



SHALLOW WATER TRENCHER



ENGINEERING
EXCELLENCE
UNDERWATER

SHALLOW WATER TRENCHER

The Shallow Water Trencher (SWT) draws on SMD's vast experience of remotely operated track driven vehicles, seabed trenching and submarine cable handling to provide an adaptable shallow water burial solution for sand, silt and clays.

The modular design of the SWT allows it to be configured to different levels of capability to work on and from the beach, within the intertidal zone and in deeper waters around turbine interfaces. This versatility gives the installer an end to end burial solution for submarine power and telecommunication cables with a minimised vessel impact.

SWT is a fully amphibious vehicle and comes equipped with powerful jetting swords and a depressor for burial of products of up to 250mm diameter and MBR up to 3m.

FEATURES

- Low cost of ownership
- Modular - forwards and backwards compatible
- Trenching (mobilise) from the beach
- Low vessel requirements - crane launch
- Simultaneous and post lay cable burial modes



SMD CUSTOMISATION SERVICE

SMD understand that each customer is different and therefore that customers have different needs from their systems. In order to meet customer specific requirements SMD can customise vehicles using a range of proven standard components to suit preference and performance requirements.

CONTACT US

SMD

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ALL OF OUR TRENCHING PERFORMANCE IN ONE COMPACT PACKAGE

SYSTEM BASE SPECIFICATION

GENERAL

Depth rating	200msw
Dimensions*	
Length	11.5m
Width	5.0m
Height	3.0m
Weight in air	15Te typical
Lift point max.	25Te**
Submerged weight	13Te typical
Sea state	4

PERFORMANCE

Max cable diameter	250mm
Speed range (no burial)	0-1500m/hr
Speed range (trenching)	50-750m/hr
Soil types	Sands, silts and clays
Ground pressure	15kPa typical

MECHANICAL

Construction	High strength steel chassis
Tracks	1000mm/1500mm plastic tracks on steel chain
Lift frame	Bolt on lift frame
Cable tracker	Bell mouth with diver-less loading
Heading stabilisation	Hydraulic thruster

JETTING SYSTEM

Configuration	Twin-legged jet tools with down and inward facing jet and cable depressor
Operating pressure	Standard 15bar (limit 25bar)
Trench depth	Up to 3.0m
Tool deployment	Hydraulically actuated
Width control	100 to 300 by manual set up
Depressor	3.0MBR

HYDRAULIC SYSTEM

Cylinders	Heavy duty marine
Valve packs	Stainless steel, oil compensated
Manifolds, pipes & fittings	Stainless steel

SUBSEA ELECTRONICS

Electronics pod	200msw pressure vessel
Telemetry	Ethernet telemetry system
Umbilical	250m LV
Spare channels	RS232, RS485, Ethernet
Instrumentation	Track speed, tool position, hydraulic pressure, jetting pressure

SUBSEA SURVEILLANCE

Cameras	Up to 8 (2 fitted)
Lamps	Up to 12 (6 fitted)
Pan and tilt	2 fitted
Gyro	Navigation grade

SURFACE CONTROL

Control	Integrated control system (ICS) control laptop, operator control box, electrical interface, video recording and control screens
Remote control	Radio remote control unit

OTHER EQUIPMENT

Shipping containers	For road/sea transport
LARS	Client supply
Water pumps	Client supply***
Water hose	Client supply***
HPU	Client supply***
Power generation	Client supply***

ARTEMIS™ CABLE TRACKING

Exclusively available to purchase with SMD trenching systems	
Detection Range	
Passive	up to 10.0m
Active	up to 5.0m
Vertical measurement accuracy	+/-5% plus 5cm
Depth rating	2000m
Refer to Artemis technical data for more information	

AFTER SALES SERVICE

Operational personnel
Technical support
Service agreements
Spares packages

*All dimensions are approximate and subject to final design and configuration

** All possible configurations of this product do not exceed this weight

***Available to hire via SMD - please enquire via services@smd.co.uk

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VERSATILE TRENCHING SYSTEM CONFIGURED TO YOUR NEEDS

PLUG & PLAY OPTIONS

The following optional packages for the SWT system are available as plug and play upgrades. Other options are available on request. These are typical configurations and completely modular.

ULTRA SHALLOW WATER TRENCHER

Jet tool sword length	2.0m or 3.0m swords
Jet tool sword material	Stainless steel
Width control	Remote hydraulic width adjust
Cable depressor	Client specified MBR
Topside HPU	For track drive and cylinders
Hydraulic hose reel	Reel and slip ring
Water hose reel	Hose & reel
Umbilical winch	Inc. 500m umbilical
GPS	Mast mounted, submersible GPS unit
Acoustic positioning	USBL positioning system
Road transport	Beach build kit
LARS	A-frame with lifting umbilical and winch
Control cabin	A60 rated container
Remote control	Additional remote control unit
Low visibility	Video enhancement system
Sonar	QA/Multi-beam/Profiling

SHALLOW WATER TRENCHER

Lift point	Subsea bullet/latch recovery system
Water Pumps	Subsea 400kW shallow water pumps
Surface PDU	Modular DOL 440V 4.16kV optional soft start
HPU	Subsea HPU
Umbilical	Up rated 4.16kV HV umbilical

SKID OPTION

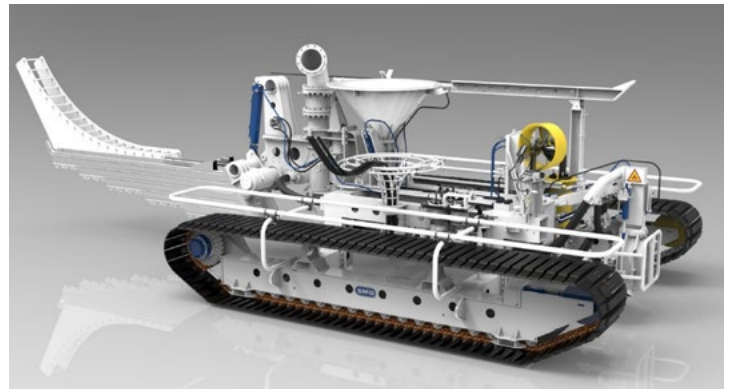
Tow points	Inc. bridle rated for bollard pull
Skid assembly	Bolt on

TYPICAL CONFIGURATION LEVELS

LEVEL ONE - ULTRA SHALLOW WATER TRENCHER

The SWT system can be configured to work in very shallow water and even directly from the beach using jetting water from the nearest water source.

Jet tool sword length	3.0m swords
Width control	Manually adjusted
Cable depressor	3.0m MBR, fixed position (sword integrated)
Topside HPU	For track drive and cylinders
Hydraulic hose reel	Reel and slip ring
Topside water pump	Diesel driven 1000kW high pressure
Water hose reel	Lay flat hose & reel
GPS	Mast mounted, submersible GPS unit
Remote control	Additional remote control unit



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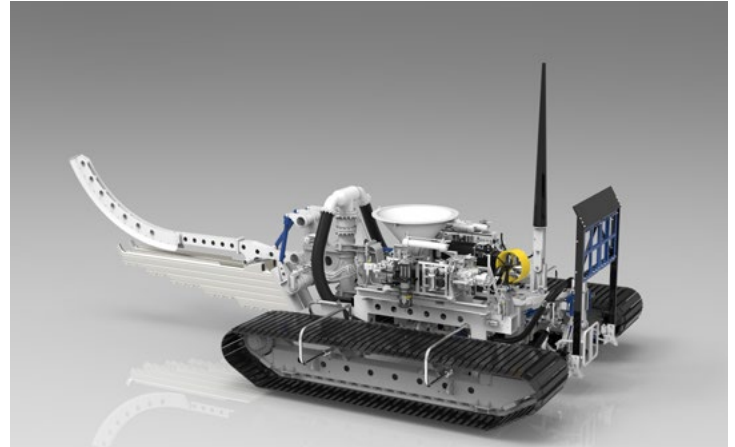
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VERSATILE TRENCHING SYSTEM CONFIGURED TO YOUR NEEDS

LEVEL TWO - SHALLOW WATER TRENCHER

For deeper water the SWT system can be reconfigured with submerged pumps powered by an on-board HPU.

Jet tool sword length	3.0m swords
Width control	Remote hydraulic with adjust
Cable depressor	Client specified MBR, variable position (independent hydraulic)
Lift point	Subsea bullet/latch recovery system
Water Pumps	Subsea 400kW shallow water pumps
Surface PDU	Modular DOL 440V 4.16kV optional soft-start
HPU	Subsea HPU
Umbilical	Uprated 4.16kV HV umbilical
Umbilical winch	Inc. 500m umbilical
Acoustic Positioning	USBL positioning system
Road transport	Beach build kit
LARS	A-frame with lifting umbilical winch
Control cabin	A60 rated
Low Visibility	Video enhancement system
Sonar	OA / Multi-beam / Profiling



LEVEL THREE - SIMULTANEOUS LAY & BURIAL TRENCHER

For long cable runs and/or where very soft ground is expected, the SWT system can be reconfigured with skids. Skids have a large footprint area and are semi buoyant to ensure very low ground pressure for soft ground.

Simultaneous lay and burial is enabled in skid mode. To provide instant cable protection, single pass burial is possible in deeper waters and soft ground.

Tow points	Inc. bridle rated for bollard pull
Skid assembly	Bolt on
Jet tool sword length	3.0m swords
Width control	Remote hydraulic with width adjust
Cable depressor	Client specified MBR, variable position, (independent hydraulic)
Lift Point	Optional cable locator proximity sensors
Water pumps	Subsea bullet/latch recovery system
Surface PDU	Subsea 400kW shallow water pumps
HPU	Modular DOL 440V 4.16kV optional soft-start
Umbilical	Subsea HPU
Umbilical winch	Uprated 4.16kV HV umbilical
Road transport	Inc. 500m umbilical
LARS	Beach build
Control cabin	A-frame with tow winch
Sonar	A60 rated
	OA / Multi-beam / Profiling

