



## APACHE 6 OBSERVATION ROV 15 HP

Sub-Atlantic's fully electric APACHE remotely operated vehicle is a small compact, high performance professional ROV system which can be used for a variety of underwater tasks such as observation, survey and NDT inspections, etc. The plastic open-frame design, the abundance of space and the generous payload capability provide a versatile solution for the fitting of additional equipment and sensors.

### Performance/Dimensions

<b>Horse Power</b>	:	15 HP.
<b>Depth Rating</b>	:	500 MSW.
<b>Payload</b>	:	30 Kg.
<b>Dimensions</b>		
Height	:	620 Mm.
Length	:	900 Mm.
Width	:	700 Mm.
<b>Mass in Air</b>	:	140 Kg.
<b>Bollard Pull @ 0 Knots</b>		
Forward	:	50 Kgf.
Reverse	:	40 Kgf.
Lateral	:	30 Kgf.
Vertical	:	30 Kgf.
<b>Maximum Velocity/ Operational Current</b>		
Forward	:	< 1.02 m/s. < 2.0 Kt.
Reverse	:	< 0.77 m/s. < 1.5 Kt.
Lateral	:	< 0.76 m/s. < 1.0 Kt.
Vertical	:	< 0.51 m/s. < 1.0 Kt.
<b>Turning Rate</b>	:	120 Degrees Per Second.
<b>ROV Spread power requirements:</b>		
440 VAC	3 phases	60 Hz 50 KVA.

### Features

- High Reliability.
- 500 MSW. Versions.
- High Thrust & Station Keeping Capability.
- Sub-Atlantic's CTE-01 A.C. Propulsion Thrusters.
- 30 kg Payload Capacity.
- Operation by Live Boating or Tether Management System.
- Multiple Camera & Sensor Interfaces.
- Compact Manipulator Option.
- Auto-Heading, Depth.
- Plastic Open Frame Design.
- Compact Surface Control Unit.

### Telemetry System

Downlink - 8 analogue channels, 12 bit resolution (4 used for thruster controls). 16 digital switched channels.

Up-link - 8 analogue channels, 12 bit resolution, 16 digital switch channels. Telemetry baud rate - 50K, Communication link - RS485.



### Control System

The system incorporates a Surface Control Unit (SCU) which communicates with the vehicle electronics which are housed in a one-atmosphere E-pod located on the vehicle.

The SCU incorporates:

- 1 off 43" color monitors.
- 1 off 19" color monitors.
- Fixed/remote pilot's control console & joystick.
- Light dimmers.
- Automatic depth & heading control.
- Tether/Umbilical turns counter.
- Video overlay system.
- Earth leakage protection system (LIMs).

SCU power requirements:

220/240 VAC    2 phases    50/60 Hz    2 KVA.

The APACHE E-pod incorporates the thruster system, light dimmers, telemetry system, compass, depth transducer, tilt and camera controls. The housing also has spare electrical connectors to provide power and control for user interfaced equipment.

### Vehicle Functions/ Integral Sensor

- TRITECH fluxgate compass.
- Hydraulic pressure sensor.
- Depth sensor and auto depth function.
- Auto heading function.
- Pitch and roll sensors.
- Turns counter.
- 3F manipulator.

### Standard Development Systems

- Umbilical System.
- Lock-latch and Bullet.
- Launch & Recovery System (LARS A-frame with integrated winch and power-pack).
- Tether Management System (TMS).

### Lighting

3 off 220 VAC, 250 or 500 Watt halogen lamps, dimmer controlled, mounted on frame and camera tilt unit.

### Frame

The APACHE frame is manufactured from polypropylene incorporating the following features:

- Frame is buoyant in water.
- Aluminum load frame and Stainless Steel fasteners.
- Lift point.

### Optional Equipment

The APACHE ROV system will support the following additional equipment which is available as options to the standard specification.

- Industry Standard Cameras.
- High Definition Sonar System.
- Profiling Sonar.
- Side Scan Sonar.
- Bathymetric Oceanographic Sensors.
- CP and Wall Thickness Probes.
- Compact Manipulator Systems.

### Propulsion System

The vehicle is propelled by four Sub-Atlantic thrusters incorporating AC electric motor, propellers and nozzles, arranged in the following configuration:

- 2 off single propellers axial at the rear of the vehicle producing high forward thrust & speed.
- 1 off twin propeller lateral providing equal right & left thrust.
- 1 off twin propeller vertical providing near to equal up & down thrust.

Power to each thruster is through an integral lead and moulded plug for attachment to electronics enclosure.

