



SAAB

PETRODIVE
Subsea Robotics Services

SEA-EYE PANTHER-XT PLUS



SEAEYE PANTHER-XT PLUS

The customisable Seaeeye Panther-XT Plus 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 eight horizontal thrusters and dual power supplies, the Seaeeye Panther-XT Plus benefits from exceptional handling and with speeds over 4 knots boasts a high power to weight ratio to that of its rivals yet maintaining an observation class footprint.

This high power ROV is capable of accommodating Schilling Orion manipulators as well as a wide range of sensors and interchangeable heavier duty tooling packages. The Seaeeye Panther-XT Plus is highly suited for work tasks including drill support, pipeline survey, salvage, cleaning, dredging and IRM to depths of 1000 metres.

Air transportable Seaeeye Panther-XT Plus 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 Plus's buoyancy. Additional buoyancy is provided by shaped syntactic foam blocks.

PROPULSION

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

COMPASS, RATE GYRO & DEPTH SENSOR

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

Compass accuracy	±1°
Resolution	0.1°
Update rate	98 ms

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

AUTOPILOT FUNCTIONS

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

VIDEO SYSTEM

As standard 3 live video channels are available (up to 6 with optional port pod upgrade).

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 and optional Ethernet)

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 Plus 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 Plus uses Seaeeye's field 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
- 1 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 Panther-XT Plus utilises a dual power supply arrangement to drive the additional thrusters. These power supply units incorporate 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.

Two power supply units



Tooling power supply unit



3-PHASE 9 KVA AND 11 KVA TOOLING POWER SUPPLY UNITS

These units provide a 3-phase 660V or 1 kV 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



HYDROLEK MANIPULATORS



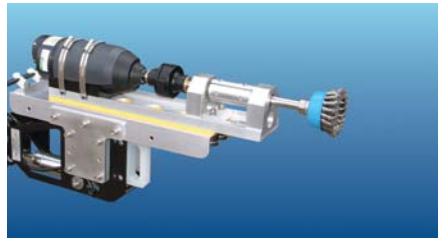
ROTARY DISC CUTTER



ANVIL CABLE CUTTER



SCHILLING ORION MANIPULATORS



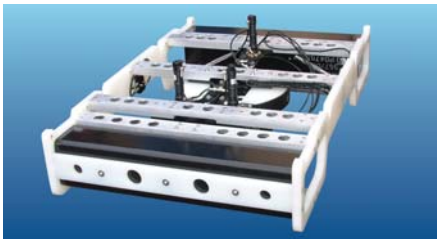
CLEANING BRUSH



SONAR



MULTIBEAM SYSTEM



AX RING REMOVAL SKID



WATER JET



3RD VERTICAL THRUSTER



CYGNUS UT GAUGE



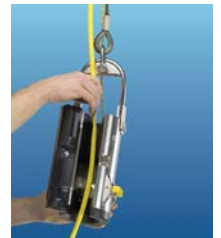
CP PROBE



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



LOCK LATCH FOR FREE-SWIMMING OPTION

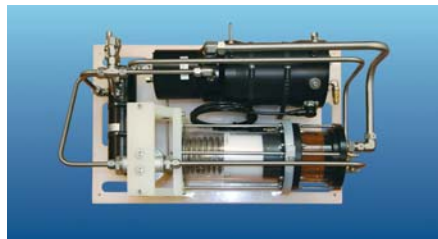


INTERCHANGEABLE TOOLING SLEDGES

The Panther-XT Plus incorporates an interchangeable tooling facility. Dedicated tooling sledges can be easily fitted for rapid turnaround between dives, equipping the ROV for a diverse range of operational tasks.



WATER JET SLEDGE



4 KW HPU



PANTHER-XT PLUS SHOWING TOOL SLEDGE COMPARTMENT

SEAEYE PANTHER-XT PLUS SPECIFICATIONS

SPECIFICATIONS	
Depth rating	1000 msw
Length	2140 mm
Height	1217 mm
Width	1060 mm
Launch weight	800 kg
Forward speed	> 4 knots
Thrust forward	353 kgf
Thrust lateral	248 kgf
Thrust vertical	105 kgf (std)
Payload	150 kg

SYSTEM POWER REQUIREMENTS	
Input	3-phase 380-480 VAC
ROV	37.5 kVA
TMS	3 kVA
Tooling	9 kVA @ 660V or 11 kVA @ 1 kV
LARS (typical)	37 kVA
Cabin (typical)	12 kVA



PANTHER-XT PLUS 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 Plus 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 Plus can also be operated in a free-swimming configuration (without a TMS) with up to 600m of soft umbilical, usually fitted to a 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.

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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