



**SAAB**

# SEAEYE PANTHER-XT



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The customisable Seaeeye Panther-XT is designed as the benchmark for electric work ROVs and challenges heavier and more costly hydraulic vehicles, particularly where deck space is at a premium.

Thanks to its 500V powered thrusters, the Seaeeye Panther-XT benefits from excellent handling and is capable of accommodating a wide range of heavier duty tooling for work tasks including drill support, pipeline survey, salvage and IRM to depths of up to 1500 metres.

Air transportable Seaeeye Panther-XT systems are also supplied for intervention and life support tasks in support of rapid response submarine rescue.



## 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. Additional equipment can be bolted directly to the chassis for customisation.

### BUOYANCY

The two electronics pods provide most of the Panther-XT's buoyancy. Additional buoyancy is provided by shaped syntactic foam blocks.

### PROPULSION

Four vectored horizontal and two vertical brushless SM7 500V DC thrusters provide full three-dimensional control of the Panther-XT.

### COMPASS, RATE GYRO & DEPTH SENSOR

A magneto-resistive compass and a solid-state rate sensor are provided, for superior azimuth stability.

Compass accuracy	$\pm 1^\circ$
Resolution	$0.1^\circ$
Update rate	98 ms

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

### AUTOPILOT FUNCTIONS

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

### VIDEO SYSTEM

As standard three live video channels are available (up to six with optional port pod upgrade). HD video is optional.

**EQUIPMENT INTERFACES**

A wide range of standard or custom interfaces are available, in particular for:

- Cameras
- Manipulators, boom arms, cutters
- CP probe
- Sonar systems (obstacle avoidance, side-scan, multibeam, profiling)
- Scientific equipment (bathy, CTD, etc)
- Emergency strobe
- Tracking system
- Tooling motor
- Auxiliary connections (RS485/RS232/STP)

Custom interfaces and configurations can be provided.

**PAN & TILT PLATFORM**

The robust high-torque pan & tilt unit can accept two cameras and lights. The pan & tilt angles are displayed graphically on the video overlay.



**LIGHTING**

The Panther-XT is fitted with four long-life LED lights (on two individually controlled channels). They provide excellent illumination with very low power consumption and are very robust.

**VEHICLE ELECTRONICS PODS**

All vehicle electronics are mounted inside two watertight pods fabricated using hard-anodised aluminium and high grade carbon fibre composite materials, fitted with leak and vacuum alarms.

**CONNECTORS**

The Seaeeye Panther-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 be either 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)
- TMS control system (bail in/out also via foot-switches and 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
- 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 fault 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, tilt platform, 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) which constantly monitor electrical leakage in the system (with trips and alarm indicators) and test the isolation of the system.

*Power supply unit*



*Tooling power supply unit*



**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 data and video signals.

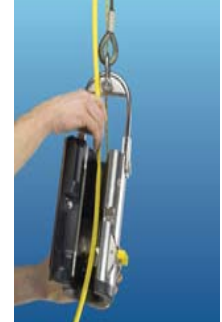
**OPTIONS, TOOLS AND ACCESSORIES**



PIPELINE SURVEY WHEELED SKID WITH BOOM ARMS FOR TWO CAMERAS AND LED LAMPS



LOCK LATCH FOR FREE-SWIMMING OPTION



CP PROBE



SONAR

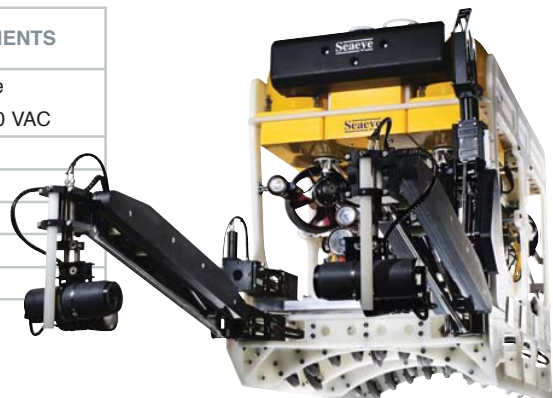


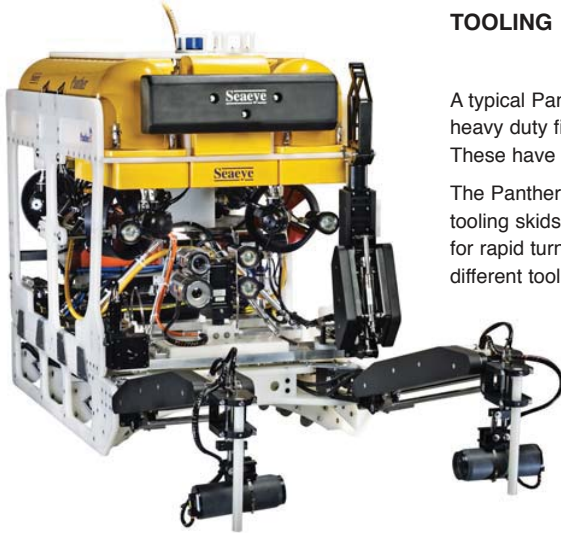
MANIPULATOR SYSTEM

**SEAEYE PANTHER-XT SPECIFICATIONS**

SPECIFICATIONS	
Depth rating	1500 msw
Length	1750 mm
Height	1217 mm
Width	1060 mm
Launch weight	500 kg
Forward speed	> 3 knots
Thrust forward	180 kgf
Thrust lateral	125 kgf
Thrust vertical	110 kgf
Payload	110 kg

SYSTEM POWER REQUIREMENTS	
Input	3-phase 380-480 VAC
ROV	22 kVA
TMS	3 kVA
Tooling	9 kVA
LARS (typical)	37 kVA
Cabin (typical)	12 kVA





**TOOLING**

A typical Panther-XT package includes two heavy duty five and six function manipulators. These have an integral 12mm rope cutter.

The Panther-XT can be fitted with job-specific tooling skids which can be readily changed for rapid turnaround between dives requiring different tooling packages.

Moreover thanks to the open frame design of the vehicle, there is a lot of space available on the chassis for additional sensors and tools, allowing the vehicle to be reconfigured for different applications, such as:

- Drill support and IRM
- Non destructive testing
- Pipeline survey
- Submarine rescue
- Cleaning
- General survey
- Torque tools

**PANTHER-XT DEPLOYMENT AND OPERATION**

**TETHER MANAGEMENT SYSTEM (TMS)**

For work at greater depths, in higher currents and for 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 the Panther-XT with a TMS. The Seaeeye stainless steel TMS type 8 uses a bail arm to spool up to 200m 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 assembly allows the TMS to be locked into position and rotated for a safe and smooth transit through the A-frame (optional).

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

**CABIN**



The surface control equipment and power supplies can either be installed directly into the customer's facility or integrated into a custom ISO control cabin.

Custom-built control cabins, workshops and storage containers are offered in both Safe Area and Zone 2 ratings and can be tailored to suit customer-specific requirements.



**LAUNCH AND RECOVERY SYSTEM (LARS)**

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

All our LARS are available in Safe Area or Zone 2 ratings.

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



Its standard ISO dimensions and low height transit position facilitate transport operations.



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