)
- Depth and Altitude Sensors
- Sufficient Input/Output to Support a Variety of Hydraulic Tools.

### Contact us to learn more

[www.phnx-international.com](http://www.phnx-international.com)

985.399.0606—Bayou Vista, LA | 954.523.4038—Ft. Lauderdale, FL

281.815.8050—Houston, TX | 301.341.7800—Largo, MD

757.855.7516—Chesapeake, VA | 808.486.6595—Aiea HI

619.207.0871—San Diego, CA | 228.731.7898—Stennis Space Center, MS



## Engineering Philosophy

Phoenix's engineering philosophy is rooted in two decades of operations experience in the deep ocean, often working on and beneath the seafloor, with lessons learned applied to our designs. As a result, our designs tend to:

- Maximize the use of commercial-off-the-shelf (COTS) components
- Eliminate, where possible, proprietary technologies, particularly in regard to system control software, to avoid reliance on a single provider for system repairs or upgrades, and to provide flexibility in acquisition and design approach.
- Emphasize equipment robustness and ease of maintenance and repair at sea.
- Use PLC technology to allow system operators to easily adjust or modify system control software at-sea to improve operator efficiency and system performance, when required.

The Hydros II project demonstrates Phoenix's use of COTS equipment, technologies, and software to reduce component obsolescence, improve spare parts availability, and ease at-sea maintenance and repairs.

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