

Sea-Stallion 3 Cable Burial System



Sea Stallion 3

THE ENGINEERING BUSINESS LTD



EB Sea Stallion Plow

Trench Depth	Up to 3 meters
Maximum Operational Depth	2000m
Pull Force	100t maximum
Size (l x b x h)	13.8m x 5.4m x 5.3m
Weight	32t in air
Cable type	All telecom cable up to 150 mm, 1.5meters bend radius throughout
Joints/Repeaters	up to 266mm diameter between share plates. up to 350mm above share plates
Depth Rating	1,500 MSW
Soil Types	Very soft clay to firm clay, all sands. Minimal skid sinkage in 5kPa clay
Handling	By tow wire using lifting drawbar
Control System	PC based with diagnostic status

Sea Stallion 3 Cable Burial System

Technical specification

Sea Stallion 3 Plow

Water Depth : 0 to 2000m.

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 3 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.
-------------------	--

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