15Te Horizontal Tensioner Spread

15Te 2-Track Horizontal Tensioner	
Tension Rating	15 Te
Lay Speed	18 m/min (1080 m/hour)
Product Capacity	50 ~350 mm
Max. Track Opening	400 mm
Contact Length	2.5 m
Max. Track Squeeze	85Te/Track
Brake	Fail-safe Hydraulic-release disc brake type
Drive	Hydraulic
Control Type	Pay In / Out
Operating Temperature	0 ~45 degree Calsius
Dimensions	5200 (L) x 2900 (B) x 2190 (H) mm
Gross Weight	Approx. 11.5-Te

OCS owned tensioner is a two-tracked unit with two horizontal with polyurethane molded "V" shaped pads between which the product is gripped. Bolted to each caterpillar type chain are 54 units of "V" sharped pads, 108 in total for two tracks. The standard track pad has a "V" angle of 150 degree. The tensioner is designed to transmit linear motion to the product. The product will typically be SURF – subsea umbilical, risers and flow lines, cables or rigid pipe. Linear motion is transmitted by the tracks driven at one end, together with traction resulting from gripping of the product by track pads. This tensioner can be set to operate in pull-in, pay-out or constant tension mode.

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There is one moving track assembly and one fixed track assembly, the moving track assembly slides on the I-beam frame via 4 sets of guarding rollers and is moving by 2 units grip cylinders. The grip System uses 2 units' nitrogen gas bladder type accumulators, one is pre-charged to 20 bars for Squeeze force 10 tonne to 30 tonne; another is pre-charged to 55 bar using for squeeze force from 30 tonne to 85 tonne, the ball valve in line with low charged accumulator is normally closed to prevent it from over pressure. Open this ball valve is requested once the squeeze force is below 30 tonne, this is a manual operation.
The two track assemblies and mounting frames are secured to the base with two load pins. This provides continuous monitoring of the tension and feedback for render mode.
The tensioner functions are controlled locally and remotely from the control cabin. Track opening and closing controls are situated locally on the Tensioner frame. Parameter set-up for squeeze is carried out at a HMI panel on the remote control console. Speed, tension and squeezing force are displayed on the remote control console.

Air Conditioned Control Cabin with Remote Control Console (RCC)	
Operating Temperature	0 ~45 degree Calsius
Dimensions	3051 (L) x 2438 (B) x 2591 (H) mm
Gross Weight	Approx. 4.5-T

Remote control of the Tensioner is electrically operated from the Remote Control Console (RCC)

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2 x 55kW Electro-Hydraulic Power Unit	
Drive	2 x 55kW Electric motor 2 x 11kW Electric motor
Hydraulic Pump	2 x Axial Piston Pump 2 x Axial Piston Pump
Hydraulic Tank Capacity	900 liter
Power Supply	440V/400V , 60Hz, 3 Phase
Oil Cooling	Air Cooled
Operating Temperature	0 ~45 degree Calsius
Dimensions	3112 (L) x 1820 (B) x 2073 (H) mm
Gross Weight	Approx. 11.5-Te

The electro-hydraulic power unit is made up of 2x 55-kW pump sets sharing a common hydraulic Reservoir. Each 55-kW electric motor drives a variable-displacement piston pump with pressure compensating, load sensing and constant power control. Either one or both of these identical pump sets can be used. If only one pump is used then the speed will be reduced by half.
On the 2x11-kW auxiliary axial-piston pump set, the pressure compensating control setting is set to 230 bar and load-sensing controls (LS) is set at 30bar. There are safety relief valves to limit pressure in the event of compensator malfunction. The auxiliary relief setting is 250bar. During operation, only need to run one pumps set, another pump standby.
Hydraulic oil is cooled by an air-to-oil cooler in an in-line circuit. Along with this Air Blast coolers, there is a heat exchange water/oil cooler for working in extreme heat, this will need a supply of free flowing cold water; fresh or seawater (As a backup purpose only).
The power unit is started locally on the starter panel. An external power supply of 380 - 460v, 3-phase, 50/60Hz is required for the HPU and will be run as 2 separate 50mm2 (3phase + earth) core cable rated at 400 Amp.

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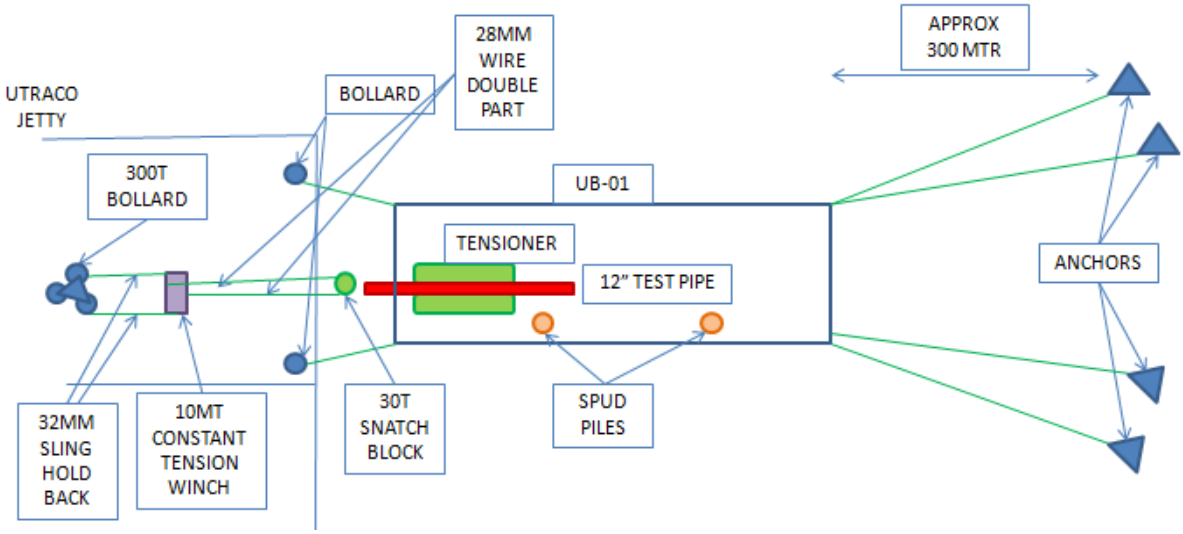
Tensioner Paying Out Test Pipe

Tensioner Control Console

Typical Tensioner layout Plan



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