



**SAAB**



# SEAEYE COUGAR-XTi



## THE DEEP WATER COMPACT WORK ROV

THE SEAEYE COUGAR-XTi is the deep water version of the compact, highly flexible and extremely powerful Cougar-XT.

As well as all the benefits of the Cougar-XT and the full range of optional quick-change tool skids, the Cougar-XTi also features iCON™, Saab Seaeeye's modular control and configurable power distribution system.

- Operational depth of 3000 msw
- 80 kg payload
- Range of optional quick-change tool skids
- Configurable power distribution system
- Self-diagnostics
- Modular control system
- Reduced tether and umbilical diameter
- Full range of handling systems and accessories



COUGAR-XTi DETACHABLE BRUSH SKID



COUGAR-XTi DETACHABLE TORQUE SKID

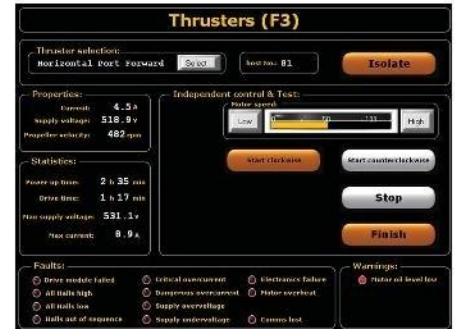


# SEAEYE COUGAR-XTi

The Cougar-XTi has been developed to address the industry's need for a 3000m observation ROV, capable of providing 'self-help' and light work capabilities.

The system is based on the proven 2000m rated Cougar-XT, but with a new distributed intelligence control system, iCON, and a high frequency power supply system developed for deep water operations. These new systems have been developed and used in Saab Underwater System's military ROV systems.

- Minimal deck footprint: same footprint as a smaller observation ROV (Lynx for instance).
- Fault tolerance for minimised downtime, thanks to a new generation modular control system allowing remote individual switching and isolation of all subsea components.
- Non-invasive and automated self-diagnostics. Each subsea component can also be health-checked and interrogated for parameters such as power, temperature, hours run, etc.



## SEAEYE COUGAR-XTi SPECIFICATIONS

SPECIFICATIONS	
Depth rating	3000 msw
Length	1515 mm
Height	905 mm
Width	1000 mm
Launch weight	580 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	20 kVA
TMS	3 kVA
Tooling	5 kVA
LARS (typical)	75 kVA
Cabin (typical)	12 kVA



- Advanced autopilots: heading, depth, pitch, roll, stabilisation, altitude (with altimeter). Future advanced autopilots (with additional sensors): station keeping, vector transition, auto riser-tracking.
- Remote internet interface for base and Seaeeye technical support.





## COUGAR-XTIDEPLOYMENT 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 skids.



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.





## 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 2 multimode fibres).

## 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)

## 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).





### 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-XT1 uses Seaeye's proven range of metal shell connectors.

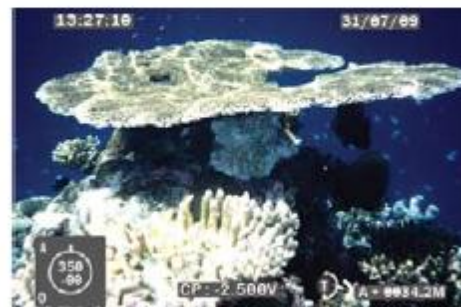
### TETHER TERMINATION

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

### 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)



### 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.