Arado Cable Burial System

Arado

SMD Plow ARADO

PLOUGH SYSTEMS SPECIFICATION

Manufacturer **SMD (SOIL MACHINE DYNAMICS LTD) UK**

Year Built: 1994

Type ..... Telecommunication, submarine cable burial
Power & oilfield umbilical burial,

Rated Water Depth ..... 1,500 meters

Tension Towed Plow ..... 40 Ton Bollard Pull

Deployment Style ..... A-Frame

Maximum Burial Depth ..... 1,500 mm.

The Cable Plow System ARADO is an SMD make plough uniquely designed to require a 40 TM. bollard pull. It can trench and bury submarine cable to a depth of 1.5 meters, in up to 1,500 meters of water depth, and operate in a wide variety of seabed environments, ranging from sand to medium strength clays.

Arado Cable Burial System — Technical specification

System Components Weights and Dimensions

Lengths:

- *Auxiliary share deployed & skids down ..... 9.0 m*
- *Auxiliary share deployed & skids up ..... 9.8 m*
- *Auxiliary share raised & skids down ..... 8.2 m*

Widths:

- *Across skids ..... 4.0 m*
- *Across front of chassis ..... 4.1 m*
- *Across stabilizing wheels ..... 4.6 m*
- *Across rear of chassis ..... 4.1 m*

Heights:

- *Top of front camera cage ..... 3.6 m*
- *Top of umbilical termination post ..... 3.4 m*
- *Top of auxiliary share when raised ..... 4.5 m*
- *Top of Tow swivels*
  when drawbar at 90º and steering at 0º ..... 4.75 m
- *Top of highest tow swivel*
  when drawbar at 90º and steering at 16º (max.).... 5.50 m

Weight

- *Dry ..... 14.5 Ton*
- *Wet ..... 11.5 Tons (approx.)*

Operational Parameters

Soft mud capacity ..... 5 kPa minimum

Cable Diameter ..... 13 - 140 mm.

Minimum cables bend radius ..... 1,500 mm.

Repeaters.

- **Diameter ..... <380 mm**
- **Length ..... < 3 meters**

Maximum Alter Course ..... < 12º

Minimum route length between alter course. ..... < Catenary Set.

Maximum Aft Acceleration on deck ..... 0,1 g.

Maximum side slope of the seabed. 20º

Maximum up / down slope of the seabed. 30º

The Plough System, ARADO, is self-contained using 20-foot vans (modified ISO containers) for control cabin, rigging, maintenance and spares, as well as Hydraulic Power Units for topside launch and recovery. The remainder of the system is shipped to the mobilization site in open ISO containers, control umbilical cable winch, and the plough itself.

The plough has two hydraulically actuated and independently adjustable skids, one on either side of the plough body, to control plough stabilization and plough depth. Also has stabilizing wheels independently actuated with travel and distance encoders. The cable burial depth is controlled by a depressor actuating inside the plough share. All plough functions and movements are controlled via the pilot's keypad from the shipboard control cabin.

The full sensor instrumentation suite also allows the operator to continuously monitor Tow Tension, Depth of Burial, and the whole performance criteria. Three subsea video cameras and 5 lamps provide continuous visual view of the plowing operation. The sensor information and video is transmitted to the operator console in the control van via an electro-optical umbilical cable.