

## Sea-Stallion 1 Cable Burial System



**Sea Stallion 1**

THE ENGINEERING BUSINESS LTD



### EB Sea Stallion Plow

<b>Trench Depth</b> .....	Up to 3 meters
<b>Maximum Operational Depth</b> .....	1500m
<b>Pull Force</b> .....	100t maximum
<b>Size (l x b x h)</b> .....	13.8m x 5.4m x 5.3m
<b>Weight</b> .....	32t in air
<b>Cable type</b> .....	All telecom cable up to 150 mm, 1.5meters bend radius throughout
<b>Joints/Repeaters</b> .....	up to 266mm diameter between share plates. up to 350mm above share plates
<b>Depth Rating</b> .....	1,500 MSW
<b>Soil Types</b> .....	Very soft clay to firm clay, all sands. Minimal skid sinkage in 5kPa clay
<b>Handling</b> .....	By tow wire using lifting drawbar
<b>Control System</b> .....	PC based with diagnostic status

**Sea Stallion 1 Cable Burial System**

**Technical specification**

**Sea Stallion 1 Plow**

Water Depth : ..... 0 to 1500m.

Trench Depth : ..... 3.0 meter nominal. 0-2.8meter achieved by moving the skid arms and stabilizers. 3.0 meter depth is achieved via sinkage in softer conditions

Soil Strength : ..... Minimal skid sinkage in 5kPa clay

Weight : ..... Approx 32t in air

Dimensions : ..... Length 13.8 m skids raised; 12.0 m skids lowered  
 Width 5.4 m  
 Height 5.3 m top of bellmouth

Design Strength : ..... 100t maximum pull

Cable/Joint Size : ..... 15-150mm diameter cable.  
 Joints and Repeaters up to Ø266mm pass between share plates.  
 Repeaters up to Ø350mm are passed above the share side plates.

Cable Bend Radius : ..... 1.5m minimum in bellmouth and share

Wear Parts : ..... Large replaceable proprietary cutting tips and heel  
 Abrasion resistant material on cutting blades  
 Wear plates on cable route particularly underside of depressor

Depth Control : ..... Hydraulically adjustable from 0-2.0m trench depth by moving the skid arms and stabilizers, remotely controlled from surface. Stabilizers maximum range 0 to 3.0m to allow sinkage for deep burial in softer conditions.

Steering : ..... Hydraulically adjustable, by rotating the skids ±6 degrees about a vertical axis, using two hydraulic cylinders remotely controlled from surface. The skids are fitted with soil-engaging fins to generate steering forces. Side forces are minimized by a passive hydraulic bridle compensation system.

Hydraulic Functions : ..... Pump unload  
 Port Skid Up/Down (single cylinder on skid arm)  
 Stbd Skid Up/Down (single cylinder on skid arm)  
 Steering port/starboard (cylinder on each side of plough)  
 Cable depressor raise/lower/float (cylinder on depressor)  
 Port drawbar raise/lower (cylinder on port drawbar)  
 Starboard drawbar raise/lower (cylinder on starboard drawbar)  
 Drawbars release for emergency recovery of dead plough  
 Bellmouth open/close (cylinder on bellmouth)  
 Port Stabilizer Up/Down (single cylinder on stabilizer arm)  
 Starboard Stabilizer Up/Down (single cylinder on stabilizer arm)  
 Both stabilizer cylinders can be set to “float” allowing the stabilizers to seek their own level due to their weight  
 Bridle compensation retract (for handling)

Hydraulic Power Unit : ..... 15kW subsea electro-hydraulic power pack, 3300V AC 3 Φ, 60 Hz  
 Fixed displacement pump, approx. 30 lpm output @ 250 bar working pressure

**Sea Stallion 1 Cable Burial System****Technical specification (cont'd)****Instrumentation And Surveillance**

## Instrumentation :

Strain-gauged load cell.....	Port tow force; Starboard tow force; Telephone cable tension
Rotary potentiometer.....	Port tow wire vertical angle; Starboard tow wire vertical angle; Cable entry horizontal angle
In-cylinder transducer.....	Port skid position; Starboard skid position; Port stabilizer position; Starboard stabilizer position; Port drawbar position; Starboard drawbar position; Port BCS arm position; Starboard BCS arm position; Steering position; Depressor position
Rotary encoder .....	Cable wheel – speed and distance travelled
Flux-gate compass .....	Plough heading
Echo sounder .....	Plough altitude above seabed
Water ingress sensor .....	Electronics pod; Forward valve tank; Aft valve tank
Pt 100 sensor .....	Electronics pod temperature; Motor temperature
Biaxial clinometer .....	Plough pitch; Plough roll
Proximity switch.....	Forward valve tank compensator level; Aft valve tank compensator level ; Motor compensator level; Junction box compensator level
Pressure transducer .....	Ambient pressure; Hydraulic system pressure; Depressor hydraulic pressure
Linear transducer .....	Oil reservoir volume

## Surveillance

Equipment : .....	10 lamps (24 V ac). 4 cameras. 2 pan and tilt units. 2 responders. 1 OA Sonar.
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**Umbilical Winch**

Drum capacity : .....	4000m of diameter 50mm umbilical cable
Pick up tension : .....	35 kN at bottom layer, decreasing on upper layers
Pick up speed : .....	30m/min bottom layer, increasing on upper layers
Rendering capacity: .....	40kN at 60m/min for 3 min falling to 30kN at 60m/min for 3 min
Drive system : .....	AC electric drive
Instrumentation : .....	Cable length out, cable tension

**Umbilical Cable**

Umbilical type : .....	Buoyant with optical fibers and copper cores
Diameter : .....	Approx 50mm
Breaking load : .....	Approx 250kN
Operating load : .....	Maximum of 40kN
Length : .....	4000m