Seaeye SR20

THE ELECTRIC WORK CLASS ROV EMPOWERING ECO-RESPONSIBILITY

The latest addition to Saab's underwater portfolio, the Seaeye SR20 eWROV, is a full-sized IMCA Class III B ROV system. Electrification is the key to improved performance, and the SR20 takes electric underwater vehicle capabilities to the next level. SR20 is the world's most capable all-electric, work-class underwater robot. With overall power and performance exceeding that of a 200 HP hydraulic equivalent, SR20 delivers maximum capability across all markets and applications, including survey, IMR, construction, drill support and decommissioning. This combined with a compact footprint and increased levels of efficiency reinforces SR20's position as best in class.

Advanced Control

The SR20 provides the user with a number of control options. A responsive and flexible control system provides real-time control via a traditional manual joystick, utilising telemetry data delivered in simple human readable formats. Connection is simplified by use of standard web technologies allowing for low-latency control of the ROV, either via joystick commands or nudge commands.

Environmentally Considerate

The goal of carbon neutrality is a growing focus among the global community, and the SR20 has been designed with eco-responsibility in mind. As well as being more efficient, electric systems use limited fluid making the SR20 significantly more environmentally friendly than equivalent hydraulic work-class systems.

Reliable

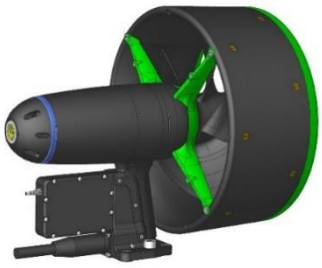
SR20 is a new generation of robot, designed from the outset with the ability to persist at sea for long durations without human intervention. With new levels of reliability and low maintenance, the SR20 has unprecedented levels of intelligence, equipment and performance.

World leader in electric underwater robotics

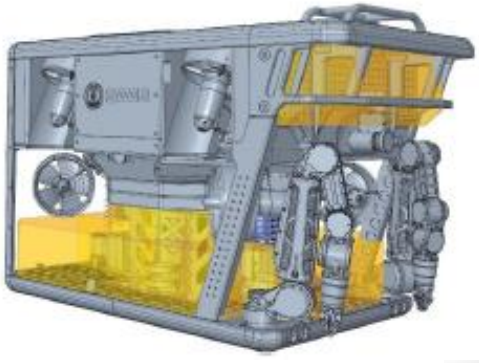
Seaeye SR20

System Overview

- Conventional high-voltage AC power transmission systems necessitate large, heavy subsea transformers on the ROV and Power Distribution Units (PDUs) on the surface. In contrast, state-of-the-art DC power transmission systems enable significantly smaller and lighter units, both topside and subsea. These systems also support the use of smaller-diameter umbilicals, including those already owned by clients.
- Electric thrusters are central to the electrification of work ROVs. Capable of generating 580 kgf, the SR20's power efficiency far exceeds that of hydraulic systems, delivering superior acceleration, braking, and reversal performance.
- Electric manipulators play a pivotal role in the electrification ethos of work ROVs. They provide significant advantages over hydraulic alternatives, including more precise positioning, enhanced dexterity, reduced in-water weight, and improved reliability—key for autonomous and resident applications. Featuring an advanced control system with an open interface, work ROV manipulators support both manual and automated operations. Highly accurate, modular electric joints enhance arm control, enable advanced path planning solutions, and allow actuator re-use.
- In its standard configuration, the SR20 offers approximately 1,350 litres of available payload volume, which increases to 1,550 litres when the hydraulics module and valve pack are removed.
- SR20 features an extremely rugged chassis constructed from polymer, aluminium, and stainless steel, designed to maximise water flow through the ROV. Materials and design are optimised to achieve a lightweight yet robust chassis that provides excellent strength and stiffness. The chassis includes rigid mountings for skids, tools, and sensors, and is engineered for repeated and prolonged submergence in marine environments, offering exceptional corrosion resistance throughout its design life.
- The SR20 introduces new standards of reliability and low maintenance, combined with high levels of automation and autonomy. These advancements enable deployment from smaller, minimally crewed vessels, further reducing the CO_2 footprint and improving health and safety risks.
- The distributed hardware and software principles at the core of the SR20 were pioneered by Saab. This Ethernet-based architecture forms an intelligent network of configurable hardware and software modules, delivering advanced underwater robotic solutions. The modular system provides real-time control and feedback across every subsystem, making the SR20 ideally suited for increasingly remote and autonomous operations. The comprehensive common technology ecosystem simplifies operation, training, and maintenance, while the expandable, future-proof architecture ensures long-term adaptability.
- The SR20’s Ethernet architecture is specifically designed for low-latency IP camera operation. Its video routing system uses cameras configured to send multicast Ethernet traffic via managed layer 3 switches. This approach allows multiple receiving devices to send and receive video streams without duplicating traffic or requiring additional hardware. By minimising elements in the video system, the multicast approach enhances flexibility in video distribution. Precision Time Protocol (PTP) synchronises devices within the video system, achieving nanosecond accuracy while compensating for network latency and jitter. This feature is particularly beneficial for remote, onshore operators managing video and telemetry data.
- The SR20 is available as a free-swimming ROV or with a Top-Hat Tether Management System (TMS).



Best in class SM14 Electric Thruster



Generous 1550 litres of payload space

Ground breaking eM1-7 Electric Manipulator

Seaeye SR20

Technical Specifications

General	
System Power Requirements	Configurable for 3-phase, 440 or 690 VAC 50/60Hz
Depth Rating	3000m
Dimensions (LxWxH)	2850 mm x 1800 mm x 1900 mm
Standard Launch Weight	Approximately 3500 kg
Payload	>250 kg

Mechanical	
Through Frame Lift	3000 kg

Performance	
Forward Speed	> 4 knots
Lateral Speed	3 knots
Vertical Speed	2 knots
Thrust Forward	1200 kgf
Thrust Reverse	1200 kgf
Thrust Lateral	1200 kgf
Thrust Vertical	1200 kgf

All electric Propulsion	
Thrusters	8 x Saab Seaeye SM14
Propeller Diameter	390 mm
Thrust	580 kgf

Standard Instruments	
Pan and Tilt	2 x electric P&T units
Lighting	8 x LED lamps, dimmable, 10K lumens each
Depth Sensor	100 Bar, +/-0.01% FS accuracy
INS	Navigation or survey grade
DVL	Navigation or survey grade, close coupled with INS
Altimeter	500 kHz, 0.3–50m range, 1mm resolution

Optional Hydraulic Power	
HPU Pressure	210 bar
HPU Flow	160 l/min
Hyd. Power	55 kW
Valve pack	12 Station comprising; • Four NG4 mini proportional valves offering fine directional flow control up to 12lpm • Five NG4 mini solenoid valves offering directional flow control up to 30lpm • One NG6 solenoid valve offering directional flow control up to 80lpm • High-flow back pack containing a mono-directional logic element offering flow rate up to 160lpm • Optional 2nd valve pack
Fluid	Shell Panolin synthetic biodegradable

Video and Electrical Interfaces	
Data Link	Single Mode Fibre with Full Redundancy Spare Fibre at ROV JB for Survey/Video
Sensor Interfaces	• 32 x software configurable ports (GB Ethernet, RS232/485, TTL/PPS), switchable 24/48 VDC • Optional additional 16 x client configurable (Ethernet & serial), switchable 24/48 VDC
Video Interface	HD IP
High Power tooling	>30kW @ 600VDC

Manipulators
Dual Saab Seaeye 7 function electric eM1-7 manipulators

Tether Management System (TMS)	
Type	Top hat
Drive	All electric
Dimensions (D x H)	2.4 m x 2.4 m
Weight	3,000 kg
Depth rating	4,000m
Tether capacity	850m (28mm tether)

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Deployment Systems and Control Cabins

All electric Top Hat Tether Management System with an 850m capacity of 28mm tether, fitted with Latch Status, Line Out, Motion Reference Unit (MRU) and depth sensors. Options include altimeter and current sensors, and additional downward looking light and camera.

A-Frame Safe Area Launch and Recovery System (LARS) with 3300m umbilical (34mm) winch capacity. Active Heave Compensation (AHC) and Zone II upgrade options are available. Optional folding platform for additional work space.

Safe Area 20ft Control Cabin with a Pilot Control section and a separate high voltage PSU section. Fitted with electric power distribution panels, lighting, air conditioning, heating and 19 inch racks.
A Zone II upgrade option is available.

Saab UK - World leader in electric underwater robotics

Phone: +44 (0) 1489 898000 Web: www.saabseaeye.com Email: solutions@saabseaeye.com