COMANCHE
SMALL WORK CLASS
REMOTE OPERATED VEHICLE

SeaTrepid INTERNATIONAL
Excellence in Underwater Services



COMANCHE 3,000 MSW ROV SYSTEM

The SeaTrepid Comanche is an effective electric work class solution with an observation class cost. This system can support work class operations including, manipulation and tooling, a variety of data collection options, diagnostics for survey and many other applications. This system is not only the fraction of the cost of traditional work class ROV but also a fraction of the size.

SUBSEA APPLICATIONS

Construction IRM
Cleaning
Cutting
NDT
Drill / rig / completion
Support and well intervention
AX-VX gasket change out
BOP shutdown
Fluid injection
Hot stabbing

SURVEY APPLICATIONS

Pre/post pipe/cable lay
Touch-down monitoring
Diver support
Renewable energy
Submarine or maritime rescue
Munitions
Search and recovery
Scientific research
Data / sample collection
Drilling/tapping

***A VARIETY APPLICATIONS AVAILABLE DEPENDING ON SPECIFIC SCOPE*

OPTIONAL EQUIPMENT

Survey expansion electronics pods
Industry standard manipulators (7 and 4 function)
Dredge systems
Live download of digital stills
Motion and navigation
Geophysical and bathymetric sensors
Cleaning jets and brushes
Reference sensors
Cutters
High definition cameras and lights
Threat detection
Imaging intervention systems
NDT sensors
Pipe and cable tracking and inspection

SeaTrepid A Higher Standard of Excellence
SeaTrepid INTERNATIONAL | SeaTrepid REMOTE INSPECTION TECHNOLOGIES | SeaTrepid DEEPSEA

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COMANCHE WORKCLASS ROV

PERFORMANCE/DIMENSIONS

Depth rating:	*9,840 fsw (3,000 msw)*
Standard payload:	*Standard*
Height:	*474 lb. (215 kg) lead ballast*
Length:	
Width:	*49 in (1,250 mm)*
Mass in Air:	*83 in (2,100 mm)*
Thrust @ 0 Knots	*51 in (1,300 mm)*
(bollard pull)	*2,491 lb. (1,130 kg)*

***Maximum during Operations*

Forward:	*529 lbf (240 Kgf)*
Reverse:	*529 lbf (240 Kgf)*
Lateral:	*529 lbf (240 Kgf)*
Vertical:	*496 lbf (225 Kgf)*

CONTROL SYSTEM

This System incorporates the SubCan telemetry system providing simple, intuitive control GUI that allows various sensors and diagnostic tools to be at the pilot's fingertips. Communications are maintained with a 16-bit cyclic redundancy check to ensure a robust connection with the subsea hardware. Also, diagnostic feedback such as voltage, current, and temperature is provided for each PCB as well as ground fault detection on both high and low voltage lines to assist in rapid fault finding.

HYDRAULIC SYSTEM

The Comanche is supplied with a 15kW / 20 HP hydraulic system valve pack to provide tooling expandability including soft line cutters, wire rope cutters, 10" rotary cutters, rotary grinder/buffer, multi-fluid intensifier, gasket replacement tool, pressure test unit, low pressure water jetting system, hydraulic dredge pump, class 1-4 torque tool. Providing 21 LPM / 5.5 GPM at 2500 psi.

MANIPULATORS

The frame is configured with one Schilling Orion 7 function proportional arm and one Schilling Orion 4 function rate arm.

TELEMETRY SYSTEM

Communication is controlled via a Focal 907 plus telemetry module. This fiber optic module combines 4 video, 4 RS232, and 2 RS485 signals transmitted across a single fiber. Ethernet, ECL, and other various telemetry interfaces are also available.

BUOYANCY

The Comanche buoyancy is manufactured from four separate modules with closed cell micro spheres, 9840 fsw (3000 m) rated.

LIGHTING

4 x 24 VDC, LED lamps, dimmer controlled, and mounted on the frame and camera tilt unit.

LAUNCH AND RECOVERY SYSTEM

A Frame Winch & HPU:	
Weight:	*41,000 lb. (18,600 kg/20.5 ton)*
Length:	*18'6" (5.64 m)*
Width:	*9'6" (2.90 m)*
Height:	*25' 2' (7.67 m)*
Optimum Speed:	*3.0 kts. (1.5 m/s)*
Height (Travel):	*10' 0" (3.05 m)*
Power Requirements:	*440-480 V 3 Phase 150 KW*

PROPULSION SYSTEM

This vehicle is propelled by seven Sub-Atlantic thrusters incorporating highly reliable DC brushless motors. Each thruster develops 220 lbf (100 Kgf) and is arranged for maximum efficiency:

4 x SPE 250 Vectored thrusters mounted in a 45-degree vectored configuration producing very high all around thrust.

3 x SPE 250, 2 vertical thrusters vectored to clear the vehicle's Low deck and a single pitch thruster at the rear to counteract the manipulator loading effects

CAMERAS AND SONAR

One forward pan & tilt, one forward tilt camera, and one fixed aft camera. Four simultaneous video channels per telemetry module.

Obstacle avoidance sonar (standard).

Various sonars and sensors are available upon request

The Comanche ROV system will support equipment, available as options to the standard specification, including:

-Obstacle avoidance sonars
- Industry standard manipulators and cutter
- Dredge systems
- Live download of digital stills
- Motion and navigation reference sensors
- Nondestructive test sensors
- Cleaning jets and brushes
- Pipe and cable tracking and inspection systems
- Drill support and well intervention tooling
- Threat detection, imaging, and intervention systems
- Industry standard HD cameras
- Side scan sonar
- Geographic, bathymetric, and oceanographic sensors
- Multi-sensor Interface
- HD sonar systems
- CP and wall thickness probes
- High pressure water jet
- Multiple video channels
- FMD (flooded member detection)

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