

Ring-Torsion Load Cells RTB



- PTB & OIML approved as suitable for trade use (up to 6000 d and 7500 d in case of multi-divisional scales)
- High accuracy, even for very small utilisation ranges (down to 15 % in case of trade use according to OIML)
- Low power consumption thanks to high impedance resistance of 1100 Ω
- Protection to EEx ib IIC T 6 for use in explosion hazardous areas
- Protection class IP68

Application

Acting as a transducer, the load cell converts the mechanical input signal, the load, proportionally into the electrical output voltage.

The special design of the ring-torsion load cells offers particular benefits for the user:

- The extremely low headroom simplifies the use in almost all weighing applications
- The sturdy design enables easy transport, installation, and operation, even under harsh environmental conditions (interfering forces, or extreme temperatures)

Construction

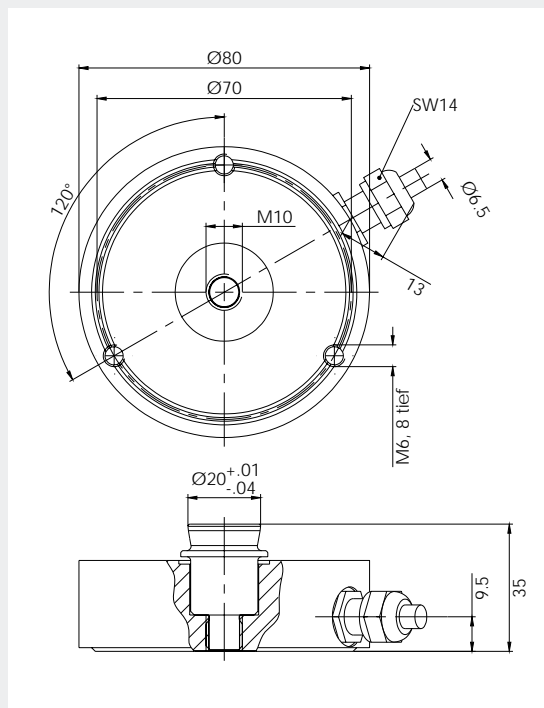
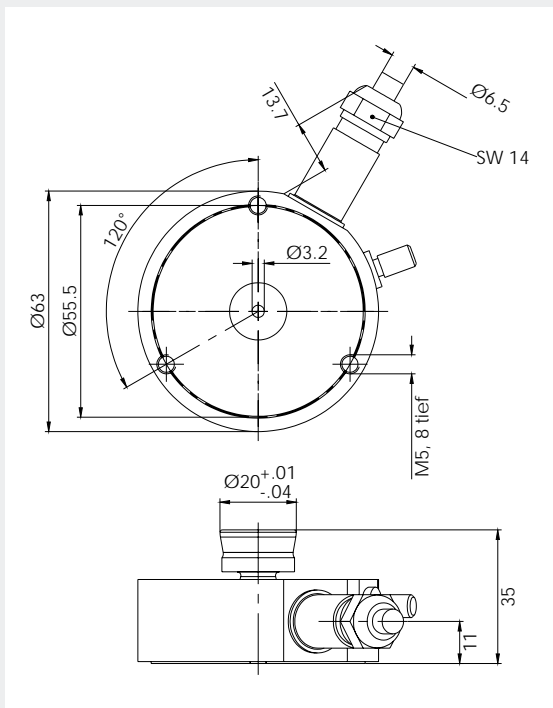
- Hermetically sealed due to laser welding and glass-metal transition (IP68)
- Corrosion protection due to the use of stainless steel
- All electrical components are inside the load cell and are thus optimally protected
- The high-quality, sturdy connection cable is lead radially into the load cell
- Mechanically compatible with the RTK series

Functions

- High repeatability
- High long-term stability and thus continuing and consistently high accuracy
- Minimal effect on accuracy by side forces
- High reliability and availability, even in case of unavoidable shock loads, constraining forces or electrical interferences
- Moment-free load input/output due to direct, vertical force flow

RTB 0,13 t

RTB 0,25 t / 0,5 t



Order No.			
Variants	Accuracy class		
	C3	C3MI7,5	C6
0.13 t	V041085.B01	---	---
0.25 t	V041086.B01	---	---
0.50 t	V041087.B01	V041087.B03	V041087.B06
0.25 t MR	V041086.B07	---	---
0.50 t MR	V041087.B07	---	please enquire
Order No. Version ATEX II 2G; EEx ib IIC T6 / II 2D T70 °C			
0.13 t	V041085.B11	---	---
0.25 t	V041086.B11	---	---
0.50 t	V041087.B11	---	please enquire

Other Variants please enquire

Accessories:

Elastomer mount, Compact mount

Technical Data

Rated capacity	E_{max}	0,13 t	0,25 t	0,5 t			
Accurate class		C3	C3	C3	C3M17.5	C6	Bezug
Sensitivity	C_n	1 mV/V \pm 0.1 mV/V	1.75 mV/V \pm 0.1 mV/V	2 mV/V \pm 0.1 mV/V			
Combined error	F_{comb}	\pm 0.018 %	\pm 0.023 %		\pm 0.0115 %	C_n	
Minimum dead load output return	F_{dr}	\pm 0.0167 %	\pm 0.0167 %	\pm 0.0066 %	\pm 0.0083 %	C_n	
Creep (30 m)	F_{cr}	\pm 0.012 %	\pm 0.0245 %		\pm 0.0123 %	C_n, B_{tn}	
Hysteresis		\pm 0.017 %	\pm 0.0167 %		\pm 0.0083 %	C_n, B_{tn}	
Temperature effect on zero sensitivity per 10K	TK_0	\pm 0.008 % ---	\pm 0.014 % \pm 0.007 %	\pm 0.014 % ---	\pm 0.009 % \pm 0.005 %	C_n, B_{tn} Option MR	
Temperature effect on sensitivity per 10K	TK_c	\pm 0.008 %	\pm 0.01 %		\pm 0.005 %	C_n, B_{tn}	
Maximum number of load cell intervals	n_{LC}	3000	3000		6000		
For multi-divisional scales:	Z			7500			
Minimum load cell verification interval	V_{min}	$E_{max}/17500$ ----	$E_{max}/10000$ $E_{max}/20000$	$E_{max}/10000$ ---	$E_{max}/15000$ $E_{max}/28000$	Standard Option MR	
Min. utilisation range	B_{amin}	17 % ---	30 % 15 %	30 % --	40 % 21 %	E_{max} Option MR	
Max. utilisation range	B_{amax}	100 %				E_{max}	
Load limit *	L_l	150 %				E_{max}	
Max. transverse load	L_q	100 %				E_{max}	
Input resistance	R_e	1260 Ω \pm 100 Ω	1100 Ω \pm 50 Ω	1110 Ω \pm 50 Ω			
Output resistance	R_a	1020 Ω \pm 0.5 Ω	1025 Ω \pm 50 Ω	1025 Ω \pm 25 Ω			
Zero signal	S_0	1 %	1.5 %	1 %		C_n	
Supply voltage	U_s	max. 30 V (recommended): 5 V ... 15 V					
Nominal temperature range	B_{tn}	-10 °C ... +40 °C					
Service temperature range	B_{tu}	-30 °C ... +85 °C	-30 °C ... +75 °C				
Storage temperature range		-50 °C ... +95 °C	-50 °C ... +80 °C				
Protection class		IP66 / IP68					
Cable specification		length of cable 5 m, Screen insulated from housing (0.13 t), or connected to housing (0.25 t – 0.50 t)					
Colour code		Input + 82: pink / input - 81: grey output + 28: brown / output - 27: white					
Material		Stainless steel					
Corrosion protection		see table of Chemical resistance DDP8 483					
Recommended torque for attachment bolts		8 Nm	12 – 14 Nm				
ATEX-approval		II 2G; EEx ib IIC T6 / II 2D T70 °C					

* Permitted vibration stress to DIN 50100: 70% E_{max} .
Peak value of stress must not exceed E_{max} .

