

IHC Engineering Business Saipem Pipeline Plough & Backfill Plough



Description

Delivered in 2009, this latest generation of subsea ploughs provide Saipem UK with the capability to trench and backfill pipes up to 1,550mm diameter, to 2.5m deep and in water depths of up to 1,000m.

The EB designed and manufactured PL3 plough can be towed with up to 400t of pull force to cope with very hard seabed conditions, and incorporates multi-pass capability to guarantee that the full specified trench depth is achieved. It has the ability to support simultaneous pipe support loads up to 100t fore and aft, and is fully diverless in operation.

The ploughs (PL3 & BPL3) are operated from the dedicated support vessel Far Samson, and are used for trenching and backfilling large diameter export pipelines, although they are also capable of operating on smaller infield lines.

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Overview

Pipeline Plough (PL3) & Backfill Plough (BPL3)
 Client: Saipem
 Project Duration: 2007-2009

Features

- Can trench pipelines up to 1,550mm diameter
- Ability to trench up to 2.5m
- Operates in water depths of up to 1,000m
- Can be towed with up to 400t of pull force
- Multi-pass ploughing capability
- Diverless operation
- BPL3 can fold for launch and recovery

Benefits

- Can be operated in the toughest seabed conditions
- One plough can be used for a wide range of pipe sizes, water depths and vessels
- Safe and efficient launch and recovery
- Rapid backfilling operation can be achieved by folding the BPL3 for launch and recovery
- Tailor-made solution to customer requirements



Control System

EB designed and supplied a fully integrated power, control and monitoring system to operate PL3 and BPL3. The systems are based on proven industry-standard equipment and open software utilising market leading PLC and SCADA technology.



Diverless Operation

The ploughs operate in deep water without the use of divers for deployment or pipe loading/unloading. Using a remote launch line release, latch mechanism and hydraulically-actuated pipe grabs allows loading and unloading of the plough on the seabed.



Roller Assemblies

To ensure that the largest lines can be supported through the plough without exceeding permissible stresses in the pipe, the PL3 supports the pipe on roller assemblies. The height position of these is hydraulically adjustable to allow pipe support loads to be shared at all times.



BPL3 Handling

BPL3 folds to allow launch and recovery in the correct orientation for immediate backfill operations.