

ATLAS HYBRID MANIPULATOR

Oceaneering International, Inc. exclusively offers the Atlas Hybrid manipulator arm for use on Remotely Operated Vehicles (ROVs). The manipulator was designed in conjunction with Schilling Robotics and has benefitted from Oceaneering's extensive experience of operating ROV-mounted manipulators, with ruggedness, ease of maintenance and optimized up-time being the primary design goals.

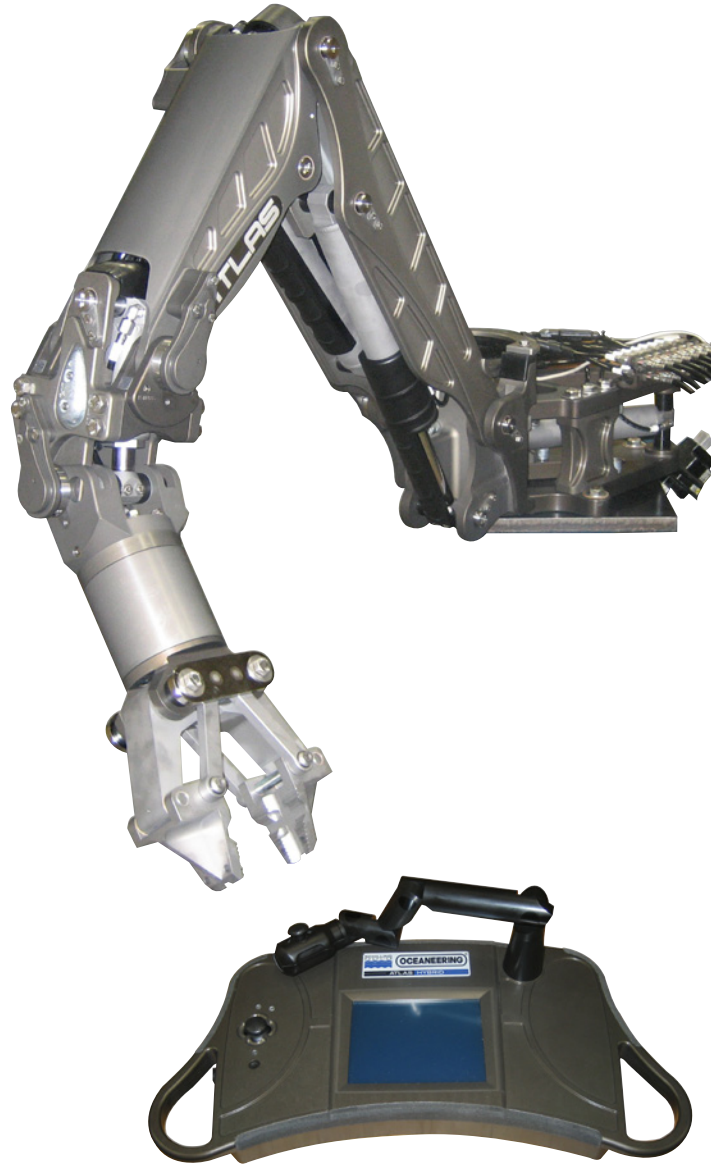
A feature unique to Oceaneering is the hybrid control system, which provides the ability to quickly select either SC (spatially correspondent, closed-loop) or Rate (open-loop) control modes during operations. This allows the operator to select the control mode that best suits the task at hand and also provides redundancy in the event of failure of the position feedback system.

A network of solid-state sensors is used to provide position feedback from the Slave Arm. Their encapsulated construction shields them from seawater contamination, one of the primary causes of failure in manipulators that employ oil-compensated sensors. In the unlikely event of position sensor failure, the operator can quickly select rate-control (open-loop) mode while the system is still at the work site and continue operations. When operations are complete and the system returns to the surface, the defective sensor can be replaced in a matter of minutes.

The custom-built control system features a self-diagnostic capability that continually monitors multiple power and telemetry data points. The operator accesses this data via a unique touch-screen interface on the Master Console.

Specifications:

- 7 functions, SC or Rate controlled.
- Max. lift: 1000 lbs (454 kg)
- Max. lift @ full reach: 550 lbs (250 kg)
- Max. reach: 65.5 in. (166 cm)
- Wrist torque: 150 ft/lbs (205 N-m)
- Jaw grip force: 1000 lb (454 kg)
- Max. operating pressure: 3000 psi (206 bar)



Design Features:

- All-machined components, no castings.
- Parallel and intermeshing jaws available.
- No hydraulic Sliprings or complex rotary actuators.
- Solid-state position sensors.
- Fail-safe mode – can be operated as a rate manipulator in the event of complete sensor failure.
- Self-diagnostic ability, accessed via touch-panel user interface on Master Controller.

