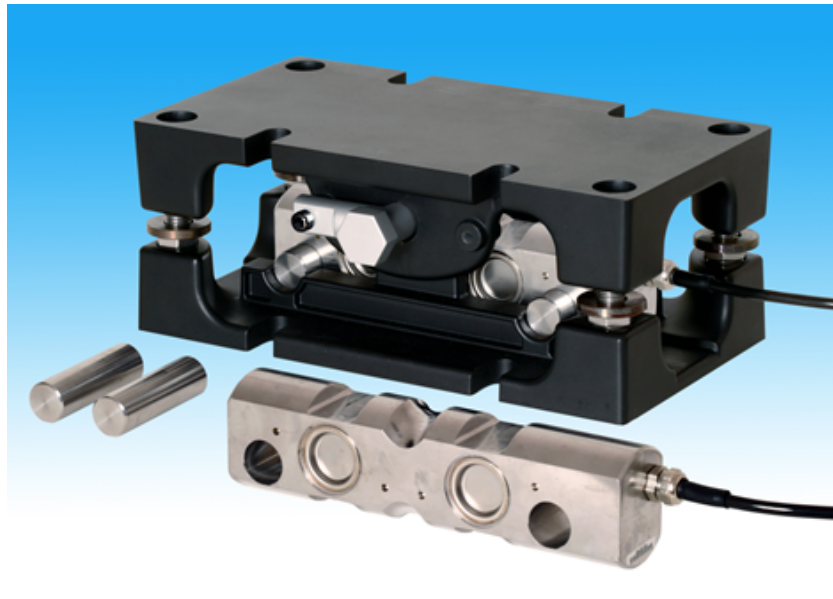




Procon Engineering

(A Division of National Oilwell Varco UK Limited)



MasterMount® Load Cell Assembly for Silo, Tank and Vessel Weighing Capacities 2t to 30t

Fully welded and hermetically sealed to IP68/IP69K

Stainless steel load cell – cast alloy steel mounting assembly with tough and durable paint finish

Substantial lift off prevention

Low profile, stable design

Allows vessel expansion and contraction

Available with ATEX or IECEx certification (see table overleaf)

Load cell installation/removal under load without jacks or dummy (false) load cells

Major savings on installation time and cost

Resistant to off-axis loading

High temperature version up to 150°C

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 for easy, safe, simple installation and removal of the load cell without the aid of specialist tools, jacks and other equipment.

All Procon Engineering load cells come with a 3 year warranty.



MasterMount® Load Cell Assembly

Technical Specification Sheet

Cert.	Code	Safety Parameters	Key Points
ATEX	II 1 GD Ex ia IIC T6 Ga Ex ia IIIC T70°C Da	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 requires safety barriers.
IECEx	Ex ia IIC T6 Ga Ex ia IIIC T70°C Da		
ATEX	II 3 G Ex nA IIC T6 Gc -20°C ≤ T _a ≤ +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 only. No safety barriers are required. Refer to certificate for further details.
ATEX	II 1 D Ex ta IIIC T80°C Da IP6X -20°C ≤ T _a ≤ +60°C	U _m =18 V	Suitable for all dust Zones: 20, 21 and 22. No safety barriers are required. Excitation voltage must be below 18V. Safe ambient temperature range is from -20°C to +60°C.

The LP44 range has a number of ATEX and IECEx certifications, several of which allow their use without safety barriers – resulting in significant cost savings

High Temperature

The LP44 range is available in a high temperature variant that utilises special load cell components and a PTFE 'Teflon' cable for operation in environments up to 50°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.

The Concept

The MasterMount® has primarily been designed for easy, safe, simple installation and removal of the load cell without the aid of special 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 Procon's popular LP44 'traditional' mount arrangement.

A patented lever and cam mechanism enables the top plate of the mounting accessory to be raised and lowered with a 180 degree turn, which can be accomplished easily using only an M30 socket spanner and T-bar. The stainless steel load cell is retained within the accessory by simple captivated pins, which avoids the use of fiddly retaining clips.

Lift-off protection is provided by the mounting accessory itself, instead of the traditional method of using the load cell for lift-off protection. This protects the load cell from reverse shock loading on lift-off. The MasterMount® mounting accessory is manufactured from high strength cast steel and is protected by a durable, hard wearing and corrosion resistant paint finish.

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

MasterMount® Load Cell Assembly

Technical Specification Sheet

Features	Benefits
Purpose designed cast alloy steel mounting assembly and stainless steel load cell.	Ideal for process weighing applications that require an accurate, safe and cost effective solution.
Simple, robust two part casting supplied locked in position (via transit bolts)	Aesthetically pleasing design
Stainless steel, IP68/IP69K, fully welded double ended shear beam load cell	Suitable for use in the harshest of industrial environments
Special cam design loading shaft raises and lowers the top plate and vessel	No need for alternative lifting devices such as pad jacks
No dummy load cells required during installation	Easier, quicker and safer than alternative mount arrangements
No jacking screws or support pillars	No stripped threads or top plate interference
Substantial anti-lift facility through mount, not load cell	Increased safety, eliminating potential damage to the load cell
Minimal difference between the raised and lowered height of 3 mm	Reduces the need to compensate for pipe work without flexible connections
One design covers the range from 2t to 30t	Covers the majority of process weighing applications
Load cell can be safely installed or removed under a loaded vessel	Much less down time and reduced cost when compared to conventional mounts

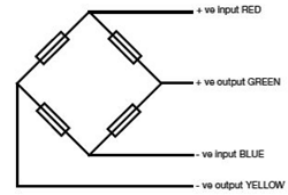


MasterMount® Load Cell Assembly

Technical Specification Sheet

	Load Cell Specification	Units
Full Load Output	2.0 (+/- 0.25%)	Mv/v
Excitation <i>Recommended</i>	10	V
Excitation - <i>Maximum</i>	18	V
Safe Service Load	150	%
Ultimate Overload	300	%
Combined Error	< +/- 0.03	%
Repeatability	< +/- 0.015	%
Output at Zero Load	< +/- 2.0	%
Input Resistance	785	$\Omega \pm 20$
Output Resistance	705	$\Omega \pm 5$
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	%*/°C
Environmental Protection	IP68/IP69K	
Cable Length	20	m
Cable Material	Polyurethane	
Insulation	>500	M Ω @ 100VDC
Construction	Stainless steel type 17-4PH	

All percentages are related to full rated load

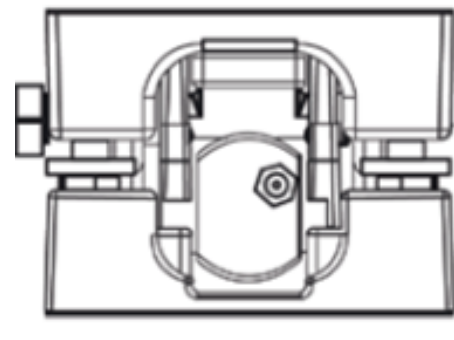
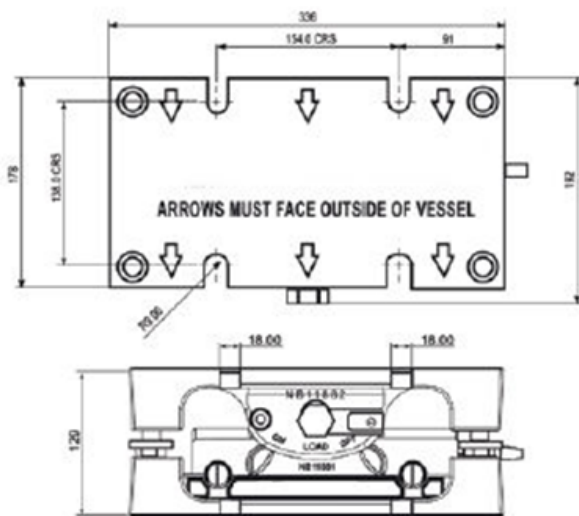


Electrical Connections
Via 4-core 16 /0.2mm, screened polyurethane mud resistant cable

Mounting Assembly
Alloy steel, durable painted finish

Shafts
Corrosion resisting hardened stainless steel

Load Cell Capacity (t)	Deflection at Capacity (mm)	Expansion Across Assembly (mm)	Maximum Vertical Load (kg)		Maximum End Load (kg)	Maximum Transverse Load (kg)	Maximum Lift-off Load (kg)
			Load Cell installed	Load Cell removed			
2	0.20	+/- 3	40060	34250	9370	1460	13560
5	0.20						
7.5	0.25						
10	0.25						
15	0.30						
20	0.40						
30	0.50						



Procon Engineering's policy is one of continuous product enhancement. We therefore reserve the right to incorporate technical modifications without prior notification. E&OE.

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