

# Swordfish.

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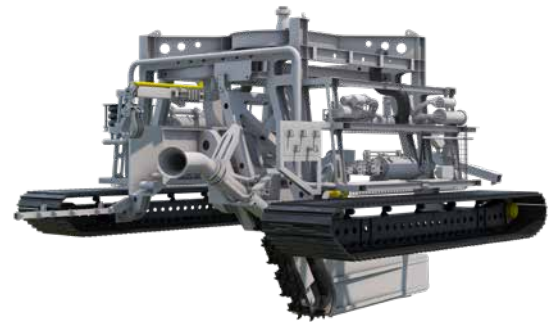
## Subsea Trenching Vehicle

### VEHICLE SPECIFICATIONS

Dimensions	11.6 m x 8.8 m x 6.5 m (LxWxH)
Weight in air	38 t in jetting mode 45 t in cutting mode
Vehicle power	1,200 kW (1,600 hp) total power 2 x 300 kW electric speed controlled HP jet pumps 2 x 300 kW hydraulic power units
Ground pressure	Less than 5 kPa in jetting mode Less than 20 kPa in chain cutting mode
Tractive effort	10 t, soil condition permitting
Mobility angles	Up to 20°
Maximum operating depth	Up to 500 m
Steering	Auto pilot or manual
Thrusters	8 x 5 kN thrusters
Sensors	Up to 8 digital cameras, 2 2D imaging sonars, 2 profilers, cable tracking system, INS/motion/heading system, depth sensor, altimeter, at least 2 beacons for hydro-acoustic positioning, 2 hydrophones (for chain cutter operations) Provisions to add additional survey equipment
Launch and recovery system	Dedicated 50 t A-frame Dedicated electric hoisting winch

### JET TRENCHING MODE

Trenching depth	Up to 3 m (optional up to 3.5 m)
Trenching speeds	Up to 800 m/hr, subject to soil conditions
Total pump power	1,120 kW
Pump capacity	800 kW main jet swords: 2 x 500 m <sup>3</sup> /hr @16 bar (cutting) 2 x 625 m <sup>3</sup> /hr @4 bar (backwash) 200 kW rear backwash / eductor / backfill: 2 x 625 m <sup>3</sup> /hr @4 bar 120 kW front pre-cutting tool: 300 m <sup>3</sup> /hr @8 bar
Soil strength	Up to 125 kPa
Jet swords	Opening between jet swords is variable between 250 mm and 1,000 mm Sword deployment system allowing 1.5 m parallel vertical travel.



**Swordfish** is a highly powered and state-of-the-art subsea trenching vehicle that can be fitted with either a jetting installation, a mechanical chain cutter or a combination of both. The versatile vehicle is equipped with front cutting nozzles and additional rear backwash swords to optimize jet trenching performances. The jet swords have a sophisticated load sensing system to prevent any damage to the cable. The innovative chain cutter design and cable loading system minimizes cable handling.

### MECHANICAL/HYBRID TRENCHING MODE

Trenching depth	Up to 2 m
Trenching speed	Up to 500 m/hr, subject to soil conditions
Chain cutter power	400 kW
Pump capacity	120 kW front pre-cutting tool: 300 m <sup>3</sup> /hr @8 bar 300 kW jetwater through cutterboom: 500 m <sup>3</sup> /hr @16 bar 300 kW venturi eductor for spoil removal
Soil strength	Up to 400 kPa
Cable handling system	Twin cable manipulators Suited for up to 400 mm cable diameter Cable highway and closed box depressor with 4 m min. bending radius