

MERMAID OFFSHORE COUGAR XT

More Power, Better Performance with Quick-Change Tooling

The Seaeeye Cougar-XT is a development of the successful Seaeeye Cougar range, proven worldwide in demanding applications and recognised for its capability to operate effectively as a compact work-class ROV.

The new Cougar-XT comes with a considerable improvement in performance. Developments in drive and power technology has seen vehicle thrust increased by over 50% in all directions - creating a vehicle with the highest thrust to weight ratio in its class.

Vehicle power has been doubled by increasing the supplied voltage from 250 to 500 Volts. Apart from improving the vehicles



handling this enables a Seaeeye Cougar-XT to accommodate a wider range of heavier duty tooling for work tasks. These include drill support, salvage and IRM to depths of 2000 metres.

Tackling an expanding range of applications is made easier because task-specific tooling skids can easily be bolted on, and changed as needed.

The Seaeeye Cougar-XT leads a new generation of compact, highly flexible and extremely powerful electric ROVs that offer users the ability to undertake a wider range of demanding tasks at lower operating costs.

THE VEHICLE

Chassis

The extremely rugged polypropylene chassis with a stainless steel lift frame, is totally maintenance free, non corroding and self-supporting in seawater. The design allows for additional equipment to be directly bolted to the chassis for ready customisation.

Seaeeye was the first company to introduce polypropylene for the construction of ROV frames.

Buoyancy

The syntactic foam buoyancy block is split into two sections for easier handling and access to vehicle components. Apertures are provided for sonar, Xenon strobe and tracking transponders.

Equipment Interfaces

A wide range of standard or custom interfaces are provided:

Manipulator & cutter interfaces
 CP Interface (Proximity or Contact) Obstacle avoidance, multi beam, profiling or side scan sonar
 Bathymetric systems
 Fixed focus, zoom and stills cameras
 Emergency strobes and beacons Tracking systems
 3-phase tooling supply
 Auxiliary connections providing telemetry & DC power for other accessories

Propulsion

All Seaeeye ROVs feature brush less DC thrusters which, apart from having the greatest power density, have integrated drive

electronics with velocity feedback for precise and rapid thrust control. These thrusters are interfaced to a fast PID control system and a solid-state rate gyro for enhanced azimuth stability. These essential building blocks enable 8aab Seaeeye to provide superior control and response from their powerful ROVs and set them apart from the competition. The Seaeeye Cougar-XT is no exception!



Four vectored horizontal and two vertical 8M7 500 Volt brush less DC thrusters provide full three-dimensional control of a Cougar-XT.

Compass & Rate Gyro

A Flux-gate compass and a solid-state rate sensor are provided and give the Cougar-XT superior azimuth stability in forward flight and in auto heading.

Compass accuracy	0.5°
Resolution	0.351°
Update rate	98mS

Depth Sensor

The system uses an electronic depth sensor accurate to 0.1% FSD accuracy.

Automatic Pilot

The compass, rate gyro and depth sensors provide an automatic pilot for depth and heading. Auto altitude is an option requiring the addition of an altimeter and software modification.

Video System

The standard configuration transmits multiplexed video over two multi mode fibres in the umbilical tether. This provides up to 4 simultaneous video channels.



THE VEHICLE

Tilt Platform

The ± 90 degree camera tilt platform accepts two cameras and lights. A proportional tilt feedback potentiometer provides an accurate tilt angle which is displayed on the video overlay.

Pan & Tilt Unit (optional)

An optional Pan & Tilt platform with high

torque output is available. The mechanical and electrical components used to operate the platform are housed in a robust unit designed for the harsh subsea environment. This improved Pan & Tilt Unit (PT35NM) is oil filled and manufactured from anodised aluminium.



Pan and tilt positional information is displayed graphically on the video overlay.

Lighting

A total of 600 Watts of lighting is available as standard. Two individually controlled lighting channels are provided, both containing two fused 150W lamps. Each channel has its own brilliance control on the pilot's Hand Control Unit.



Vehicle Electronics Pod

The vehicle has one watertight electronics pod machined from 6082 marine grade aluminium and hard anodised in black.

The pod is fitted with Leak and Vacuum alarms.

Connectors

The Seavey range of metal shell connectors are mainly used throughout.

Tether Termination

The tether, or soft umbilical, is electrically terminated in an oil filled and pressure compensated Vehicle Junction Box (VJB). It is mechanically terminated using a Cable Grip.

For free swimming Cougars, the soft umbilical can optionally be mechanically terminated in a bullet suitable for use with a lock latch or 'go devil' for launch and recovery.

COUGAR-XR DEPLOYMENT

A Seavey Cougar-XR can be operated free swimming with up to 600 metres of soft umbilical.

For greater protection of the vehicle as it passes through the splash zone and for faster travel to and from the working depth, it is more usual to deploy this type of ROV in a garage Tether Management System (TMS).

A skid mounted 'A' frame, Hydraulic Power Unit (HPU) and winch with an appropriate length of steel wire armoured lift umbilical is the most common Launch and Recovery System (LARS) used for vehicles like Cougar with a TMS. Seavey Cougars, Panthers, Surveyors, Lynx and Tigers.

