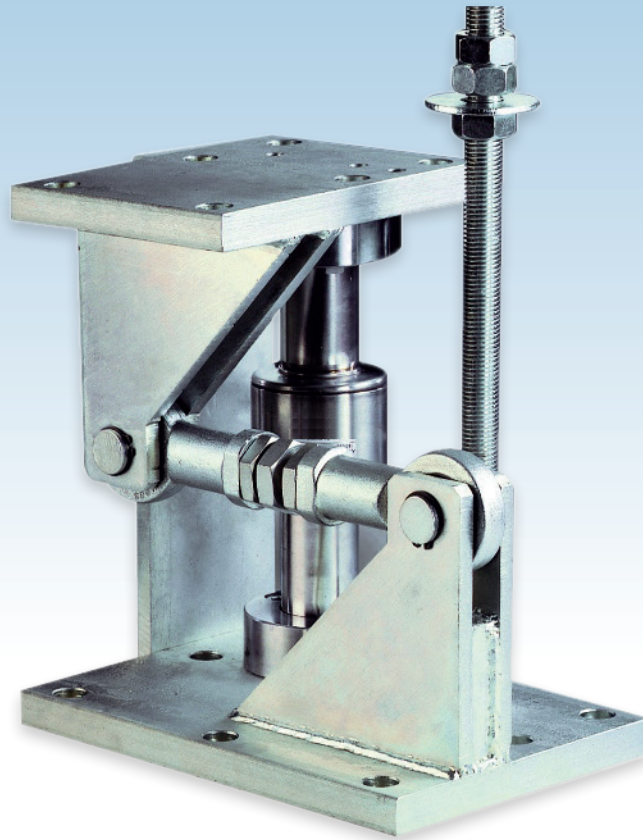


## COMPRESSION COLUMN LOAD CELL ASSEMBLY FOR SILO WEIGHING

*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 IIIL 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.

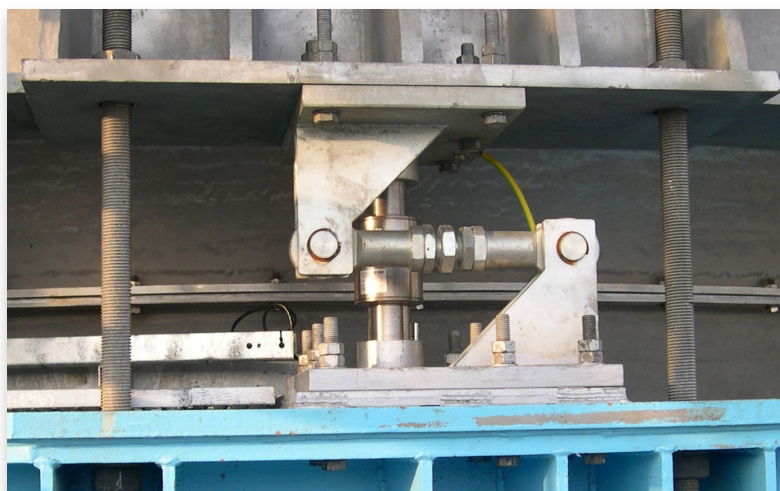
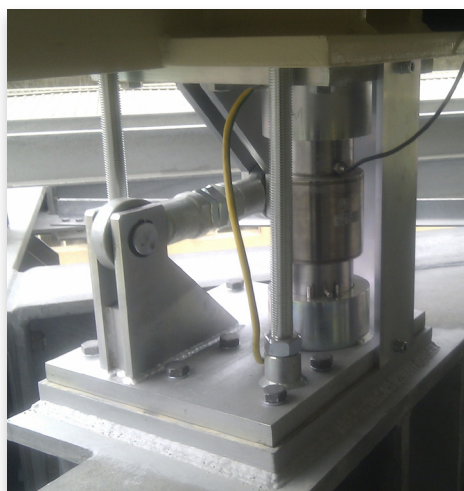
Code	Temperature Class	Parameters	Application
<b>II 1 G D</b> <b>Ex ia IIC T4...T6 Ga</b> <b>Ex ia IIIC T135 °C...T85 °C Da</b> <b>Ex ta IIIC T85 °C Da</b>	T6 for Gas Zones 0, 1, 2 85 °C for Dust Zones 20, 21, 22	Pi = 1.3W	Gas Zones 0, 1, 2 with safety barriers.
	T5 for Gas Zones 0, 1, 2 100 °C for Dust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

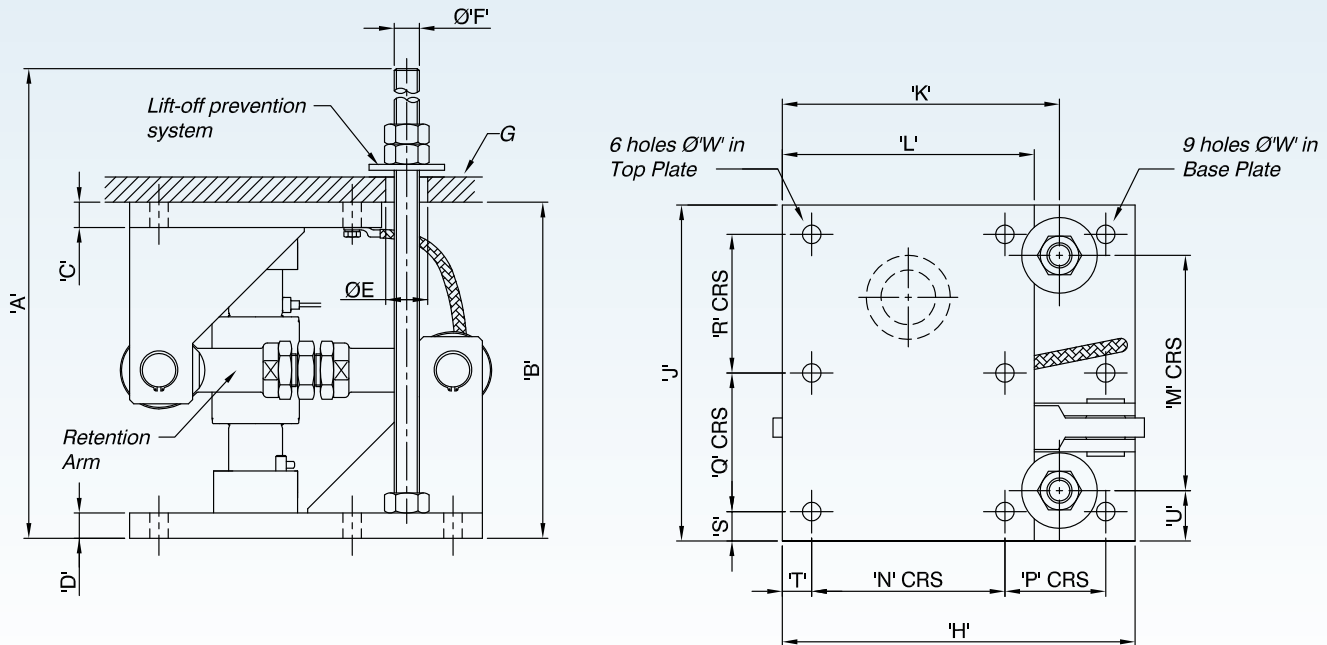
### HIGH TEMPERATURE

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	
Load Cell Capacity	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			1975			1975	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	

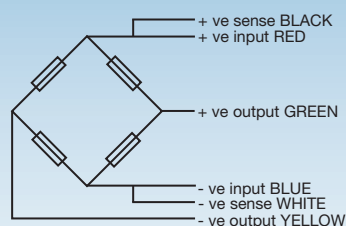
All dimensions in mm

# 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 +80		°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.

