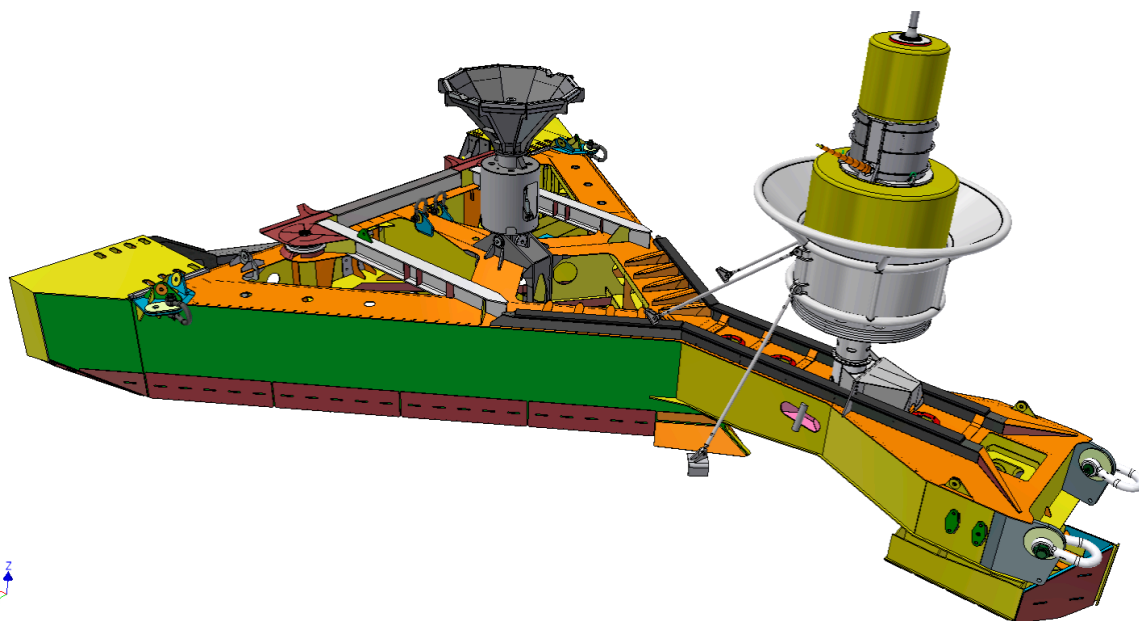


# EQUIPMENT SHEET

## T-REX XL

BOULDER CLEARANCE TOOL XL



### GENERAL DESCRIPTION

The T-Rex XL provides our customers an in-house developed, designed, built, tested and operated Boulder Clearance tool. With a best-in-class mentality Boskalis started to create the T-Rex XL taking into account technical client requirements and the variety of offshore project sites, in order to deliver a robust and cost-effective solution to mitigate subsea cable installation and/or burial risks associated with boulders.

The T-Rex XL is specifically designed for the removal of boulders of 2 m maximum diameter size from planned cable routes in shallow as well as deep waters.

The tool features a unique design and a robust chassis that can withstand continuous tow forces up to 250 t, to permit boulder clearance capabilities in difficult seabed conditions. The width as well as the configuration of the T-Rex Boulder XL can be adjusted in order to work efficiently with the smallest environmental footprint in various types of soils and in boulder field with different characteristics. The T-Rex XL further has the capability of ripping the soils with the optional ripper configuration.

The T-Rex XL can be operated from a standard DP/II Anchor Handling Tug Supply vessel equipped with various tow and anchor handling winches.

### MAIN DATA

Clearance width	12 m / 14 m subject to configuration
Design strength	Sustained pull load: 250 t Peak load: 500 t
Operating water depth	Minimum: Beach operations Maximum: 450 m. In water depths shallower than 25 m T-Rex XL will be deployed with lifting beams.

### BOULDER CLEARANCE TOOL

Width	12 m / 14 m
Length	17 m / 19 m
Height	5 m
Weight in air	75 t / 92 t
Submerged weight	66 t / 80 t

### BOULDER CLEARANCE PERFORMANCE

Boulder size	≤ ø2 m [Up to 25% submerged]
Soil types	Suitable for a range of soil types, including sands and soft (>20 kPa) to hard clays

### RIPPER OPTION

Depth	500 mm
Width	500 mm top, 300 mm bottom of ripper

#### SUPPORT EQUIPMENT

Support equipment	1 x 20" Workshop container 1 x 20" Storage container
Portable equipment	3 x Stability fins [2 different heights] Height adjustable front support

#### OPERATIONAL AHTS REQUIREMENTS

Tow/AH winches	1 x for pulling and launch and recovery BCT 2 x additional for launch and recovery BCT: 20 t
Pulling winch capacity	Minimum SWL: 200 t/ 285 t Brake holding capacity 500 t
Capacity pulling winch drum	Water depth 50 m: 400 m Water depth 100 m: 750 m Water depth 450 m: 2,500 m
L&R winch capacity	Minimum MLB: 500 t
Minimum free deck space area	Width: 18 m Length: 40 m
Towing pin capacity	Minimum SWL: Bollard Pull
Stern roller capacity	Minimum SWL: 250 t
Karm Forks/Stopper pins	Minimum SWL: 100 t

#### MECHANICAL

Construction	High-strength steel chassis
Wear parts	Hardox 450, hard faced to reduce wear in critical areas

#### INSTRUMENTATION & SURVEILLANCE

Cameras	2 x low light cameras 2 x blue view
Lamps	2 x LEDs

#### OTHER EQUIPMENT

Umbilical system	Standard winch system 1,200 m of umbilical Max. 30 m/min line speed
Control system	Integrated control room Shallow water
For operations in shallow water positioning buoy (<40 m)	

Remark: To determine whether the boulder clearance tool can be launched and recovered from an AHTS vessel a 3D geometric study of the tool on the vessel is required. Above values are only indicative for the dimensions of the AHTS.

