

## Product Type 5910 Tendon Tension Load Cell



The Type 5910 Tendon Tension Load Cell is one of a family of specially designed devices for long-term service on offshore Tension Leg Platforms (TLPs).

- **High reliability, dual circuit measurement**
- **Sealed to IP 68 for underwater use**
- **Designed for extended use with zero maintenance**

These high specification load cells are used in groups of 3 around the mooring tendons of TLPs offshore, and their outputs are added to give a measure of load in the tendon. The mounting arrangement converts tendon tension into a compressive load spread equally across the 3 load cells.

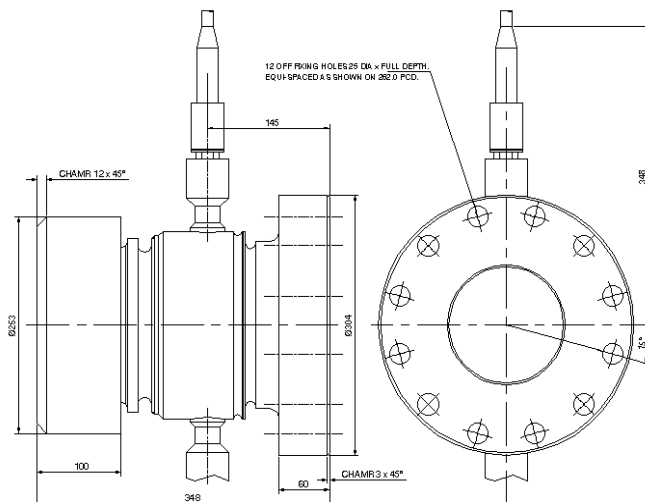
Each load cell is constructed from a single billet of high tensile stainless steel, and is hermetically sealed with a welded cap and tested after gauging to meet the requirements of underwater usage. After installation in this application, access to the load cell is virtually impossible, so the design and engineering focus on achieving maximum reliability.

Dual circuits (strain gauge bridges) are fitted, with dual connectors and output cables to the data handling system on the TLP. Tendon Tension Load Cells are supplied with full documentation and a calibration certificate, and load testing can be witnessed by inspection authorities by arrangement.

## Typical Specification

Rated Load	500- 2500 Kips
Proof Load	150% of rated load
Ultimate Load	200% of rated load
Rated Output	1.5mV/V nominal.
Recommended Excitation Voltage	10V
Maximum Excitation Voltage	15V
Zero Balance	± 2% of rated load
Bridge Configuration	2 independent strain gauge bridges
Bridge Resistance	700 ohm each full bridge nominal
Insulation Resistance	>5G.Ohm @ 100V
Combined Calibration Error	+/- 0.60% of full range output, to half rated load +/- 1.5% of full range, 50 to 90% of rated load +/- 3.0% of full range, 90 to 100% of rated load
Non-Repeatability	0.05% of rated load
Zero Temperature Coefficient	±0.04% of rated load per °C.
Span Temperature Co-efficient	±0.02% of reading per °C.
Maximum Operating Temperature Range	0 to +80°C.
Storage Temperature Range	-30°C to +80°C.
Compensated Temperature Range	0 to +60°C.
Electrical Connection	2 Wet [underwater] mateable connectors, separate for each bridge.
Material	Stainless Steel 17/4 PH
Environmental Sealing	Equivalent to IP68.

**Note:** Where particular requirements are critical or load cells of a higher specification are required, we would be delighted to assist.



Typical Example of layout - Dimensions in mm

Due to continuous development, Straininstall UK reserve the right to change the specification without notice

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