DBCL In-Line Column Load Cell

Note: Image shown is an optional subsea version

Key Features:

- Capacities 1 tonne up to 150 tonnes
- Output: 1.5mV/V
- Environmental Protection: IP66
- Optional IP67 + IP68 Submersible Versions
- Special Sizes & CapacitiesAvailable
- Marine & Subsea Versions Available
- Robust Construction
- Simple Installation
- 3 Year Warranty

For High Capacity Tension & Compression Force or Load Measurement

The DBCL series of in-line column load cells are designed for measuring tensile and compressive forces in high force applications where a device with a low diameter is required.

The flexibility of the DBCL's design means we can offer customised versions specific to your application, for example greater capacities, different end thread sizes and combinations, different IP rating.

The DBCL's standard IP66 environmental protection rating can be increased to IP68 for tough marine and offshore applications where submersion depths of 6500 metres or more.

Integrated signal conditioning is also available with the choice of various analogue and digital outputs, please speak to our technical sales team.

Options:

- Dual Strain Gauge Bridge for Redundancy
- Higher Capacities up to 1500 tonnes
- Different Cable Lengths
- Special Electrical Connections
- Spherical Rod End Bearings
- Version with Spanner Flats
- USB Version (via DSC-USB)
- Submersible IP68 Versions Available
- High Temperature Versions
- Fatigue Rated Versions
- Vacuum Aplications Versions
- Subsea Versions
- Pressurised Environments
- TEDS (Transducer Electronic Data Sheet)
- TEDS Allows Plug & Play with TEDS Enabled Instrumentation
- Wireless Version (via T24 instrumentation)

Applications:

- High Force Applications
- In-Line Measurement on Hydraulic & Pneumatic Cylinders
- Mooring Tension Measurement
- High Capacity Tension Testing
- Subsea Pipeline Testing
- Hose Testing

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

Measurement and data acquisition solutions

Contact Details:
Tel: +44 1382 443000
Fax: +44 1382 453197
Email: info@omni.uk.com

Mailing Address: Unit 1, 14 Nobel Road, Wester Gourdie Industrial Estate, Dundee, DD2 4UH.

Website: www.omniinstruments.co.uk

Specification:

Rated Capacity (RC)	tonnes	0-1, 0-2, 0-3, 0-5, 0-7.5, 0-10, 0-20, 0-30, 0-50, 0-75, 0-100, 0-150
Operating Modes	Tension/Compression / Tension & Compression	
Sensitivity (RO)	mV/V	1.5 (nominal)
Zero Balance/Offset	±%/Rated Output	<2.0
Output Symmetry (tension vs. compression	±%/Rated Load	<0.1% typical
Accuracy	±%/Rated Load	<0.20
Non-Linearity	±%/Rated Output	<0.20
Hysteresis	±%/Rated Output	<0.20
Repeatability	±%/Rated Output	<0.10
Temperature Effect on Zero	±%/Rated Output/ ˚C	<0.010
Temperature Effect on Sensitivity	±%/Applied Load/ ˚C	<0.010
Bridge Resistance	Ohms	1te: 350Ω , 2 to 50te: 700Ω , 15 to 150te: 1400Ω
Insulation Resistance	Megohms	>5000 @ 50Vdc
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 Capacity	150
Ultimate Overload	% of Rated Capacity	300
Deflection @ Rated Capacity		Consult sales
IP Rating (Environmental Protection)		IP66 (IP67 or IP68 submersible optional)
Weight (excluding cable)		See dimension table
Fatigue Life		10^8 cycles typical (10^9 cycles on fatigue rated version)
Cable Length (as standard)	metres	5
Electrical Connection		6-pin bayonet lock connector with 5m mating cable assembly
Construction Material		Stainless Steel
Resolution		See dimension table
Note: The DBCL is calibrated in compression only as standard, there is an additional charge for calibration in tension.		

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

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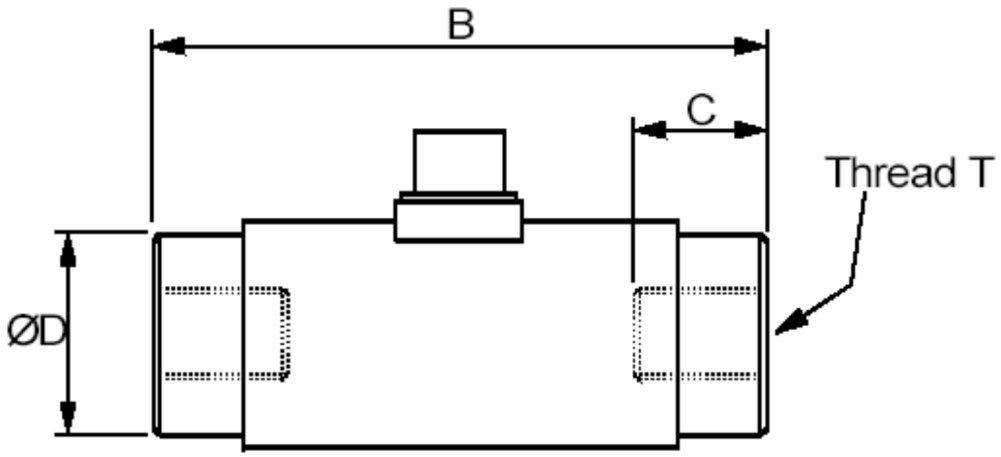
Dimensions (mm):

CAPACITY (tonnes)	B	C	ØD	Thread T	Weight kgs	Resolution (tonnes)
0-1, 0-2	76	16	31	M12 x 1.25	0.4	0.001; 0.002
0-3, 0-5	84	22	38	M20 x 1.5	0.7	0.005
0-7.5, 0-10	108	29	44	M24 x 2	1.3	0.01
0-20	203	50	57	M36 x 3	3.3	0.02
0-30, 0-50	355	89	114	M64 x 4	20	0.02; 0.05
0-75, 0-100	458	100	130	M100 x 3	35.7	0.05; 0.1
0-150	458	100	156	M100 x 3	40.5	0.2

Please contact sales to discuss capacities greater than 150 tonnes.



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Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
DBCL	1t	005	000	DBCL-1t-005-000
DBCL	2t	005	000	DBCL-2t-005-000
DBCL	3t	005	000	DBCL-3t-005-000
DBCL	5t	005	000	DBCL-5t-005-000
DBCL	7.5t	005	000	DBCL-7.5t-005-000
DBCL	10t	005	000	DBCL-10t-005-000
DBCL	20t	005	000	DBCL-20t-005-000
DBCL	30t	005	000	DBCL-30t-005-000
DBCL	50t	005	000	DBCL-50t-005-000
DBCL	75t	005	000	DBCL-75t-005-000
DBCL	100t	005	000	DBCL-100t-005-000
DBCL	150t	005	000	DBCL-150t-005-000

Associated Products:

TR150 Handheld Indicator

T24 Wireless Telemetry Range

Intuitive4-L Panel-Mount Indicator

DSC-USB USB Signal Digitiser

ICA Miniature Strain Gauge Amplifier

SGA Signal Conditioner/Amplifier

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