



SAAB

PETRODIVE
Subsea Robotics Services

SEAEYE COUGAR-XT



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The Seaeeye Cougar-XT is a compact, highly flexible and extremely powerful electric ROV with working depths of 2000 metres.

Proven worldwide and recognised for its capability, operators now have the ability to undertake a range of demanding work tasks at much lower operating costs.

Seaeeye Cougar-XT is designed to accommodate heavier duty tooling via a system of quick-change tool skids making it ideal for survey work, drill support, light construction projects and salvage support operations.



THE VEHICLE

CHASSIS

The extremely rugged polypropylene and stainless steel chassis is totally maintenance free, non corroding and self-supporting in seawater. Additional equipment can be bolted directly to the chassis for customisation.

BUOYANCY

The syntactic foam buoyancy block has apertures for a sonar, emergency strobe and tracking transponder.

PROPULSION

Four vectored horizontal and two vertical brushless SM7 500 Volt DC thrusters provide full three-dimensional control of the Cougar-XT and the highest thrust to weight ratio in its class.

COMPASS, RATE GYRO & DEPTH SENSOR

A flux-gate compass and a solid-state rate sensor give superior azimuth stability.

Compass accuracy	±0.5°
Resolution	0.351°
Update rate	98 ms

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

ETHERNET

100 Base ethernet as standard, 1GB upgrade optional.

EQUIPMENT INTERFACES

A wide range of interfaces are provided as standard:

- 4 video
- 4 auxiliary (RS232/RS485/STP)
- 1 sonar
- 1 manipulator
- 1 CP
- 1 tooling motor

Custom interfaces and configurations can also be provided.

AUTOPILOT FUNCTIONS

- Auto heading
- Auto depth
- Auto altitude (optional)

VIDEO SYSTEM

Up to four simultaneous video channels are available (transmitted via two multimode fibres).

PAN & TILT PLATFORM

The robust high-torque pan & tilt unit accepts two cameras and a light. The pan & tilt angles are displayed graphically on the video overlay.



LIGHTING

Four LED lamps are provided in two individually controlled channels, each with two fused 3250 Lumen lamps and their own dimmer control. LED lights offer exceptional illumination and are extremely durable.

VEHICLE ELECTRONICS POD

The vehicle has a watertight and anodised electronics pod machined from 6082 marine grade aluminium and fitted with leak and vacuum alarms.

CONNECTORS

The Cougar-XT uses Seaeeye's proven range of metal shell connectors.

TETHER TERMINATION

The tether is electrically terminated in an oil-filled and pressure compensated vehicle junction box and mechanically supported by a cable-grip.

SURFACE CONTROL AND POWER SUPPLY

SURFACE CONTROL UNIT



Surface control equipment can either be installed directly in the customer's facility or integrated into a custom ISO control cabin.

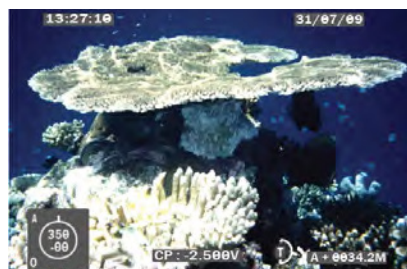
The surface control system provides:

- AC and DC supply switching control
- DC current and voltage indication
- Control of video and video overlay
- A keypad for system configuration
- Interfaces for ancillary equipment
- ROV control system (via the hand control unit)

MONITORS AND VIDEO OVERLAY

The system comes with two 17" colour rack-mounted video monitors displaying the video signal from the cameras. One also displays the following overlay data:

- Heading
- Analogue compass rose
- Depth
- Pan & tilt position
- Date and time
- Free text from keyboard
- TMS bail cable count (when used with a TMS)
- CP probe readings (if fitted)
- Vehicle turns count
- Leak & vacuum alarms
- One string of live data, e.g. altitude or latitude/longitude (optional)



TELEMETRY MONITOR UNIT

A telemetry monitor unit allows the ROV data (heading, depth, etc) to be displayed on a PC and/or exported to a survey computer, and is also a useful diagnostics tool.

KEYBOARD

A rack-mountable keyboard is supplied for entering data and free text onto the video overlay.

HAND CONTROL UNIT

The hand control unit provides remote control of the ROV (propulsion, pan & tilt unit, lights, autopilot functions, etc).



SYSTEM POWER SUPPLY

The power supply unit incorporates protection devices, interlocks and cooling fans. Safety features include both AC and DC line insulation monitors (LIMs) to monitor electrical leakage in the system (with trips and alarm indicators) and to test the isolation of the system.



3-PHASE 9 KVA TOOLING POWER SUPPLY UNIT

This unit provides a 3-phase 660V power supply at the vehicle for optional tooling, such as cutters or water jetting systems.

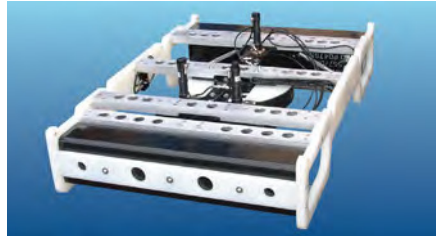
CABIN JUNCTION BOX

At the surface the umbilical cable is terminated inside a lockable cabin junction box, which also contains the fibre optic multiplexer(s) for transmission of the video signal.

OPTIONS, TOOLS AND ACCESSORIES



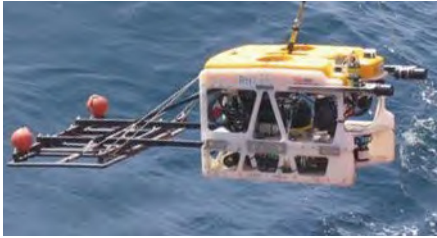
WHEEL SKID



AX RING REMOVAL SKID



MANIPULATOR SKID WITH GRABBER ARM



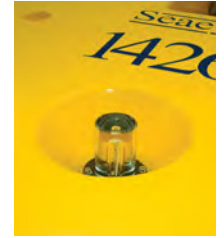
SURVEY SKID WITH TSS PIPE TRACKER



ANVIL CABLE CUTTER



SNUBBER-ROTATOR



EMERGENCY STROBE



UT GAUGE & CP PROBE



WATER JET



CLEANING BRUSH



ROTARY DISC CUTTER



PROFILING SONARS



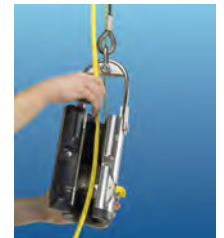
SONAR



SIDE SCAN SONAR



LOCK LATCH

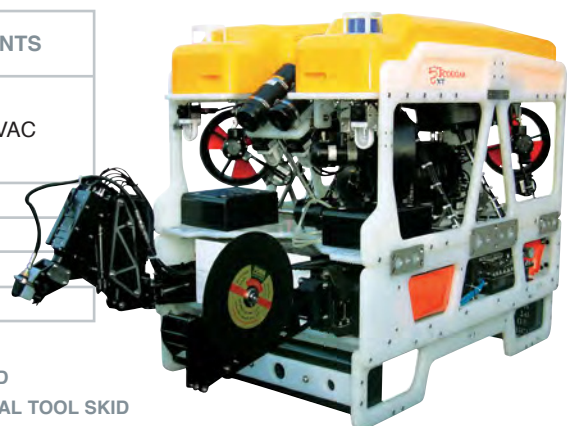


SEAEYE COUGAR-XT SPECIFICATIONS

SPECIFICATIONS	
Depth rating	2000 msw
Length	1515 mm
Height	790 mm
Width	1000 mm
Launch weight	409 kg
Forward speed	3.2 knots
Thrust forward	170 kgf
Thrust lateral	120 kgf
Thrust vertical	110 kgf
Payload	80 kg

SYSTEM POWER REQUIREMENTS	
Input	3-phase 380-480 VAC 50-60 Hz
ROV + TMS	24 kVA
Tooling	9 kVA
LARS (typical)	70 kVA
Cabin (typical)	14 kVA

MANIPULATOR WITH WATER JET AND DISC CUTTER WITH AX RING REMOVAL TOOL SKID



QUICK-CHANGE TOOL SKIDS

Task-specific tool skirts can be readily changed for rapid turn-around between dives requiring different tooling packages.

These skirts can be custom designed to suit specific operational requirements, including:

- Manipulator packages
- Anvil or rotary disc cutters
- Water jetting equipment
- Torque tools
- Survey packages
- Drill support and IRM tooling
- X-Y-Z tool



COUGAR-XT DEPLOYMENT AND OPERATION

TETHER MANAGEMENT SYSTEM (TMS)

For work at greater depths and faster travel to and from the working zone as well as greater protection of the vehicle through the splash zone, it is usual to deploy this type of ROV with a TMS. The Seaeeye stainless steel TMS type 8 uses a bail arm to spool up to 200 metres of tether on and off a drum controlled by the ROV pilot. The TMS height can be adjusted to accommodate different tool skirts.



A snubber-rotator allows the TMS to be locked into position, rotated and securely moved through the A-frame (optional).

The Seaeeye Cougar-XT can also be operated free-swimming (without a TMS) with up to 600 metres of soft umbilical, usually fitted to an electric winch.

CABIN

A range of control cabins/workshops are available and can be adapted to suit customer-specific requirements.

'Safe area' or 'Zone II' ratings are available.



COUGAR IN A BOX

A self-contained configuration including a control area, a 600m winch and the ROV in a single enclosure is also available.



LAUNCH AND RECOVERY SYSTEM (LARS)

A range of different configurations and winch sizes are available to accommodate different cable lengths and applications.

An A-frame, hydraulic power unit (HPU) and winch with an armoured lift umbilical is the most commonly used launch and recovery system.



When deck space is at a premium, crane-based systems can alternatively be used.

'Safe area' or 'Zone II' ratings are available.



SAAB SEAEYE LTD

THE WORLD'S LEADING MANUFACTURER OF ELECTRIC ROVS

With over 25 years experience and 700 vehicle systems sold, the company is at the forefront of design, technology, manufacturing process and support for ROVs across the world.

Providing a range of systems from inshore observation level to full deep-sea work class, Saab Seaeye has pioneered the use of ROVs for many applications, providing customised solutions, developing tools and integrating advanced technologies to achieve results for its customers.

Saab Seaeye is a wholly owned subsidiary of Saab Group, a major supplier of services and solutions to the global defence sector and celebrating its 75th birthday.

Based in the UK with a worldwide network of experienced representatives, Saab Seaeye's 24,000 sq ft headquarters in Fareham, includes in house design using the latest computer aided technology, prototyping, workshops, test tanks, pressure testing, motor rooms, machine shop, electronics and PCB sections, vehicle assembly area, stores, training rooms, offices and meeting facilities.

Accredited with DNV ISO 9001, Saab Seaeye is committed to a safe, clean and efficient working environment, coupled with experienced project management, high quality customer service/offshore support, including 24h emergency contact number and comprehensive stock holding.



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