

NBNMS

Specifications
sheet

Plough /
Sea Stallion 4 DB



Plough / Sea Stallion 4 DB

Key to the success of all forms of offshore power generation is the safe and secure transfer of power from offshore power stations to land – cost effective protection of submarine power cables is essential. The Sea Stallion 4 cable plough (SS4-DB) system, owned and operated by VBMS is designed by IHC Engineering Business Ltd, specifically for the aggressive burial of power cables in shallow water. It features a unique share design and a robust chassis that can withstand tow forces up to 150 ton to permit cable burial in the hardest seabed conditions.

An advanced SCADA / PLC based control system permits accurate operation of the plough (including on the beach using telemetry) whilst providing comprehensive 'as-laid' data. The SS4-DB concept has a proven track record of installing the power cables associated with large scale offshore wind farm developments. Combined with our installation equipment, experience and expertise VBMS can offer its Clients an industry leading complete power cable installation service. To meet future demands concerning operations in environmental sensitive coastal areas, the hydraulic functions of the plough are based on the use of bio-gradable hydraulic oils.

Sea Stallion 4-DB Plough Details

Trench depth:	Hydraulic adjustable plough share from 0-3m depth range Optional: adjustable plough share from 0-3m depth range Optional: jetting assist mode for 3m depth range
Cable size:	Cable passage: 280mm wide
Joint size:	Joint diameters: up to 220mm (subject to joint design)
Cable bending radius:	3,6m minimum in bellmouth and plough share
Design strength:	Sustained pull force: 120 ton Peak load: 150 ton
Operating waterdepth:	Minimum: Beach operations Maximum: 100m
Dimensions:	Approx. 13,9m long (with skids down) x 4,3m high x 5,2m wide
Weight in air:	32 ton
Hydraulic functions:	Hydraulic cylinders for trench control up/down Hydraulic cylinder for cable depressor raise/lower
Hydraulic Power Unit:	Subsea 7.5 kW electro-hydraulic power pack Connections to allow operation from deck and/or beach Bio-gradable oil system

Beach Operations Equipment

Share support:	1 skid for attachment plough share for pulling plough backwards
Portable equipment:	Portable case with 20 m connecting cable, to include transformer and insulation monitor for single phase pod supply, control PC components, wireless telemetry components

Monitoring and Surveillance

Roll & pitch:	Inclinometer inside pod
Waterdepth:	Pressure transducer
Tow load:	SB and Port load-cells at tow points
Cable tension:	Load cell
Cable horizontal entry angle:	Rotary potentiometer to indicate position
Skid arm position:	In-cylinder displacement transducer
Trench depth:	Rotary potentiometer fitted to trailing arm
Distance travelled:	Encoder in cable travel wheel
Surveillance:	Obstacle avoidance sonar

Umbilical Winch

Umbilical Winch	Hydraulic powered umbilical winch for subsea plough, complete with HPU and manual operated local controls
Drum storage capacity:	1,200m
Umbilical connection:	Slip-rings and junction boxes
Control equipment:	Local manual control only Winch proportional pay in/out

Umbilical

Type:	Aramid Armoured umbilical Super Scorpio 2
Lengths:	From plough to umbilical winch 1,200m