

# 5103/9103 DOUBLE ENDED BEAM LOAD CELL



## 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.

## FEATURES:

- Nickel plated (5103) and stainless steel (9103) versions
- Sealing: IP67 (DIN 40.050)
- Low profile construction
- Optional mounting hardware
- **CAPACITIES: 5 → 250 Klbs**

# 5103/9103: SPECIFICATIONS

Standard Capacities (=E <sub>max</sub> )	Klbs	5 <sup>2</sup> , 10 <sup>2</sup> , 20, 30, 40, 50, 60, 100, 150 <sup>2</sup> , 200 <sup>2,3</sup> , 250 <sup>2,3</sup>			
Metric equivalents	t	2.3 <sup>2</sup> , 4.5 <sup>2</sup> , 9.1, 13.6, 18.2, 22.7, 27.2, 45.4, 68 <sup>2</sup> , 91 <sup>2</sup> , 113 <sup>2</sup>			
Model		9103	5103		
Accuracy Class According to OIML R-60				C2	C3
Max. Number of Verification Intervals (n <sub>ic</sub> )				2000	3000
Minimum Verification Interval (v <sub>min</sub> )				E <sub>max</sub> /10000	E <sub>max</sub> /10000
Accuracy According to Type Designation		D1	D3	C2	C3
Combined Error	%S	≤± 0.1000	≤± 0.0300	≤± 0.0230	≤± 0.0200
Non-Repeatability	%S	≤± 0.0200	≤± 0.0100	≤± 0.0100	≤± 0.0100
Minimum Dead Load Output Return <sup>1</sup>	%S	≤± 0.0500	≤± 0.0300	≤± 0.0250	≤± 0.0167
Creep Error (30 Minutes) <sup>1</sup>	%S	≤± 0.0600	≤± 0.0300	≤± 0.0245	≤± 0.0245
Creep Error (20-30 Minutes) <sup>1</sup>	%S	≤± 0.0200	≤± 0.0045	≤± 0.0053	≤± 0.0053
Temp. Effect on Min. Dead Load Output	%S/5°C	≤± 0.0450	≤± 0.0140	≤± 0.0070	≤± 0.0070
Temp. Effect on Sensitivity	%S/5°C	≤± 0.0180	≤± 0.0070	≤± 0.0060	≤± 0.0050
Minimum Dead Load	%E <sub>max</sub>	0			
Maximum Safe Over Load	%E <sub>max</sub>	150			
Ultimate Over Load	%E <sub>max</sub>	300			
Maximum Safe Side Load	%E <sub>max</sub>	100			
Deflection at E <sub>max</sub>	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)	mV/V	3			
Tolerance on Rated Output	mV/V	0.03	0.003		
Zero Balance	%S	≤± 2.0	≤± 1.0		
Input Resistance	Ω	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			
Storage Temperature Range	°C	-40...+90			
Element Material		Stainless steel	NP alloy steel		
Sealing (DIN 40.050 / EN 60.529)		IP67			
Recommended Torque on Fixation Bolts	Nm	12...14			

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.

#### Cable specifications:

Cable length 10m (6m for 5K, 10K and 20K)

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

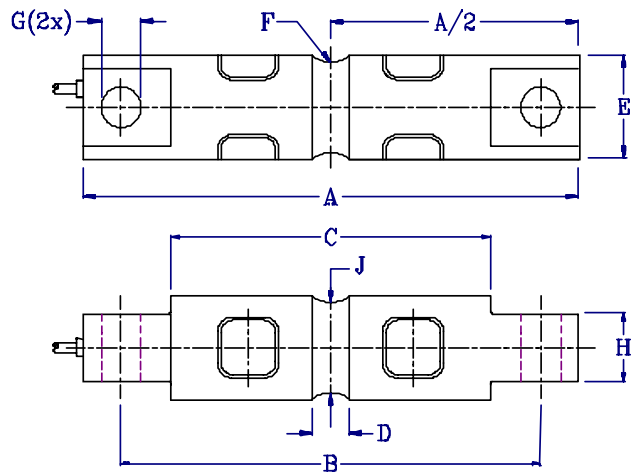
Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

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E <sub>max</sub>	5K,10K	20K	30K-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 <sub>rad</sub>	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

Dimensions: mm. All dimension tolerances according to ISO2768m, unless otherwise specified.

All specifications subject to change without notice

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