

## 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 <sub>i</sub> =30 V, P <sub>i</sub> =1.3 W C <sub>i</sub> =2.4 nF, L <sub>i</sub> =8 µH	Suitable for all dust and gas zones but require safety barriers
II 3 G Ex nA T6 (T <sub>a</sub> = -20°C to +60°C)	U <sub>i</sub> =30 V, P <sub>i</sub> =1.3 W C <sub>i</sub> =2.4 nF, L <sub>i</sub> =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 <sub>a</sub> = (-20°C ≤ T <sub>a</sub> ≤ +60°C)	U <sub>m</sub> =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.

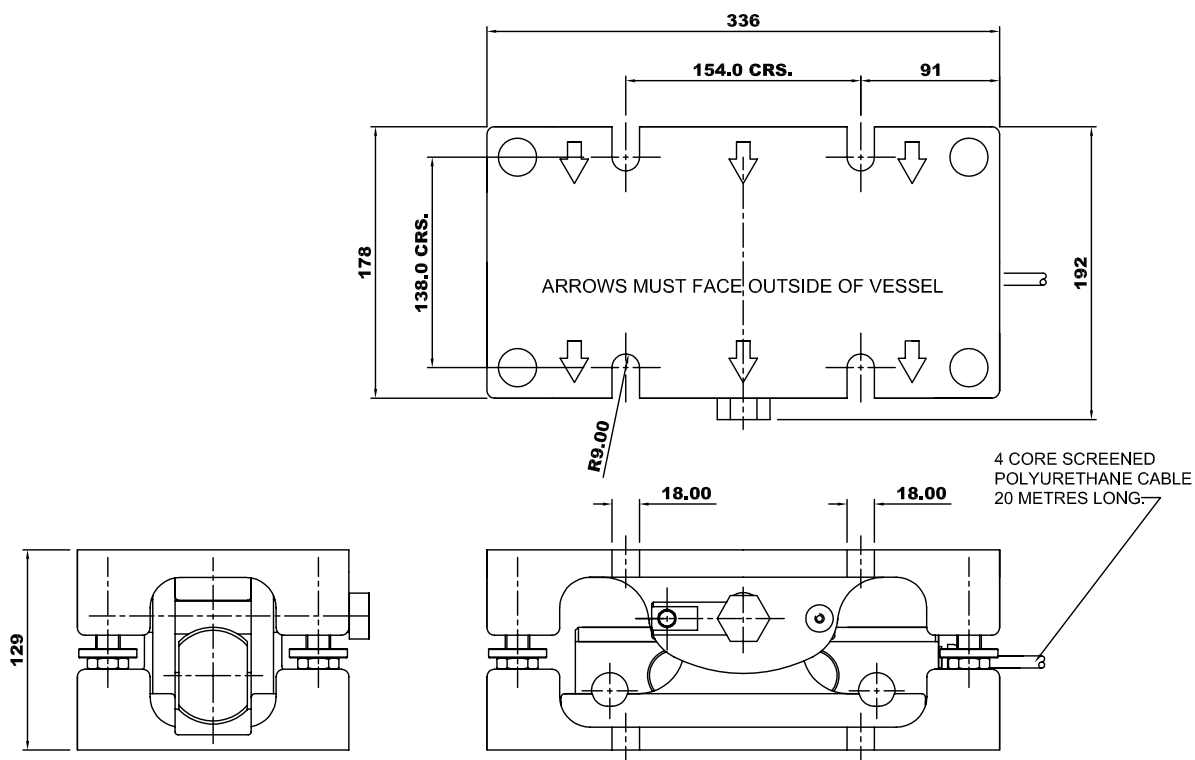


## FEATURES

- 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

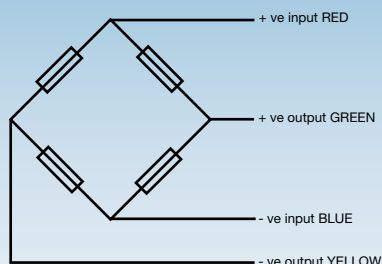


All dimensions in mm

## VC3500 Load Cell

	Load cell specification	Units
<b>Full Load Output</b>	2.0 (+/- 0.25%)	mV/V
<b>Excitation - Recommended</b>	10	V
<b>Excitation - Maximum</b>	18	V
<b>Safe Service Load</b>	150	%
<b>Combined Error</b>	< +/- 0.03	%
<b>Repeatability</b>	< +/- 0.015	%
<b>Output at Zero Load</b>	< +/- 2.0	%
<b>Input Resistance</b>	785 +/- 20	Ω
<b>Output Resistance</b>	705 +/- 5	Ω
<b>Operational Temperature Range</b>	-50 to +80	°C
<b>Compensated Temperature Range</b>	-10 to +40	°C
<b>Temperature Coefficient on Zero</b>	< +/- 0.002	% / °C
<b>Temperature Coefficient on Span</b>	< +/- 0.0012	% / °C
<b>Environmental Protection</b>	IP68 / IP69K	
<b>Cable Length</b>	20	m
<b>Cable Material</b>	Polyurethane	
<b>Insulation</b>	>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						

DISTRIBUTED BY:



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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.

