



Description

The PTC-1 series load cells are based on the conventional low profile or pancake load cell principle. The internal construction is a shear web design, offering high natural frequency, low deflection and excellent resistance to side and torsion forces.

The PTC-1 is constructed from stainless steel offering excellent corrosion resistance. There is an optional mounting base available, which is required if the load cell is to be used in tension. The mounting base is also constructed from stainless steel.

The standard load cell is supplied with an integral MIL spec. connector and supplied with a mating connector.

The PTC-1 is ideally suited to many testing applications, where high stability and low height are essential requirements.

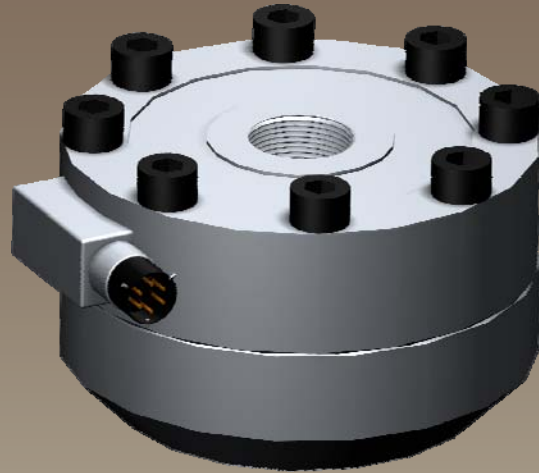
The PTC-1 can be supplied with any of LCM Systems range of load cell instrumentation, and can be supplied calibrated as a complete ready to go system.

Please consult our technical department for any technical advice required on this product or the interfacing with our instrumentation.

Typical Applications

- Structural Testing
- Jack Load monitoring
- Airframe Testing
- Material Test Machine Feedback
- Fatigue Testing Rigs

PTC-1 Low Profile Universal Load Cell



Features

- Ranges 5 to 1000kN
- Stainless Steel construction
- Environmentally Sealed to IP66
- Low Profile
- High Natural Frequency
- High Thermal Stability

TYPE: PTC-1

www.lcmsystems.com

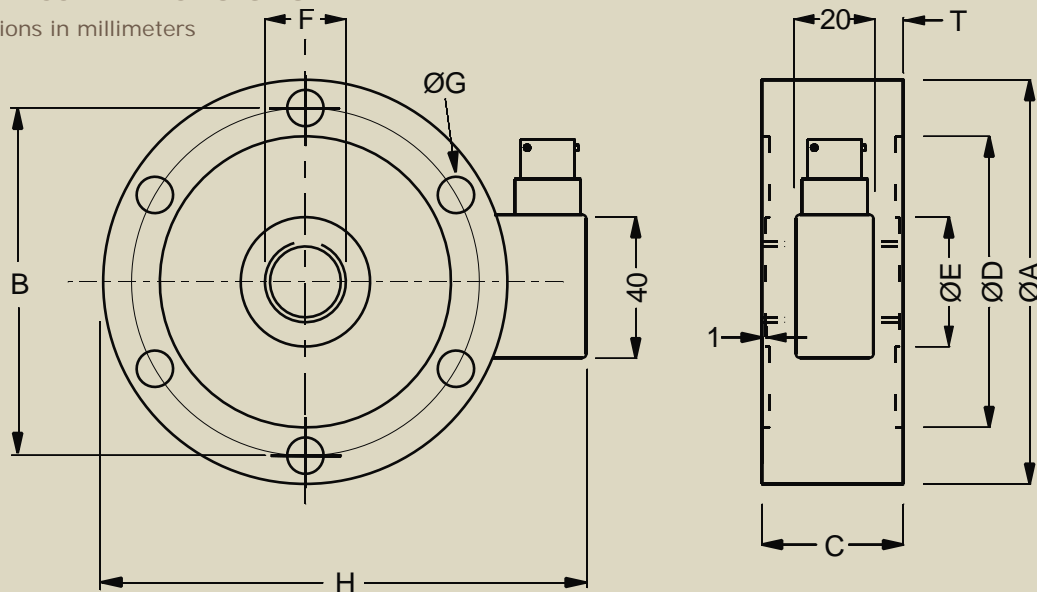
Low Profile Universal Load Cell

Specification

Rated Load (FSO):	5, 10, 25, 50, 100, 200, 300, 500, 750, 1000kN
Overload Range:	150% FSO
Ultimate Breaking Load:	>300% FSO
Maximum Transverse Load	100% FSO
Maximum Permissible Dynamic Load	75% FSO (through centre thread only)
Output:	2mV/V ($\pm 0.1\%$)
Zero Balance:	$\leq \pm 0.02\text{mV/V}$
Non-Linearity:	$\leq \pm 0.05\%$ FSO
Hysteresis:	$\leq \pm 0.05\%$ FSO
Non-Repeatability:	$\leq \pm 0.03\%$ FSO
Transverse Load Effect (at 10% FSO):	$\leq \pm 0.03\%$ FSO
Excitation Voltage:	10vdc recommended (18vdc maximum)
Input Resistance:	800 Ω (5kN to 500kN), 430 Ω (750kN to 1000kN)
Output Resistance:	705 Ω (5kN to 500kN), 352 Ω (750kN to 1000kN)
Insulation Resistance:	>5G Ω @ 50vdc
Compensated Temperature Range:	-10 to +40 °C
Operating Temperature Range:	-10 to +70 °C
Storage Temperature Range:	-20 to +80 °C
Zero Temperature Coefficient:	$\leq \pm 0.003\%$ FSO/°C
Span Temperature Coefficient:	$\leq \pm 0.003\%$ FSO/°C
Deflection at Rated Load:	0.06mm (5kN to 25kN), 0.09mm (50kN to 100kN) 0.17mm (200kN to 300kN), 0.17mm (500kN) 0.23mm (750kN to 1000kN)
Environmental Protection Level:	IP66
Weight (load cell only):	1.60kg (5kN to 25kN), 2.45kg (50kN to 100kN) 5.80kg (200kN to 300kN), 6.80kg (500kN) 6.5kg (750kN to 1000kN)

Mechanical Dimensions

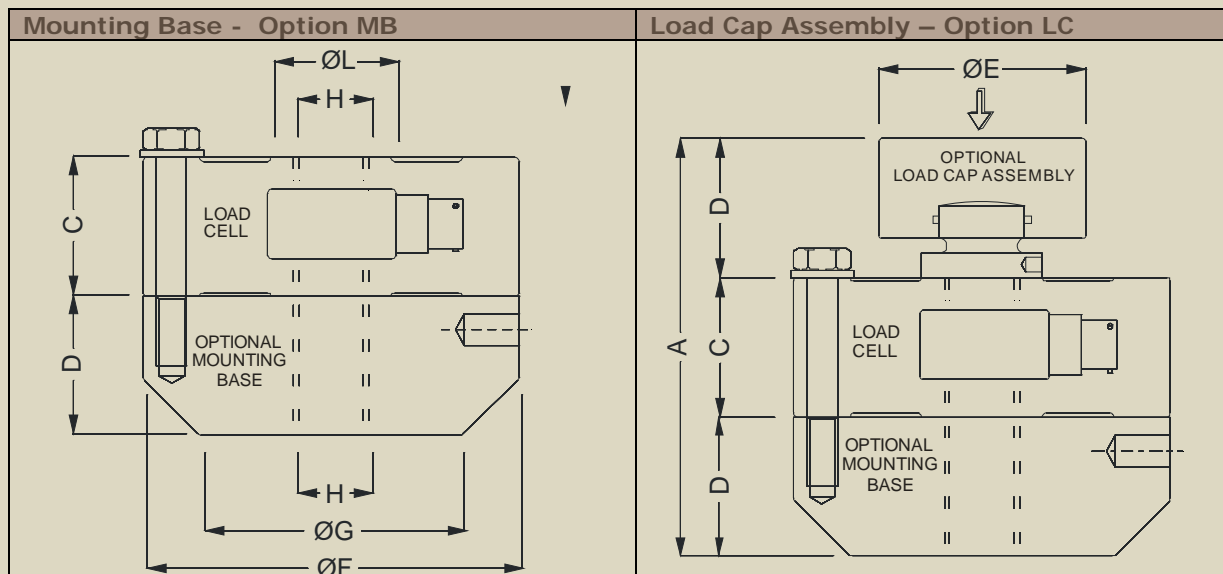
All dimensions in millimeters



	5, 10, 25kN	50, 100kN	200, 300kN	500kN	750, 1000kN
ØA	100	127	165	165	230
B	86	110	138	138	185
C	35	35	50	60	80
ØD	Ø72	Ø92	Ø108	Ø108	Ø145
ØE	Ø32	Ø47	Ø62	Ø62	Ø98
F	M20 x 1.5	M30 x 2	M42 x 3	M42 x 3	M60 x 3
ØG	6 holes Ø9	8 holes Ø10.5	12 holes Ø17	12 holes Ø17	12 holes Ø26
H	121	149	188	188	254
T	7.5	7.5	15	20	30

Optional Accessories

All dimensions in millimeters



	5, 10, 25kN	50, 100kN	200, 300kN	500kN	750, 1000kN
A	109	110	159	169	253
B	37	37	60	60	85
C	35	35	50	60	80
D	37	38	59	59	88
ØE	Ø57	Ø76	Ø76	Ø76	Ø126
ØF	Ø100	Ø127	Ø165	Ø165	Ø230
ØG	Ø70	Ø100	Ø100	Ø100	Ø180
H	M20 x 1.5	M30 x 2	M42 x 3	M42 x 3	M60 x 3
ØL	Ø32	Ø47	Ø62	Ø62	Ø98

For optimum performance LCM Systems recommends 12.9 grade socket head cap screws to bolt down the load cell to any mounting assemblies. The bolts should be tightened to the torques shown in the table below. If a load cell is ordered with an optional mounting base, then this will be supplied pre-assembled and torqued down.

Bolt Size	M8	M10	M16	M24
Tightening torque (NM)	40	70	368	460

Due to continual product development, LCM Systems Ltd. reserves the right to alter product specifications without prior notice.

Issue Date: 24/9/2008

Unit 15, Newport Business Park
Barry Way, Newport, Isle of Wight, PO30 5GY
United Kingdom
Tel: +44 (0) 1983 249264
Fax: +44 (0) 1983 249266
Email: sales@lcmsystems.com

LCM
SYSTEMS

www.lcmsystems.com

TYPE: PTC-1