

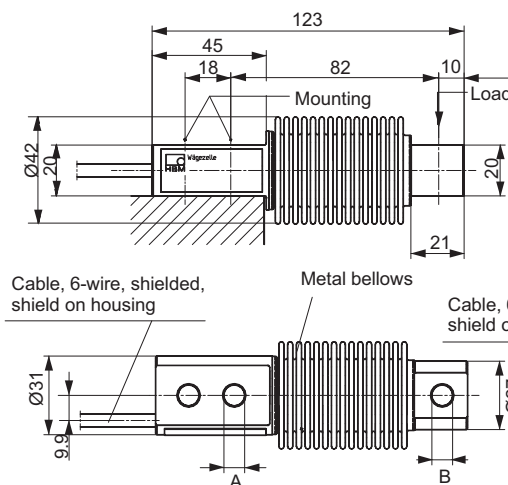
### Special features

- Welded-on metal bellows
- Maximum capacities: 5 kg ... 1 t
- Load cells and mounting aids made of rust-resistant materials
- Legal for trade up to 6000 parts, test report to OIML R60
- Approval as per NTEP III M5000
- Six-wire configuration
- Optimized for parallel connection
- Meets EMC requirements in accordance with DIN EN 45501:2015
- Options:  
Explosion protection versions as per ATEX and IECEx, FM (US/CA) and EAC Ex

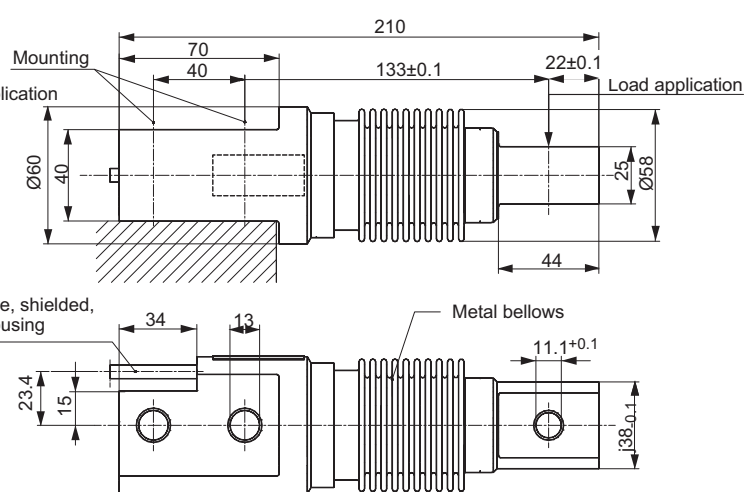


Dimensions (in mm; 1 mm = 0.03937 inches)

### Z6F; Maximum capacities 5 kg...500 kg



### Z6; Maximum capacity 500 kg (G), 1 t (F)



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

Cable  $\varnothing 5.4$ ; 3 m long (standard version)

## Specifications

Type			Z6(F/G)D1	Z6(F/G)C3	Z6FC4	Z6FC6
<b>Accuracy class to OIML R 60</b>			<b>D1</b>	<b>C3</b>	<b>C4</b>	<b>C6</b>
<b>Number of load cell verification intervals</b>	$n_{LC}$		<b>1000</b>	<b>3000</b>	<b>4000</b>	<b>6000</b>
<b>Maximum capacity</b>	$E_{max}$	kg	5; 10; 20; 30; 50; 100; 200; 500	10; 20; 30; 50; 100; 200; 500	20; 30; 50; 100; 200; 500	20; 30; 50; 100; 200
		t	1	1	-	-
<b>Minimum load cell verification interval</b>	$v_{min}$	% of $E_{max}$	0.036	0.009 0.0083 (30 kg)	0.0066	0.0066
<b>Y value</b>	Y		2778	11111 12000 (30 kg)	15000	15000
<b>Accuracy class to NTEP IIIM<sup>1)</sup></b>						
<b>Number of load cell verification intervals</b>	$n_{LC}$			5000		
<b>Maximum capacity</b>	$E_{max}$	kg		20; 30; 50; 100; 200		
<b>Minimum load cell verification interval</b>	$v_{min}$	% of $E_{max}$		$E_{max}/11111$ $E_{max}/12000$ (30 kg)		
<b>General specifications</b>						
<b>Nominal (rated) output</b>	$C_n$	mV/V	2			
<b>Rated output tolerance with load appl. in stated direction</b>		%	+(1;-0.1)	$\pm 0.05^2)$		
<b>Temperature coefficient of rated output<sup>3)</sup></b>	$TC_c$	% of $C_n/10$ K	$\pm 0.0500$	$\pm 0.0080$	$\pm 0.0070$	$\pm 0.0040$
<b>Temperature coefficient of zero signal</b>	$TC_0$		$\pm 0.0500$	$\pm 0.0125$ $\pm 0.0116$ (30 kg)	$\pm 0.0093$	$\pm 0.0093$
<b>Relative reversibility error<sup>3)</sup></b>	$d_{hy}$	% of $C_n$	$\pm 0.0500$	$\pm 0.0170$	$\pm 0.0130$	$\pm 0.0080$
<b>Non-linearity<sup>3)</sup></b>	$d_{lin}$		$\pm 0.0500$	$\pm 0.0180$	$\pm 0.0150$	$\pm 0.0110$
<b>Creep upon loading in 30 min.</b>	$d_{DR}$		$\pm 0.0490$	$\pm 0.0166$	$\pm 0.0125$	$\pm 0.0083$
<b>Input resistance</b>	$R_{LC}$	$\Omega$	350...480			
<b>Output resistance</b>	$R_0$		356 $\pm 0.2$	356 $\pm 0.12$		
<b>Reference voltage</b>	$U_{ref}$	V	5			
<b>Nominal (rated) range of the excitation voltage</b>	$B_u$		0.5...12			
<b>Insulation resistance</b>	$R_{is}$		$> 5$			
<b>Nominal (rated) range of the ambient temperature</b>	$B_T$	$^{\circ}C$	-10...+40			
<b>Operating temperature range</b>	$B_{tu}$		-30...+70			
<b>Storage temperature range</b>	$B_{tl}$		-50...+85			
<b>Limit load</b>	$E_L$	% of $E_{max}$	150			
<b>Breaking load</b>	$E_d$		$\geq 300$			

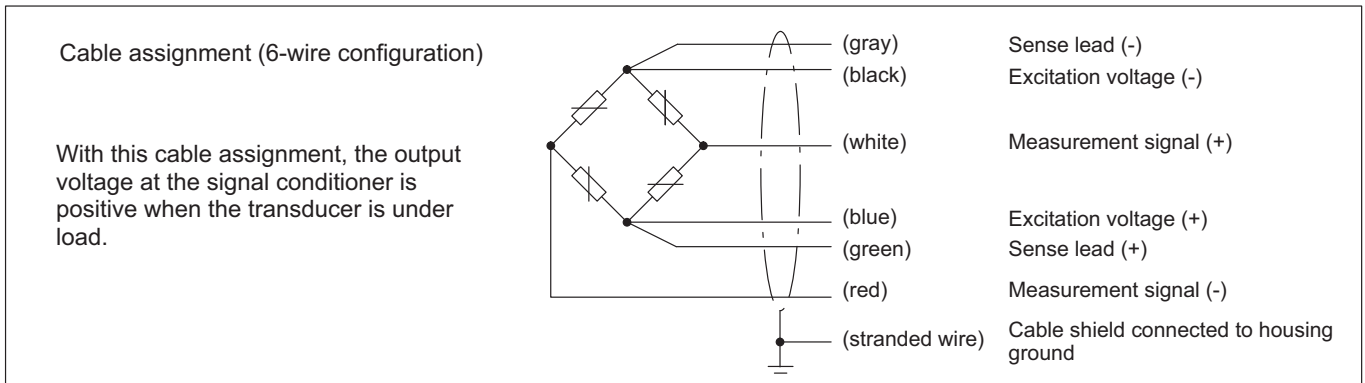
1) Load cells of OIML accuracy class C3 also conform to accuracy class NTEP (USA) III M5000 with maximum capacities 20 to 200 kg. They therefore have a second NTEP label.

2) For load cell Z6FC3/10kg:  $\leq \pm 0.1$  %.

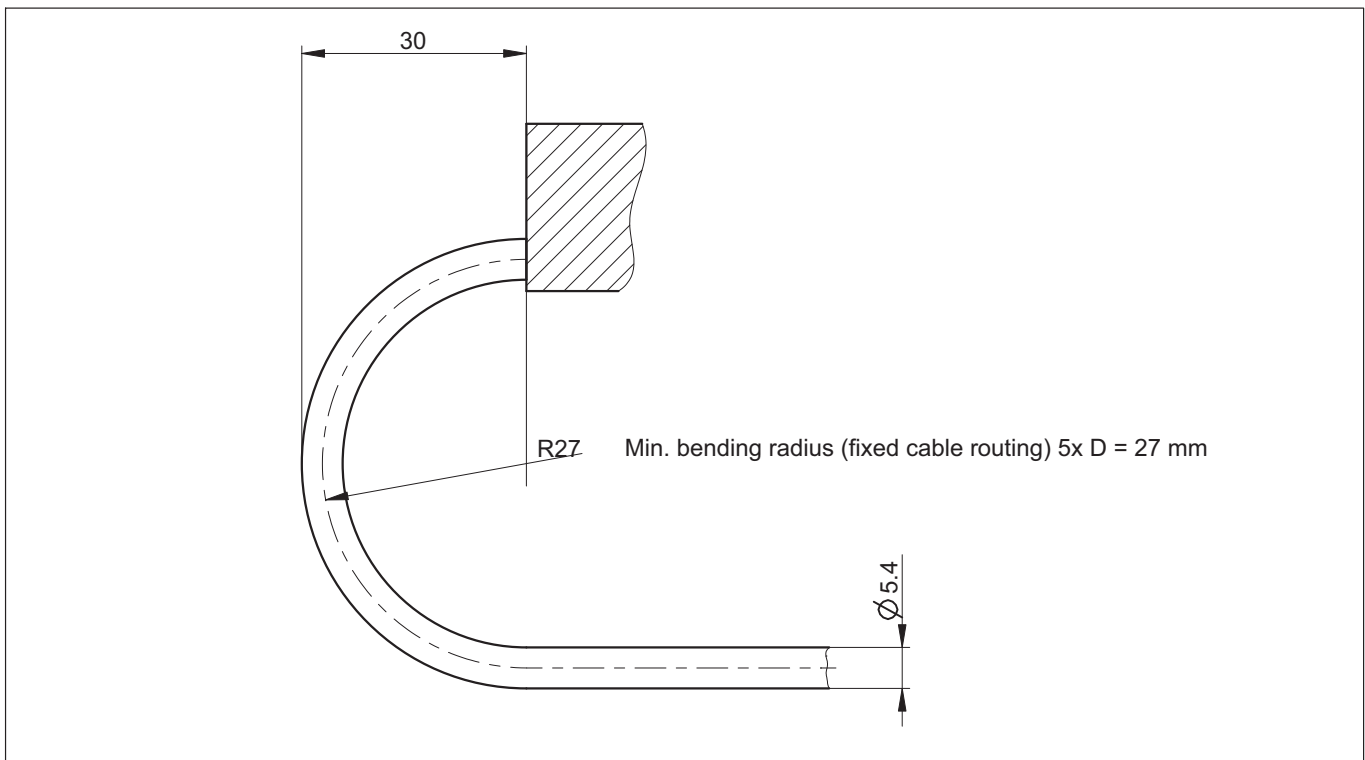
3) The values for non-linearity, relative reversibility error and temperature response of the output range are recommended values. If these values are added together, the total is within the accumulated error limit to OIML R60.

Maximum capacity		kg	5	10	20	30	50	100	200	500	1000
Permissible oscillation stress		% of $E_{max}$	100	100	100	100	100	100	100	70	100
Nominal (rated) displacement approx.	$s_{nom}$	mm	0.24	0.3	0.29	0.28	0.27	0.31	0.39	0.6	0.55
Weight approx.	G	kg	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.3
Degree of protection (IP) to EN60529 (IEC529)			IP 68 (tougher test conditions: 1 m water column;100 h)								
Material			Stainless steel <sup>4)</sup>								
Measuring body			Stainless steel <sup>4)</sup>								
Bellows			Stainless steel/Viton®								
Cable entry			PVC								
Cable sheath											

4) To EN 10088-1

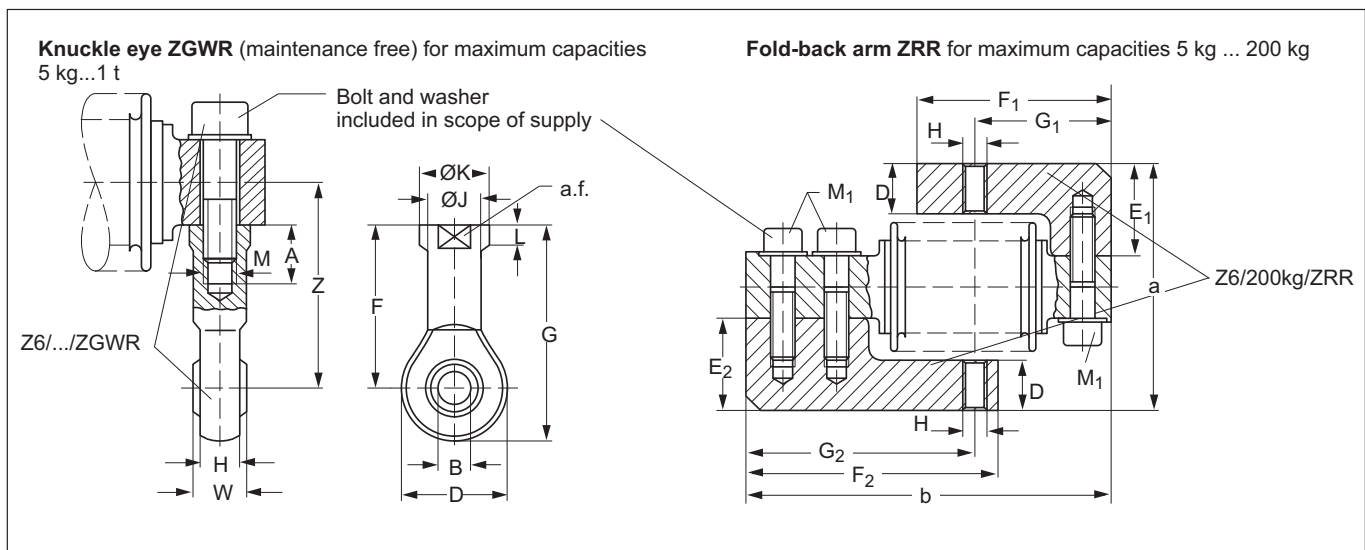
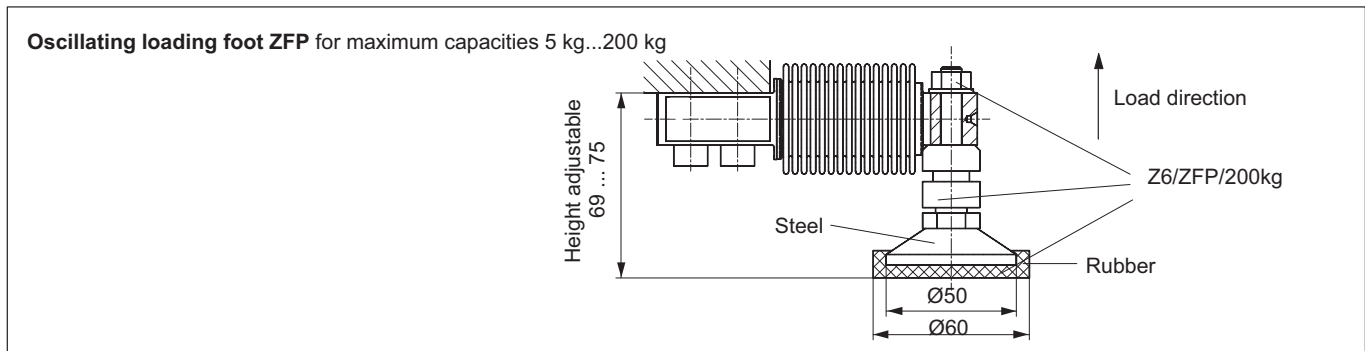


### Connection dimensions of the cable (for stationary use)



**Mounting aids, not included in scope of supply (dimensions in mm)**

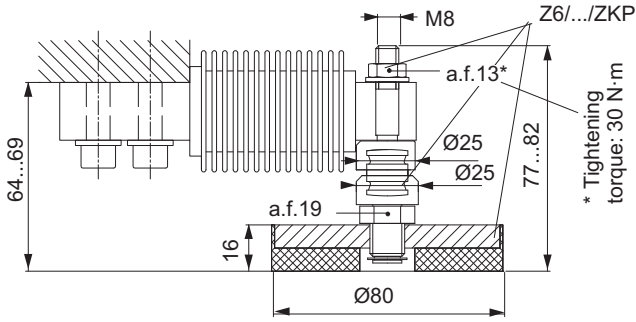
**Notice:** All mounting aids are made of rust-resistant material. The rubber parts of the ZEL are made of chloroprene rubber.



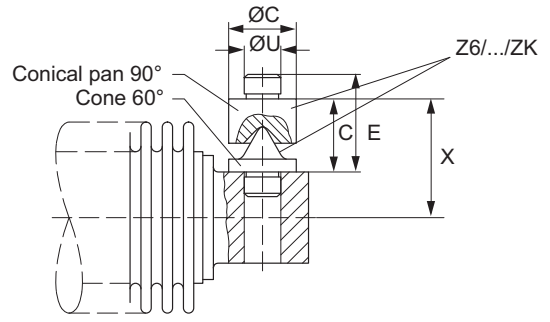
Maximum capacity	ZGWR	A	B	D	F	G	H	Ø J	Ø K	L	M	a.f.	W	Z
5...200 kg	Z6/200kg/ZGWR	16	8 <sup>H7</sup>	24	36	48	9	12.5	16	5	M8	14	12	46
500 kg	Z6/1t/ZGWR	20	10 <sup>H7</sup>	28	43	57	10.5	15	19	6.5	M10	17	14	53
1 t	Z6/1t/ZGWR	20	10 <sup>H7</sup>	28	43	57	10.5	15	19	6.5	M10	17	14	55.5

Maximum capacity	ZRR	D	E <sub>1</sub>	E <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	G <sub>1</sub>	G <sub>2</sub>	H	M <sub>1</sub>	a	b	Depth
5...200 kg	Z6/200kg/ZRR	16	30	30	65	85	46	77	M8	M8x30	80 ± 1.1	123	15

**Oscillating loading foot ZKP for maximum capacities 5 kg...200 kg**

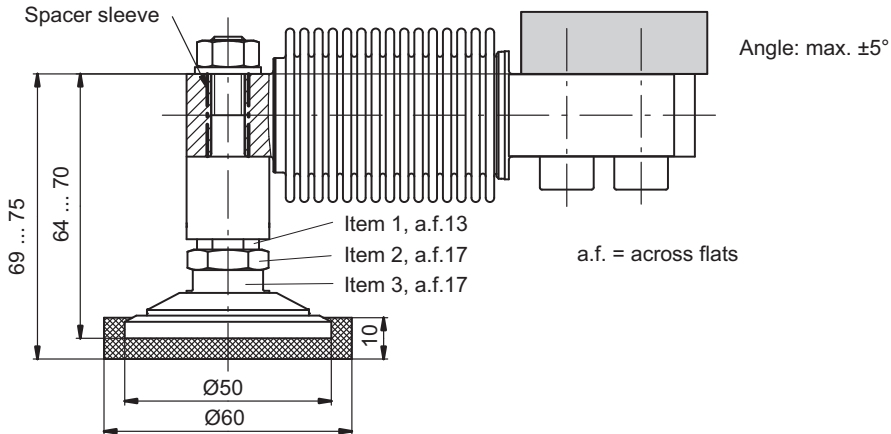


**Cone, conical pan ZK for maximum capacities 5 kg...1 t**



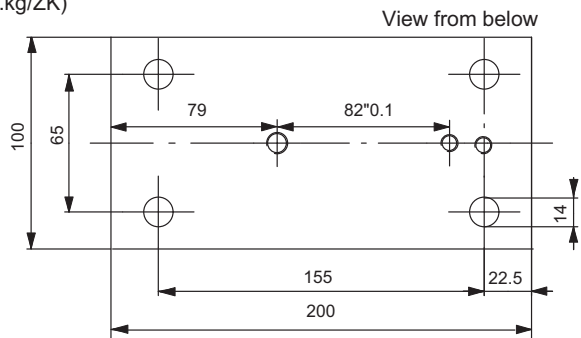
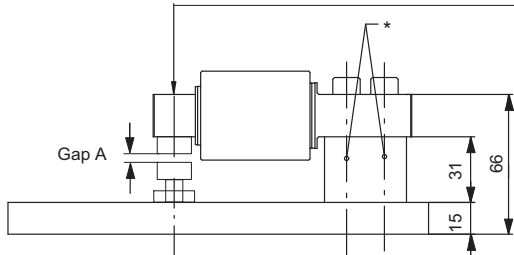
Maximum capacity	Cone, conical pan ZK	Ø C	D	E	Ø U	X
5...200 kg	Z6/200kg/ZK	15	16	21	8.1 <sub>-0.05</sub>	26
500 kg	Z6/1t/ZK	18	24	32	11 <sub>-0.05</sub>	34
1 t	Z6/1t/ZK	18	24	32	11 <sub>-0.05</sub>	36.5

**Oscillating loading foot PCX for maximum capacities 5 kg... 500 kg (Z6/PCX/500kg); 1 set comprising 4 pieces Z6/PCX/500kg**



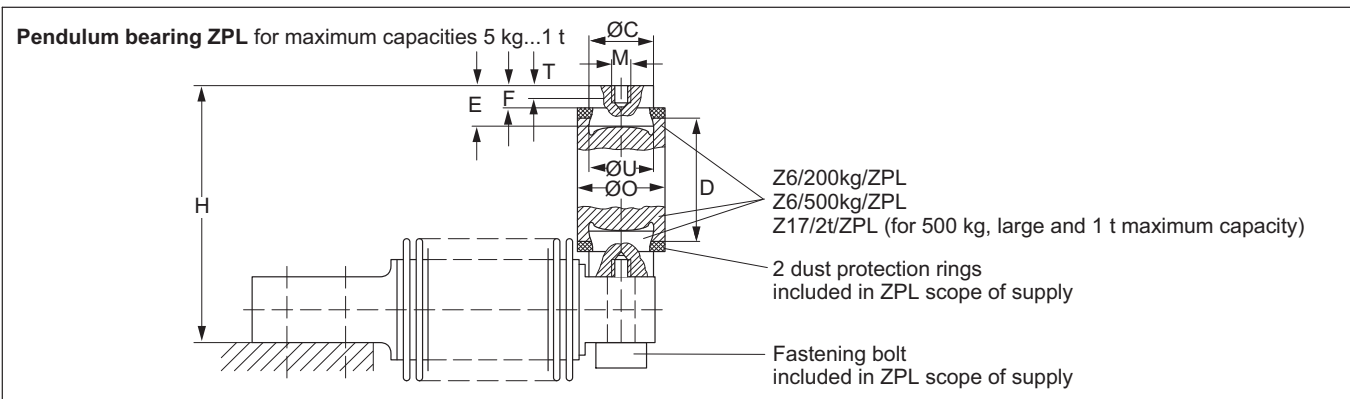
**Mounting base/mounting kit for maximum capacities 5 kg (Z6/ZPU/200kg) ... 500 kg (Z6/ZPU/500kg)**

Load application (Z6/...kg/ZPL; Z6/...kg/ZEL; Z6/...kg/ZK)



\* Tightening torque  $M_A$ : 23 N·m (200 kg); 45 N·m (500 kg)

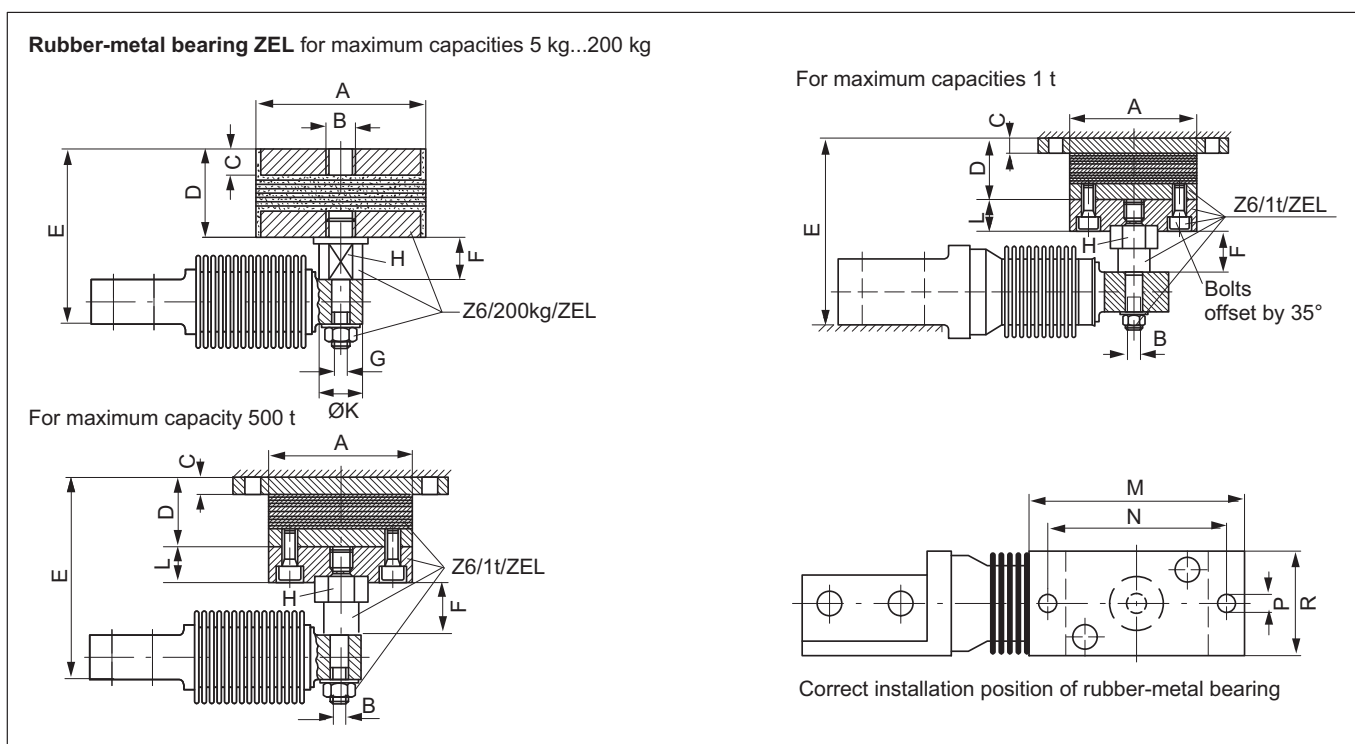
Gap A: In a load cell at maximum capacity, there should be a gap width of 0.05 mm



Maximum capacity	Pendulum bearing ZPL	Ø C	D	H	M	ØO	T	E	F	ØU	F <sub>R</sub> <sup>1)</sup> (% of load)	s <sub>max</sub> <sup>2)</sup> (mm)
5...200 kg	Z6/200kg/ZPL	20 <sub>-0.2</sub>	45	89 <sup>+0.6</sup> <sub>-0.8</sub>	M8	30	6.5	17	9	20 <sup>D10</sup>	2.8	3.5
500 kg	Z6/500kg/ZPL	20 <sub>-0.2</sub>	45	89 <sup>+0.6</sup> <sub>-0.8</sub>	M8	30	6.5	17	9	20 <sup>D10</sup>	2.8	3.5
1 t	Z17/2t/ZPL	30 <sub>-0.1</sub>	60	126.5	M10	46	8	22	14	30 <sup>D10</sup>	2	7.5

1) F<sub>R</sub>: Restoring force in N, with 1 mm lateral displacement

2) s<sub>max</sub>: Max. permissible lateral displacement at maximum capacity



Maximum capacity	ZEL	A	B	C	D	E	F	G	H	K	L	M	N	P	R	F <sub>R</sub> <sup>1)</sup>	s <sub>max</sub> <sup>2)</sup>
5...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 <sup>+2.1</sup> <sub>-2.2</sub>	26	-	a.f.27	-	20	120	100	9	60	400	4.5
1 t	Z6/1t/ZEL	80	M10	10	39	117 <sup>+2.1</sup> <sub>-2.2</sub>	26	-	a.f.27	-	20	120	100	9	60	400	4.5

1) F<sub>R</sub>: Restoring force in N, with 1 mm lateral displacement

2) s<sub>max</sub>: in mm, max. permissible lateral displacement at maximum capacity

## Ordering numbers

Type	Z6			
Accuracy class	D1 (OIML)	C3 (OIML) <sup>1)</sup>	C4 (OIML)	C6 (OIML)
Maximum capacity	Ordering number			
5 kg	1-Z6FD1/5KG-1			
10 kg	1-Z6FD1/10KG-1	1-Z6FC3/10KG-1		
20 kg	1-Z6FD1/20KG-1	1-Z6FC3/20KG-1	1-Z6FC4/20KG-1	1-Z6FC6/20KG-1
30 kg	1-Z6FD1/30KG-1	1-Z6FC3/30KG-1	1-Z6FC4/30KG-1	1-Z6FC6/30KG-1
50 kg	1-Z6FD1/50KG-1	1-Z6FC3/50KG-1	1-Z6FC4/50KG-1	1-Z6FC6/50KG-1
100 kg	1-Z6FD1/100KG-1	1-Z6FC3/100KG-1	1-Z6FC4/100KG-1	1-Z6FC6/100KG-1
200 kg	1-Z6FD1/200KG-1	1-Z6FC3/200KG-1	1-Z6FC4/200KG-1	1-Z6FC6/200KG-1
500 kg	1-Z6FD1/500KG-1	1-Z6FC3/500KG-1 1-Z6GC3/500KG/1 <sup>2)</sup>	1-Z6FC4/500KG-1	
1 t	1-Z6FD1/1T	1-Z6FC3/1T		

<sup>1)</sup> The maximum capacities from 20 kg up to and including 200 kg also have an NTEP III M5000 label.

<sup>2)</sup> Type Z6G with large measuring body, just as 1t version

Cable lengths: 3 m standard cable for all maximum capacities

## Z6 load cells, optional versions

Ordering number	
<b>K-Z6</b>	

Code	Option 1: Design
<b>F</b>	Z6F
<b>G</b>	Z6G (large) [only with option 2 = C3 + option 3 = 500]

Code	Option 2: Accuracy class
<b>D1</b>	D1 (OIML) [not with option 1 = G]
<b>C3</b>	C3 (OIML)
<b>C4</b>	C4 (OIML) [only with option 3 = 20 / 30 / 50 / 100 / 200 / 500 + option 5 = S3]
<b>C6</b>	C6 (OIML) [only with option 3 = 20 / 30 / 50 / 100 / 200 / 500 + option 5 = S3]

Code	Option 3: Maximum capacity
<b>5</b>	5 kg [only with option 2 = D1]
<b>10</b>	10 kg [only with option 2 = D1 / C3]
<b>20</b>	20 kg
<b>30</b>	30 kg [only with option 4 = N/(AI2/21)]
<b>50</b>	50 kg
<b>100</b>	100 kg
<b>200</b>	200 kg
<b>500</b>	500 kg [only with option 2 = D1 / C3 / C4]
<b>1000</b>	1 t [only with option 2 = D1 / C3]

Code	Option 4: Explosion protection
<b>N</b>	No explosion protection
<b>AI1/21</b>	IECEX ATEX Zone 1/21 and FM
<b>AI2/21</b>	IECEX ATEX Zone 2/21
<b>R1/21</b>	EAC Zone 1/21 <sup>2)</sup>
<b>R2/21</b>	EAC Zone 2/21 <sup>2)</sup>

Code	Option 5: Cable length
<b>S3</b>	3 m (standard)
<b>6</b>	6 m [not with option 2 = C6]
<b>12</b>	12 m [not with option 2 = C6]

Code	Option 6: Other
<b>N</b>	Without
<b>AU</b>	With Australian type label NMIA no. S497 [not with option 3 = 30] [not with option 2 = C6 + option 3 = 20]

K-Z6 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

1) The maximum capacities from 20 kg up to and including 200 kg also have an NTEP III M5000 label.  
 2) With certificate "СЕРТИФИКАТ СООТВЕТСТВИЯ No TC RU C-DE.HA65.B.01149/21"



## Options for Z6

### Explosion protection versions as per ATEX, IECEx and FM (US/CA)

- AI1/21 <sup>1)</sup> ATEX+IECEx+FM Zone 1/21, intrinsically safe;  
- ATEX/IECEx: II 2G Ex ia IIC T6/T4 Gb + II 2D Ex ia IIIC T125°C Db  
- FM(US/CA): Class I Zone 1 AEx/Ex ia IIC T4 Gb + Zone 21 AEx/Ex ia IIIC T125°C Db  
- FM(US): Class I, II, III Division 1, Groups A, B, C, D, E, F, G T4
- AI2/21 <sup>2)</sup> ATEX+IECEx Zone 2/21, not intrinsically safe;  
- ATEX/IECEx: II 3G Ex ec IIC T6/T4 Gc + II 2D Ex tb IIIC T125°C Db

<sup>1)</sup> With EC Type Approval Certificate BVS 13 ATEX E 108 X, IECEx Certificate of Conformity IECEx BVS 13.0109 X, Certificate of Conformity FM 18 US 0176 X and Certificate of Conformity FM 18 CA 0144 X.

<sup>2)</sup> With EC Type Approval Certificate BVS 13 ATEX E 108 X, IECEx Certificate of Conformity IECEx BVS 13.0109 X. The optional AI2/21 IECEx+ATEX Zone 2/21 also includes Zone 2/22.

### Explosion protection versions as per EAC mark (Eurasian Economic Union with member states: Russia, Belarus, Armenia, Kazakhstan, Kirghistan)

- R1/21 <sup>3)</sup> EAC Ex Zone 1/21, intrinsically safe;<sup>4)</sup>  
- EAC Ex: 1Ex ia IIC T4/T6 Gb X + Ex ia IIIC T125°C Db X
- R2/21 <sup>3)</sup> EAC Ex Zone 2/21, not intrinsically safe;  
- EAC Ex: 2Ex e IIC T6/T4 Gc X + Ex tb IIIC T125°C Db X

<sup>3)</sup> With certificate "СЕРТИФИКАТ СООТВЕТСТВИЯ No TC RU C-DE.HA65.B.01149/21"

<sup>4)</sup> Please note that the electrical values of the new type approval may differ from the previous version (the new certificate can be found on the Z6 product page).

Subject to modifications.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

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