

Description

The LCM series of Compression Load Cells are designed for general use and are suitable for use in laboratories or in permanent outdoor installations.

The CPA series are built to exacting standards and are suitable for use in exposed installations, with versions being available for full immersion in water. There are many special options, which have been previously supplied, including, domed top (supplied with or without loading cap), integral carry handles, mounting base integral connectors, and internal analogue/digital signal amplifiers. The standard product is constructed from stainless steel.

The CPA series can be supplied as shown in this datasheet or can be modified to meet a particular application requirement. We are always pleased to discuss any special requirements that can be accommodated. The CPA series can be supplied on it's own or combined with our extensive range of instrumentation to provide a complete load monitoring system

Typical Applications

- Hydraulic Press Calibration
- Pile Force Measurement
- Structural Proof Testing
- Centre of Gravity (module) Weighing
- Jack Force Measurement

CPA Compression Load Cell



Features

- Ranges 2tonne to 1000tonne
- Stainless steel construction
- Environmentally sealed to IP67
- Many special design versions available
- Can be supplied with domed top and spherical loading cap
- Versions available for use as calibration standards
- Can be supplied with amplifier output
- Can be supplied with integral connector

Compression Load Cell

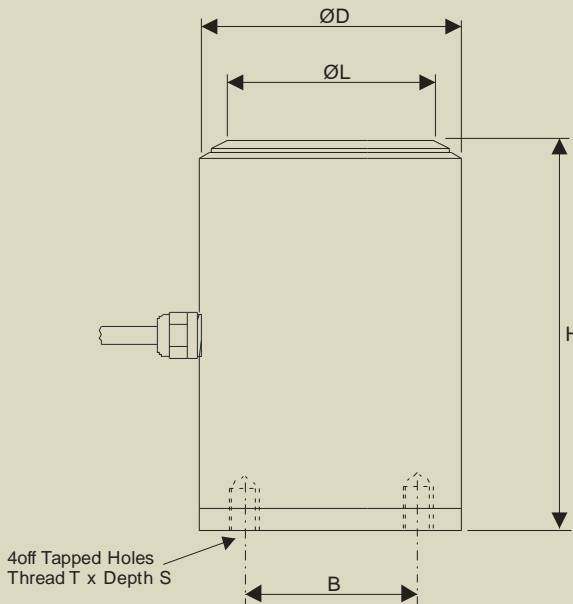
Specification

Rated Load (tonne):	2, 5, 10, 25, 50, 100, 200, 300, 500, 750, 1000		
Proof Load:	150% of Rated Load		
Ultimate Breaking Load:	>300% of Rated Load		
Output:	1.5 mV/V at Rated Load (nominal)		
Non-Linearity:	< ±0.25% of Rated Load (typically)		
Non-Repeatability:	< ±0.04% of Rated Load		
Excitation Voltage:	10vdc recommended, 15vdc maximum		
Bridge Resistance:	700Ω (2-50tonne), 1400Ω (100-1000tonne)		
Insulation Resistance:	>500MΩ @ 500vdc		
Operating Temperature Range:	-20 to +70°C		
Compensated Temperature Range:	-10 to +50°C		
Zero Temperature Coefficient:	< ±0.010% of Rated Load/°C		
Span Temperature Coefficient:	< ±0.010% of Rated Load/°C		
Environmental Protection Level:	IP67		
Connection Type:	5 metres 4-core screened PUR cable		
Wiring Connections:	Red +ve supply	Blue -ve supply	
	Green +ve signal	Yellow -ve signal	
Options Available	Special ranges and sizes available Special electrical connections Integral signal conditioning Submersible versions available Domed Top/Loading Cap option Verification Standard versions available Mounting Base		

Mechanical Dimensions

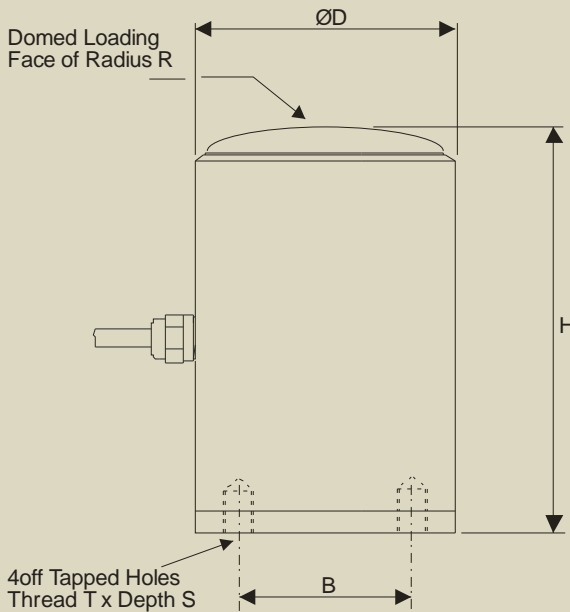
All dimensions in millimeters

Flat Top Version (standard)



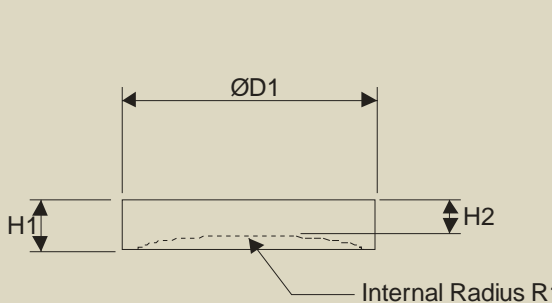
		H	ØD	ØL	T	S	ØB	Weight (kg)
Part Number / Range	CPA2 2tonne	40	Ø31	20	M3	5	Ø20	1
	CPA5 5tonne	40	Ø31	20	M3	5	Ø20	1
	CPA10 10tonne	75	Ø50	35	M4	8	Ø34	2.5
	CPA25 25tonne	75	Ø50	35	M4	8	Ø34	2.5
	CPA50 50tonne	100	Ø88	70	M4	10	Ø50	6.5
	CPA100 100tonne	150	Ø100	80	M5	12	Ø70	11
	CPA200 200tonne	180	Ø125	106	M6	n/a	Ø78	19
	CPA300 300tonne	185	Ø138	117	n/a	n/a	n/a	21
	CPA500 500tonne	250	Ø165	150	n/a	n/a	n/a	42
	CPA750 750tonne	350	Ø198	176	n/a	n/a	n/a	85
	CPA1000 1000tonne	400	Ø276	230	n/a	n/a	n/a	220

Domed Top Version (optional)



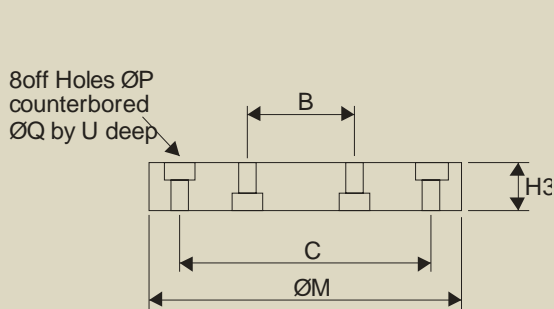
		H	ØD	R	T	S	ØB	Weight (kg)
Part Number/Range	CPA2-D 2tonne	41	Ø31	29	M3	5	Ø20	1
	CPA5-D 5tonne	41	Ø31	29	M3	5	Ø20	1
	CPA10-D 10tonne	75	50	75	M4	8	Ø34	2.5
	CPA25-D 25tonne	75	Ø50	75	M4	8	Ø34	2.5
	CPA50-D 50tonne	103	Ø88	158	M4	10	Ø50	6.5
	CPA100-D 100tonne	153	Ø100	150	M5	12	Ø70	11
	CPA200-D 200tonne	180	Ø125	100	M6	n/a	78	19
	CPA300-D 300tonne	185	Ø138	180	n/a	n/a	n/a	21
	CPA500-D 500tonne	250	Ø165	250	n/a	n/a	n/a	42
	CPA750-D 750tonne	350	Ø198	350	n/a	n/a	n/a	85
	CPA1000-D 1000tonne	400	Ø276	400	n/a	n/a	n/a	220

Spherical Load Cap (optional)



	H1	H2	ØD1	R1
CPA2, 2tonne	10	8	Ø31	30
CPA5, 5tonne	10	8	Ø31	30
CPA10, 10tonne	15	13	Ø60	76
CPA25, 25tonne	15	13	Ø60	76
CPA50, 50tonne	20	16	Ø88	159
CPA100, 100tonne	30	28	Ø101	151
CPA200, 200tonne	40	29	Ø125	102
CPA300, 300tonne	45	38	Ø165	182
CPA500, 500tonne	50	40	Ø165	260
CPA750, 750tonne	80	70	Ø198	360
CPA1000, 1000tonne	80	70	Ø276	410

Mounting Base (optional)



	ØB	ØC	H3	ØM	ØP	ØQ	U
CPA2 2tonne	Ø20	Ø40	10	Ø50	Ø3.2	Ø6	4
CPA5 5tonne	Ø20	Ø40	10	Ø50	Ø3.2	Ø6	4
CPA10 10tonne	Ø34	Ø64	10	Ø80	Ø4.5	Ø10	6
CPA25 25tonne	Ø34	Ø64	10	Ø80	Ø4.5	Ø10	6
CPA50 50tonne	Ø50	Ø100	10	Ø120	Ø4.5	Ø10	6
CPA100 100tonne	Ø70	Ø120	10	Ø140	Ø5.5	Ø11	7

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

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