



High Reliability, Easy Maintenance
2000 Metre / 3280 ft Depth Rated
Sub-Atlantic Propulsion Thrusters
2-Manipulator Capability
60 kg / 132 lbs Payload with options

Multiple Camera and Sensor Interfaces
Auto-Heading and Depth
Optional Auto-Altitude
Live Boat or TMS Operation
Superb Work Skid Capability

Benefits

Sub-Atlantic's fully electric *CHEROKEE* remotely operated vehicle is a small to medium compact, high performance professional ROV system which can be used for a variety of underwater tasks such as observation, survey, pipelay support, light to medium work and NDT inspections, etc. The abundance of space, the rigid open-frame design and the generous payload capability provide a versatile solution for the fitting of additional equipment and sensors. The Cherokee can carry out many of the tasks currently carried out by work class vehicles.

CHEROKEE System Specification

Performance/Dimensions

Depth Rating: 1000 metres standard 3281 feet
2500 metre optional: 8202 feet

Payload: 64 kg (140 lb.) of lead ballast

Dimensions:

Height: 802 mm 32.0"
Length: 1398 mm 56.0"
Width: 870 mm 34.0"

Mass in Air: 240 kg 529 lb.

Thrust @ 0 Knots (Bollard Pull):

Forward:	873 N	89 kgf	196 lbf
Reverse:	598 N	61 kgf	134 lbf
Lateral:	441 N	45 kgf	99 lbf
Vertical:	441 N	45 kgf	99 lbf

Maximum Velocity/Operational Current:

Forward:	>1.5 m/s	>3.5 Kt.	>5.8 ft/s
Reverse:	>1.0 m/s	>2.5 Kt.	>4.1 ft/s
Lateral:	>0.75 m/s	>1.5 Kt.	>2.5 ft/s
Vertical:	>0.75 m/s	>1.5 Kt.	>2.5 ft/s

Turning Rate: 120 Degrees Per Second

Control System

The system incorporates a *Surface Control Unit* (SCU) which communicates with the vehicle electronics which are housed two separate one-atmosphere enclosures located on the vehicle.

The SCU incorporates: -

- 2 off 9" colour monitors
- Fixed/remote pilot's control console & joystick
- Light dimmers
- Automatic depth & heading control (altitude optional)
- Tether/Umbilical turns counter
- Video overlay system
- Earth leakage protection system

SCU power requirements: 220/240 VAC, 50/60 Hz, 2 kVA

The CHEROKEE vehicle electronics are housed in two aluminium housings, one incorporating the thruster drive systems, light dimmers, the other containing the telemetry system, compass, depth transducer, tilt and camera controls. The housings also have spare electrical connectors to provide power and control for user interfaced equipment.

ROV power requirements: -

440 VAC 3 phase and neutral 50/60 Hz 10 kVA

Lighting

3 off 220 VAC, 250 or 500 Watt halogen lamps, dimmer controlled, mounted on frame and camera tilt unit rated to 48 N.m (36 lb.ft) torque.

Telemetry System

Downlink - 8 analogue channels, 12 bit resolution. 16 digital switch channels.

Uplink - 8 analogue channels, 12 bit resolution, 16 digital switch channels. Telemetry baud rate - 57.6k

Communication - one RS485 and one free RS232

Propulsion System

The vehicle is propelled by four Sub-Atlantic thrusters incorporating AC electric motor, propeller(s) and nozzle(s), arranged in the following configuration: -

- 2 off single propeller **axials** 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 the Main Electronics Enclosure.

Frame

The CHEROKEE frame is manufactured from polypropylene, incorporating the following features: -

- Frame is buoyant in water.
- Aluminium load frame and Stainless steel fasteners.
- Lift point.

Optional Equipment

The CHEROKEE ROV system will support the following additional equipment which is available as options to the standard specification: -

- Industry Standard Cameras
- High Definition Sonar Systems
- Pipe Tracking Systems
- Profiling Sonar
- Side Scan Sonar
- Bathymetric and Oceanographic Sensors
- CP and Wall Thickness Probes
- Hydraulic Tools & Power Pack
- Compact Manipulator Systems
- Cable Cutter

Optional Deployment Systems

- Umbilical System
- Crane, Sheave, Lock-latch and Bullet
- Launch & Recovery System (LARS A-Frame with integrated winch and power-pack)
- Tether Management System (TMS)

Optional items are detailed in separate specifications.

All specifications are subject to change in line with sub-Atlantic's policy of continual product improvement

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