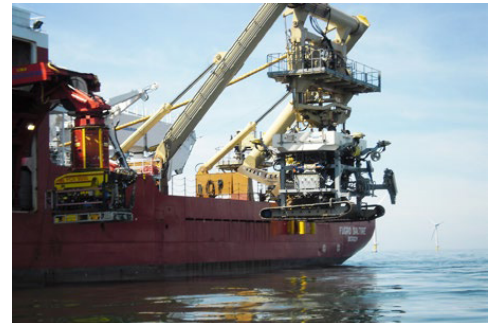


# Q1400 TRENCHING SYSTEM

The Q1400 Trenching system has the capability to perform jet trenching in soils of up to 100 KPA and mechanical chain cutting of soils of up to 250 KPA. The system consists of a “common trenching module” and separate tracked “jetting and mechanical cutting skids” with a customised launch and recovery system (LARS) rated to Lloyds sea state 6.

In jet trenching mode, the Q1400 has 1100kW (1475 hp) of available power, 800 kW of this power is via variable speed drive (VSD) electric motors with direct drive water pumps. The jetting tool has twin-legged parallel jet swords. The system is designed for trenching up to 3 m in soil conditions ranging from 5 KPA to 100 KPA (using 2 m & 3 m jetting swords); and is capable of accommodating products up to 900 mm in diameter. The sophisticated jetting system also has the capability for backwashing, eduction and back filling of seabed material.

The flexibility of the Q1400 trenching system is illustrated when it is operated in the chain-cutting mode. In this mode it is configured with a 2 m x 400 mm chain cutter coupled with an instrumented cable bell mouth and depressor with a 3m minimum bend radius (MBR) and two product-loading arms. It has a dedicated HPU for the chain cutter. The system has a capability to accommodate flexible products up to 250 mm diameter.



## JETTER MODE - GENERAL

<b>Power</b>	1,100 kW (1475 hp) 2 x 150 kW Electro / Hyd HPUs driving multiple hydraulic pumps 2 x 400 kW Variable speed electric motors directly driving mixed flow water pumps
<b>Operating depth</b>	1,500m
<b>Max product diameter</b>	900mm
<b>Max trench depth</b>	3.0m

## JETTER MODE - DIMENSIONS

<b>Length</b>	7.8m
<b>Width</b>	6.3m with tracks
<b>Height</b>	5.5m
<b>Ground clearance</b>	1.0m
<b>Weight in air</b>	40Te
<b>Weight in water</b>	0 - 1,500Kg

## JETTER MODE - SOIL STRENGTHS

Minimum soil bearing in tracked mode of 5 KPA

Capable of burial in soil strengths up 100 KPA @ 3m depth

Pitch & Roll capability of +/- 15

## JETTER MODE - JETTING SYSTEM

<b>Water supply</b>	2 x 400 kw direct drive water pumps Maximum flow 2300 m <sup>3</sup> /h Variable up to 15Bar
<b>Configuration</b>	Twin legged jet tool mounted on double scissor linkage
<b>Jet swords</b>	2m & 3m
<b>Trench depth</b>	Variable from 0 – 2 or 3m dependent on which swords are fitted
<b>Jetter internal</b>	2m swords - closed 200mm to 900mm max
<b>Dimensions</b>	3m swords – closed 200mm to 900mm max

## JETTER MODE - EDUCTOR/BACKWASH SYSTEM

<b>Configuration</b>	Twin legged Eductor / Backwash system with parallel function for constant angle back wash
<b>Trench depth</b>	Variable from 0 – 3.0m
<b>Trench width</b>	200mm – 900mm
<b>Dredge</b>	1 x 200kw jet pump provides variable water supply to venture type pump @ 5 Bar

## CHAIN CUTTER MODE - GENERAL

<b>Power</b>	450 KW (600 hp) 3 x 150 KW Electro / Hyd HPU's driving multiple hydraulic pumps
<b>Operating depth</b>	1,500m
<b>Max product diameter</b>	250mm
<b>Max trench depth</b>	2.0m x 400mm

## CHAIN CUTTER MODE - DIMENSIONS

<b>Length</b>	8.0m
<b>Width</b>	6.3m with tracks
<b>Height</b>	5.5m
<b>Ground clearance</b>	0.5m
<b>Weight in air</b>	40Te
<b>Weight in water</b>	10 - 15Te

## CHAIN CUTTER MODE - SOIL STRENGTHS

Minimum soil bearing in cutter mode of 12 KPA

Capable of burial in soil strengths up to 250 KPA @ 2m depth

Pitch & Roll capability of +/- 15 degrees

## CHAIN CUTTER MODE - CUTTER SYSTEM

<b>Configuration</b>	2m long x 400mm wide chain cutter driven by Hydraulic motor with product MBR of 3.0m and bespoke depressor system
<b>Power system</b>	175 KW HPU (150 KW for Chain Cutter - 25 KW for Spoil Removal)
<b>Cable loading arms</b>	2 x loading arms with 2000 kg lift capacity fully instrumented
<b>Emergency product unload</b>	Hot Stab to ROV Intervention panel
<b>Spoil removal</b>	Centrifugal dredge pump water flow 500m <sup>3</sup> /hr

## LAUNCH & RECOVERY SYSTEM

<b>Wide angle A frame c/w teleleg</b>	40 Te SWL up to Sea State 6 Umbilical Snatch Limiter Submersible Cursor & Latching system Centralised A Frame & LARS control Hut
<b>Umbilical winch</b>	c/w 1,800m of umbilical
<b>2.5Te HIAB</b>	For maintenance assistance
<b>LARS HPU</b>	Open Frame 460 KW HPU