T-1200Purpose Built Jet Trencher





T-1200 JET TRENCHER

THE T-1200 A PURPOSE BUILT jet trencher that has significantly more jetting power – 1,200 hp – and is rated for 3,000 m.

MAIN CHARACTERISTICS

Depth Capacity	
3,000 msw	
Maximum Speed (Free Flying)	
Forward	2.8 knots
Lateral	2.0 knots
Maximum Speed (Tracked)	
Forward	2,500 m/hr
Dimensions (Maximum)	
With Over Buoyancy	6,095 mm
Width Over Tracks	5,600 mm
Length	9,150 mm
Height	5,164 mm
Vehicle Weight – In Air (200 Kg F	ayload)
Tracked Mode Configuration	30,500 Kg
Skid Configuration	27,500 Kg
Vehicle Weight – In Water (200 Kg Payload)	
Tracked Mode Configuration	1,000 to 1,500 Kg
Skid Mode Configuration	300 to 1,000 Kg

PROPULSION SYSTEM

Proportionally controlled thrusters
4 x 500 mm horizontal thrusters
4 x 500 mm vertical thrusters

TRACK DRIVE SYSTEM

2 x underwater tracks, hydraulic driven	
Able to track in > minimum soil strength – 3.5 kPa shear strength	

HYDRAULIC MANIFOLDS

2 x ROV, thruster control manifolds (proportional valves for pilot
control of thruster motor)

 $^{4\,}x$ ROV, 12 station manifolds (12 function solenoid / proportional valve manifold)

CAMERA AND LIGHTING SYSTEM

1 x low light camera
3 x color cameras with focus and zoom
3 x mono inspection cameras
16 x LED lights
2 per dimming circuit standard

DEPTH SENSOR

High accuracy sensor, 0.1% over full scale for depth

HEADING SENSOR

Octans gyro	
HMR 3,000 compass	

AUTO FUNCTIONS

Heading	
Depth	
Altitude	
Product tracking	

ELECTRICAL POWER SYSTEM

2 x 281 kW/375 hp electric motor, controlled by variable speed drive (VSD) surface transformers, directly coupled to 2 hp water pumps

 $1\ x\ 281\ kW/375$ hp electric motor, coupled to a hydraulic pump providing power for LP water pumps, motive power and auxiliary functions

CONTROL SYSTEMS

Utilizes the evolutionary ICE™	
Integrated control engine	
Fully redundant Windows® based HMI computers	
Dedicated real-time controllers	
Intuitive graphic user interface (GUI)	
Advanced graphical interactive diagnostics	
User configurable GUI	
Ergonomic pilot / co–pilot control consoles	
Using touch screen control interfaces for diagnostics and other secondary functions	
4 x 40 in HD plasma video wall	

DATA TRANSMISSION

Single mode fiberoptic video and data multiplexer
8 x real-time video channels available
4 x full duplex RS232 @ 115 kpbs data channels
4 x full / half duplex RS485 / 422 / 232 channels

SENSORS

Multi beam imaging sensors
Radio beacon
Product location / tracking system (TSS 440/350) (or other tracking device)
Strobe flasher

LAUNCH AND RECOVERY SYSTEM

Capability	Sea state 5
Capacity	3,300 m
Outreach	10 m (tbc)
Lifting Speed	30 m / min on bottom later

EDUCATION AND BACKFILL

An eductor dredge will be fitted complete with integral backwash jets to allow selection of dredge or backwash operation remotely

A back fill tool is fitted to collapse the trench wall as a post burial operation

REAL-TIME BURIAL DEPTH INDICATOR (OPTIONAL)

Rear mounted, hydraulically deployed with variable control and feedback product monitoring stinger to provide calibrated real-time (continuous) burial depth indication

PRODUCT BURIAL CAPABILITIES

Product Size Range	100 to 915 mm diameter (depending on soil conditions and burial depth)
Cohesive Soil	Up to 125 kPa (product specification and burial depth dependent)
Non-cohesive Soil	Sand, silt and gravel to 30 mm
Burial Depth	1.0 m to 3.0 m (soil and product dependent)
Burial Speed	25 to 780 m / hr (soil / burial depth / product dependent)

JETTING SYSTEM

1 m, 2 m, 3 m burial swords

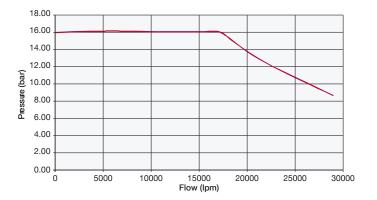
HP WATER PUMPS

HP water pressure flow and jetting sword nozzle configuration will be engineered per execution of each project and dependent of soil conditions, project specification and burial requirements

To optimize vehicle performance, detailed setup of the trencher will form part of the project procedure package

Total HP Output	17,500 LPM at 16 bar	
	maximum pressure	
	300,00 LPM at 8 bar	

HP WATER PUMP CURVE



LP WATER PUMPS

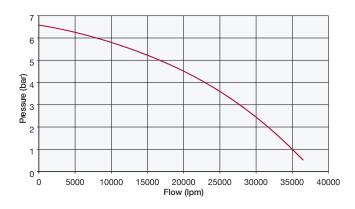
LP water pressure flow and jetting sword nozzle configuration will be engineered per execution of each project and dependent of soil conditions, project specification and burial requirements

To optimize vehicle performance, detailed set up of the trencher will form part of the project procedure package

Total LP Output

8,000 LPM at 6 bar maximum pressure 35,000 LPM at 1 bar maximum flow

LP WATER PUMP CURVE



ESTIMATED BURIAL PERFORMANCE

(Subjected to product specification and seabed conditions)

Performance (m/h)	Trench Depth 1 m	T750	XT1200
Single Pass	5 kPa	400	600
Two Passes	10 kPa	300	500
Three Passes	20 kPa	200	400
	30 kPa	150	300
	50 kPa	>150	> 250
	75 kPa	>75	>150
	100 kPa	>50	>75
	125 kPa	<50	>50

Performance (m/h)	Trench Depth 2 m	T750	XT1200
Single Pass	5 kPa	300	500
Two Passes	10 kPa	250	450
Three Passes	20 kPa	150	350
	30 kPa	>75	250
	50 kPa	>50	>150
	75 kPa	>50	>75
	100 kPa	No	>50

Performance (m/h)	Trench Depth 3 m	T750	XT1200
Single Pass	5 kPa	200	250
Two Passes	10 kPa	150	200
Three Passes	20 kPa	75	>120
	30 kPa	50	>75
	50 kPa	>30	>50
	75 kPa	TBC	>25



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