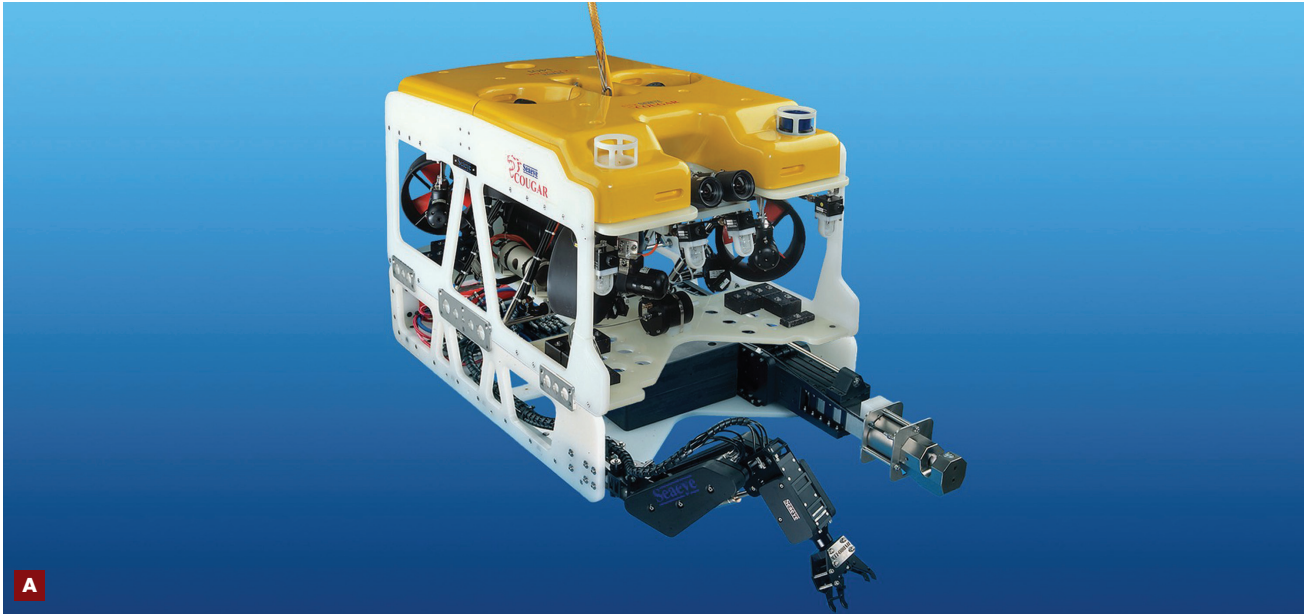


EQUIPMENT SHEET

SEAEEY COUGAR XT

LIGHT WORK CLASS REMOTELY OPERATED VEHICLE (ROV)



INTRODUCTION

In the range of light work class ROV's the Seaeeye Cougar-XT is one of the most powerful tools available. With its increased thrust, load carrying capacity and tooling skid options, this ROV is very suitable for performing a wide range of (pipeline) inspection and construction tasks.

The Seaeeye Cougar-XT is a highpowered light working class digital vehicle, which, in combination with TMS, is used for survey and mechanical tasks. Besides standard tasks such as observation and inspection, the Seaeeye Cougar-XT can be used for a broad range of survey and mechanical activities. For both sets of tasks easy exchangeable tooling kits are available. The skid for mechanical tasks has been equipped with two 5-function manipulators. By making use of a TMS system the ROV can be more safely deployed from a DP vessel or under less suitable tidal and weather conditions.

The vehicle is standardly equipped with two cameras (one low light high resolution colour and one low light black and white) and with a scanning sonar system.

Furthermore the vehicle can be equipped with additional camera, CP probe, abrasive cutting tool, cable cutter, torque tool, hydraulic manipulators, HP waterjet, wall thickness gauge, pipe tracker and clinometer.

All these tools or measuring devices can be build in one of the standard tooling skids. The maximum operating depth is 1500 metres.

Apart from the vehicle and TMS itself, the system consists of:

- A 20 ft control cabin in which video and registration equipment and all other facilities have been installed, to carry out a high standard operation
- An A-frame LARS for handling TMS and ROV

Data registration takes place by means of a digital recording system. For review of the video images high resolution monitors are available.

VEHICLE WITH 500 VOLT DC THRUSTERS

Length	1506 mm
Width	1000 mm
Height	745 mm
Weight	371 kg
Omni-directional thrust	140 kg
Payload	120 kg
Depth rating	1500 m
Camera 1	Seaeeye low light colour camera
Camera 2	Kongsberg low light B&W camera
Camera pan and tilt	90° pan, ±160° of tilt
Lighting	4 x 150 W adjustable quarts halogen lamps
Navigation	Fluxgate compass and electronic depth sensor
Sonar	Kongsberg sonar system
Auto pilot	Heading and depth

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TOOLING SKIDS

Tooling skids are available, one with two 5-function manipulators for mechanical tasks, one for survey purposes.

TETHER MANAGEMENT SYSTEM (TMS)

Bale Arm type TMS cage with 200 m tether capacity, provided with colour camera with the following umbilicals/cables:

- Tether umbilical 20.6 mm Fibre Optic, length 200 m
- Armoured lifting umbilical length 500 m (optional to 700 m)

A-FRAME TYPE LAUNCH AND RECOVERY SYSTEM (LARS)

This zone II rated system is used for handling the TMS & ROV. The A-frame in transport configuration equals a standard 20 feet container.

Length overall	6058 mm
Width overall	2650 mm
Max height in operation	6216 mm
Self weight, including oil	8.8 t
Gross weight with umbilical	12.2 t

- Armoured ROV electrical deck cable
- Fibre Optic deck cable

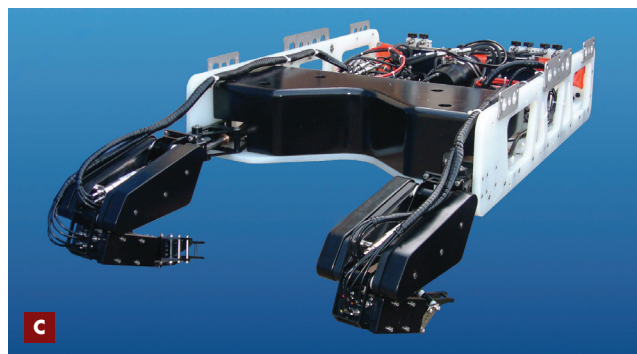
CONTROL CABIN

This 20 ft containerized control cabin, A60 zone II rated container is used as a control station, in which surface equipment such as DVD recorders, power supply and controller has been built in.

Length	6059 mm (\pm 20 ft)
Width	2440 mm (\pm 8 ft)
Height	2592 mm (\pm 8 ft)
Gross weight	10 t

POWER REQUIREMENTS

Voltage	380-420 V at 50 Hz 420-460 V at 60 Hz 3-phase + earth power 90 kVA
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- A** Seabeve Cougar XT
B LARS with TMS and ROV
C Exchangable Tooling Skid
D Seabeve Cougar XT in use