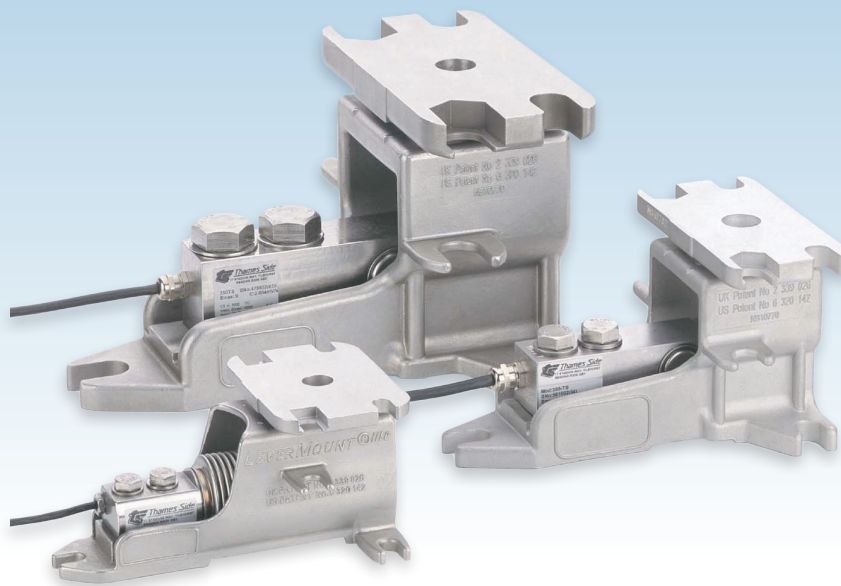


ÚNICA SOLUCIÓN PATENTADA Y DE EXCELENTE RELACIÓN COSTO/BENEFICIO PARA APLICACIONES DE PESAJE DE PROCESOS

Capacidades desde 10Kg a 5000Kg



LeverMount® es el último desarrollo en dispositivos de montaje para celdas de carga perfeccionado por Thames Side Sensors. Usando este novedoso diseño, las instalaciones de pesaje de procesos se hacen más sencillas, seguras y económicas.

Utiliza celdas aprobadas para 3000 divisiones, OIML R60 Clase C.

Están disponibles con certificación ATEX para aplicaciones en áreas peligrosas. Para aplicaciones en ambientes agresivos, donde la corrosión o el ataque por ácidos es un problema, se puede proveer un revestimiento de Parylene. También están disponibles opciones para alta temperatura.

- Diseñado específicamente con celdas y dispositivo de montaje de acero inoxidable
- Cambio de la celda sin usar gatos, expansores ni falsas celdas
- Alta estabilidad por su apoyo en tres puntos
- Fácilmente configurable para montaje radial o tangencial
- Celda de carga de acero inoxidable, con aprobación OIML C3
- Celda totalmente soldada y sellada, con protección IP68 / IP69K
- Versiones para aplicaciones estáticas o dinámicas
- Permite la expansión y contracción de los recipientes
- LeverMount® puede ser subido o bajado, bajo carga sin usar gatos o expansores
- Instalación sencilla, de bajo costo y sin necesidad de herramientas especiales.
- Sustancial prevención antivuelco
- Tolerancia a los desalineamientos siempre presentes en los montajes industriales

LEVERMOUNT®

innovación e inspiración...

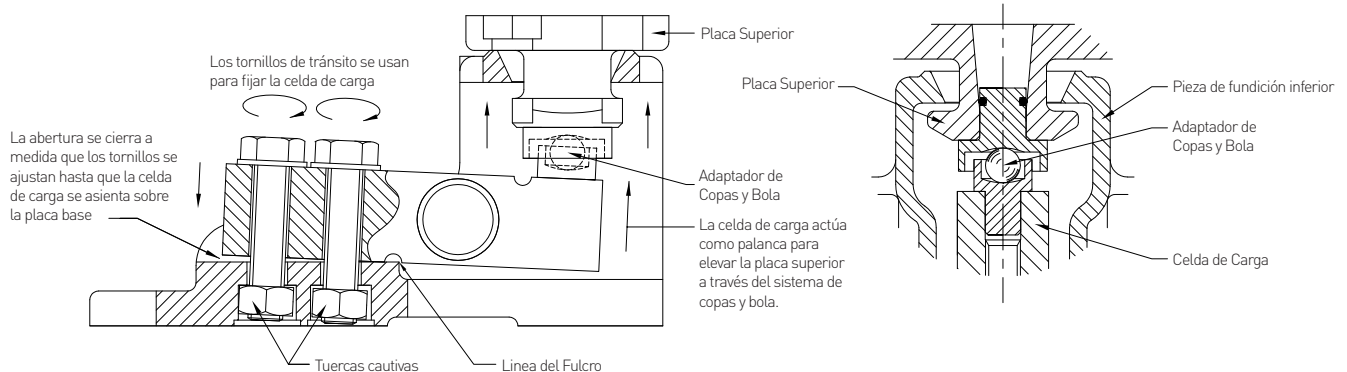
EL CONCEPTO

Los diseños de dispositivos específicos para el montaje para celdas tipo viga de simple corte se introdujeron en los años 80. Estos diseños están todavía en uso actualmente y la mayoría tiene un sistema de elevación por tornillo, el que permite que el recipiente sea soportado por el montaje previo a la instalación de la celda de carga. Sin embargo, en la mayoría de las condiciones, se necesita un gato exterior para subir y bajar el recipiente debido a que los tornillos se bloquean con polvo o suciedad, convirtiendo en inservible el sistema integral de elevación, incluso bajo cargas pequeñas.

LeverMount® está específicamente diseñado para ofrecer un enfoque completamente nuevo a las soluciones de pesaje de procesos. Utilizando la afirmada serie Thames Side de celdas de carga de flexión y de corte, el LeverMount® mantiene todas las ventajas de los diseños de montaje previos, mientras que mejora la estabilidad mecánica antes, durante y después de la instalación

LeverMount® es el único sistema con diseño patentado que no requiere de dispositivos separados de soporte para subir y bajar los tanques o tolvas. La base de fundición provee por sí misma un soporte estable antes de la instalación de las celdas de carga. Una vez que el recipiente está en su posición, los dos tornillos de transporte se remueven y la celda de carga se usa como palanca para elevar la placa superior del montaje a su posición de trabajo, independientemente de si el recipiente este lleno o vacío. La remoción de la celda de carga puede realizarse en cualquier momento invirtiendo el procedimiento sin necesidad de gatos, celdas falsas o herramientas especiales. En consecuencia, la instalación, operación y mantenimiento del sistema de pesaje del recipiente se hace más segura, fácil, rápida y por lo tanto, menos costosa.

Se pueden especificar dos tipos de interface para la celda de carga: botón de carga con una bancada de apoyo que permite absorber la expansión y contracción en aplicaciones tales como tolvas y tanques o un sistema de copas y bola autocentrantes para aplicaciones dinámicas tales como balanzas de piso.



CERTIFICACIÓN ATEX

Las celdas de carga usadas en LeverMount® tienen certificación ATEX, lo que permite su utilización en zonas 0; 1 y 2 para gases, como así también en zonas de polvo 20; 21 y 22. En todas las zonas de polvo pueden ser usadas sin necesidad de barreras de seguridad, lo cual resulta en un significativo ahorro de costos.

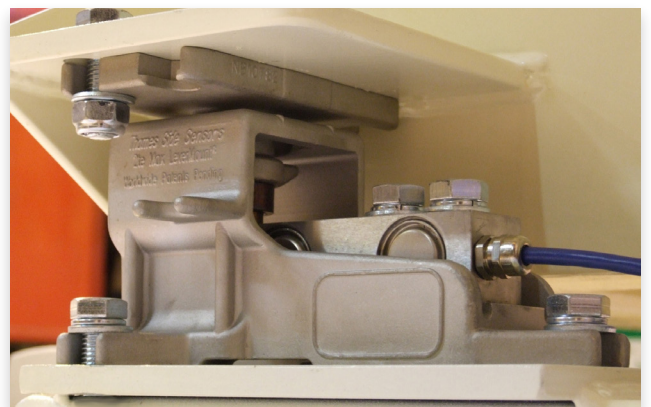
Código	Parámetros de Seguridad			Aplicación
	Clas. Temp.	Celda T66	Celda 350i	
II 1 GD Ex ia II C T4, T6 Ga IP68 T85°C Ex ia IIIC T135°C T85°C Da	T4	Pi = 2.5W	Pi = 1.3W	Zonas de gas 0, 1, 2 con barreras de seguridad
	T5	Pi = 2.5W	Pi = 0.8W	
Ex ta IIIC T85°C Da	T6	Pi = 1.69W	Pi = 0.53W	Zonas de polvo 20, 21, 22 sin barreras de seguridad

ALTA TEMPERATURA

Las celdas de carga T66 y 350i usadas en el LeverMount® están también disponibles en versiones para alta temperatura. Utilizan componentes especiales en la fabricación de las celdas y cable de PTFE "Teflon" para su operación en ambientes de hasta 150°C.

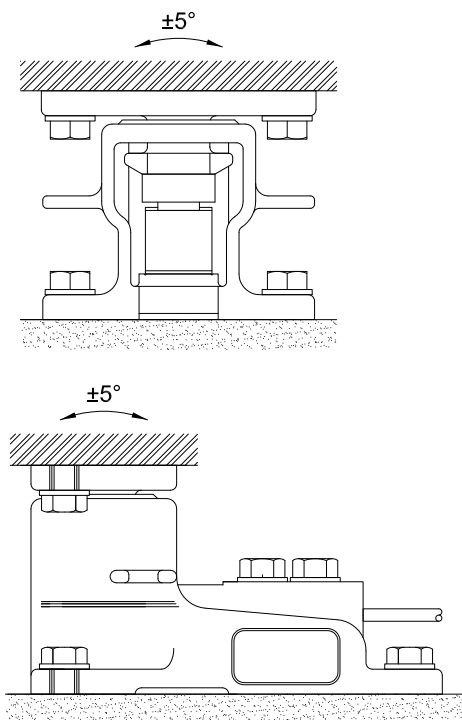
PROTECCION AMBIENTE

Las celdas de carga usadas en el LeverMount® cumplen con el estándar de protección IP68 e IP69K. Opcionalmente se puede especificar cubierta de Parylene para protección en ambientes extremos donde pueden existir agentes corrosivos, por ejemplo la presencia de ácidos o de cloro.



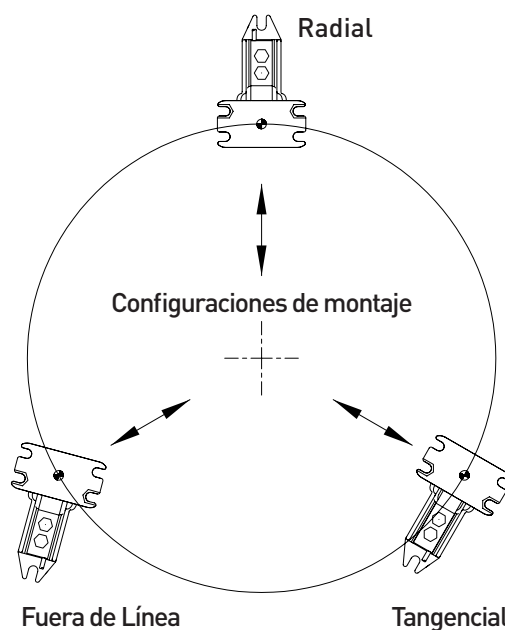
CARACTERÍSTICAS

- Montaje de diseño específico para la aplicación, en acero inoxidable AISI 316
- Solo dos piezas de fundición que utilizan los mismos tornillos de tránsito para fijar las celdas de carga con tuercas sujetadas a la base.
- Usa celdas de acero inoxidable totalmente soldadas IP68/ IP69K de flexión o de simple corte.
- Las celdas de carga actúan como palanca para subir o bajar la placa superior y el recipiente.
- El recipiente puede subirse o bajarse aún con carga
- No tiene tornillos de elevación o pilares de soporte
- Tres puntos de soporte y fijación
- Movimiento sobre el eje lateral y rotacional de la placa superior
- Configurable para montaje radial, tangencial u oblicuo
- Gran capacidad anti vuelco, superior al 50% de la carga máxima
- Diferencia mínima entre la altura de instalación y de trabajo
- La celda de carga puede ser retirada in situ aún bajo carga
- Tres tamaños físicos cubre rangos de peso desde 10Kg hasta 5000Kg



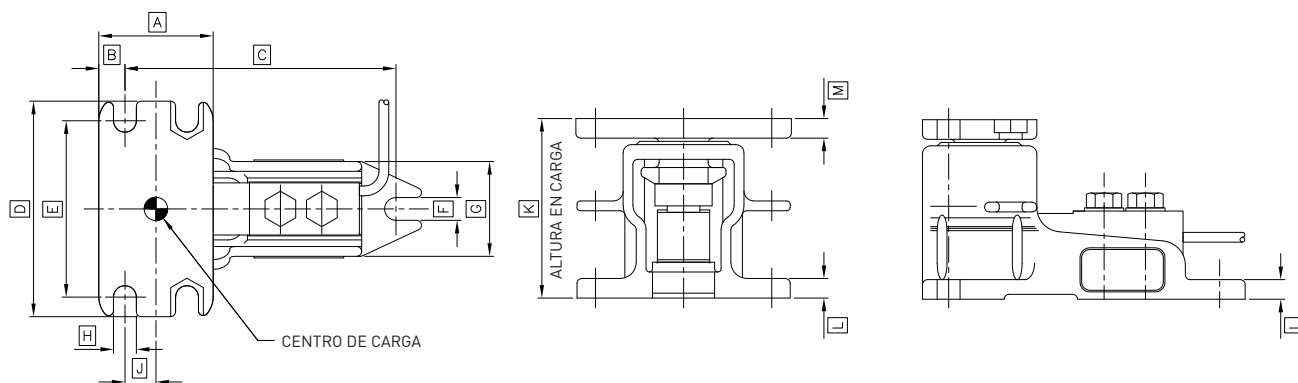
BENEFICIOS

- Ideal para aplicaciones de pesaje de procesos que requieren una buena relación entre exactitud, seguridad y precio
- Diseño estéticamente agradable que elimina la necesidad de maquinado adicional y tornillos especiales
- Adecuado para su uso en los más duros ambientes industriales
- No requiere de dispositivos de elevación alternativos, tales como almohadillas de elevación
- Más fáciles, rápidos y seguros que otros dispositivos de montaje
- No tiene roscas u otras interferencia para la placa superior
- Elimina balanceo y torsión en el montaje; siempre encuentra el plano
- Elimina los desalineamientos por dilatación evitando cualquier error mecánico
- Fácil alineamiento al eje radial del recipiente para compensar contracciones y expansiones
- Seguridad incrementada
- Reduce la necesidad de ajuste de las cañerías sin conexiones flexibles
- Menor tiempo muerto en el mantenimiento de los equipos
- Cubre la mayoría de las aplicaciones de pesaje de procesos



LEVERMOUNT®

especificaciones técnicas...

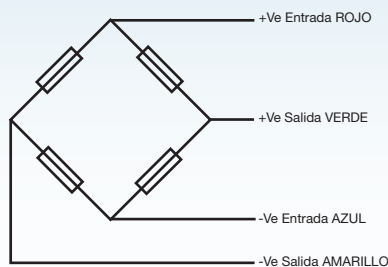


Capacidad (kg)	A	B	C	D	E	F	G	H	J	K	L	M
20, 50, 100, 200	70	16	147	100	80	9	55	9	19	80	7	8
300, 500, 1000, 1500, 2000	70	16	168	132	108	14	60	14	19	110	12	12
3000, 5000	100	25	225	190	150	22	80	22	25	164	15	20

Todas las dimensiones son en mm.

	Especificaciones de las Celdas de Carga		Unidades
	LeverMount Lite	LeverMount	
Aprobaciones Celda de Carga	3000 divisiones (C3) OIML R60 Clase C	3000 divisiones (C3) OIML R60 Clase C	
Rango de Capacidades	10, 20, 50, 100, 150, 200	300, 500, 1000, 1500, 2000, 3000 & 5000	Kg
Salida Nominal	2+/- 0.1%	2±0.15%	mV/V
Error Combinado	<±0.017	<±0.017	%*
No Repetitividad	<±0.015	<±0.015	%*
Creep (30 minutos)	<±0.016	<±0.016	%*
Efecto de la Temperatura en el Cero	<±0.002	<±0.002	%*/°C
Efecto de la Temperatura en el Span	<±0.0012	<±0.0012	%*/°C
Rango de Temperatura Compensado	-10 to +40	-10 to +40	°C
Rango de Temperatura Operación	-20 to +70	-20 to +70	°C
Sobrecarga Segura	150	150	%*
Sobrecarga de Rotura	300	300	%*
Balance del Cero	<±1	<±2	%*
Resistencia de Entrada	400	400	Ω ± 20
Resistencia de Salida	350	350	Ω ± 3
Resistencia de Aislación	>5000	>5000	MΩ @ 100v.dc
Tensión recomendada de alimentación	10	10	V
Tensión máxima de alimentación	15	15	V
Longitud del Cable	3	5	m
Material del Cable	Poliuretano	Poliuretano	
Clase de Protección	IP68 / IP69K	IP68 / IP69K	

*Respecto de la capacidad nominal



Conexiones Eléctricas

Cable de 5.7mm de diámetro, de 4 hilos, mallado y con cubierta de Poliuretano.
La malla no está conectada eléctricamente a la celda de carga.

Pesos de embarque (Kg)

10, 20, 50, 100, 150, 200 = 1.2Kg
300, 500, 1000, 2000 = 4Kg
3000, 5000 = 9Kg

Construcción

Montaje manufacturado en acero inoxidable 316 fundido. Celda de Carga manufacturada en acero inoxidable de alta resistencia 17-4PH.

UK Patent No. 2 339 026

US Patent No. 6 320 142

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Asunto: Sp/Levermount.08.14

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LeverMount® es una marca registrada de Thames Side Sensors Limited

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www.thames-side.com

UNIQUE, PATENTED LOAD CELL ASSEMBLY FOR SILO, TANK AND VESSEL WEIGHING

capacities 2t - 30t



Vessel weighing problems solved simply and cost effectively.

The MasterMount® is the latest addition to an innovative range of patented weighing assemblies which are designed with safety and ease of installation in mind.

- Load cell installation / removal under load without jacks or dummies
- Major savings on installation time & cost
- Substantial lift off prevention
- Allows vessel expansion and contraction
- Low profile, stable design
- Stainless steel load cell, also available in ATEX approved and high temperature versions
- 5 year warranty
- Fully welded load cell construction to IP68 / IP69K
- Resistant to off axis loading
- Tough and durable paint finish

MASTERMOUNT®

innovation & inspiration...

THE CONCEPT

Thames Side's MasterMount® is the latest in a range of unique patented load cell and mount combinations which include the LeverMount® and LeverMount Lite® and extends the range of capacities up to 30 tonnes.

The MasterMount® has primarily been designed for easy, safe, simple installation and removal of the load cell without the aid of specialist tools, jacks or other equipment.

The special design also avoids the need to use dummy cells whilst any welding or other work is being undertaken on the vessel. The high specification double ended stainless steel shear beam load cell incorporated in the MasterMount® is the same model used in Thames Side's popular VC3500 'traditional' mount arrangement.

A patented lever and cam mechanism enables the top plate of the loading assembly to be raised and lowered with a 180 degree turn, which can be accomplished easily, with just an M30 socket spanner and T-bar. The stainless steel load cell is retained within the assembly by simple captivated pins, thus avoiding the use of fiddly retaining clips. Lift off protection is provided through the mount itself, rather than the traditional design of under or through the load cell, which protects the load cell from reverse shock loading. The Mastermount® assembly is manufactured from high strength cast steel and is protected by a durable and hard wearing corrosion resistant paint finish.

Once the MasterMount® loading assembly has been fitted under the vessel, installation and removal of the load cell can be accomplished in minutes, resulting in large savings in installation costs.

The MasterMount® is just one product in an extensive range of innovative Thames Side load cell and mount arrangements with capacities from 10kg up to 600 tonnes designed specifically for Process Weighing and Materials Storage applications.

ATEX CERTIFICATION

The VC3500 load cell range used in the MasterMount® has a number of ATEX certifications, several of which allow their use without safety barriers, resulting in significant savings;

Code	Safety Parameters	Key Points
II 1 GD T70°C EEx ia II C T6	U _i =30 V, P _i =1.3 W C _i =2.4 nF, L _i =8 µH	Suitable for all dust and gas zones but require safety barriers
II 3 G Ex nA T6 (T _a =-20°C to +60°C)	U _i =30 V, P _i =1.3 W C _i =2.4 nF, L _i =8 µH	Suitable for Gas zone 2. No safety barriers required. Maximum applied voltage of 42V is allowed
II 1 D Ex ta IIIC T80°C Da IP6X T _a =(-20°C ≤ T _a ≤ +60°C)	U _m =18 V	Suitable for all dust zones, 20, 21 and 22. No safety barriers required. Excitation must be below 18V

HIGH TEMPERATURE

The VC3500 load cell is available in a high temperature variant which 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.

AMPLIFIED OUTPUT

An integral 4-20mA amplified output can be specified where required.

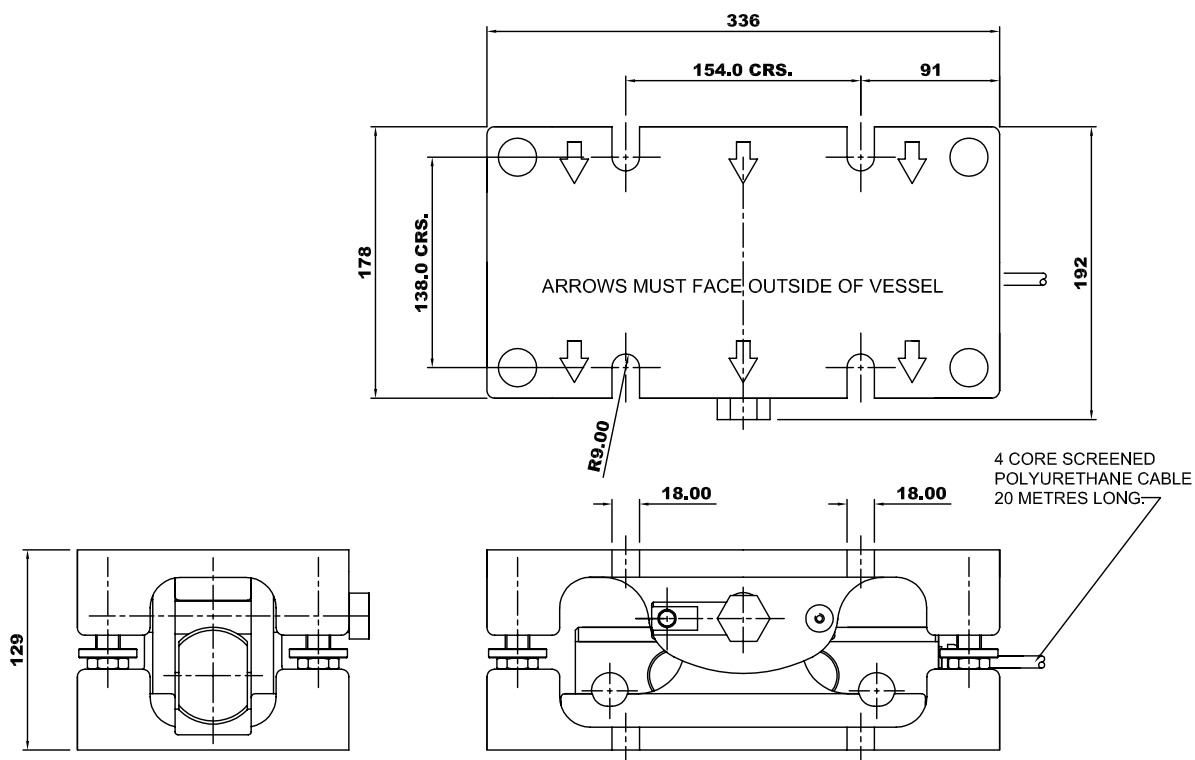


FEATURES

- Purpose designed cast alloy steel mount and stainless steel load cell
- Simple, robust two part casting supplied locked in position via transit bolts
- Stainless steel, IP68 / IP69K, fully welded double ended shear beam load cell
- Special cam design loading shaft raises and lowers the top plate and vessel
- Vessel can be raised and lowered under load
- No jacking screws or support pillars
- Substantial anti-lift facility through mount, not load cell
- Minimal difference between the raised and lowered height of 3mm
- One design covers the range from 2t to 30t
- Load cell can be safely installed or removed under loaded vessel

BENEFITS

- Ideal for process weighing applications that require an accurate, safe and cost effective solution
- Aesthetically pleasing design
- Suitable for use in the harshest of industrial environments
- No need for alternative lifting devices such as pad jacks
- Easier, quicker and safer than alternative mount arrangements
- No stripped threads or top plate interference
- Increased safety, eliminating potential damage to the load cell
- Reduces the need to compensate for pipe work without flexible connections
- Covers the majority of process weighing applications
- Much less down time and reduced cost when compared to conventional mounts
- No dummy load cells required during installation

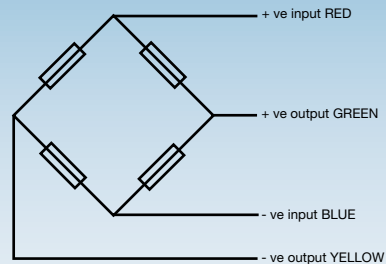


All dimensions in mm

VC3500 Load Cell

	Load cell specification	Units
Full Load Output	2.0 (+/- 0.25%)	mV/V
Excitation - Recommended	10	V
Excitation - Maximum	18	V
Safe Service Load	150	%
Combined Error	< +/- 0.03	%
Repeatability	< +/- 0.015	%
Output at Zero Load	< +/- 2.0	%
Input Resistance	785 +/- 20	Ω
Output Resistance	705 +/- 5	Ω
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	% / °C
Environmental Protection	IP68 / IP69K	
Cable Length	20	m
Cable Material	Polyurethane	
Insulation	>500 at 100Vdc	MΩ

All percentages are related to Full Rated Load



Electrical Connections

Via 4 core, 16 / 0.2mm, screened polyurethane mud resistant cable
Cable length 20m

Construction

Sensor element
High strength stainless steel type 17-4PH
Mounting assembly
Alloy steel, durable painted finish
Shafts
Corrosion resisting hardened stainless steel

MasterMount® Assembly

Load Cell Capacity (t)	Deflection (mm)	Expansion across assembly (mm)	Maximum Vertical Load (kg)		Maximum End Load (kg)	Maximum Transverse Load (kg)	Maximum Lift-off (kg)
			Load Cell installed	Load Cell removed			
2	0.20	+/- 3	40060	34250	9370	1460	13560
5	0.20						
10	0.25						
15	0.30						
20	0.40						
30	0.50						

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Issue: Mastermount.07.13

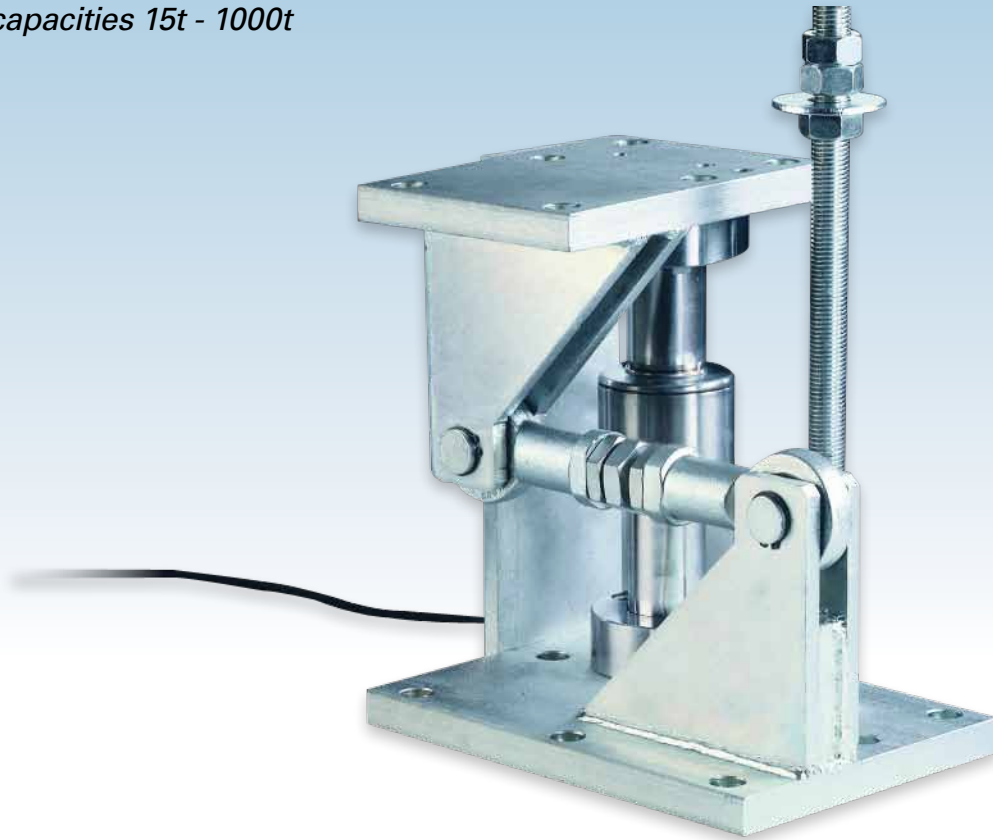
MasterMount® is a registered trademark of Thames Side Sensors Limited.

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



COMPRESSION COLUMN LOAD CELL FOR SILO WEIGHING

capacities 15t - 1000t



High capacity weighing problems solved simply and cost-effectively.

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

The T34 load cell is also available with intrinsically safe ATEX certification and a high temperature variant. End use industries include cement, minerals, coal, chemicals, plastics, pharmaceuticals, paint and grain.

- Stainless steel load sensor
- Hermetically welded and sealed to IP68/IP69K
- In-built surge arrestors for lightning protection
- High durability PU cable
- Simple installation
- Self-centering column design with anti-rotation pin
- 5 year warranty
- OIML R60 Class C
- Pre-corner adjustment optimised for multi-cell systems
- ATEX certification for all zones

T34 SILO

installation & dimension details...

THE CONCEPT

The high capacity T34 family of load cells is available in capacities from 15t to 1000t. They are especially suitable for silo weighing and feature a combined error specification of $<\pm 0.013$ up to 60t and $<\pm 0.005$ 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 assembly, which is supplied fully assembled with the load cell in position, 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 and which is removed during installation.

The assembly is fitted with integral lift off prevention check rods as well as a retention arm to absorb horizontal forces, typically generated by wind loading on large silos. Expansion/contraction of the silo structure is catered for 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 certifications which allow their use in some applications without safety barriers, resulting in significant cost savings.

Code	Temperature Class	Parameters	Application
II 1 GD Ex ia II C T4..T6 Ga Ex ia IIIC T135°C... T85°C Da Ex ta IIIC T85°C Da	T4	Pi = 1.3W	Gas Zones 0, 1, 2 with safety barriers
	T5	Pi = 0.6W	
	T6	Pi = 0.2W	Dust Zones 20, 21, 22 without safety barriers

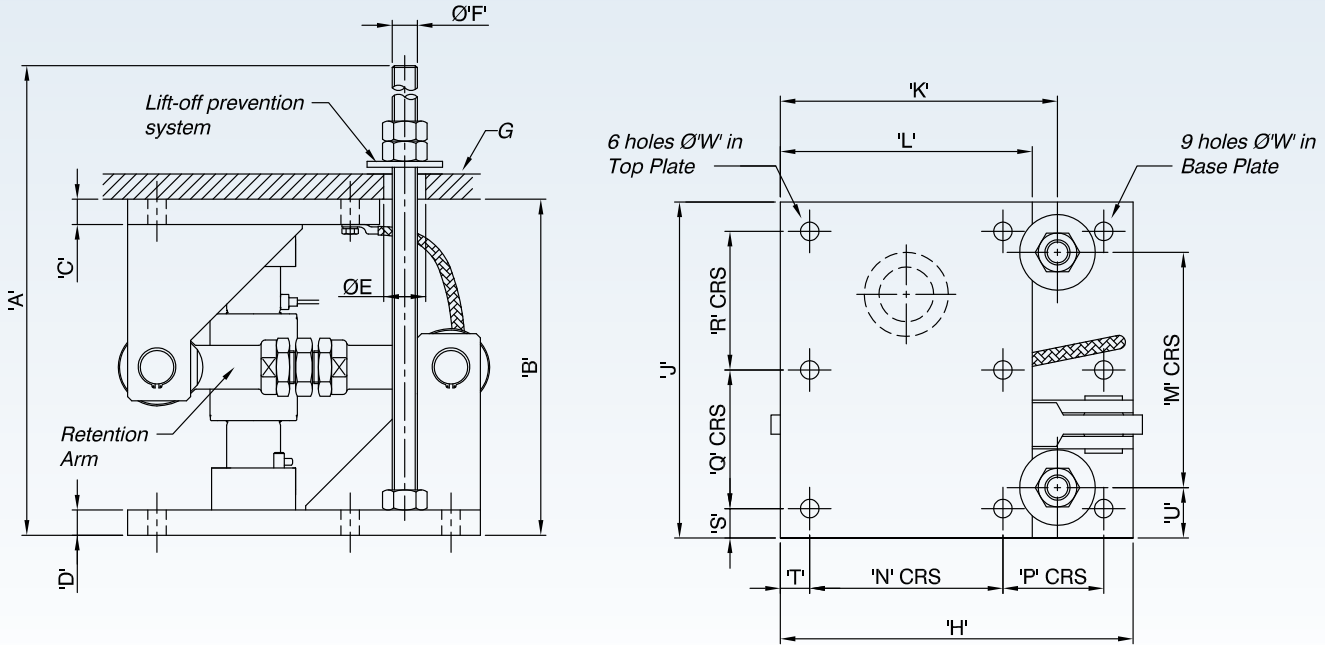
HIGH TEMPERATURE

The T34 range is available in a high temperature variant which 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 Assembly

Mounting Assembly	LA34-40T-SILO				LA34-60T-SILO	LA34-200T-SILO		LA34-400T-SILO	LA34-600T-SILO	LA34-1000T-SILO	
	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

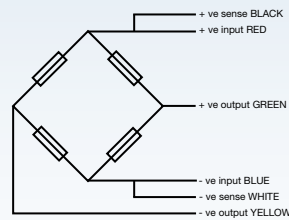
T34 SILO

technical specification...

T34 Load Cell

	Load cell specification		Units
Capacity	15, 20, 30, 40, 60	100, 200, 400, 600, 800, 1000	t
Full Load Output	2.0 ± 0.5%		mV/V
Accuracy Class	4000	1000	n. OIML
Excitation - Recommended	10		V
Excitation - Maximum	15		V
Service Load	120		%
Safe Load Limit	150		%
Combined Error	<± 0.013	<± 0.05	%
Non-Repeatability	<± 0.015		%
Output at Zero Load	±2.0		%
Input Resistance	800 ± 5		Ω
Output Resistance	705 ± 5		Ω
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	>5000		MΩ

All percentages are related to Full Rated Load



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 type 17-4PH
Mounting assembly
Zinc plated alloy steel

LA34 Mounting Assembly

Mounting Assembly	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	15	76	47	+/- 4
	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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Issue: T34Silo.07.13

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LOAD CELL ASSEMBLY FOR TANK AND VESSEL WEIGHING

capacities 2t - 200t



Vessel weighing problems solved simply and cost effectively. The VC3500 double ended shear beam load cell with integral mounting assembly is designed particularly for large silos and tanks and incorporates lift off prevention and, on most capacities, holding bolts to assist with routine maintenance. The VC3500 is also available with intrinsically safe ATEX certification and a high temperature variant. Mounting assembly mechanical characteristics are designed using the Eurocode 3 standard. End use industries include cement, minerals, chemicals, plastics, pharmaceuticals, paint, food, biomass and offshore applications .

- Stainless steel load sensor
- Optional 4 - 20mA output
- Low profile
- Integral lift off prevention
- High durability PU mud & chemical resistant cable
- Fully welded construction IP68 / IP69K
- Resistant to off-axis loading
- 5 year warranty
- Allows vessel expansion / contraction
- Optional stainless steel mounting assembly
- ATEX certification for all zones
- Mounting assembly designed using Eurocode 3

VC3500

installation & dimension details...

THE CONCEPT

The VC3500 family of load cells is available in capacities from 2000kg to 200,000kg. They are especially suitable for high capacity vessel weighing and feature a combined error specification of $< \pm 0.03\%$.

The critical sensor element is a fully welded double ended shear beam, manufactured from high tensile 17-4 PH released stainless steel which is heat treated to give a high ultimate tensile strength. This treatment 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.

Stainless steel diaphragms are 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.

The mounting assembly has a tough, durable, paint finish as standard to provide a high level of protection. Stainless steel assemblies are available as an option.

The bi-directional freedom of movement of the top plate allows for a high degree of misalignment in the vessel support structure which is particularly important in large structures where dimensional accuracy, rigidity and angular conformity cannot be guaranteed, or where large changes in ambient temperature are anticipated. The complete assembly incorporates lift off protection, reducing the need in many cases for additional restraints. Integrated holding bolts on capacities up to 75t facilitate routine maintenance. This eliminates the need for expensive installation work, giving a very cost effective total solution.

Due to the unique design of the VC3500, transverse and non-axial misalignment errors are minimised.

ATEX CERTIFICATION

The VC3500 range has a number of ATEX certifications, several of which allow their use without safety barriers, resulting in significant savings;

Code	Safety Parameters	Key Points
II 1 GD T70°C EEx ia II C T6	$U_i=30\text{ V}$, $P_i=1.3\text{ W}$ $C_i=2.4\text{ nF}$, $L_i=8\text{ }\mu\text{H}$	Suitable for all dust and gas zones but require safety barriers
II 3 G Ex nA T6 ($T_g=-20^\circ\text{C}$ to $+60^\circ\text{C}$)	$U_i=30\text{ V}$, $P_i=1.3\text{ W}$ $C_i=2.4\text{ nF}$, $L_i=8\text{ }\mu\text{H}$	Suitable for Gas zone 2. No safety barriers required. Maximum applied voltage of 42V is allowed
II 1 D Ex ta III C T80°C Da IP6X $T_g=(-20^\circ\text{C} \leq T_g \leq +60^\circ\text{C})$	$U_m=18\text{ V}$	Suitable for all dust zones, 20, 21 and 22. No safety barriers required. Excitation must be below 18V

HIGH TEMPERATURE

The VC3500 range is available in a high temperature variant which utilises special load cell components and a PTFE 'Teflon' cable for operation in environments up to 150°C

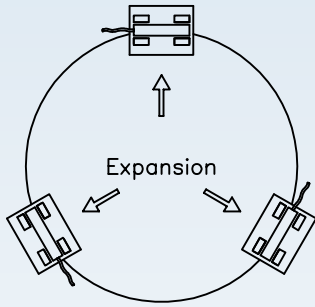
ENVIRONMENTAL PROTECTION

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.

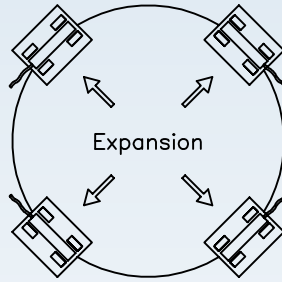
AMPLIFIED OUTPUT

An integral 4-20mA amplified output can be specified where required.

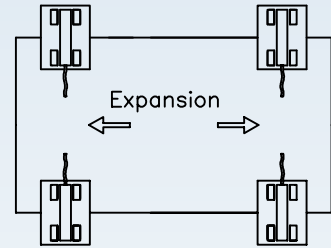




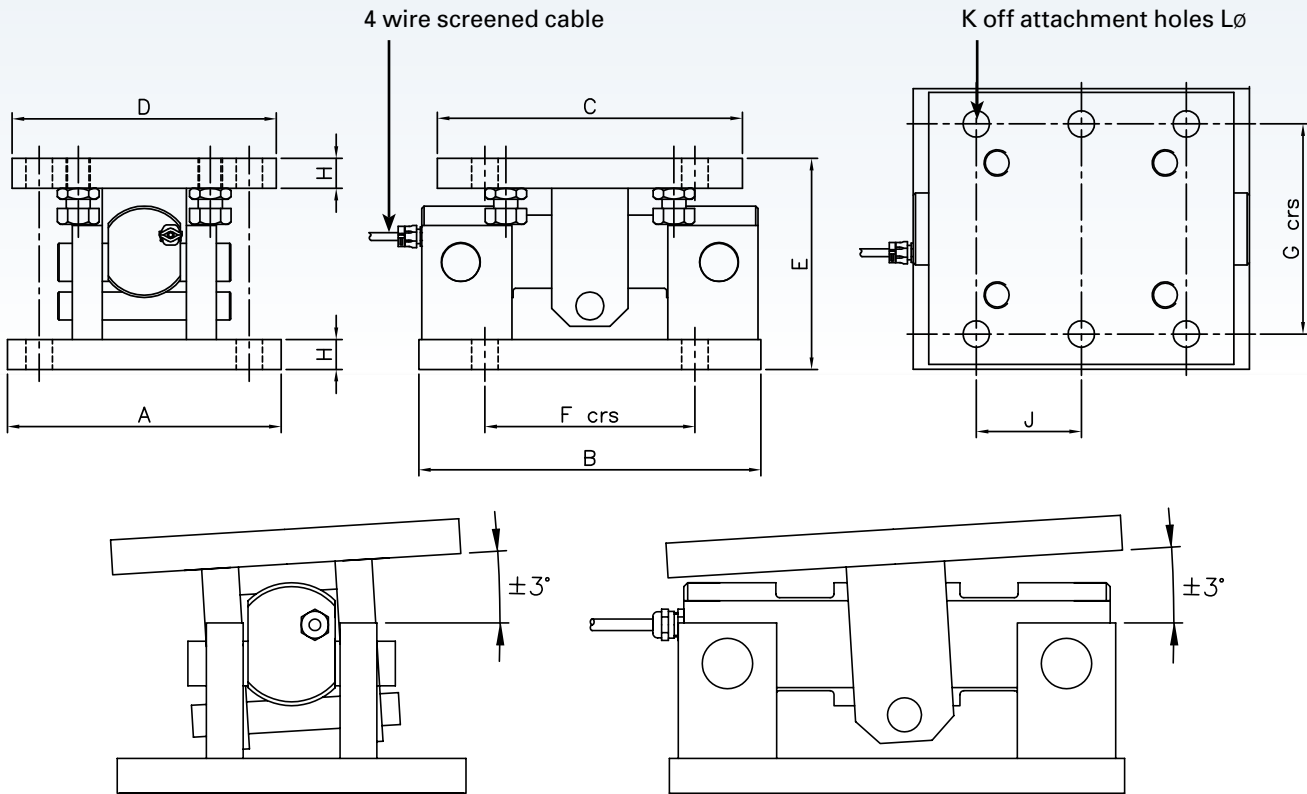
Circular Vessel, 3 Leg Supports
VC3500 3 x Load Cell Installation



Circular Vessel, 4 Leg Supports
VC3500 4 x Load Cell Installation



Horizontal Vessel, 4 Supports
VC3500 4 x Load Cell Installation



Load Cell Capacity (t)	A	B	C	D	E	F crs	G crs	H	J crs	K No	L Ø
2	180	235	235	180	135	155	140	20	-	8	18
5											
10											
15											
20	250	285	250	220	210	175	175	25	-	8	22
30											
50											
75											
100	350	440	440	340	275	300	235	30	150	12	26
150											
200											

NOTE: No holding bolt facilities on 100t, 150t and 200t capacities.

A smaller body size 30t version of the VC3500 load cell is available only on the MasterMount® assembly

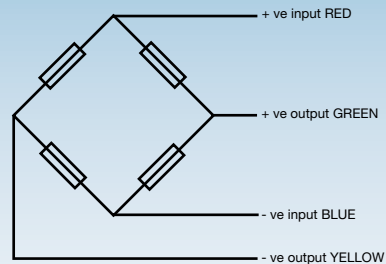
VC3500

technical specification...

VC3500 Load Cell

	Load cell specification	Units
Full Load Output	2.0 (+/- 0.25%)	mV/V
Excitation - Recommended	10	V
Excitation - Maximum	18	V
Safe Service Load	150	%
Combined Error	< +/- 0.03	%
Repeatability	< +/- 0.015	%
Output at Zero Load	< +/- 2.0	%
Input Resistance	785 +/- 20	Ω
Output Resistance	705 +/- 5	Ω
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	% / °C
Environmental Protection	IP68 / IP69K	
Cable Length	20	m
Cable Material	Polyurethane	
Insulation	>500 at 100Vdc	MΩ

All percentages are related to Full Rated Load



Electrical Connections

Via 4 core, 16 / 0.2mm, screened polyurethane mud resistant cable

Cable length 20m

Construction

Sensor element

High strength stainless steel type 17-4PH

Mounting assembly

Alloy steel, durable painted finish

Stainless steel available as option

Shafts

Corrosion resisting hardened stainless steel

LA3500 Mounting Assembly

Mounting Assembly	Load Cell Capacity (t)	Deflection (mm)	Expansion across assembly (mm)	Maximum Vertical Load (kg)	Maximum End Load (kg)	Maximum Transverse Load (kg)	Maximum Lift-off (kg)
LA3500 - 20T	2	0.20	+/- 5	80140	10700	4000	6400
	5	0.20					
	10	0.25					
	15	0.30					
LA3500 - 50T	20	0.40	+/- 9	140000	26000	10300	37300
	30	0.50					
LA3500 - 75T	50	0.50	+/- 9	225200	35650	8650	41325
LA3500 - 100T	75	0.80	+/- 12	356000	43600	9000	39530
LA3500 - 200T	100	0.80	+/- 12	605000	86000	17285	57000
	150	0.90					
	200	0.90					

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