



## TYPE: CPA



# CPA Stainless Steel Compression Load Cell

## Description

The LCM range of CPA compression load cells are designed for general use and are suitable for use in laboratories or in permanent outdoor installations. They are built to exacting standards with versions available that are suitable for full immersion in water.

There are many special options, including domed top (supplied with or without a 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 range can be supplied on its own or combined with our extensive range of instrumentation to provide a complete load monitoring system.

## Features

- Ranges: 2 tonne to 1000 tonne
- Stainless steel construction
- Environmentally sealed to IP67
- Many special 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

## Specification

Rated load (tonne)	2, 5, 10, 25, 50, 100, 200, 300, 500, 750, 1000	
Proof load	150% of rated load	
Ultimate braking load	>300% of rated load	
Output	1.5 to 2mV/V at rated load (nominal)	
Non-linearity	<±0.25% of rated load (typically)	
Non-repeatability	<±0.05% of rated load	
Excitation voltage	10vdc recommended, 15vdc maximum	
Bridge resistance	700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne)	
Insulation resistance	>500MΩ @ 500vdc	
Operating temperature range	-20 to +70°C (-20 to +55°C for Ex d)	
Compensated temperature range	-10 to +50°C	
Zero temperature coefficient	<±0.01% of rated load/°C	
Span temperature coefficient	<±0.01% of rated load/°C	
ATEX certification details	Ex i	II 2G Ex ib IIC T4 Gb / II 2D Ex ib IIIC T135°C Db
	Ex d	II 2G Ex d IIC T6 Gb / II 2D Ex tb IIIC T85°C Db
Environmental protection level	IP67	
Connection type	5 metres 4-core screened PUR cable	
Wiring connections	+ve supply: Red	-ve supply: Blue
	+ve signal: Green	-ve signal: Yellow

## Typical Applications

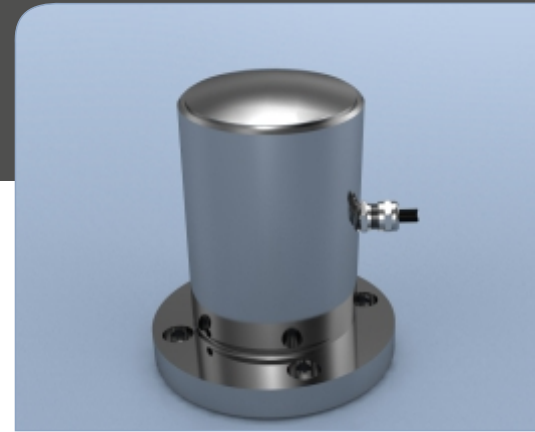
- Hydraulic press calibration
- Pile force measurement
- Structural proof testing
- Centre of gravity (module) weighing
- Jack force measurement

## Available Options

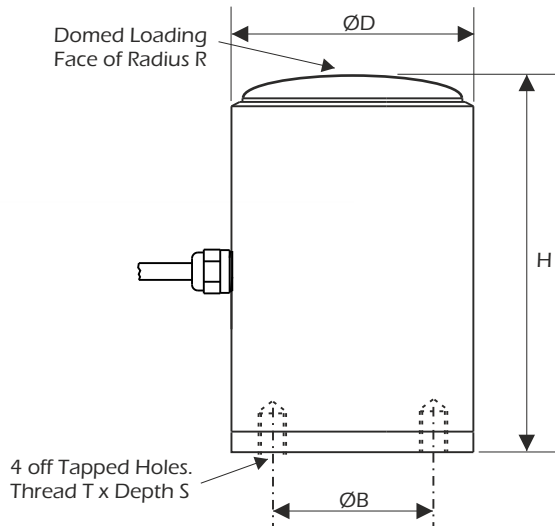
- Special ranges and sizes
- Hazardous Area certified - Explosion Proof (Ex d) and Intrinsically Safe (Ex i)
- TEDS option when used with TR150 handheld display (Not available with Hazardous Area versions)
- Integral signal conditioning
- Integral connector versions
- Submersible versions
- Verification Standard versions
- Flat top option
- Mounting base/Load cap
- Optional handles (recommended above 100 tonnes)



# CPA Stainless Steel Compression Load Cell



## Dimensions

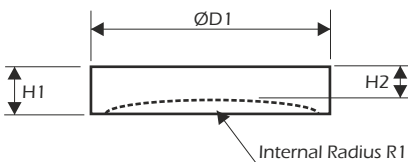


Rating (tonnes)	Part Number	H	ØD	R	T	S	ØB	Weight (kgs)	Resolution (tonnes)
2	CPA-2-D	41	36	29	M3	5	20	1	0.002
5	CPA-5-D	41	36	29	M3	5	20	1	0.005
10	CPA-10-D	75	59	75	M4	8	34	2.5	0.01
25	CPA-25-D	75	59	75	M4	8	34	2.5	0.02
50	CPA-50-D	103	88	158	M4	10	50	6.5	0.05
100	CPA-100-D	153	100	150	M5	12	70	11	0.1
200	CPA-200-D	180	125	165	M6	12	78	19	0.2
300	CPA-300-D	185	140	180	n/a	n/a	n/a	21	0.5
500	CPA-500-D	250	165	250	n/a	n/a	n/a	42	0.5
750	CPA-750-D	350	198	350	n/a	n/a	n/a	85	1
1000	CPA-1000-D	400	276	400	n/a	n/a	n/a	220	1

Note 1: Part numbers for ATEX versions will be suffixed with either -ATEX-D (explosion proof) or -ATEX-I (intrinsically safe) e.g. CPA-2-D-ATEX-D.

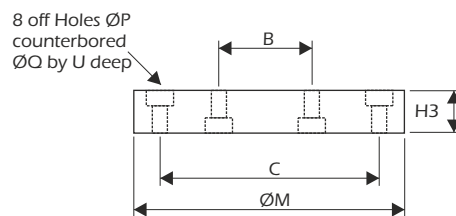
Note 2: Dimensions may change for hazardous area versions.

## Spherical Load Cap (optional)



Rating (tonnes)	H1	H2	ØD1	R1
2	10	8	36	30
5	10	8	36	30
10	15	13	59	76
25	15	13	59	76
50	20	16	88	159
100	30	24	100	151
200	40	29	125	167
300	45	38	140	182
500	50	40	165	260
750	80	70	198	360
1000	80	70	276	410

## Mounting Base (optional)



Rating (tonnes)	ØB	ØC	H3	ØM	ØP	ØQ	U
2	20	42	10	50	3.2	6	4
5	20	42	10	50	3.2	6	4
10	34	72	10	88	4.5	10	6
25	34	72	10	88	4.5	10	6
50	50	100	10	120	4.5	10	6
100	70	120	10	140	5.5	11	7

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

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APPROVED

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