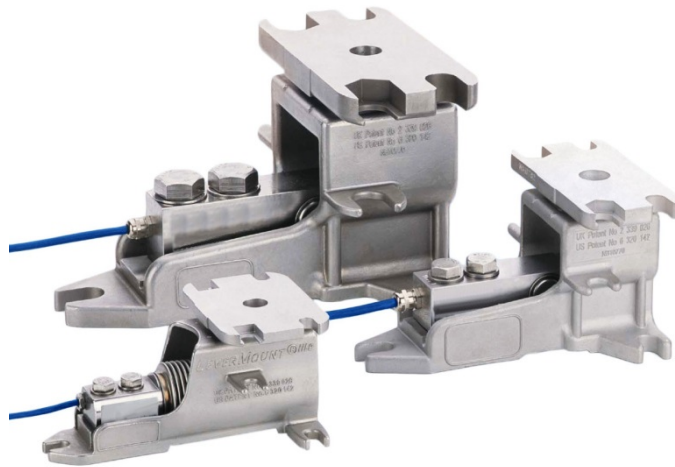




# Procon Engineering

(A Division of National Oilwell Varco UK Limited)



## Type LeverMount®

Capacities 5kg to 5000kg


Load cell is fully welded and hermetically sealed to IP68 and IP69; cable sheath is polyurethane

Fast load cell installation/removal without jacking or dummy/false cells, while vessel is full

Substantial anti-lift protection

Can be mounted radially or tangentially

Cast, grade 316 stainless steel mount (3 sizes)

Stainless steel OIML C3 or C6 approved load cell (  approval\* available)

Stable, shim-free 3 point mounting

Allows for large amount of vessel expansion/contraction

Version for static application and dynamic applications (e.g. floor scales)

Tolerant of steelwork misalignment

The LeverMount® is a unique well-established load cell weighing assembly that makes installation much simpler, safer and more cost-effective than traditional assemblies. Its innovative design allows for fast load cell installation without any jacking tools or dummy (false) load cells – even with a loaded tank/hopper. It is available in 3 sizes, with reference to the load cell capacity: LeverMount® Lite (5 to 200kg). LeverMount® 300 to 2500kg and LeverMount® 3000 to 5000kg.

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



# LeverMount®

## Technical Specification Sheet

### ATEX Certification

The LP20 bending beam or LP35 shear beam load cells used in the dust zones. Using the 'ta' mode of protection, these load cells can be used without safety barriers in all dust zones (20, 21, 22) – creating significant cost savings.

Code	Temperature Class	Parameters	Application
II 1 GD	T4	Pi = 2.50W	Gas zones 0, 1, 2 <b>with</b> safety barriers
Ex ia II CT4.T6 Ga IP68 T85°C Ex ia IIICT135°C T85°C Da Ex ta IIIcT85°C Da	T5	Pi = 2.50W	
	T6	Pi = 1.69W	Dust Zones 20, 21, 22 <b>without</b> safety barriers

\* 2500kg capacity version is not ATEX approved

### Installation Benefits

LeverMount®'s unique and patented design eliminates any need for separate support, e.g. hydraulic/mechanical jacks or lifting tools, to raise and lower the vessel being weighed.

The base casting, manufactured from grade 316 stainless steel, provides a stable load-bearing platform for the vessel before the load cell is installed.

Once the vessel is in position, the 2 transit bolts are removed and the load cell is used as a lever to raise the top plate of the mount onto the weighing position, even when the vessel is full. In the rare event that a load cell should be removed this is done by reversing the procedure.

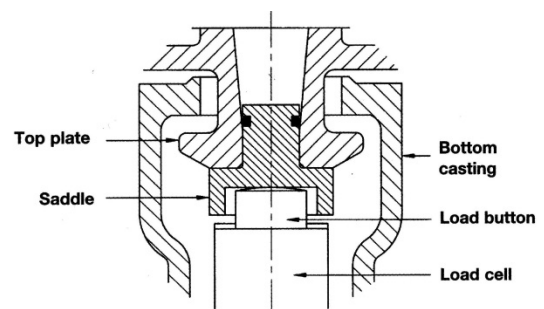
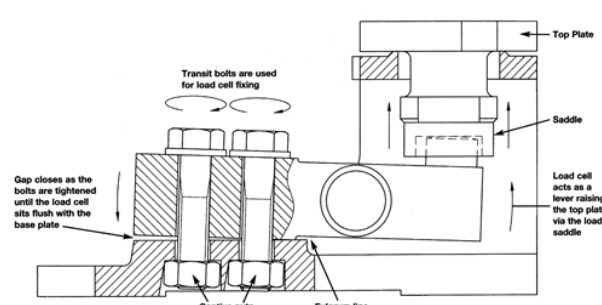
No hydraulic/mechanical jacks are required for load cell installation/removal. No dummy or false load cells and no specialist tools are required. LeverMount® makes installation operation and maintenance of the weighing system safer, simpler, faster and less costly.

### High Temperature

The LP20 and LP35 load cells used in the LeverMount® are available in an optional high temperature version, with special load cell components and a PTFE sheathed cable. This allows operation in environments up to 150°C (continuous operation).

### Additional Protection

In extreme environments where stress corrosion could occur even in stainless steels, for example, where chlorine or acids are present, an optional coating of Parylene can be applied to the LP20 or LP35 load cells to provide additional protection.

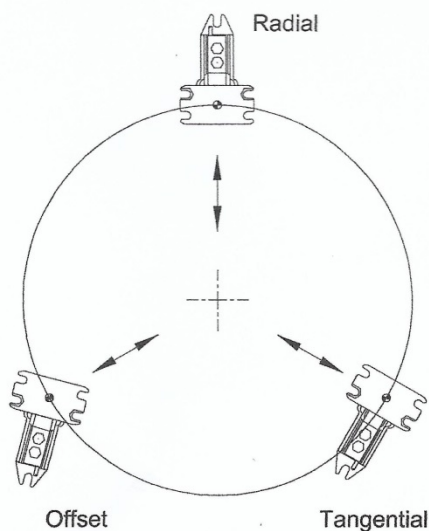


# LeverMount®

## Technical Specification Sheet

Features	Benefits
<ul style="list-style-type: none"> <li>• Purpose designed 316 stainless steel cast mount and stainless steel load cell</li> <li>• Simple two part casting using the transit bolts for fixing the load cell to the mount</li> <li>• Stainless steel, OIML approved, fully welded and hermetically sealed load cell</li> <li>• Load cell acts as the lever to raise and lower the vessel under load</li> <li>• Substantial clearance below the load cell</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for process weighing applications that require an accurate, safe and cost effective solution</li> <li>• Aesthetically pleasing design, eliminating the need for special bolts which could be lost in transit</li> </ul>
<ul style="list-style-type: none"> <li>• No jacking screws or support pillars</li> <li>• Three (3) point support and fixing</li> <li>• Top plate movement in lateral and rotational axis</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for high accuracy. trade approved process weighing applications in the harshest of environments</li> <li>• No need for alternative lifting devices such as pad jacks</li> <li>• Easier, quicker and safer than any other mount arrangement</li> <li>• No stripped threads or top plate interference</li> <li>• Eliminates rocking &amp; twisting in the mount, it always finds a plane</li> <li>• Tolerant of steel work misalignment; avoiding any mechanically induced errors</li> </ul>
<ul style="list-style-type: none"> <li>• Configurable for radial, tangential or offset mounting</li> <li>• Substantial anti-lift resistance more than 50% of the maximum rated load</li> <li>• Nominal difference between the working height and installed (transit) height</li> <li>• Load cell can be easily removed under the load in situ.</li> </ul>	<ul style="list-style-type: none"> <li>• Easy alignment to the radial axis of the vessel, to compensate for expansion and contraction</li> <li>• Increased safety, compared with other designs</li> </ul>
<ul style="list-style-type: none"> <li>• Three physical sizes cover the entire range from 5kg to 5000kg</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces the need to compensate for rigid pipe work to/from the vessel</li> <li>• Reduces down time, production does not need to stop if a load cell must be changed</li> <li>• Covers the majority of process weighing applications</li> </ul>

### Possible Mounting Options



# LeverMount®

## Technical Specification Sheet

Load cell utilised	LP20 & LP35 Load Cell Specification			Units
	LeverMount Lite		LeverMount	
	LP20	LP35		
Accuracy Class according to OIML R60: number of verification intervals n	3000*	6000	3000	n. OIML
Available load cell capacities (E <sub>max</sub> )	5, 10, 20, 30, 50, 75, 100, 150, 200	50, 75, 100, 150, 200	300, 500, 750, 1000, 1500, 2000, 2500, 3000, 5000	kg
Rated Output (Sn)	2 ± 0.1% % <sup>Δ</sup>		2 **	mV/V
Combined Error	< ± 0.017	< ± 0.008	< ± 0.017	% S <sub>n</sub>
Non-repeatability	< ± 0.015	< ± 0.01	< ± 0.015	% S <sub>n</sub>
Minimum load cell verification interval (V <sub>min</sub> ) = E <sub>max</sub> /Y	E <sub>max</sub> / 10000	E <sub>max</sub> / 1800	E <sub>max</sub> / 10000	kg
Creep (30 minutes)	< ± 0.016	< ± 0.008	< ± 0.016	% S <sub>n</sub>
Temp Effect on Zero Balance	< ± 0.002	< ± 0.001	< ± 0.002	% S <sub>n</sub> /°C
Temp Effect on Span	< ± 0.0012	< ± 0.0006	< ± 0.0012	% S <sub>n</sub> /°C
Compensated Temp Range	-10 to +40			°C
Operating Temp Range	-30 to +70			°C
Zero Balance	< ± 2			% S <sub>n</sub>
Input Resistance	400			Ω ± 20
Output Resistance	350			Ω ± 3
Insulation Resistance	>5000			M Ω @ 100V
Recommended Supply Voltage	5 - 15			V
Maximum Supply Voltage	15			V
Environmental protection according to EN60529	IP68 and IP69K			
Maximum deflection at E <sub>max</sub>	0.2 - 0.4			mm
Cable Length	3		5	M
Cable material	Polyurethane			
Nominal shipping weight of LeverMount® and load cell	1.2	300 to 2500	4	kg
		3000 to 5000	9	

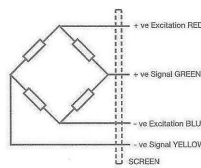
\* LP20 load cell: OIML C3 (3000 division) approval is available from 10 to 200kg

Δ LP20 load cell: for 5 – 20kg capacity range, tolerance of rated output (Sn) is a 0.2%

\*\* LP20 load cell rated output (Sn) pre-corner adjustment optimised at ±0.05% by output current calibration

Capacity (kg)	5 to 200 (LP20)	300 to 2500 (LP35)	3000 to 5000 (LP35)
A	70	70	100
B	16	16	24
C	147	168	225
D	100	132	190
E	80	108	150
F	9	14	22
G	55	60	80
H	9	14	22
J	19	19	25
K	80	110	164
L	7	12	15
M	8	12	20

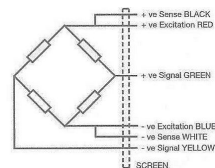
Wiring diagram using 4 core screened cable (LP20 and LP35)



### Electrical Connections

Via 4 or 6 core, 5.7mm diameter, screened Polyurethane cable, 6 Core cable is only available with the LP20 load cell (LeverMount® Lite).  
Screen not connected electrically to load cell

Wiring diagram using 6 core screened cable (LP20 only)



### Construction

LeverMount® body is manufactured from cast 316 stainless steel, load introduction parts are manufactured from hardened 17-4PH stainless steel. Load cell is manufactured from stainless steel

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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