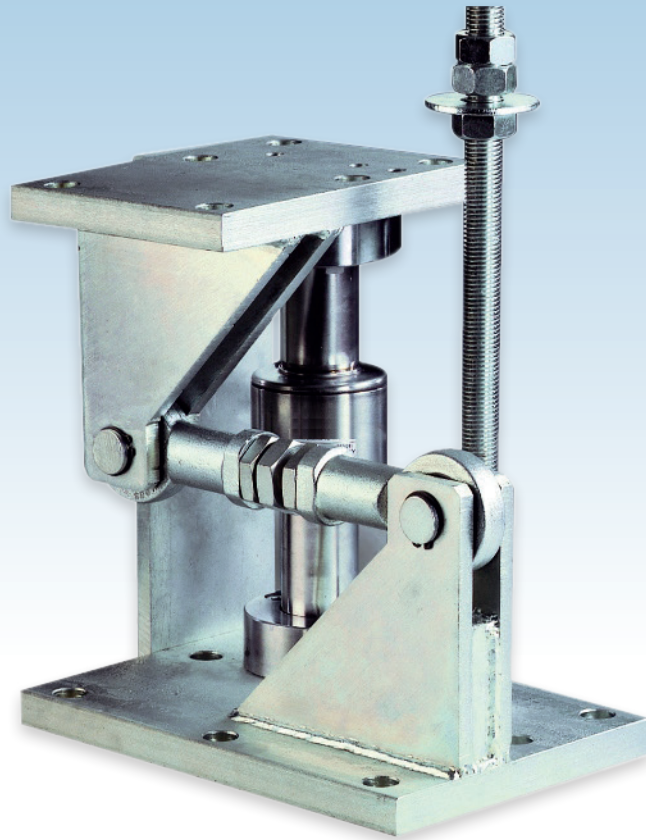


COMPRESSION COLUMN LOAD CELL ASSEMBLY FOR SILO WEIGHING

capacities 10t - 1000t



High capacity weighing problems solved simply and cost-effectively.

The high capacity model T34 stainless steel column load cell and mounting accessory are designed specifically for silo weighing applications. The accessory utilises a horizontal retention arm and incorporates lift-off prevention via integral check rods, for increased safety.

The T34 Silo assembly is a cost-effective and ideal solution for approved weighing systems, because the load cell has OIML C4 and NTEP Class III L approval up to 60t capacity. As optional extras, ATEX approval or a high temperature variant are available. Common end use industries include cement, minerals, coal, chemicals, plastics, pharmaceuticals, paint and grain.

- Stainless steel load sensor
- Fully welded and hermetically sealed to IP68/IP69K
- In-built surge arrestors for lightning protection
- High durability Polyurethane cable
- Simple installation
- 5 year warranty
- Self-centering rocker column design with anti-rotation pin
- Approval to OIML R60 C4 (4000 divisions) up to 60t
- Approval to NTEP Class III L up to 60t
- Calibrated in mV/V/ Ω for pre-corner adjustment optimisation
- ATEX and High Temperature options available



T34 SILO

installation & dimension details...

THE CONCEPT

The high capacity T34 family of load cells is available in capacities from 10t to 1000t. They are especially suitable for silo weighing and feature a combined error specification of $< \pm 0.013\%$ up to 60t and $< \pm 0.05\%$ from 100t to 1000t.

The critical sensor element is a fully welded and hermetically sealed column load cell, manufactured from high tensile stainless steel which is heat treated. This provides an extremely stable platform for the strain gauges, resulting in excellent accuracy and repeatability. In common with all Thames Side load cells, the strain gauged element is temperature compensated to ensure accuracy is maintained through a wide temperature range.

The stainless steel cover is TIG welded in position to provide total environmental sealing. This method of construction, together with the fitting of a high quality cable gland, allows Thames Side to offer a 5 year warranty on the complete unit.

As many silo installations are in areas where lightning strikes are a distinct possibility, the T34 load cell incorporates lightning protection in the form of surge arrestors to minimise potential damage.

The mounting accessory, which is supplied assembled for convenience, is zinc plated to provide a high level of corrosion protection and includes an earth cable as standard to prevent any damage to the load cell as a result of welding activity after installation. It is delivered with a transport plate to protect the load cell during installation; this must be removed during installation.

The accessory is fitted with integral lift-off prevention check rods, as well as a retention arm to absorb horizontal forces that are typically generated by wind loading on large silos. Expansion/contraction of the silo structure is accommodated by the rocker pin design of the T34, which allows a degree of movement in the transverse direction to the retention arm.

ATEX CERTIFICATION

The T34 range has a number of ATEX certification options; this allows for use in some ATEX zones without safety barriers and results in significant cost savings for the customer.

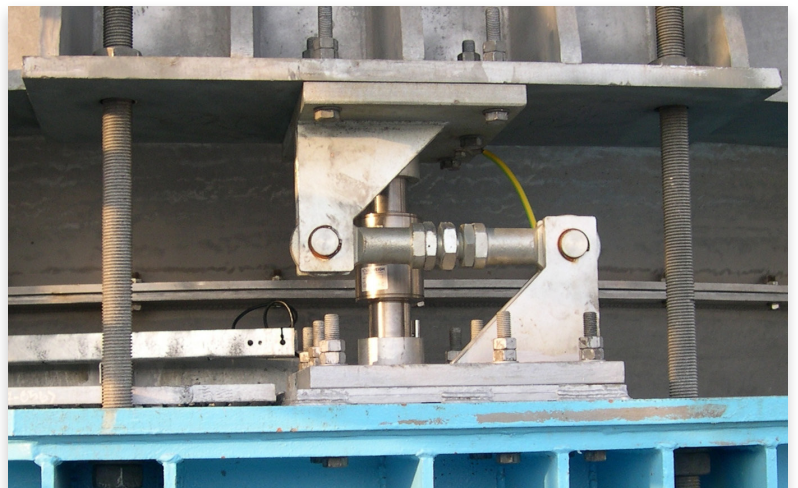
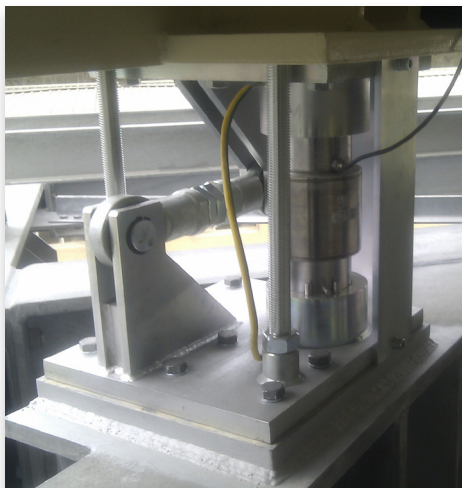
| Code | Temperature Class | Parameters | Application |
|--|--|-------------|--|
| II 1 G D Ex ia IIC T4...T6 Ga Ex ia IIIC T135 °C...T85 °C Da Ex ta IIIC T85 °C Da | T6 for Gas Zones 0, 1, 2 85 °C for Dust Zones 20, 21, 22 | Pi = 1.3W | Gas Zones 0, 1, 2 with safety barriers. |
| | T5 for Gas Zones 0, 1, 2 100 °C for Dust Zones 20, 21, 22 | Pi = 0.6W | Dust Zones 20, 21, 22 without safety barriers. |
| | T4 for Gas Zones 0, 1, 2 135 °C for Dust Zones 20, 21, 22 | Pi = 0.2W | |
| II 3 G D Ex nA T6 Ex tD A22 IP65 T85 °C | T4 for Gas Zones 0, 1, 2 135 °C for Dust Zones 20, 21, 22 | Umax = 25 V | Gas Zone 2 and Dust Zone 22 without safety barriers. Maximum excitation voltage 25 V |

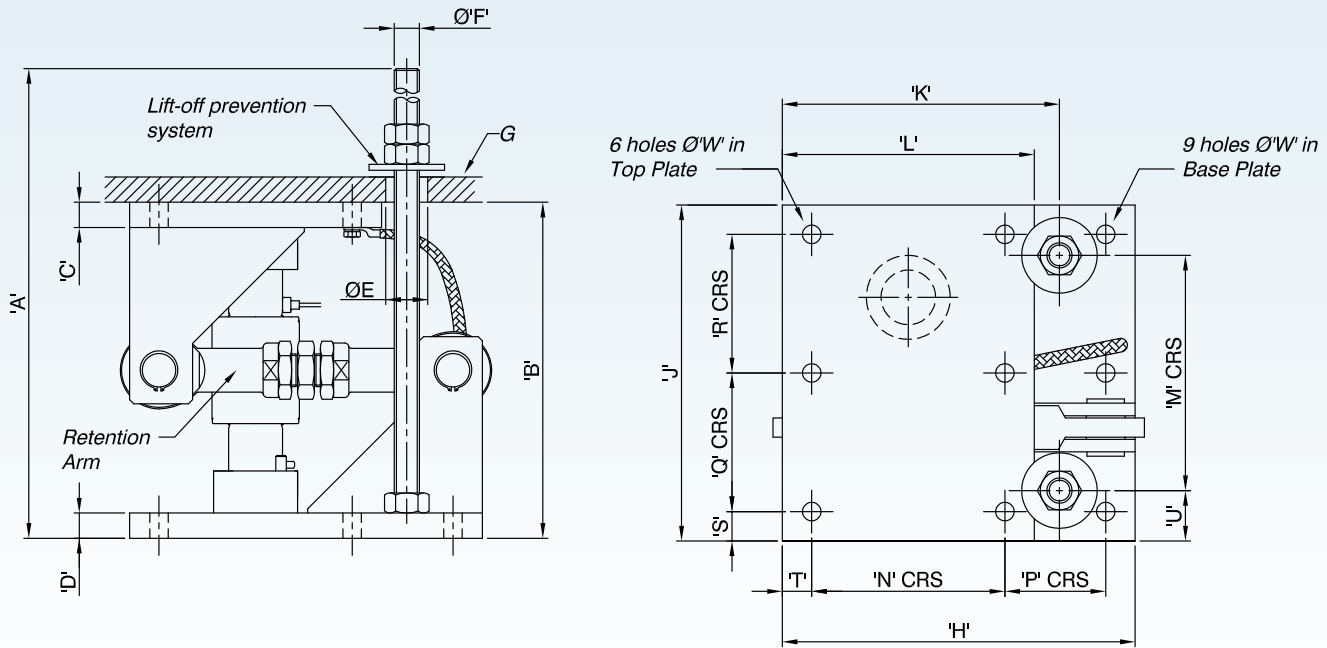
HIGH TEMPERATURE

The T34 range is available in an optional high temperature variant that utilises special load cell components and a PTFE 'Teflon' cable for operation in environments up to 150 °C.

ENVIRONMENTAL PROTECTION

A special Parylene coating can be specified, as an option, to provide additional protection in extreme environments where stress corrosion could occur – for example where chlorine or acids are present.





LA34 Mounting Accessory

| Mounting Accessory | LA34-40T-SILO | | | | | LA34-60T-SILO | LA34-200T-SILO | | LA34-400T-SILO | LA34-600T-SILO | LA34-1000T-SILO | |
|--------------------|---------------|----|-------|----|----|---------------|----------------|-----|----------------|----------------|-----------------|------|
| | 10 | 15 | 20 | 30 | 40 | 60 | 100 | 200 | 400 | 600 | 800 | 1000 |
| A | | | 500 | | | 500 | 1000 | | 1030 | 1035 | | 1040 |
| B | | | 230 | | | 300 | 400 | | 460 | 510 | | 620 |
| C | | | 15 | | | 20 | 30 | | 30 | 35 | | 40 |
| D | | | 15 | | | 20 | 30 | | 35 | 35 | | 40 |
| E | | | 28 | | | 28 | 50 | | 50 | 55 | | 60 |
| F | | | M20 | | | M20 | M30 | | M30 | M33 | | M36 |
| G | | | 3 | | | 3 | 3 | | 3 | 3 | | 5 |
| H | | | 280 | | | 280 | 420 | | 460 | 530 | | 600 |
| J | | | 200 | | | 200 | 400 | | 400 | 450 | | 600 |
| K | | | 197.5 | | | 197.5 | 330 | | 346 | 400 | | 460 |
| L | | | 160 | | | 160 | 300 | | 316 | 345 | | 410 |
| M | | | "-" | | | "-" | 280 | | 280 | 320 | | 435 |
| N | | | 115 | | | 115 | 230 | | 230 | 270 | | 320 |
| P | | | 115 | | | 115 | 120 | | 120 | 180 | | 200 |
| Q | | | 102.5 | | | 102.5 | 165 | | 165 | 185 | | 250 |
| R | | | 65 | | | 65 | 165 | | 165 | 185 | | 250 |
| S | | | 15 | | | 15 | 35 | | 35 | 40 | | 50 |
| T | | | 25 | | | 25 | 35 | | 51 | 40 | | 40 |
| U | | | "-" | | | "-" | 60 | | 60 | 65 | | 82.5 |
| W | | | 18 | | | 18 | 22 | | 22 | 24 | | 27 |

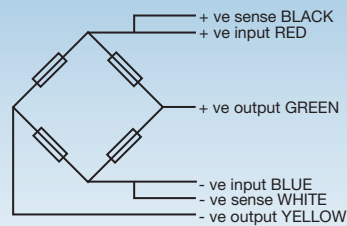
All dimensions in mm

T34 SILO

technical specification...

T34 Load Cell

| | Load cell specification | | Units |
|---------------------------------|-------------------------|-------------------------------|-------------|
| Capacity | 10,15, 20, 30, 40, 60 | 100, 200, 400, 600, 800, 1000 | t |
| Rated Output | 2 ** | 2.0 ± 0.5% | mV/V |
| Accuracy Class | 4000 | "-" | n. OIML |
| | III L | "-" | NTEP |
| Recommended Supply Voltage | 5-15 | | V |
| Maximum Supply Voltage | 15 | | V |
| Safe Overload | 150 | | % * |
| Combined Error | <± 0.013 | <± 0.05 | % * |
| Non-Repeatability | <± 0.015 | | % * |
| Output at Zero Load | ±2.0 | | % * |
| Input Resistance | 800 | | Ω ± 5 |
| Output Resistance | 705 | | Ω ± 5 |
| Operational Temperature Range | -50 to +70 | | °C |
| Compensated Temperature Range | -10 to +40 | | °C |
| Temperature Coefficient on Zero | <± 0.002 | | % */°C |
| Temperature Coefficient on Span | <± 0.0012 | <± 0.0036 | % */°C |
| Creep Error (30 minutes) | <± 0.012 | <± 0.048 | % * |
| Environmental Protection | IP68/IP69K | | |
| Cable Length | 20 | | m |
| Cable Material | Polyurethane | | |
| Insulation Resistance | >5000 | | MΩ @100v DC |



Electrical Connections

Via 6 wire, 5.7mm diameter, screened polyurethane cable.
Screen not connected electrically to load cell.

Construction

Sensor element
High strength stainless steel
Mounting assembly
Zinc plated alloy steel
(mounting cups stainless steel)

* All percentages are related to Rated output

** Pre-corner adjustment optimised at +/- 0.05% by output current calibration

LA34 Mounting Accessory

| Mounting Accessory | Load Cell Capacity (t) | Maximum Lift-off (kN) | Maximum Horizontal Force in direction of retention arm (kN) | Maximum Side Offset transverse to retention arm (mm) |
|--------------------|------------------------|-----------------------|---|--|
| LA34-40T-SILO | 10 | 76 | 47 | +/- 4 |
| | 15 | | | |
| | 20 | | | |
| | 30 | | | |
| | 40 | | | |
| LA34-60T-SILO | 60 | 114 | 95 | +/- 4 |
| LA34-200T-SILO | 100 | 228 | 180 | +/- 5 |
| | 200 | | | |
| LA34-400T-SILO | 400 | 330 | 240 | +/- 5 |
| LA34-600T-SILO | 600 | 395 | 290 | +/- 5 |
| LA34-1000T-SILO | 800 | 480 | 450 | +/- 6 |
| | 1000 | | | |

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Our policy is one of continuous product enhancement. We therefore reserve the right to incorporate technical modifications without prior notification.

