

Double Ended Beam Load Cell



FEATURES

- Capacities: 5K to 250K lb)
- Low profile construction
- 5103 nickel plated alloy steel construction
- 9103 stainless steel construction
- Certified to OIML R60 3000d, NTEP CoC - 10000d
- FM approved for use in hazardous locations
- Sealing: IP67 (DIN 40.050)

DESCRIPTION

The 5103/9103 are double ended, centre loaded shear beam type load cells. The 5103 is nickel plated alloy steel while the 9103 is stainless steel.

These products are suitable for tank weighing systems, low cost weighbridges and axle weighers.

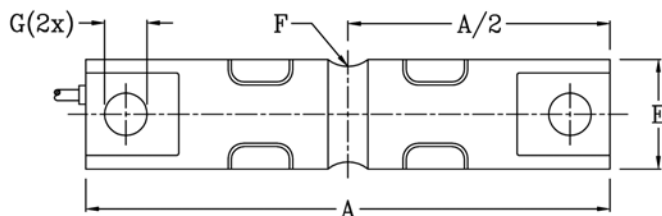
A reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gauge area.

A specially designed mounting arrangement is available, providing the ideal solution for vessel / tank weighing.

APPLICATIONS

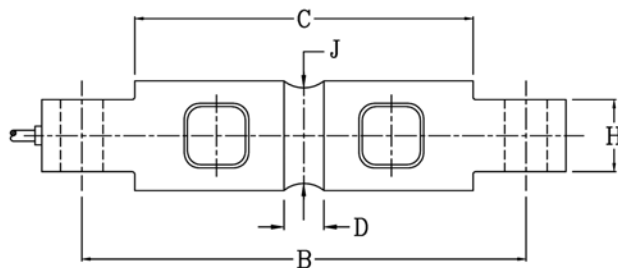
- Platform scales
- On-board weighing
- Weighbridges
- Silo hopper weighing

OUTLINE DIMENSIONS



Capacity(lbs)	5K, 10K	20K	30-60K	100K	150K	200K,250K
A	206.2	206.2	260.4	285.8	285.8	408.9
B	174.6	174.6	215.9	241.3	241.3	330.2
C	133.1	133.1	165.1	190.5	190.5	254.0
D	15.7	21.3	25.4	31.8	31.8	33.0
E	43.2	49.5	76.2	88.9	99.1	136.5
F	12.7	12.7	25.4	38.1	38.1	50.8
G	16.7	16.7	26.9	26.9	26.9	39.6
H	28.4	28.4	60.2	63.5	71.1	116.8
J	37.6	37.6	69.3	82.3	92.5	131.4

Note: Dimensions in millimeters



Cable specifications:

Cable length: 10m (6m for 5-20K)

Excitation + Red
 Excitation - Black
 Output + Green
 Output - White
 Shield Transparent

SPECIFICATIONS

Standard Capacities (= E _{max})	Klbs	5 ² , 10 ² , 20, 30, 40, 50, 60, 100, 150 ² , 200 ^{2,3} , 250 ^{2,3}			
Metric Equivalents	t	2.3 ² , 4.5 ² , 9.1, 13.6, 18.2, 22.7, 27.2, 45.4, 68 ² , 91 ² , 113 ²			
Model		9103/5103	9103	5103	
Accuracy Class According to OIML R-60 / NTEP		NTEP Class IIII	D1	D3 Industrial	C3
Max. Number of Verification Intervals (n _{IC})		10000			3000
Minimum Verification Interval (v _{min})					E _{max} /10000
Accuracy Class According to Type Designation		NTEP	D1	D3 Industrial	C3
Combined Error	%FS	0.02	0.1000	0.0300	0.0200
Non-Repeatability	%FS	0.01	0.0200	0.0100	0.0100
Minimum Dead Load Output Return ¹	%FS		0.0500	0.0300	0.0167
Temp. Effect on Min. Dead Load Output	%FS/5°C	0.001 %FS/°F	0.0450	0.0015	0.0070
Temperature Effect on Sensitivity	%FS/5°C	0.008 %load/°F	0.0180	0.0080	0.0050
Maximum Safe Over Load	%E _{max}	150			
Ultimate Over Load	%E _{max}	300			
Deflection at E _{max}	mm	0.5/ 0.6/ 1.1/ 0.5/ 0.5/ 0.5/ 0.6/ 0.5/ 0.5/ 0.9/ 0.9			
Excitation Voltage	V	5 ... 12			
Maximum Excitation Voltage	V	15			
Rated Output (= S _{nom})	mV/V	3			
Tolerance on Rated Output	mV/V	0.003	0.03	0.003	
Zero Balance	%FS	1.0	± 2.0	± 1.0	
Input Resistance	Ω	700 ± 7	880 ± 80	700 ± 7	
Output Resistance	Ω	700 ± 7			
Insulation Resistance	MΩ	≥ 5000			
Compensated Temperature Range	°C	- 10 ... + 40			
Operating Temperature Range	°C	- 40 ... + 80			
Element Material			Stainless steel	NP alloy steel	
Sealing (DIN 40.050 / EN 60.529)		IP67			
Recommended Torque on Fixation Bolts	Nm	12 ... 14			
ATEX options for potentially explosive atmospheres	Nm	II2G EEx ib IIC T4/T6, II2D T70 °C			

¹ Applies for the temperature range - 10 to + 40 °C

² Accuracy Class D3 only

³ 5103 only

Correct mounting of the load cells is essential to ensure optimum performance.

The available 5103/9103 mount incorporates a unique sliding pin design which allows thermal expansion, contraction and controlled scale deck movement, whilst eliminating the need for check rods in most applications. Further information is available on request

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1. Groups C-G

Non-Incendive: Class I; Div 2. Groups A-D

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay Precision Group"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, Vishay Precision Group disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of Vishay Precision Group.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay Precision Group products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay Precision Group for any damages arising or resulting from such use or sale. Please contact authorized Vishay Precision Group personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.