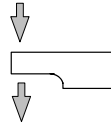




# Z7...

## Load cell



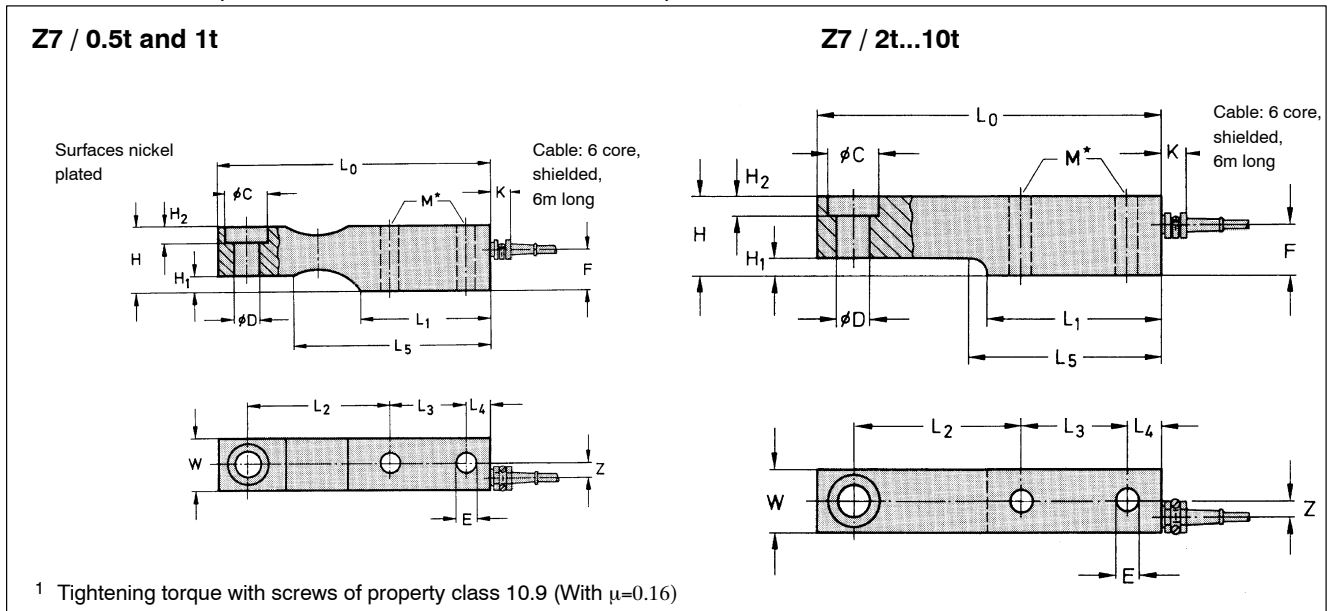
Max. capacities:  
500kg...10t



### Special features

- Complies with OIML R60 regulations up to 3 000d for scales class III
- Fulfills EMC requirements in accordance to EN 45 501
- Low transducer height
- Robust design
- 6-wire circuit
- Protection to IP67
- Available Option:  
Explosion proof version  
EEx ib IIC T4

### Dimensions (in mm; 1mm = 0.03937 inches)



<sup>1</sup> Tightening torque with screws of property class 10.9 (With  $\mu=0.16$ )

Max. capacity in t	C+0,2	DH <sub>1</sub> <sup>1</sup>	E	F	H	H <sub>1</sub>	H <sub>2</sub>	K <sub>max</sub>	L <sub>0</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	W	Z	M <sup>1</sup> in Nm
0,5 and 1	30.2	17.5	13.4	29	47.6	11.1	11.9	13	203.2	101	98.3	63.5	19.1	150	36.5	10.6	135
2	30.2	17.5	13.4	29	47.6	11.1	11.9	13	203.2	102	98.3	63.5	19.1	124	36.5	10.6	135
5	41.3	25.5	22.5	46	70	22.2	15.9	13	235	118	123.7	66.5	20.6	138	47.6	16	660
10	51	32	27	51	82.6	19.1	20.7	13	279.4	140	139.7	82.6	25.4	162	60.3	21	1150

# Technical data

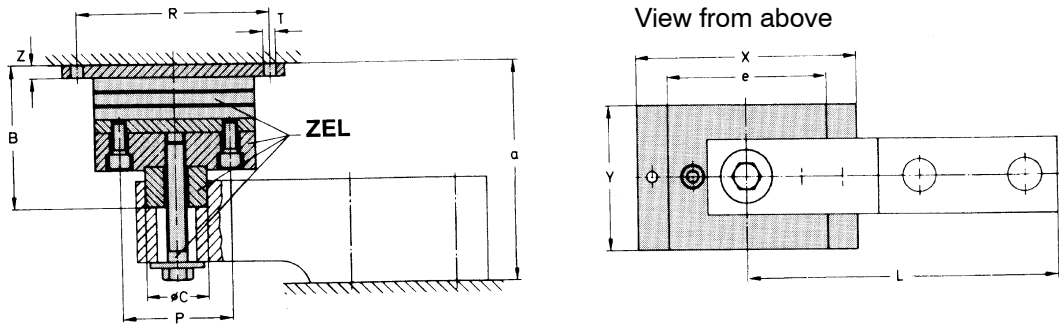
Type		Z7A				
Accuracy class according to OIML R 60 Max. numbers of load cell verif. intervals (n <sub>LC</sub> )		D1 1000	C2 2000		C3 3000	
Max. capacity (E <sub>max</sub> )	t	0.5; 1; 2; 5; 10		2; 5; 10		
Min. load cell verification interval (v <sub>min</sub> )	% of rated capacity	0.0357		0.0100		
Sensitivity (C <sub>N</sub> )	mV/V			2		
Tolerance on sensitivity	%	< ±0.1000		< ± 0.0500		
Temperature effect on sensitivity (TK <sub>C</sub> ) <sup>1)</sup>	%/10K	< ± 0.0350		< ± 0.0117		
Temperature effect on zero balance (TK <sub>0</sub> )	%/10K	< ± 0.0500		< ± 0.0140		
Hysteresis error (d <sub>HY</sub> ) <sup>1)</sup>	%	< ± 0.0500		< ± 0.0250	< ± 0.0170	
Non-linearity (d <sub>lin</sub> ) <sup>1)</sup>	%	< ± 0.1000		< ± 0.0500	< ± 0.0333	
Creep (d <sub>Dt</sub> ) in 30 min.	%	< ± 0.0735		< ± 0.0245	< ± 0.0167	
Input resistance (R <sub>LC</sub> )	Ω			350 ± 2		
Output resistance (R <sub>0</sub> )	Ω	356 ± 0.2		356 ± 0.12		
Reference excitation voltage (U <sub>ref</sub> )	V			5		
Nominal range of excitation voltage (B <sub>u</sub> )	V			0,5...12		
Insulation resistance (R <sub>is</sub> )	GΩ			>5		
Nominal temperature range (B <sub>T</sub> )	°C[°F]			-10...+40 [+15...+105]		
Service temperature range (B <sub>tu</sub> )	°C[°F]			-30...+70[-20...+160]		
Storage temperature range (B <sub>tl</sub> )	°C[°F]			-50...+85[-60...+185]		
Service load	% of rated capacity			130		
Save load limit (E <sub>L</sub> )	% of rated capacity			150		
Breaking load (E <sub>d</sub> )	% of rated capacity			300		
Max. capacity	t	0.5	1	2	5	10
Relative static lateral force limit <sup>2)</sup>	% of rated capacity	100	50	25 (100)	15 (100)	18 (100)
Permissible dynamic loading (F <sub>Srel</sub> ) (vibration amplitude according to DIN 50100)	% of rated capacity			70		
Rated deflection (s <sub>nom</sub> ), approx.	mm	0.25	0.30	0.35	0.45	0.70
Weight (G), approx.	kg	2,3		5	8	
Protection class (IP) accord. EN 60529 (IEC529)		IP 67				
Material Measuring body Cable gland Cable		Steel, galvanized Nickel plated brass, Sealing: Silicone Silicone				
Option		Explosion proof version (EEx ib IIC T4)				

<sup>1)</sup> The values stated for the non-linearity, the hysteresis and the temperature coefficient of sensitivity are standard values. The sum of these values is within the accumulated error limit according to OIML R60.

<sup>2)</sup> The values given in parentheses refer to installation with stops preventing the transducer base from moving.

## Mounting aids (Dimensions in mm, 1mm = 0.03937 inches)

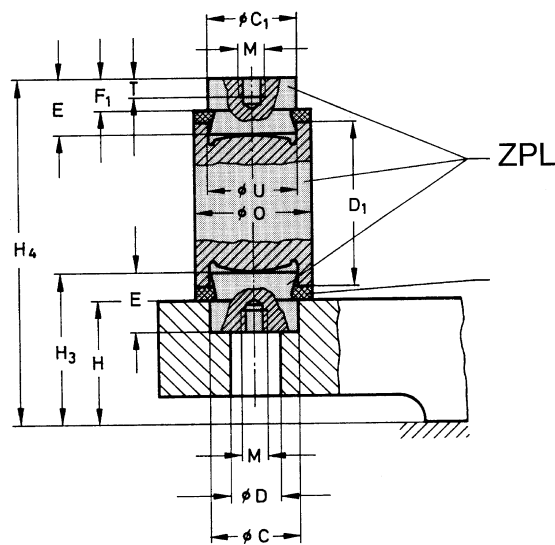
### Elastomer bearing ZEL



Max. capac.	Elastomer-bearing ZEL	B	$C_1^{-0,1}$	L	P	R	T	X	Y	Z	a	e	$F_R^*$ [N]	$s_{max}^{**}$ [mm]
0,5...2	Z17/2t/ZEL	76.3	30	180.9	70	100	9	120	60	10	$112^{+1.5}_{-1.7}$	80	400	4,5
5	Z17/5t/ZEL	93	41.1	210.8	70	125	11	150	100	10	$147^{+1.2}_{-2.0}$	100	620	8
10	Z17/10t/ZEL	114.1	50.9	247.7	90	175	13	200	100	12	$176^{+1.8}_{-2.0}$	130	810	9,5

\*  $F_R$  = restoring force for  $s=1\text{mm}$ ; \*\* $S_{max}$  = max. lateral displacement of load introduction with rated capacity

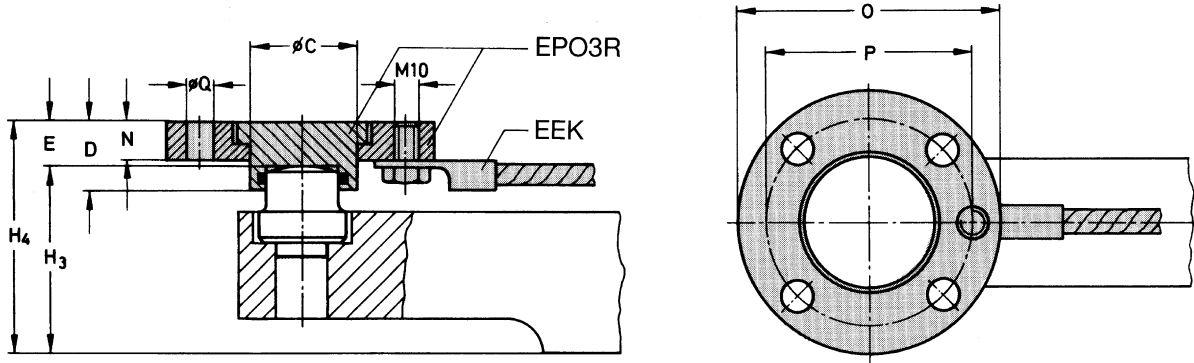
### Pendle bearing ZPL



Max. capac. in t	Pendel bearing ZPL	$C^{+0.2}$	$C_1^{-0,1}$	$DH_{11}$	$D_1$	E	$F_1$	$H_3$	$H_4$	M	O	T	U $D_{10}^{D10/h9}$	$F_R^*$ [% of load]	$s_{max}^{**}$ [mm]
0,5...2	Z17/2t/ZPL	30.2	30	17.5	60	22	14	58.5	$130 \pm 0.5$	M10	42	8	30	2	7.5
5	Z17/5t/ZPL	41.3	41.1	25.5	73	26	16	80	$169 \pm 0.5$	M10	48	8	30	1.5	6.9
10	Z17/10t/ZPL	51	50.8	32	82	32	21	94	$196 \pm 0.5$	M12	58	10	40	1.8	9.3

\*  $F_R$  = restoring force for  $s=1\text{mm}$ ; \*\* $S_{max}$  = max. lateral displacement of load introduction with rated capacity

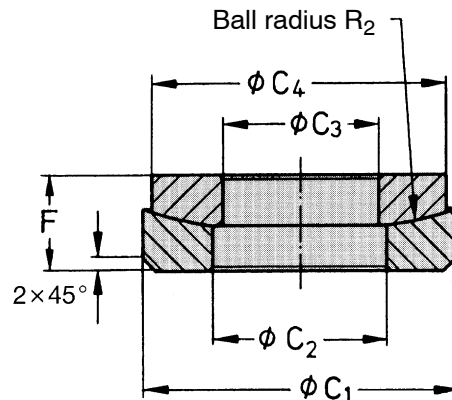
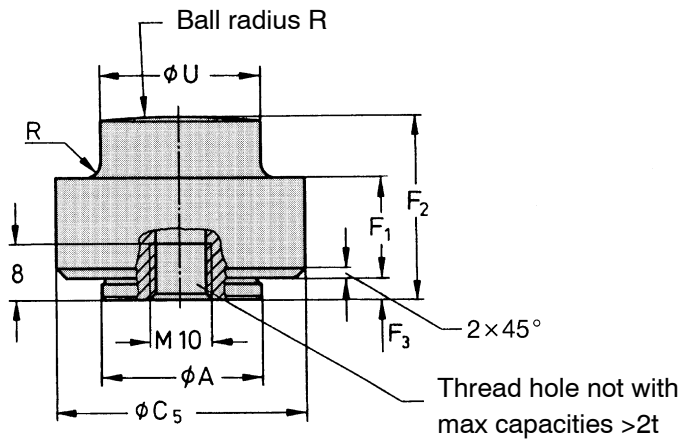
**Pendle bearing support (upper part) EPO3R**



Max. capac. in t	Pendle bearing support (upper part) EPO3R	C <sup>+0.1</sup>	D	E	H <sub>3</sub>	H <sub>4</sub>	N	O	P	Q
0.5...2	EPO3R/5t	37.8	21	16	58.7	74.7	12	89	70	9
5	EPO3R/5t	37.8	21	16	81.1	97.1	12	89	70	9
10	EPO3R/20t	47.8	28	20	95.9	115.9	14	114	90	13

**Load button ZL**

**Spherical cap ZK**



Max. capac. load in t	Load button ZL	Spherical cap ZK	A	C <sub>1</sub> <sup>-0.1</sup>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	F	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	R	R <sub>1</sub>	R <sub>2</sub>	U
0.5...2	Z17/2t/ZL	Z17/2t/ZK	17.5	30	15	13	28	29	10	12	27.5	4.5	3	60	38	25 <sup>-0.05</sup> <sub>-0.1</sub>
5	Z17/5t/ZL	Z17/5t/ZK	25.5	41.1	23	21	39	40	12.3	16	31.5	4.5	3	60	57	25 <sup>-0.05</sup> <sub>-0.1</sub>
10	Z17/10t/ZL	Z17/10t/ZK	32	50.8	28	25	47	50	15	21	39.5	5.5	3	160	70	32 <sup>-0.05</sup> <sub>-0.1</sub>

**Scope of supply:** Z7... Load cell, mounting instructions

**Accessories** (not included in scope of supply): Elastomer bearing ZEL, Pendle bearing ZPL, Pendle support (Upper part) EPO3R, Load button ZL and Spherical cap ZK.



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