

technical specification sheet
Series VC3500

		units
Standard Load Ranges	2, 5, 7.5, 10, 15, 20, 30, 40, 50, 75, 100, 150 & 200	te
Full Load Output	2.0 (+/- 0.25%)	mV/V
Excitation Recommended	10	V
Excitation Maximum	18	V
Safe Service Load	150	%
Ultimate Load	300	%
Side Load without Accuracy Degradation	30	%
Maximum Operating Side Load	100	%
Maximum Lift Off Protection	50 (150te 40)	%
Combined Error	< +/- 0.05	%
Repeatability	< +/- 0.02	%
Output at Zero load	< +/- 2.0	%
Input Resistance	785 +/- 20	ohms
Output Resistance	700 +/- 5	ohms
Operational Temperature Range	-25 to +80	°C
Compensated Temperature Range	-10 to +40	°C
Temperature Coefficient on Zero	< +/- 0.005	%/°C
Temperature Coefficient on Span	< +/- 0.003	%/°C
Environmental Protection	IP 68	
Insulation	>500 at 100 Vdc	M ohms

All percentages are related to Full Rated Load

Mechanical Interface

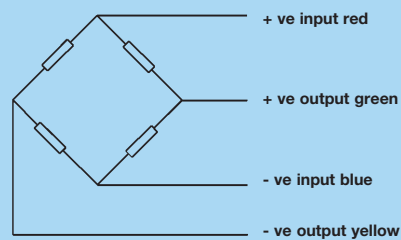
via 8 off attachment holes (2 - 50te)
 12 off attachment holes (75 - 200te)

Construction

Sensor element High strength stainless steel type 17 - 4 PH
 Mounting assembly Alloy steel, auto-phoretic toughened surface
 Stainless steel is available as an option
 Shafts Corrosion resisting steel, Type 431 S29

Electrical Connections

4 Core 16 / 0.2 mm, screened polyurethane cable.
 Cable length 12 m (2-5 te = 5 m)



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.

Distributed by

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Series VC3500

Load cell assembly for silo, tank and vessel weighing

capacities 2 te to 200 te



stainless steel load sensor

fully welded construction IP 68

auto-phoretic toughened surface (assembly only)

resistant to off-axial loading

low cost installation

five year warranty

low profile

allows vessel expansion/contraction

integral lift off prevention

optional stainless steel loading assembly

Vessel weighing problems solved simply and cost effectively. The VC3500 incorporates lift off prevention and jacking bolts for routine maintenance and calibration.

The VC3500 is also available with intrinsically safe certification EEx ia IIC T6 to CENELEC standard EN50020 : 1995.



Thames Side - Maywood

Series VC3500

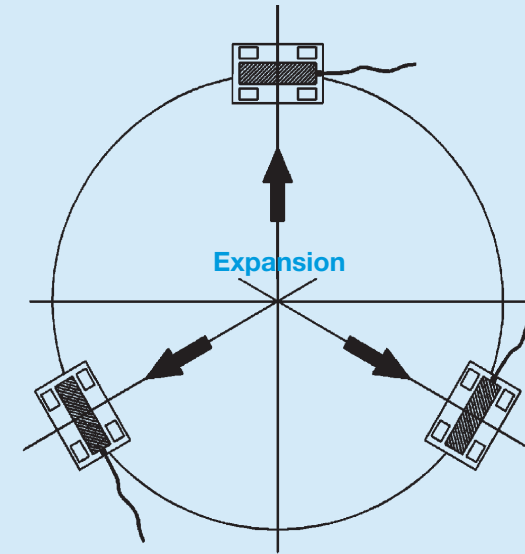
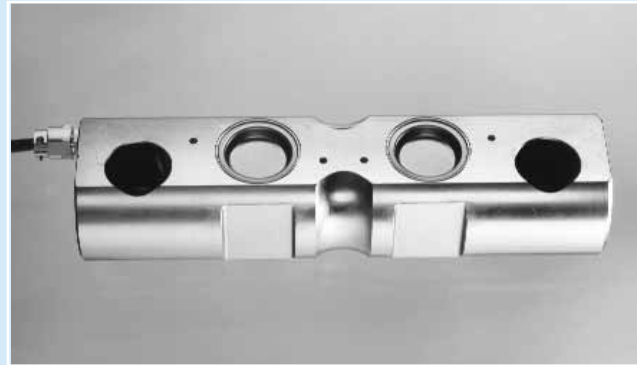
The VC3500 family of load cells are available in capacities ranging from 2,000kg to 200,000kg. They are especially suitable for high capacity vessel weighing and feature a combined error specification of $\pm 0.05\%$.

The critical sensor element of the VC3500 unit is a fully welded double ended shear beam, manufactured from high tensile 17-4 PH released stainless steel, heat treated to give a high ultimate tensile strength. This treatment provides an extremely stable platform for the strain gauges. In common with all Thames Side-Maywood load cells, the strain gauged element is temperature compensated to ensure accuracy is maintained through a wide temperature range.

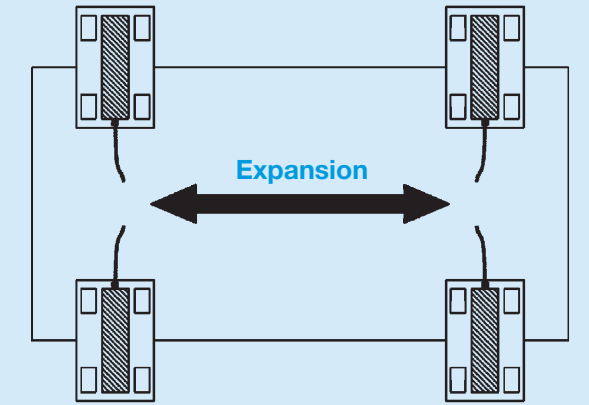
Stainless steel diaphragms are TIG welded in position to provide total environmental sealing. This method of construction allows Thames Side-Maywood to offer a five year warranty on the complete unit.

Vessel Restraints

The loading assembly is an integral part of the VC3500 and eliminates the need for vessel restraints or check rods.



VC3500 3 x load cell installation



VC3500 4 x load cell installation

ASSEMBLY DEFLECTION AND EXPANSION

Capacity te	Deflection mm	Expansion across load cell assembly
2, 5, 7.5	'0.20	+/- 5mm
10	'0.25	+/- 5mm
15	'0.30	+/- 5mm
20	'0.40	+/- 5mm
30	'0.30	+/- 9mm
40	'0.40	+/- 9mm
50	'0.50	+/- 9mm
75	'0.80	+/- 9mm
100	'0.80	+/- 12mm
150/200	'0.90	+/- 12mm

Due to the unique design of the VC3500, Transverse and Non Axial misalignment errors are minimised.

VC3500 Capacities 2 - 200 te

The unit is manufactured in 5 shell sizes as follows:

- Shell size 1 : 2 - 20 te
- Shell size 2 : 30 - 50 te
- Shell size 3 : 75 te
- Shell size 4 : 100 te
- Shell size 5 : 150 - 200 te

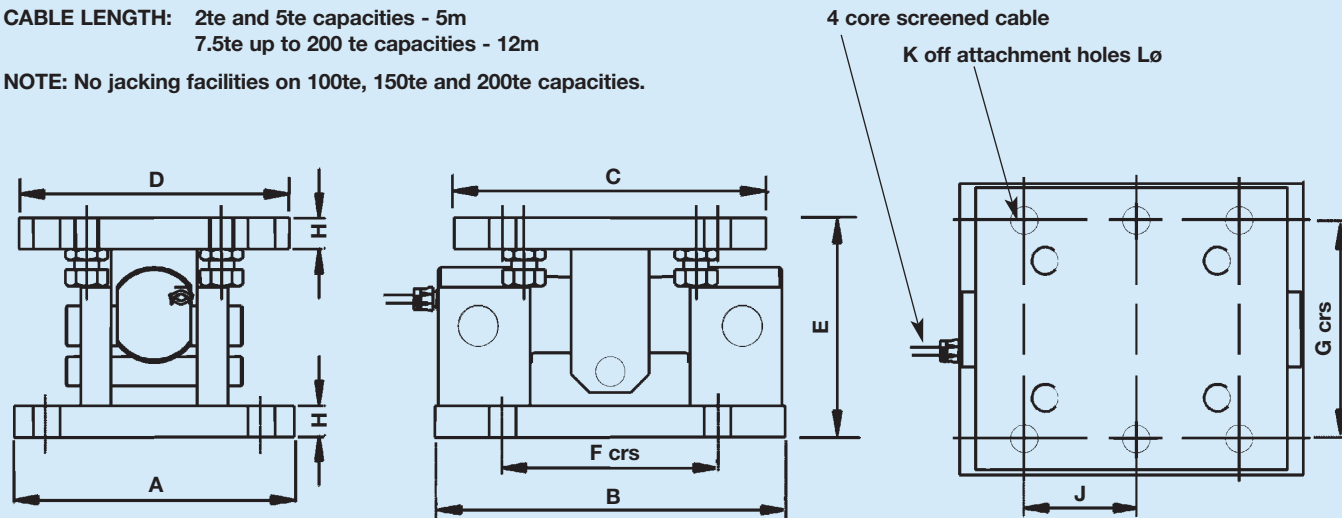
The standard mounting kit is fabricated from Alloy steel, with Auto-phoretic toughened surface. A Stainless steel mounting assembly is available as an option.

The bi-directional freedom of movement of the top plate allows for a high degree of mis-alignment in the structure, particularly important in large structures where dimensional accuracy, rigidity and angular conformity cannot be guaranteed, or where large changes in ambient temperature are anticipated. The complete assembly incorporates built in lift off protection, reducing the need for additional restraints. Integrated jacking bolts facilitate routine maintenance and calibration. This eliminates the need for expensive installation work, giving a very cost effective total solution.

INSTALLATION DETAILS

CABLE LENGTH: 2te and 5te capacities - 5m
7.5te up to 200 te capacities - 12m

NOTE: No jacking facilities on 100te, 150te and 200te capacities.



Range te	A	B	C	D	E	F	G	H	J	K	L
2, 5, 7.5, 10, 15, 20	177.0	235.0	235.0	177.0	135.0	155.0 crs	140.0 crs	18.0	N/A	8	18.0ø
30, 40, 50	228.0	285.0	254.0	220.0	175.0	175.0 crs	175.0 crs	25.0	N/A	8	22.0ø
75	228.0	330.0	330.0	228.0	215.0	200.0 crs	180.0 crs	25.0	100.0 crs	12	22.0ø
100	340.0	440.0	440.0	340.0	275.0	300.0 crs	235.0 crs	30.0	150.0 crs	12	26.0ø
150, 200	350.0	440.0	440.0	350.0	325.0	310.0 crs	285.0 crs	30.0	155.0 crs	12	32.0ø

