technical specification sheet
Series VC7600

Sherborne Sensors
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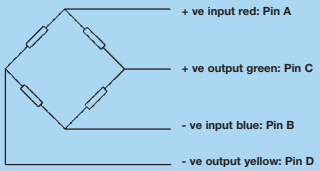
Grade	VC7600	Units
Standard Load Ranges	2, 5, 10, 25, 50, 100, 200, 500, 1000	**kN**
Full Load Output	2.0 (+/- 0.25%)	**mV/V**
Excitation Recommended dc or ac	10	**V**
Excitation Maximum dc or ac	20	**V**
Safe Service Load	150	**%**
Ultimate Load	300	**%**
Fatigue Life	10^8	**Full scale reversals**
Combined Error	< +/- 0.07	**%**
Repeatability	< +/- 0.03	**%**
Output at Zero load	< +/- 2.0	**%**
Input Resistance	380 +/- 30	**ohms**
Output Resistance	380 +/- 5	**ohms**
Output Symmetry (Tension/Compression)	0.25	**%**
Operational Temperature Range	-20 to +80	**°C**
Compensated Temperature Range	-10 to +40	**°C**
Temperature Coefficient on Zero	0.005	**%/°C**
Temperature Coefficient on Span	0.005	**%/°C**
Creep 30 mins (at 20°C)	+/- 0.03	**%**
Environmental Protection	IP67	
Insulation	>500 at 100 Vdc	**M ohms**

All percentages are related to Full Rated Load

The Base Plate is a recommended option with VC7610

Construction
Stainless steel or alloy steel depending on application

Electrical Connections
Via 6 way square flanged fixed amphenol connector type 62GB-12E10-6P



Screen not connected to Load Cell body.

Our policy is one of continuous product enhancement. We therefore reserve the right to incorporate technical modifications without prior notification.

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Approval No. 925394

Series VC 7600

Low profile universal load cell for force measurement

capacities 2 kN to 1000 kN



stainless or alloy steel construction	**fatigue rated**
bi-directional calibration	**high resistance to off axis loading**
high accuracy	**two year warranty**
excellent long term stability	**IP 67 sealed**
2.0 mV/V output	**alternative thread configurations**

A range of multi shear web transducers designed to meet high fatigue requirements in the aerospace, automotive and other repetitive fatigue applications. The units can be supplied with a range of standard thread sizes and fittings or may be specified to suit individual requirements.

MECO MEASUREMENTS & CONTROLS
Via Enrico Cernuschi, 4 20129 Milano
Tel. +39 02 4 692 680 Fax +39 02 4 694 602 info@mecoitalia.it www.mecoitalia.it

Series VC 7600

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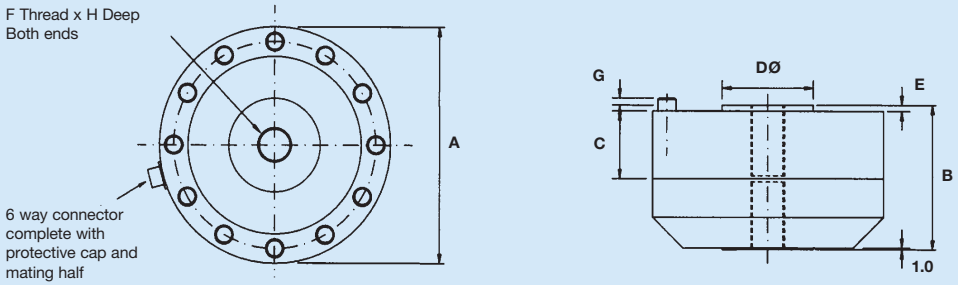
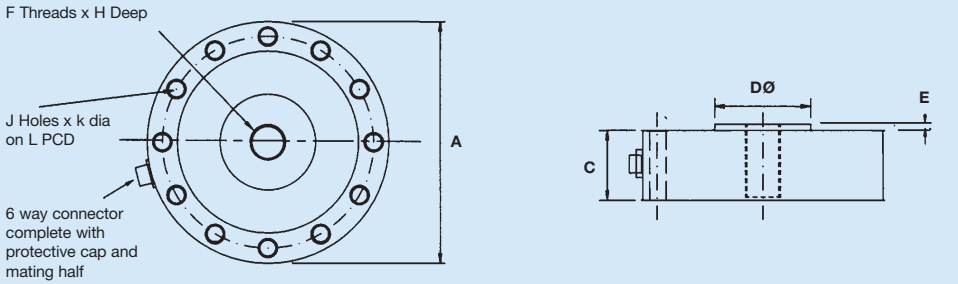
To guarantee optimum performance from VC7600 it is strongly recommended that the factory fitted base plate be specified at the time of order placement. The base unit is specifically designed to maximise the load cell's performance and the cell is calibrated with the base installed.

If the VC7600 is to be used without a fitted base, it is essential that the cell is mounted on a flat ground surface. This surface should be flat to within 0.005mm T.I.R.

Specifying the appropriate Veccer base plate as a factory fitted option eliminates this requirement and ensures the unit operates within its performance envelope.



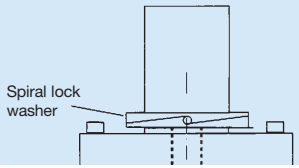


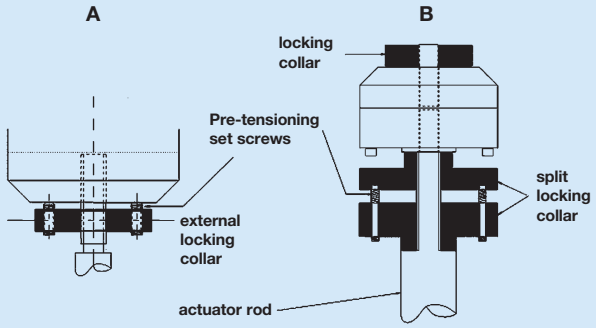
The Base Plate is a recommended option with VC7610

Range KN	A	B	C	D	E	F thread	G	H	J	K	L.PCD
2, 5, 10 & 25	125	66	30	34	4	M20 x 1,5P	8	30	8	8.5	107
50	152	94	44	60	4	M30 x 2P	10	44	12	11	134
100 & 200	152	94	44	60	4	M36 x 3P	10	44	12	11	134
500	200	127	60	80	5	M56 x 4P	16	60	12	17	170
1,000	275	180	78	105	12	M72 x 6P	16	85	16	17	235

The use of locking washers is strongly recommended for all fatigue applications. A spiral lock washer when fitted as shown opposite improves the performance of the cell is since the contact points between adaptor threads and the cells internal threads remain constant. Ideally, the spiral lock washer should be fitted whilst the load cell is subjected to a tensile force of approximately 150% of its rated range

Our technical support staff will be plea
installation.



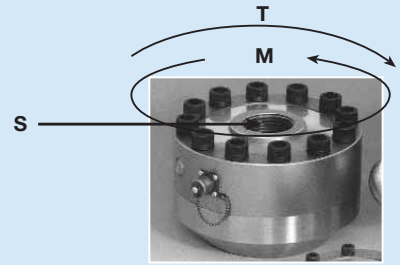


Pre-Tensioning Locking washers are an ideal solution in bi-directional fatigue applications. Diagram A shows with the load cell and locking collar screwed onto the actuator rod.
The set screws are then tightened against the base adapter pre-tensioning the load cell to the actuator rod threads.

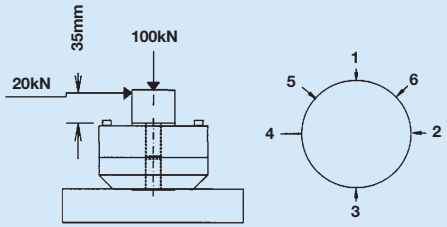
Diagram B shows an alternative method.
The split locking collar is assembled on the actuator rod and the load cell screwed into position. The socket set screws are tightened to tension the two halves of the collar thereby pre-tensioning the load cell on the actuator rod threads.

Resistance to off axis forces (side load, bending etc) – inherent in the VC7600 design - allows for a greater degree of mis-alignment during initial installation, thereby reducing reading errors. This greater freedom of installation is not possible with conventional column cells which have a low resistance to bending moments.

Series	S(kN) Side Force % rated	M(Nm1) Bending % rated	T(Nm) Torque % rated	Max Error Due to S or M
7600	50	40	40	0.10%

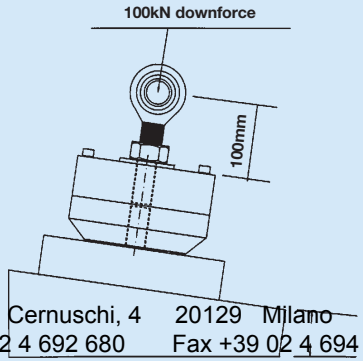


Typical results of the effects of side load and non axial load on a 100 kN VC7600



Output 100kN force through vertical axis = 2.33890 mV/V
20 kN transverse force applied at a distance of 35mm at radial points as shown with 100 kN axial downforce

Position	Error referenced to full load output
1	0.05%
2	0.08%
3	0.09%
4	0.07%
5	0.02%
6	0.02%



Output with 100 kN force through vertical axis = 2.33890 mV/V
With 6° angular load
Axial load = 2.33890 x cos 6° = 2.326087 mV/V
Side load = 2.33890 x sin 6° = 24.45 kN at 100 mm ie 24.5%

Position	Error referenced to full load output
1	0.08%
2	0.09%
3	0.05%
4	0.07%

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