

Low Profile, Submersible, Bearing Thrust Measurement

Customer:

Europe based engineering company

Loadcell:

F207-Z3518 100kN

Generic Type:

Load washer

Special Features:

Sealing

Low profile

High temperature build specification

The customer required a loadcell to be mounted behind a bearing to measure axial thrust through a shaft. The loadcell would be immersed in gear oil at a pressure of 2 bar and at a temperature of 150°C. The loadcell had to fit in a recess 5mm high.

The design called for an ultra low profile load washer with fully encapsulated wiring to 2 bar pressure and a build spec of 150°C. Sealing of the loadcell could not be done by standard methods due to size restrictions. A solution provided was to encapsulate the bridge circuit in an insulating coating rather than a fully sealed body.

The loadcell was tested in house to 2 bar in EP90 gear oil. The loadcell was subsequently calibrated at 150°C. Even at such a low height, the loadcell performance was well within standard data-sheet values.

