

40Te hydraulic tensioner

SPECIFICATION SUMMARY

Max pull force outboard from idler end	40Te SWL
Max pull force outboard from gearbox end	20Te SWL
Number of tracks	4
Coefficient of friction	0.1
Max total grip force	400Te
Max grip per track	100Te/track
Product crush force	41.7Te/m/track
Track contact length	2.4m
Max lay speed	1000m/hour
Max recovery speed	650m/hour
Height to track centre line	1625mm
Track opening	700mm*
Product size range	90mm to 590mm*
Operating pressure	250 bar

MODES OF OPERATION

Pay-out variable speed
Pay-in variable speed

TENSIONER DISPLAY INFORMATION

Product distance
Product speed
Product grip
Product tension

*Track pad dependent



IDEAL FOR

- Subsea, Umbilicals, Risers and Flowlines (SURF) / flexible pipe / rigid pipe
- Offshore wind submarine cable

BENEFITS

- Top load for ease of loading
- Small footprint
- Vertical Lay System (VLS) compatible
- 2-track mode capable for smaller products
- Remote dial-in
- Provides record of data – data logging
- Synchronisation with third party equipment.

DELIVERY ASSURED

TENSIONER

This tensioner has four track units each hydraulically driven through an epi-cyclic track gearbox and bent axial piston hydraulic motor (electric drive versions are available). Standard lubricated 'Berco' track chains are employed on to which are bolted 'V' profile hard wearing polyurethane track pads. The track pads can be interchanged for alternative profiles, or for quick release track pads where multiple profiles are required during an installation.

The lower track unit and one side unit is hydraulically positioned to suit the product diameter using linear encoders to ensure accurate position. The top track and other side track are also hydraulically positioned against the product initially at low load, then simultaneously pressurised to the desired grip load.

Hydraulic accumulators ensure the load is continuously applied providing back up in emergency. To allow the product to be removed from the tensioner in mid line, or where end terminations are too large to pass through the tensioner, the top track opens by hinging to one side. The unique method employed to do this maintains the opening track within the tensioner width thereby minimising deck space requirements.

HPU

A dual Hydraulic Power Unit (HPU) powers the tensioner. Two electric motors are each combined with a dual pump, the main load-sensing pump being for the track drives and a piggyback load sensing pump for the grip circuit and ancillary functions. Power requirements are 2 x 75kW, 3-ph, 380 / 440V, 50-60 Hz.

RCU

Control of the tensioner is via a Remote Control Unit (RCU). The RCU is a portable control station with displays for tension, speed, distance and grip. Manual track positioning controls are located on the tensioner for product loading. The control system is Programmable Logic Controller (PLC) based and data logging, live streaming of data and remote display of data is possible.

The tensioner is currently configured for speed and direction control. However, with an alternative manifold it can also be configured to provide tension holdback (render) or tension pull at pre-set tensions when used in the appropriate setup, using the integral load cells as feedback to the render control system.



Performance can be monitored via a remote laptop.

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