

Type SB14 Load Cell



Beam Type Load Cells

Flintec load cells are designed to meet the most stringent accuracy requirements. Certifications have been obtained from Weights & Measures Authorities, worldwide.

SB14 load cells are available in the capacities 500 lb to 10000 lb (227 kg to 4536 kg) and include Accuracy Classifications GP, C3 and C3 MI 6 according to OIML R 60; NTEP $n_{max}=5000$.

They offer total stainless steel construction and complete hermetic sealing, making them suitable for use in the toughest industrial environments.

The unique “blind” loading hole combined with the available Flintec loading hardware provides an excellent price-performance ratio.

It allows very low profile platform design and offers advantages in all kinds of weighing applications.

A version with metric or unified threaded loading hole is available as well.

The Flintec calibration technique (in $mV/V/\Omega$) eliminates time consuming corner calibration in multiple load cell systems.

The SB14 is available for use in hazardous areas zone 0, 1, 2 (gas) and 20, 21, 22 (dust) according to EEx ia IIC T6...T4 T130°C ATEX.

Important Features

- Capacities: 500 lb to 10000 lb.
- High accuracy.
- Total stainless steel construction.
- Complete hermetic sealing.
- Protection IP 68.
- Low profile.
- High input resistance: 1100 Ω .
- W&M certified for 3000 intervals (PTB: D09-97.15 Rev. 2).
- Unique “blind” loading hole.
- Calibration in $mV/V/\Omega$.
- Easy cable replacement.
- Complete range of loading hardware available.
- Factory Mutual approved.

Option

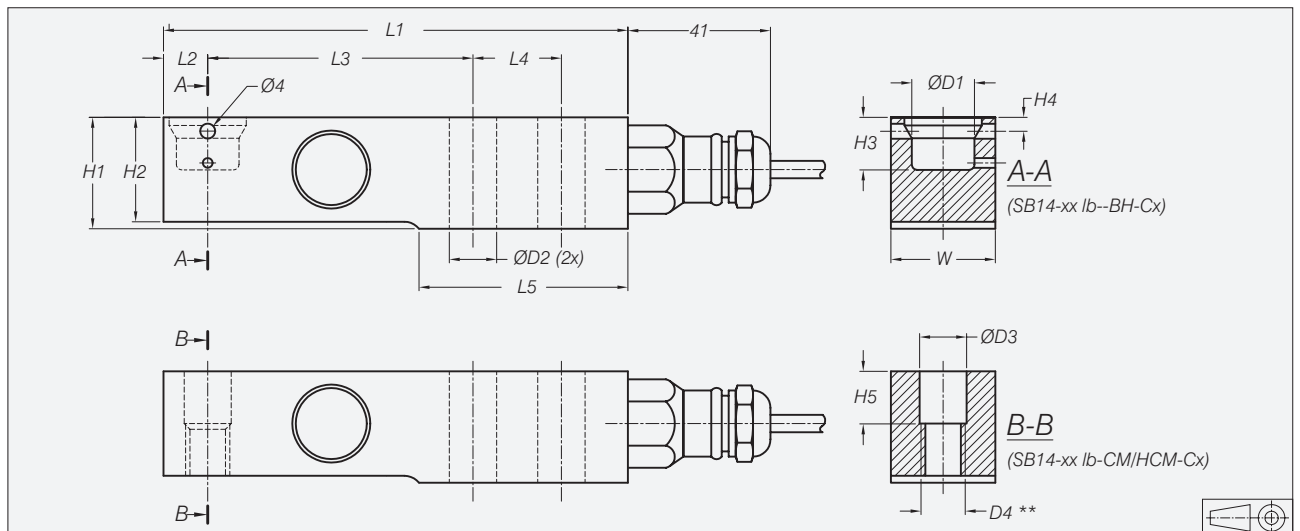
- Explosion protection zone 0, 1, 2 and 20, 21, 22 ATEX.
- C3 and C3 MI 6 with $Y=23000$.

SB14 Specifications

Maximum capacity (E_{max})	lb	500 / 1000 / 2500 / 5000 / 10000	500 / 1000 / 2500
Metric equivalents (1 lb=0.45359 kg)	kg	227 / 454 / 1134 / 2268 / 4536	227 / 454 / 1134
Rated Output (C_n)	mV/V	2 ± 0.1%	
Calibration in mV/V/Ω (A...I classified)	%Cn	≤ ± 0.05 (≤ ± 0.005)	
Accuracy class according to OIML R 60		(GP)	C3 C3 MI 6
Maximum number of verification intervals (n_{max})		n.a.	3000 3000
Minimum load cell verification interval (v_{min})		n.a.	$E_{max} / 11\ 500$
Temperature effect on minimum dead load output	%Cn/°C	≤ ± 0.0040	≤ ± 0.0011 ≤ ± 0.0011
Option (500/1000/2500 lb)	Min.load cell verification interval (v_{min})	n.a.	$E_{max} / 23000$
	Temp. effect on min. dead load output	%Cn/°C	n.a. ≤ ± 0.0006 ≤ ± 0.0006
Combined error	%Cn	≤ ± 0.040	≤ ± 0.020 ≤ ± 0.020
Creep error (30 minutes) / DR	%Cn	≤ ± 0.060	≤ ± 0.016 ≤ ± 0.008
Temperature effect on sensitivity	%/°C	≤ ± 0.0020	≤ ± 0.0011 ≤ ± 0.0011
Excitation voltage	V	5...15	
Zero balance	%Cn	≤ ± 5	
Input resistance	Ω	1100 ± 50	
Output resistance	Ω	1000 ± 2	
Insulation resistance (100 V DC)	MΩ	≥ 5000	
Compensated temperature range	°C	-10...+40	
Operating temperature range	°C	-40...+80	
Safe load limit (E_{lim})	% E_{max}	200	
Ultimate load	% E_{max}	300	
Safe side load	% E_{max}	100	
Load cell material		stainless steel 17-4 PH (1.4548)	
Sealing		complete hermetic sealing; cable entry sealed by glass to metal header	
Protection according DIN 40.050		IP 68	

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Dimensions



Type	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5	W	D1	D2	D3	D4	Mounting bolts	Torque *
SB14-500 lb/1000 lb	133.4	12.7	76.2	25.4	59.9	31	28.8	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
SB14-2500 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
SB14-5000 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 10.9	120 Nm
SB14-10000 lb	177.8	19.1	95.3	38.1	92.7	43.6	38.1	20.5	8	20.1	43	25	21	30.2	M20	M20 8.8	400 Nm

All dimensions in mm. Dimensions and specifications are subject to change without notice.

* Torque values assume oiled threads.

** Unified thread 1/2-20 UNF (500...5000 lb) and 3/4-16 UNF (10000 lb) is available. Type designation SB14-xx-CU.

Wiring

- The load cell is provided with a shielded, 4 conductor cable (AWG 24). Cable jacket polyurethane.
- Cable length: 3 m for SB14-500 lb to 5000 lb, 4.5 m for SB14-10000 lb.
- Cable diameter: 5 mm.
- The shield is floating (On request the shield can be connected to the load cell body).

