



CCDDT Column Type Compression Dome Top Load Cell

Key Features

- Capacities 2 tonnes to 1000 tonnes
- Sealed to IP67
- Output: 1.5mV/V at rated load
- Stainless Steel Construction
- Submersible Versions Available
- Can be Supplied with Loading Cap & Mounting Base
- Optional Amplifier Output & Integral Connector
- Versions Available for use as Calibration Standards
- Special Versions Available
- 3 Year Warranty



Column type dome top compression load/force cell

The CCDDT series of dome top column compression load cells are designed for general use and are suitable for use in laboratories or in permanent outdoor installations. The standard CCDDT comes with an IP67 protection rating with the option to increase it to IP68 for fully submersible applications (please speak to sales).

Special options available include: a loading cap, integral carry handles, mounting base, integral connectors and internal/digital signal amplifiers. The CCDDT can be modified to meet customer specific requirements to suit the exact application.

Options

- Submersible Versions
- Other Ranges and Sizes Available on Request
- Mounting Base
- Special Electrical Connections
- Integral Signal Conditioning
- Loading Cap Option
- Verification Standard Versions Available
- TEDS Functionality (Transducer Electronic Data Sheet storing the parameters of the load cell to IEEE 1451.4 standard)
- USB Version (Via DSC-USB digitiser)

Applications

- Hydraulic Press Calibration
- Pile Force Measurement
- Jack Force Measurement
- Centre of Gravity (CoG) Measurement Systems
- Permanent Outdoor Installations
- Laboratories
- Structural Proof testing

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For pricing or any further information, please contact Omni Instruments Ltd.

Specification

Rated Capacity (RC)	tonnes	2, 5, 10, 25, 50, 100, 200, 300, 500, 750, 1000
Sensitivity (RO)	mV/V	1.5
Zero Balance/Offset	±%/Rated Output	<1 typical
Non-Linearity	±%/Rated Load	<0.25 typical
Hysteresis	±%/Rated Output	<0.25 typical
Non-Repeatability	±%/Rated Load	<0.05
Temperature Effect on Zero	±%/Rated Load / °C	<0.01
Temperature Effect on Span	±%/Rated load/ °C	<0.01
Bridge Resistance	Ohms	700 (2 - 50te) 1400 (100 - 1000te)
Insulation Resistance	Megohms @ 500Vdc	>500
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	°C	-20 to +70
Compensated Temperature Range	°C	-10 to +50
Storage Temperature Range	°C	-20 to +70
Safe Overload	% of Rated Load	150
Ultimate Overload	% of Rated Load	300
Deflection @ Rated Capacity	mm	See dimension table
IP Rating (Environmental Protection)		IP67
Weight (excluding cable)		See dimension table
Fatigue Life	Full-range cycles	10 ⁸
Cable Length (as standard)	metres	5
Cable Type		4-core screen, PUR sheath,
Construction Material		Stainless Steel
Resolution		1 part in 250,000 (with appropriate instrumentation)

Wiring Diagram

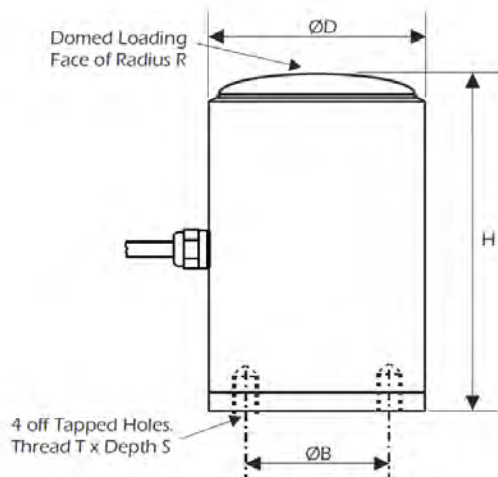
Wire	Designation
Red	+ve excitation
Blue	-ve excitation
Green	+ve signal
Yellow	-ve signal
Screen	To ground – not connected to load cell body

Dimensions (mm)

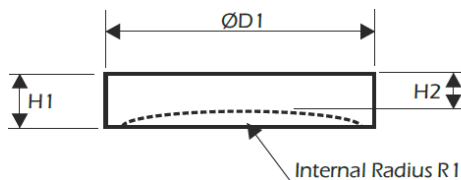
Capacity (t)	H	ØD	T	S	ØB	Weight (kg)	Resolution	Deflection at RC (mm, nominal)
2	41	31	M3	5	20	1	0.002	0.05
5	41	31	M3	5	20	1	0.005	0.05
10	75	50	M4	8	34	2.5	0.01	0.10
25	75	50	M4	8	34	2.5	0.02	0.10
50	103	88	M4	10	50	6.5	0.05	0.12
100	153	100	M5	12	70	11	0.1	0.18
200	180	125	M6	n/a	78	19	0.2	0.21
300	185	138	n/a	n/a	n/a	21	0.5	0.21
500	250	165	n/a	n/a	n/a	42	0.5	0.30
750	350	198	n/a	n/a	n/a	85	1	0.41
1000	400	276	n/a	n/a	n/a	220	1	0.46

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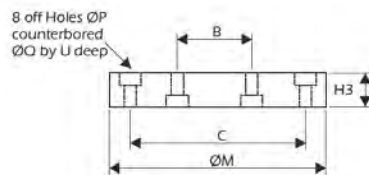


Spherical Load Cap (optional)



Capacity (t)	H1	H2	ØD1	R
2	10	8	31	30
5	10	8	31	30
10	15	13	60	76
25	15	13	60	76
50	20	16	88	159
100	30	28	101	151
200	40	29	125	102
300	45	38	165	182
500	50	40	165	260
750	80	70	198	360
1000	80	70	276	410

Mounting Base (optional)



Capacity (t)	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

Ordering Codes

Core Product	Capacity + Engineering Units	Cable Length (m)	Specials Code	Example Result
CCDDT	2t	005	000	CCDDT-2t-005-000
				Note: 000 = Standard Product as-per datasheet. Additional codes will be issued by sales as appropriate.

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