# T95 LOAD CELL - INSTALLATION

A4/SK/20417 (2 Sheets)

Thames Side Sensors
UNIT10, io TRADE CENTRE,DEACON WAY,READING,BERKS. RG30 6AZ
Tel: +44 (0)1189 411 387 e-mail: sales@thames-side.co.uk

## INSTALLATION 1 2

Installation of load cells into a vessel/tank weighing application requires careful attention if the weighing system is to be accurate and safe.
Support structures (Legs) should be rigid.
Support structures to have minimal deflection under full vessel loading.
All pipework to and from vessel should be installed with flexible connections, this includes electrical conduit and trunking.
Common catwalks and other shared structures may cause interaction between vessels and should be avoided.
The performance of the load cell depends on its ability to deflect repeatably when load is applied and removed.
If more than one load cell is used in the weighing system then the deflection and signal of each individual load cell should be similar at each loading point.
The load cells are generally installed using special mounting arrangements instead of being mounted rigidly between the silo/vessel and foundation.
Ladders and attachments to the vessel should be included as part of the weighed system and not connected to the ground.
Load cell installation support arrangements are designed to avoid the following effects on the load cell :

* Off centre loading to the load cell.
* Vibration to the load cell.
* Lateral forces.
* Bending Moments.
* Torsion Moments.

These effects may not only cause damage to the load cell, but can compromise its performance.
If load movement is anticipated, tie rods should be installed to restrain the vessel/tank.

## LOAD CELL MOUNTING 3 4 5

To assure peak performance the load cells should be mounted on exactly the same horizontal level.
A solid metal foundation plate is preferred.
Shim plates should be used as appropriate to ensure that the top loading faces are on the same level.
Never use mounting bolts to pull uneven surfaces together.
Orientation of the load cells depends primarily on their design.
The applied load should always be transmitted vertically through the load cell in the way it was designed to measure the load.

## TIE RODS 6

Tie rods are installed horizontally and should not transfer any forces, in a vertical direction, to the vessel/tank.
The tie rod lengths should be as long as possible, generally a minimum of twenty times its diameter, this having a favourable effect of reducing vertical forces.
Tie rods provide stability and accuracy, especially for systems with agitators.
They should be installed carefully, exactly horizontal, and without any induced stress.