



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

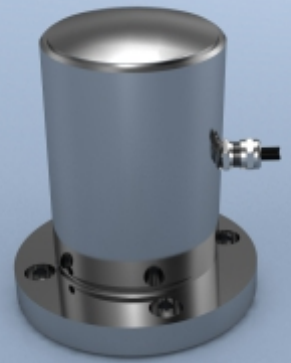
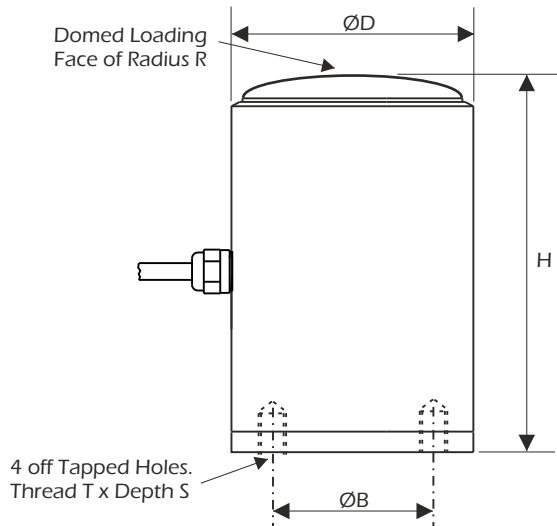
Available Options

- 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

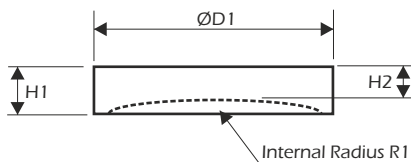


| Rating (tonnes) | Part Number | H | ØD | R | T | S | ØB | Weight (kgs) | Resolution (tonnes) |
|-----------------|-------------|-----|-----|-----|-----|-----|-----|--------------|---------------------|
| 2 | CPA-2-D | 41 | 36 | 29 | M3 | 5 | 20 | 1 | 0.002 |
| 5 | CPA-5-D | 41 | 36 | 29 | M3 | 5 | 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.

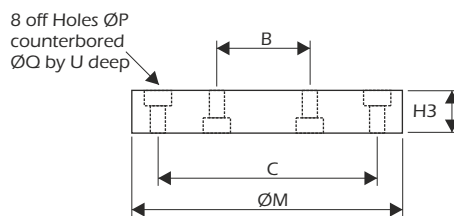
Note 2: Dimensions may change for hazardous area versions.

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 | 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 |

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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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