TYPE: CPA



Features

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

Typical Applications

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

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CPA Stainless Steel Compression Load Cell

Description

The LCM range of 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.

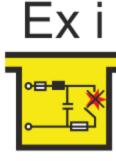
Specification

Rated load (tonne) Proof load 150% of rated load Ultimate braking load Output 1.5 - 2mV/V at rated load (nominal) Non-linearity Non-repeatability Excitation voltage Bridge resistance 10vdc recommended, 15vdc maximum Bridge resistance 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) Insulation resistance Operating temperature range Compensated temperature range Zero temperature coefficient Span temperature coefficient Environmental protection level Wiring connections Y300% of rated load 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne) 10vdc recommended, 15vdc maximum 10vdc recomme	D-4	2 5 40 25 50 400 200 200 500 750 4000				
Ultimate braking load>300% of rated loadOutput1.5 - 2mV/V at rated load (nominal)Non-linearity<±0.25% of rated load (typically)	Rated load (tonne)	2, 5, 10, 25, 50, 100, 200, 300, 500, 750, 1000				
Output1.5 - 2mV/V at rated load (nominal)Non-linearity<±0.25% of rated load (typically)	Proof load	150% of rated load				
Non-linearity $<\pm 0.25\%$ of rated load (typically) Non-repeatability $<\pm 0.05\%$ of rated load Excitation voltage 10 vdc recommended, 15 vdc maximum Bridge resistance 700Ω ($2-200$ tonne), 1400Ω ($300-1000$ tonne) Insulation resistance $>500M\Omega$ @ 500 vdc Operating temperature range -20 to $+70^{\circ}$ C Compensated temperature range -10 to $+50^{\circ}$ C Zero temperature coefficient $<\pm 0.01\%$ of rated load/ $^{\circ}$ C Span temperature coefficient $<\pm 0.01\%$ of rated load/ $^{\circ}$ C Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Ultimate braking load	>300% of rated load				
Non-repeatability $<\pm 0.05\%$ of rated load Excitation voltage 10vdc recommended, 15vdc maximum Bridge resistance 700Ω ($2-200$ tonne), 1400Ω ($300-1000$ tonne) Insulation resistance $>500M\Omega$ @ 500vdc Operating temperature range -20 to $+70^{\circ}\text{C}$ Compensated temperature range -10 to $+50^{\circ}\text{C}$ Zero temperature coefficient $<\pm 0.01\%$ of rated load/ $^{\circ}\text{C}$ Span temperature coefficient $<\pm 0.01\%$ of rated load/ $^{\circ}\text{C}$ Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Output	1.5 - 2mV/V at rated load (nominal)				
Excitation voltage 10vdc recommended, 15vdc maximum 700Ω (2 - 200 tonne), 1400Ω ($300 \text{ - }1000 \text{ tonne}$) Insulation resistance $>500 \text{M}\Omega$ @ 500vdc Operating temperature range $-20 \text{ to } +70 ^{\circ}\text{C}$ Compensated temperature range $-10 \text{ to } +50 ^{\circ}\text{C}$ Zero temperature coefficient $<\pm0.01\%$ of rated load/ $^{\circ}\text{C}$ Span temperature coefficient $<\pm0.01\%$ of rated load/ $^{\circ}\text{C}$ Environmental protection level IP67 Connection type $5 \text{ metres } 4\text{-core screened PUR cable}$	Non-linearity	<±0.25% of rated load (typically)				
Bridge resistance 700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne)Insulation resistance>500MΩ @ 500vdcOperating temperature range-20 to +70°CCompensated temperature range-10 to +50°CZero temperature coefficient<±0.01% of rated load/°C	Non-repeatability	<±0.05% of rated load				
Insulation resistance>500MΩ @ 500vdcOperating temperature range-20 to $+70^{\circ}$ CCompensated temperature range-10 to $+50^{\circ}$ CZero temperature coefficient $<\pm0.01\%$ of rated load/°CSpan temperature coefficient $<\pm0.01\%$ of rated load/°CEnvironmental protection levelIP67Connection type5 metres 4-core screened PUR cable	Excitation voltage	10vdc recommended, 15vdc maximum				
Operating temperature range -20 to +70°C 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 Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Bridge resistance	700Ω (2 - 200 tonne), 1400Ω (300 - 1000 tonne)				
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 Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Insulation resistance	>500MΩ @ 500vdc				
Zero temperature coefficient <±0.01% of rated load/°C Span temperature coefficient <±0.01% of rated load/°C Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Operating temperature range	-20 to +70°C				
Span temperature coefficient <±0.01% of rated load/°C Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Compensated temperature range	-10 to +50°C				
Environmental protection level IP67 Connection type 5 metres 4-core screened PUR cable	Zero temperature coefficient	<±0.01% of rated load/°C				
Connection type 5 metres 4-core screened PUR cable	Span temperature coefficient	<±0.01% of rated load/°C				
	Environmental protection level	IP67				
Wiring connections +ve supply: Red -ve supply: Blue	Connection type	5 metres 4-core screened PUR cable				
	Wiring connections	+ve supply: Red -ve supply: Blue				
+ve signal: Green -ve signal: Yellow		+ve signal: Green -ve signal: Yellow				

Available Options

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





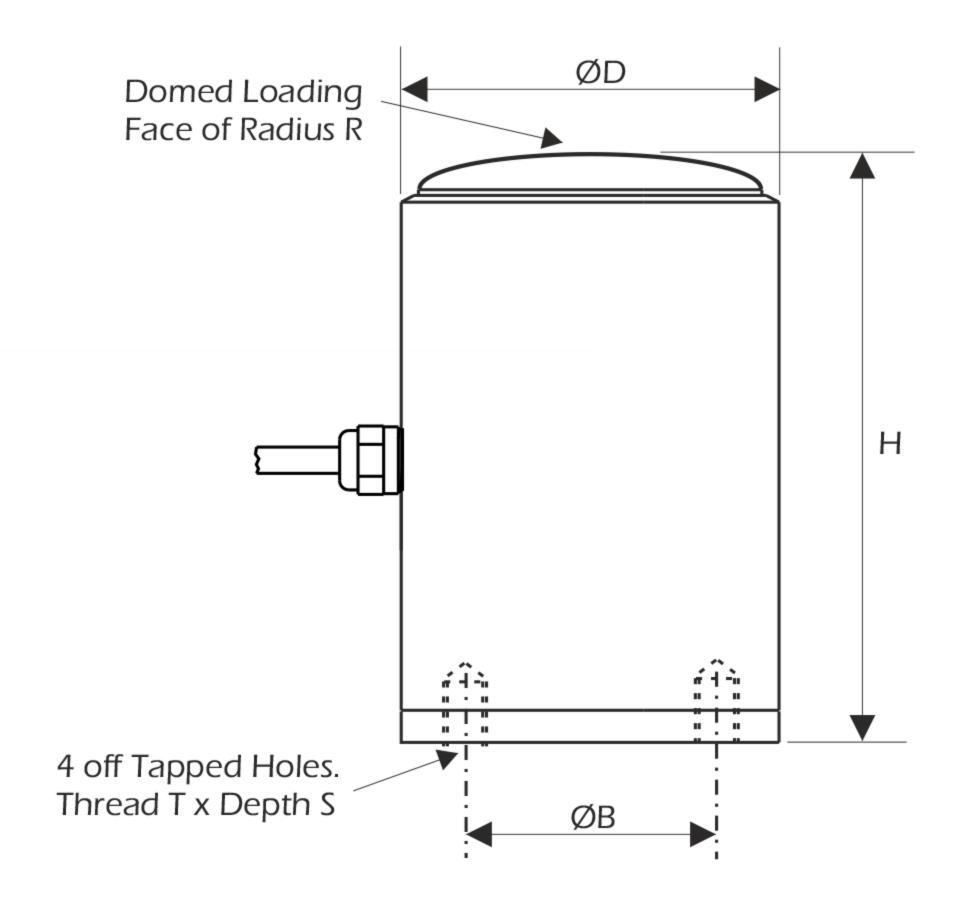






CPA Stainless Steel Compression Load Cell

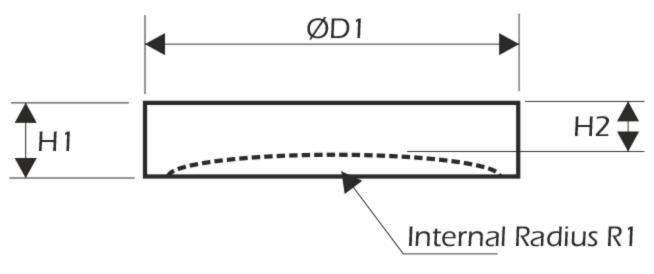
Dimensions



Rating (tonnes)	Part Number	н	ØD	R	Т	S	ØB	Weight (kgs)	Resolution (tonnes)
2	CPA-2-D	41	36	29	М3	5	20	1	0.002
5	CPA-5-D	41	36	29	М3	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	100	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

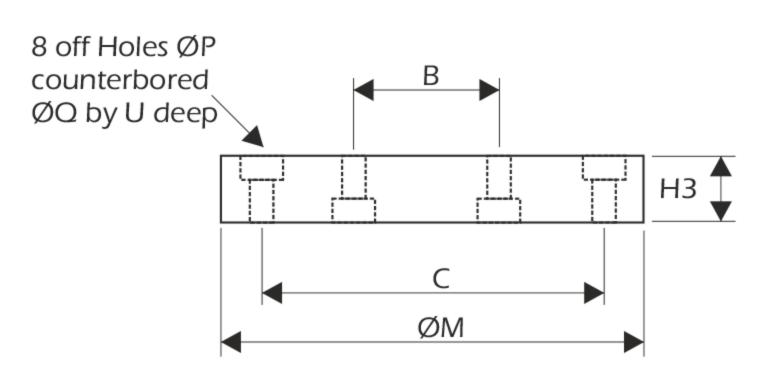
Dimensions may change for Hazardous Area versions

Spherical Load Cap (optional)

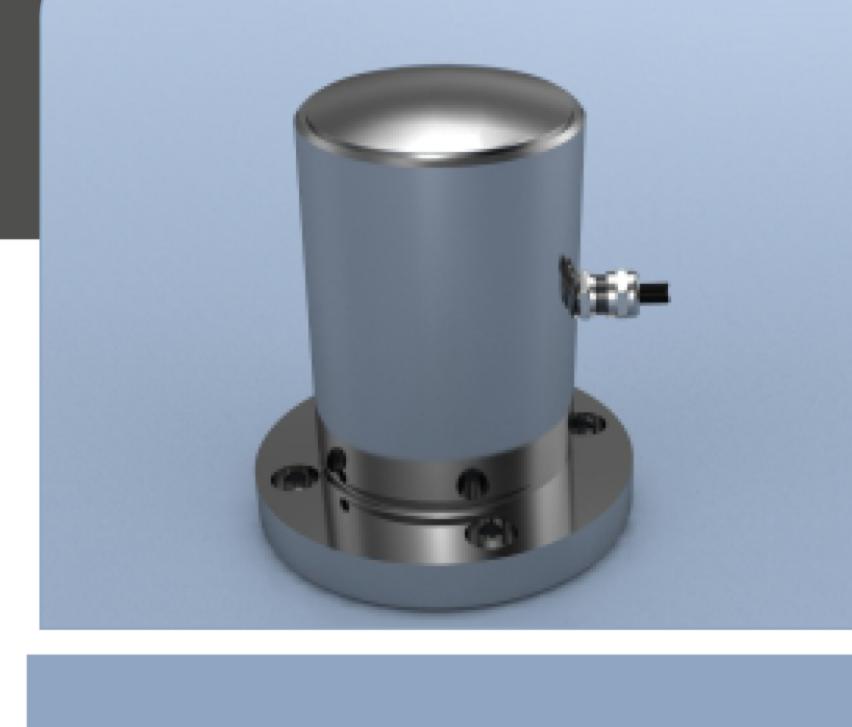


Rating (tonnes)	Н1	H2	ØD1	R	
2	10	8	36	30	
5	10	8	36	30	
10	15	13	59	76	
25	15	13	59	76	
50	20	16	88	159	
100	30	24	101	151	
200	40	29	125	100	
300	45	38	140	182	
500	50	40	165	260	
750	80	70	198	360	
1000	80	70	276	410	

Mounting Base (optional)



Rating (tonnes)	ØВ	ØС	Н3	ØМ	ØP	ØΩ	J
2	20	40	10	50	3.2	6	4
5	20	40	10	50	3.2	6	4
10	34	64	10	80	4.5	10	6
25	34	64	10	80	4.5	10	6
50	50	100	10	120	4.5	10	6
100	70	120	10	140	5.5	11	7



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

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APPROVED

(unapproved if printed)

