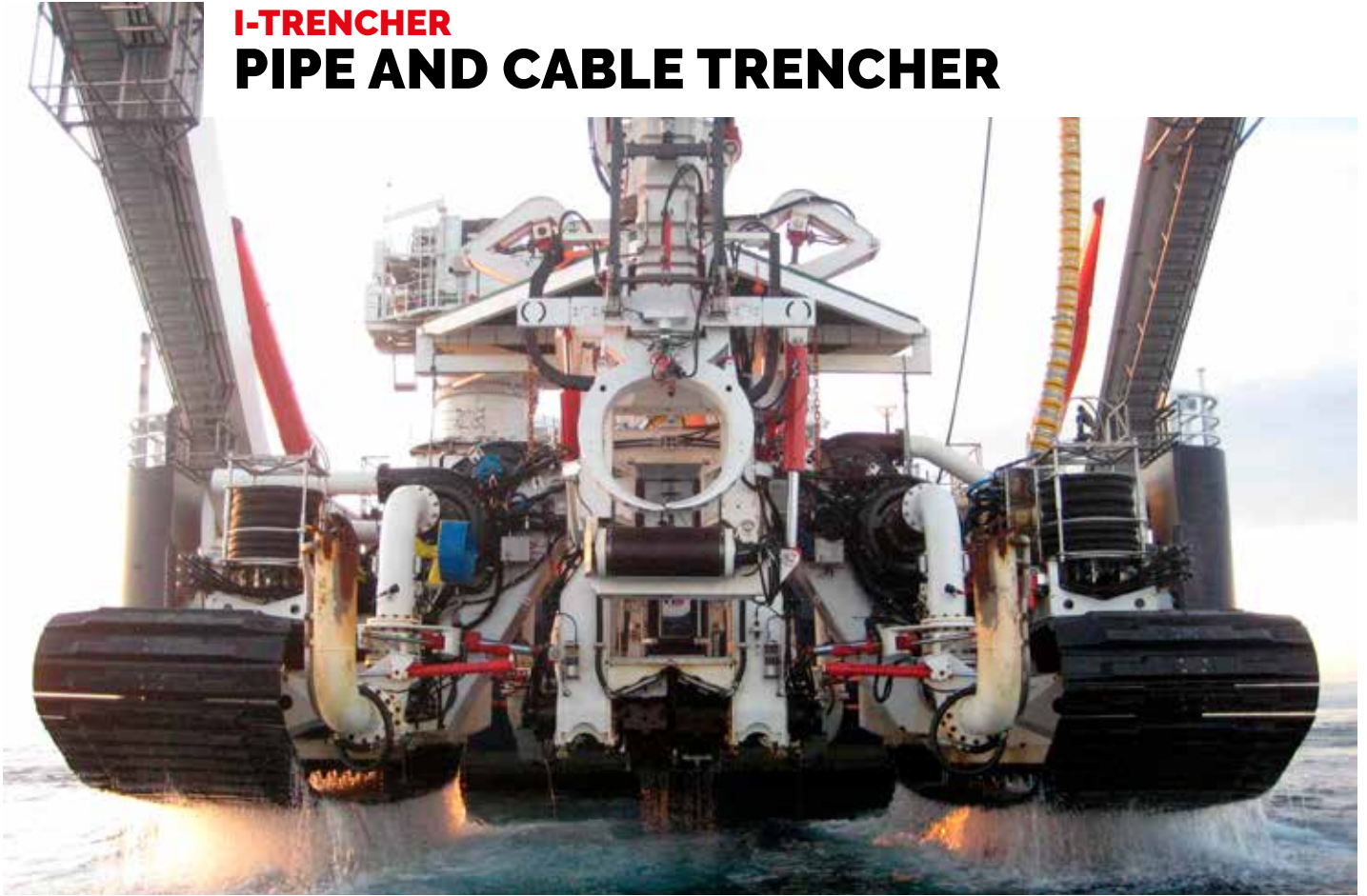


# I-TRENCHER PIPE AND CABLE TRENCHER



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## PRODUCT OVERVIEW

Royal IHC designed and built the i-Trencher system for Canyon Offshore. The system includes the 1.25MW trenching vehicle, a launch and recovery system and a heave compensation system.

The system is used for high performance trenching in hard soil and deep waters and can be configured in a number of different operating modes to allow a variety of trenching and backfilling operations to be completed.

The i-Trencher is designed to reliably outperform existing trenching systems and can excavate a 2m deep trench. It has been used to successfully trench a wide range of products including pipelines, umbilicals and subsea power

## CUSTOMER BENEFITS

- increased operational window
- faster trenching in wider range of soils
- greater flexibility in route planning
- turnkey supply of equipment and vessels
- responsive 24/7 worldwide service
- attractive financing available.

## KEY TECHNICAL FEATURES

- operates in high currents and waves
- high sea state active heave compensated LARS
- ability to perform remedial work
- configurable in field for backfill operations
- ability to create open trench for pre-lay campaigns
- dedicated low pressure backwash subsystem.



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**BASE VEHICLE PLATFORM**

Dimensions	Length 12.6m (landing) 17.4m (deployed) Width 10.0m Height 6.1m
Weight in air	85Te (trench mode) 80Te (open trench mode) 80Te (backfill mode)
Weight in seawater	40Te (trench mode) 35Te (open trench mode) 35Te (backfill mode)
Water depth	1,500m
Air temperature	-15°C to 40°C
Sea temperature	35°C
Installed Power	1,250kW 4x 300kW. 4.2kV 4 pole
Max. trench depth	2.0m
Speed	1,500m/hr (seabed permitting)
Traction	20Te (seabed permitting)
Thrusters	2x 0.85Te
Ground pressure	10kPa soils
Umbilical	1,800m double armoured

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**PRODUCT HANDLING**

Cable	Ø80mm
Umbilical	Ø80mm
Rigid pipe	Ø16"
Flexible pipe	Ø16"
Piggybacks	Ø800mm
Trench width	0.5m
Maximum product	Ø400mm (including CPS)
Product route MBR	5.0m
Depressor MBR	3.0m (optional)
Product lifters	2x 100Te SWL
Roller boxes	2x 100Te SWL



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**SURVEILLANCE (TYPICAL)**

Pipe tracker	TSS340
Sonar	2x obstacle avoidance 2x trench profile 2x dual head Seabats
Heading	Gyro and compass
Cameras	10 off low light, colour etc
Lamps	10 off
Pan & tilts	8 off
Responder	1 off
Altimeter	1 off
Water depth	1 off
Hydrophone	1 off

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**TRENCHING SYSTEM**

Chain cutter	2x vertical chains Tungsten carbide picks
Eductors	up to 4x dredge pumps Will pass Ø220mm objects
Backfill	2x chains (horizontally mounted spoil blades)
Open trench mode	1x vertical chain cutter 2x angled chain cutters

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**LARS**

A-Frame	90Te SWL
Sea state	5
Snubber travel	1.4m (telescopic)
Heave compensator	90Te
Sea state	5
Travel	8m
Lift winch	90Te
Sea state	5
Wire	1,700m
100Te+ AHC crane	
Configuration	Motion damped curser 4x cylinders
Sea state	4 (Hsig = 2.0m)

All details are typical. Please contact [uk@royalihc.com](mailto:uk@royalihc.com) for any client specific requirements.



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# HI-TRAQ™ SUBSEA CABLE TRENCHER



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## PRODUCT OVERVIEW

Hi-Traq™ is the world's first subsea vehicle specifically designed to reduce project costs and product risk during the installation and burial of offshore cables.

Significant cable burial operations take place in notoriously harsh shallow water environments that have high seabed drag and lift forces generated by strong currents and wave action with corresponding arduous seabed topographies. Traditional technologies have often struggled with such demanding conditions which has led to project delays and increased costs. The highly innovative and versatile four-track tooling platform provides unequalled steering and traction performance which facilitates trenching operations in these challenging subsea environments.

## CUSTOMER BENEFITS

- increased operational window
- faster trenching in wider range of soils
- greater flexibility in route planning
- low mobilisation cost
- turnkey supply of equipment and vessels
- responsive 24/7 worldwide service
- attractive financing available.

## KEY TECHNICAL FEATURES

- operates in high currents and waves
- trenches tight radii found on cable 2<sup>nd</sup> ends
- traverses steep sandwaves and boulders
- no sudden pitching over seabed ridges
- high traction during steering and on slopes
- crane damping system® allows operation in Sea State 4 from vessels of opportunity
- eductor entry blockage negation®
- high power, low wear cutting chain
- full utilisation of available jetting power in low and high pressure configurations®
- environmentally friendly biodegradable oil.



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### BASE VEHICLE PLATFORM

Dimensions	Length 9.7m
(Incl. tooling packages)	Width 8.5m
	Height 6.2m
Weight in air	43Te (platform only)
Water depth	1000m
Installed Power	1200kW
	4x 300kW. 4.2kV 4 pole
Max. seabed slope	±20° (pitch and roll)
Max. seabed step	0.75m
Min. water depth	5.0m (beachable with shore kit)

### CONTROL FEATURES

- auto-heading landing orientation mode
- traction control ensures smooth power transmission to tracks
- auto levelling for optimum trenching orientation and grading in / out®

### SURVEILLANCE (TYPICAL)

Sonar	obstacle avoidance (fore & aft)
Cable tracking	TSS440, TSS350, Inovatum
Heading	Gyro or compass
Cameras	6 off low light, colour etc
Lamps	10 off dimmable LED's

### JETTING PACKAGE

Configuration	Twin legs, multi-chamber
Jetting power	900kW, Variable speed for optimal pump duty®
Weight in air	61Te (platform + tooling)
Trench depth	1.0m – 3.3m (0m with tilt)
Jet leg separation	200mm – 600mm
Maximum product	Ø450mm
Depressor MBR	3.0m (removable)

### CHAIN CUTTING PACKAGE

Chain cutter power	600kW
Jet eductor	300kW
Weight in air	63Te (platform + tooling)
Trench depth	2.3m
Trench width	0.5m
Maximum product	Ø400mm (including CPS)
Product route MBR	5.0m
Depressor MBR	3.0m (removable)
Product Lifters	Fore and aft
	2x 3Te SWL
	5.0m MBR grabs
Soft ground capability	15kPa (incl. when turning)
Min. trenching radius	R15.0m
Crumber	Self-cleaning jetting system

### CONTROL

SCADA	Ethernet
Instrumentation	comprehensive with full data logging and remote diagnostics

### LARS – CRANE DAMPING SYSTEM

Vessel system	100Te+ AHC Crane
Configuration	Motion damped curser
	4x cylinders
Sea State	4 (Hsig = 2.0m)

All details are typical. Please contact [uk@royalihc.com](mailto:uk@royalihc.com) for any client specific requirements.



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