

## Type SB5 Load Cell



### Product Description

The type SB5 is a stainless steel beam type load cell with an improved potting. It is suitable for use in industrial environments.

### Application

- Platform scales, hopper and tank scales

### Key Features

- Wide range of capacities from 5 kN to 100 kN (510 kg to 10 197 kg)
- Stainless steel construction
- Environmental Protection IP67
- Low profile design
- Unique blind loading hole
- High input resistance
- Calibration in mV/V/Ω

### Approvals

- OIML approval to C1 (Y = 5 100) and C3 (Y = 11 000), for 5...50 kN only
- NTEP approval to 5 000 intervals, Class III (for 5 kN to 50 kN)
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

### Packed Weight

■ Capacity (kN)	5–20	50	100
Weight (kg)	1.4	2.9	7.0

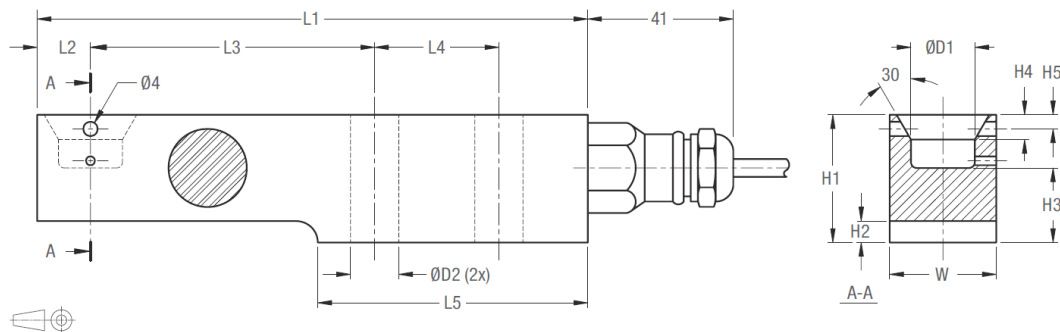
### Available Accessories

- Compatible range of application hardware
- Compatible range of electronics

Specifications					
Maximum capacity	(E <sub>max</sub> )	kN	5 / 10 / 20 / 50 / 100		5 / 10 / 20 / 50
Metric equivalents (1 N=0.10197 kg)		kg	510 / 1020 / 2039 / 5099 / 10197		510 / 1020 / 2039 / 5099
Accuracy class according to OIML R60			(GP)		C1 C3
Maximum number of verification intervals	(n <sub>max</sub> )		n.a.		1 000 3 000
Minimum load cell verification interval	(V <sub>min</sub> )		n.a.		E <sub>max</sub> /5 100 E <sub>max</sub> /11 000
Temperature effect on minimum dead load output	(TC <sub>0</sub> )	%*RO/10°C	≤ ± 0.0400		≤ ± 0.0275 ≤ ± 0.0127
Temperature effect on sensitivity	(TC <sub>RO</sub> )	%*RO/10°C	≤ ± 0.0200		≤ ± 0.0160 ≤ ± 0.0100
Combined error		%*RO	≤ ± 0.0500		≤ ± 0.0300 ≤ ± 0.0200
Non-linearity		%*RO	≤ ± 0.0400		≤ ± 0.0300 ≤ ± 0.0166
Hysteresis		%*RO	≤ ± 0.0400		≤ ± 0.0300 ≤ ± 0.0166
Creep error (30 minutes) / DR		%*RO	≤ ± 0.0600		≤ ± 0.0490 ≤ ± 0.0166
Rated Output	(RO)	mV/V	2 ± 0.1%		
Calibration in mV/V/Ω (A...I classified)		%	≤ ± 0.05 (≤ ± 0.005)		
Zero balance		%*RO	≤ ± 5		
Excitation voltage		V	5...15		
Input resistance	(R <sub>LC</sub> )	Ω	1 100 ± 50		
Output resistance	(R <sub>out</sub> )	Ω	1 000 ± 2		
Insulation resistance (100 V DC)		MΩ	≥ 5 000		
Safe load limit	(E <sub>lim</sub> )	%*E <sub>max</sub>	200		
Ultimate load		%*E <sub>max</sub>	300		
Safe side load		%*E <sub>max</sub>	100		
Compensated temperature range		°C	-10...+40		
Operating temperature range		°C	-20...+65 (ATEX -20...+60)		
Load cell material			stainless steel 17-4 PH (1.4548)		
Sealing			potted		
Protection according EN 60 529			IP67		

The limits for Non-Linearity, Hysteresis, and TC<sub>RO</sub> are typical values.  
The sum of Non-Linearity, Hysteresis and TC<sub>RO</sub> meets the requirements according to OIML R60 with p<sub>LC</sub>=0.7.

#### Dimensions (in mm)



Type	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5	W	D1	D2	Mounting bolts	Torque *
SB5-5 kN/10 kN/20 kN	155	15	80	35	76	36	6	21	7	4	30	18	13	M12 8.8	90 Nm
SB5-50 kN	190	21	105	40	93	49	8	28.5	6	8	43	25	21	M20 8.8	400 Nm
SB5-100 kN	245	30	135	50	120	73	12.5	42	10	n.a.	60	30	27	M24 8.8	700 Nm

\* Torque values assume oiled threads.

#### Wiring

- The load cell is provided with a shielded, 4 conductor cable (AWG 24).  
Cable jacket polyurethane
- Cable length: 3 m for SB5-5 kN/10 kN/20 kN  
4.5 m for SB5-50 kN/100 kN
- Cable diameter: 5 mm
- The shield is floating  
(On request the shield can be connected to the load cell body)

