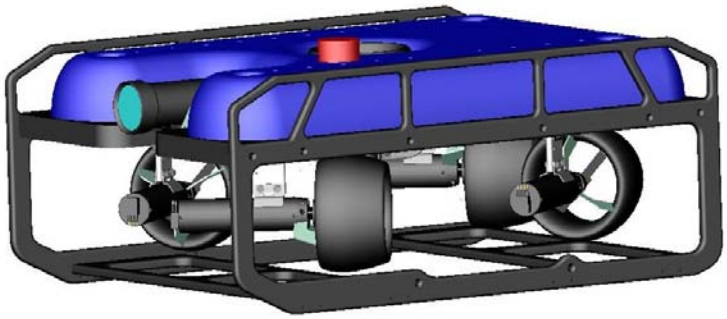
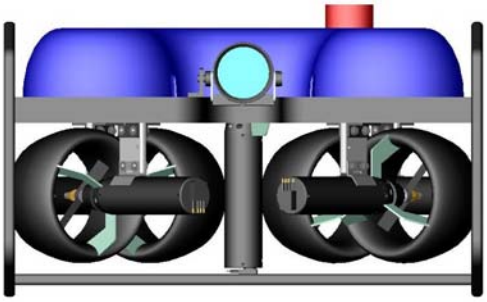
DEEP OCEAN ENGINEERING

SAILFISH





SAILFISH is a small but powerful vehicle system with a vectored thruster architecture.It has four horizontal vectored thrusters and a single vertical unit. This configuration provides a powerful overall performance envelope ensuring a vehicle versatility not normally found with vehicles of this class.

The Deep Ocean Advantage

- Established in 1980.
- Extensive experience with 20 years continuous supply.
- 460 ROV systems designed & built.
- Broad international customer base, with clients in over 30 countries.
- Diverse industry applications
  Military, customs & police
  Search & salvage
  Survey & inspection
  Nuclear & hydroelectric
  Offshore oil & gas
  Scientific research
  Underwater broadcast filming
- World class engineering and R&D
- Solutions oriented customer service support
- Rugged reliable products, easy to use and maintain
- Capability to design and integrate various tools and sensors for a wide range of applications

- **SAILFISH** combines proven technologies from the range of DOE manufactured ROV's and is fabricated using modern marine grade aluminum and composite materials. The chassis is totally modular, thus any part is easily & quickly replaced as required. Being made from polypropylene, the chassis is resilient, non-corroding and totally maintenance free. Ancillary equipment is easier to fit and integrate.
- The system is hard wired for simplicity and ease of electrical fault diagnosis. This provides an extremely reliable combination for the operator.
- Thruster configuration is four horizontal vectored units and one vertical unit. These provide a powerful performance envelope. DOE fail-safe oil-filled barrier shaft seals have a proven life of 500+ hours.
- The clean & simple design allows for easy maintenance of the system in the harshest environments by technicians with a minimum of training, using well proven components.
- Designed for use as a cost effective & powerful small observation vehicle of the highest quality.

SAILFISH *Specifications*

Maximum working depth:	152 m	500 ft
Vehicle length:	1092 mm	43 in
Vehicle height:	457 mm	18 in
Vehicle width:	648 mm	26 in
Vehicle weight:	50 kg	110 lb
Thrust Forward:	48 kg	106 lb
Thrust Lateral:	25 kg	54 lb
Thrust Vertical:	15 kg	32 lb
Payload:	11.5 kg	25 lb

Chassis: A modular chassis manufactured from polypropylene. This extremely rugged material is maintenance free, self-supporting in water and non-corroding — providing the vehicle with an energy absorbing protective framework. Ancillary equipment are easily mounted on the frames and bottom panel.

Propulsion: Hard-wired 120 VDC high power motors. Each thruster is individually controlled from the surface, which provides the added advantage of simple control circuitry. The SAILFISH employs a unique DOE designed fail-safe oil filled shaft seal arrangement; with highly visible diagnostic tell-tales for added safety. Highly efficient nozzles shroud the propellers for enhanced thruster performance.

Vehicle electronics: SAILFISH is hard-wired with dedicated conductors in the umbilical for the various vehicle functions, plus spare conductors for the client's use. The advantages of a hard-wired system are simplicity and ease of maintenance, with subsea electronics kept to a minimum.

Camera unit: DOE 18:1 color zoom camera unit.
Depth rating: 1,000m (3,300 ft)
Resolution: 470 lines of TV
Sensitivity: 1 Lux @ f1.4
Viewing angle: 7°-58°
Length: 241 mm (9.5 in)
Diameter: 89 mm (3.5 in)
Weight in water: Neutral
Air-weight: 1.4 kg (3 lb)

Lighting: 2 x 250 watt Quartz-halogen lamp units. The control is On/Low/Medium/Full.

On Screen Display: This is a continuously up-dated video display, which provides the operator with the heading, depth, turns count, elapsed time and water leak alarm information, allowing the vehicle to be operated safely in all conditions. It may also be used to display sensor data on the screen. There are 24 free text pages available to the operator via the keyboard; additional digital and analogue I/O channels and vehicle data may be exported to the navigational or survey computer.

Camera tilt platform: DOE electrically driven worm drive tilt actuator providing a smooth tilt speed. Operational arc: ± 90° from horizontal, with adjustable stop switches.

Navigation: Rate gyro stabilized fluxgate compass unit. Accuracy: ± 3°. Update rate: 100mS.
Electronic depth sensor: accuracy 1% of fsd.

Auto-pilot: Selectable automatic pilot for heading and depth.

Power requirements: Input 100-250VAC, 50/60 Hz, 3 kVA. User power available—instrumentation 24 VDC @ 6 A, auxiliary power 80 VDC @ 0.6A

Umbilical cable: A supple, rugged cable, designed for harsh ocean environment - neutrality buoyant in fresh water

Options:

- Sonar systems
- Tacking systems
- Specialized cameras
- Altimeter
- Fiber-optic telemetry
- Various manipulators, with optional line cutter
- Cable reels (manual or powered)
- Additional tools and sensors
- Spares kits
- Technical training

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