



Z6...

Load cells

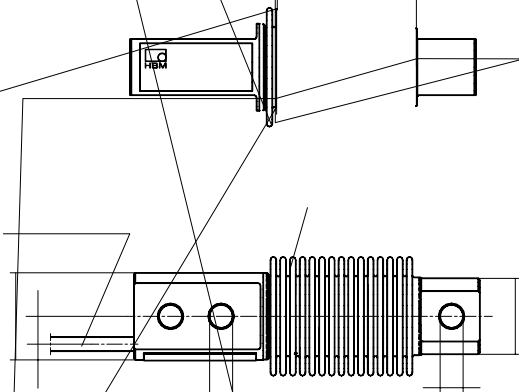
Special features

- Welded on metal bellow
- Max. capacities 5 kg...1 t
- Load cells and mounting aids entirely made from stainless material
- Complies with OIML R60 regulations up to 6000 d
- Six-wire circuit
- Optimized for parallel connection with corner-preadjustment
- Meets today EMC/ESD requirements according to EN 45501
- Explosion proof version acc. to ATEX 95 optional

Dimensions (in mm; 1 mm = 0.03937 inches)

Z6; Max. capacities 5 kg...500 kg

Z6; Max. capacity 1 t



	A	B
5...200 kg	8.2	8.2
500 kg	10.5	11.1

Specifications

Type		Z6FD1	Z6FC3	Z6FC3MI	Z6FC4	Z6FC6			
Accuracy class according to OIML R 60		D1	C3	C3/MI7.5	C4	C6			
Maximal numbers of load cell verif. intervals (n_{LC})		1000	3000	3000	4000	6000			
Max. capacity (E_{max})	kg	5; 10; 20; 50; 100; 200; 500	10; 20; 50; 100; 200; 500	50; 100; 200	20; 50; 100; 200; 500	50; 100; 200;			
	t	1	1	-	-	-			
Minimum load cell verification interval (v_{min})	% of E_{max}	0.0360	0.0090	0.0066					
Min. dead load output return (D_{DR})		-	-	0.5· E_{max} / 7500					
Sensitivity (C_n)	mV/V	2							
Tolerance on sensitivity	%	+1; -0.1	±0.05 ¹⁾						
Temperature effect on sensitivity (TK_C) ²⁾	% of C_n	±0.0500	±0.0080	±0.0080	±0.0070	±0.0040			
Temperature effect on zero balance (TK_0)	% of $C_n/10$ K	±0.0500	±0.0125	±0.0093	±0.0093	±0.0093			
Hysteresis error (d_{ny}) ²⁾		±0.0500	±0.0170	±0.0066	±0.0130	±0.0080			
Linearity deviation (d_{lin}) ²⁾	% of C_n	±0.0500	±0.0180	±0.0180	±0.0150	±0.0110			
Creep (d_{DR}) in 30 min.		±0.0490	±0.0166	±0.0098	±0.0125	±0.0083			
Input resistance (R_{LC}) (black-blue)	Ω	350...480							
Output resistance (R_0) (red-white)		356 ± 0.2	356 ± 0.12						
Reference excitation voltage (U_{ref})	V	5							
Nominal range of excitation voltage (B_U)		0.5...12							
Insulation resistance (R_{is})	G Ω	> 5							
Nominal temperature range (B_T)	°C [°F]	-10...+40 [15...+105]							
Service temperature range (B_{tu})		-30...+70 [-20...+160]							
Storage temperature range (B_{st})		-50...+85 [-60...+185]							
Safe load limit (E_L)	% of E_{max}	150							
Breaking load (E_d)		≥ 300							
Max. capacity	kg	5	10	20	50	100	200	500	1000
Permissible dynamic load (F_{srel})	% of E_{max}	100	100	100	100	100	100	70	100
Deflection at max. load, (s_{nom}) approx. (± 15 %)	mm	0.24	0.3	0.29	0.27	0.31	0.39	0.6	0.55
Weight (G), approx.	kg	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.3
Protection class (IP) acc. to EN60529 (IEC529)		IP 68 (more rigorous test conditions: 100 h at 1 m water column)							
Material	Measuring body Metal below Cable entrance Cable sheath	stainless steel stainless steel stainless steel / Viton® PVC							

1) With Z6FC3/10kg load cell: ≤ ±0.1 %.

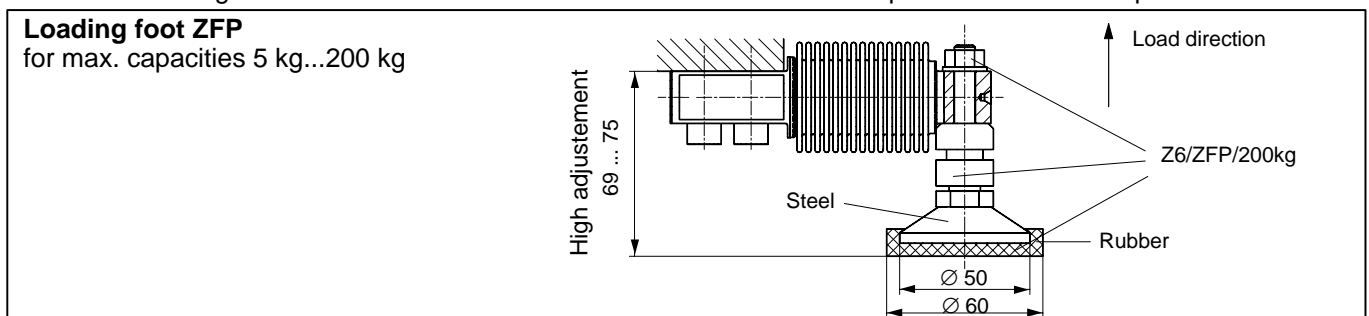
2) The data for deviation of linearity, hysteresis and temperature effect on sensitivity are typical values. The sum of these data meets the requirements according to OIML R60.

Options:

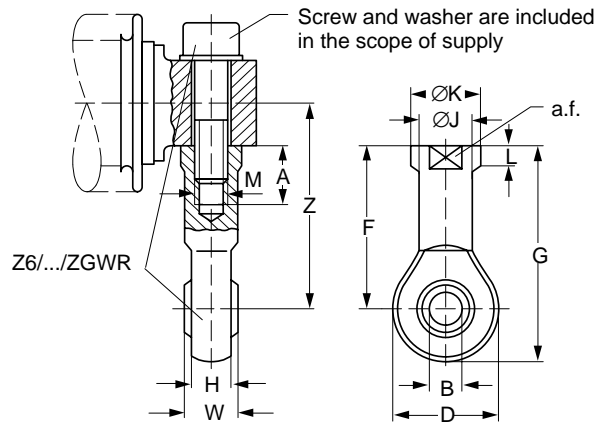
- Explosion-proof versions according to ATEX 95:**
- II 2 G EEx ia IIC T4 resp. T6 (Zone 1) *)
 - II 3 G EEx nA II T6 (Zone 2)
 - II 2 D IP68 T80°C (Zone 21) *)
 - II 3 D IP68 T80°C (Zone 22 for non-conductive dust)
- *) with EC-type examination certificate

Mounting aids, not included in scope of supply (Dimensions in mm; 1 mm = 0.03937 inches)

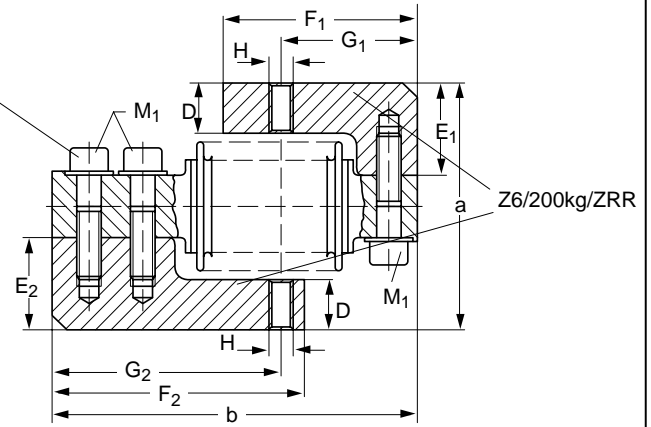
Note: All mounting aids are made from stainless material. The ZEL rubber parts are from chloroprene caoutchouc.



ZGWR Knuckle eye (maintenance-free)
for max. capacities of 5 kg...1 t



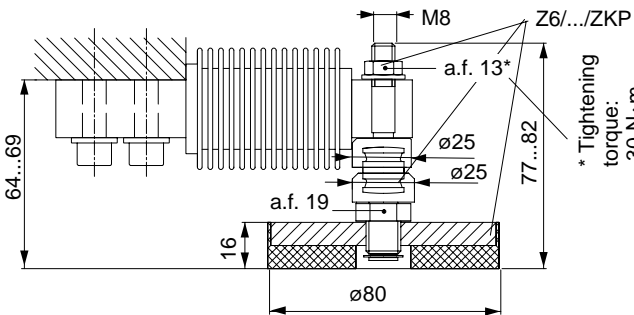
ZRR Fold-back arm for max. capacities of 5 kg...200 kg



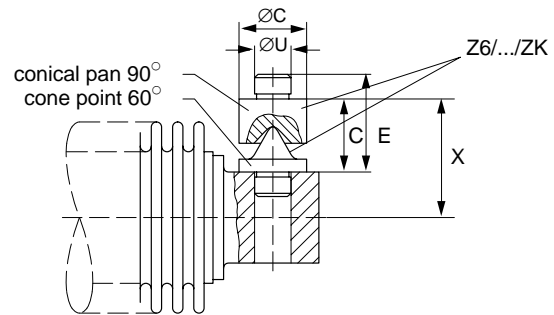
Max. capacity	ZGWR Knuckle eye	A	B	D	F	G	H	Ø J	Ø K	L	M	a.f.	W	Z
5 kg...200 kg	Z6/200kg/ZGWR	16	8 ^{H7}	24	36	48	9	12.5	16	5	M8	14	12	46
500 kg/1 t	Z6/1t/ZGWR	20	10 ^{H7}	28	43	57	10.5	15	19	6.5	M10	17	14	53/55.5

Max. capacity	ZRR Fold-back arm	D	E ₁	E ₂	F ₁	F ₂	G ₁	G ₂	H	M ₁	a	b	Width
5 kg...200 kg	Z6/200kg/ZRR	16	30	30	65	85	46	77	M8	M8x30	80 ± 1.1	123	15

Loading foot ZKP for max. capacities 5 kg...200 kg

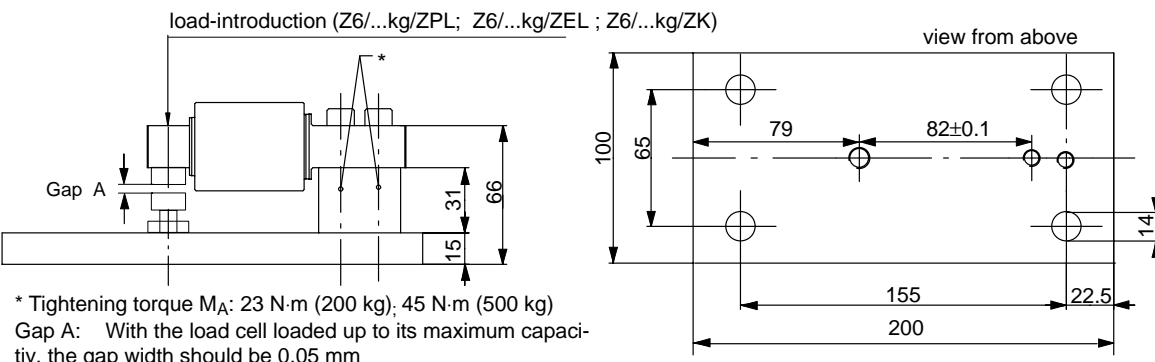


Cone and conical pan ZK for max. capacities 5 kg...1 t

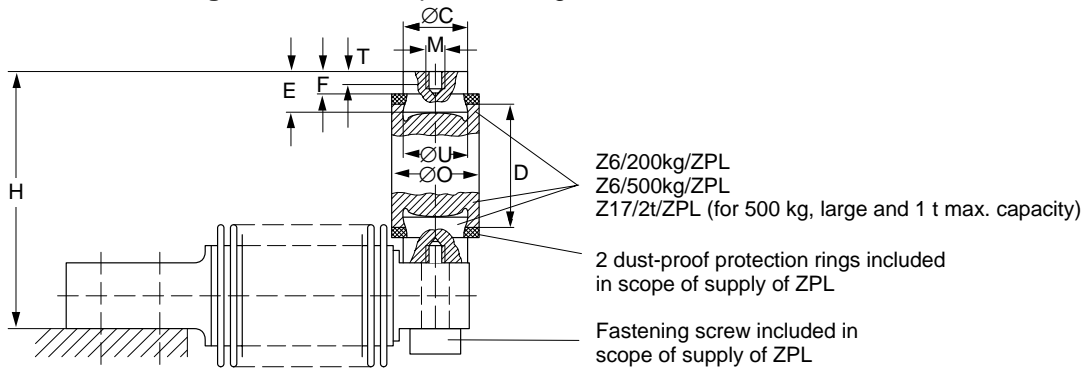


Max. capacity	Cone and conical pan ZK	Ø C	D	E	Ø U	X
5...200 kg	Z6/200kg/ZK	15	16	21	8.1 _{-0.05}	26
500 kg	Z6/1t/ZK	18	24	32	11 _{-0.05}	34
1 t	Z6/1t/ZK	18	24	32	11 _{-0.05}	36.5

Base plate/ Mounting kit for max. capacities 5 kg (Z6/ZPU/200kg) ... 500 kg (Z6/ZPU/500kg)



Pendulum bearing ZPL for max. capacities 5 kg...1 t

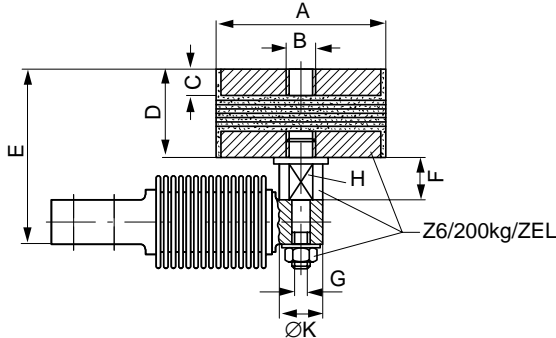


Max. capacity	Pendulum bearing ZPL	Ø C	D	H	M	Ø O	T	E	F	Ø U	F _R * (% of applied load)	S _{max} ** (mm)
5...200 kg	Z6/200kg/ZPL	20 _{-0.2}	45	89 ^{+0.6} _{-0.8}	M8	30	6.5	17	9	20 ^{D10}	2.8	3.5
500 kg	Z6/1t/ZPL	20 _{-0.2}	45	89 ^{+0.6} _{-0.8}	M8	30	6.5	17	9	20 ^{D10}	2.8	3.5
1 t	Z6/1t/ZPL	30 _{-0.1}	60	126.5	M10	46	8	22	14	20 ^{D10}	2	7.5

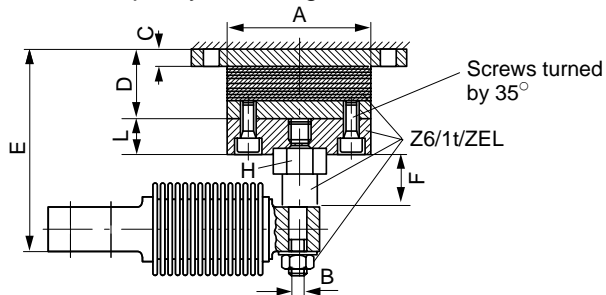
* F_R: restoring force in N for s = 1 mm

** S_{max}: max. lateral displacement of load introduction loaded with max. capacity

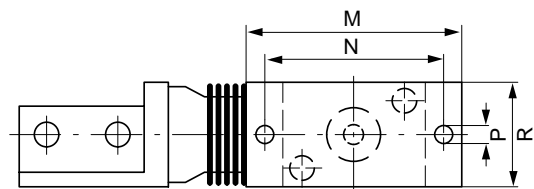
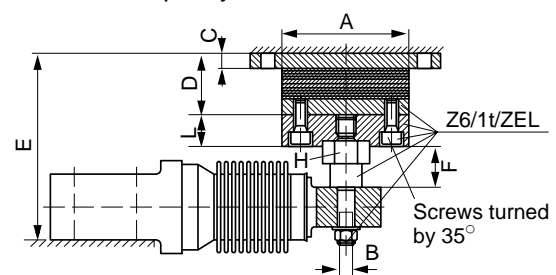
ZEL Rubber-metal bearing for max. capacities of 5 kg...200 kg



for max. capacity of 500 kg



ZEL Rubber-metal bearing for max. capacity 1 t



Correct mounting position of the rubber metal bearing

Max. capacity	ZEL Rubber-metal bearing	A	B	C	D	E	F	G	H	K	L	M	N	P	R	F _R * (N)	S _{max} ** (mm)
5 kg...200 kg	Z6/200kg/ZEL	75	M12	12	40	79 ± 1.3	18.5	M8	a.f. 17	19	-	-	-	-	-	163	3
500 kg	Z6/1t/ZEL	80	M10	10	39	105 ^{+2.1} _{-2.2}	26	-	a.f. 27	-	20	120	100	9	60	400	4.5
1 t	Z6/1t/ZEL	80	M10	10	39	117 ^{+2.1} _{-2.2}	26	-	a.f. 27	-	20	120	100	9	60	400	4.5

* F_R = restoring force in N for 1 mm lateral displacement

** S_{max}: = in mm, max. lateral displacement of load introduction loaded with max. capacity

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