



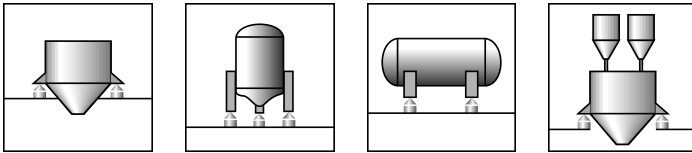
Z6...

Load cells



Special features

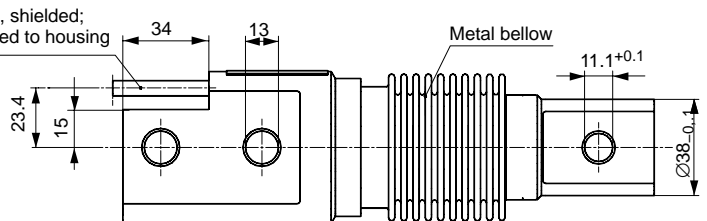
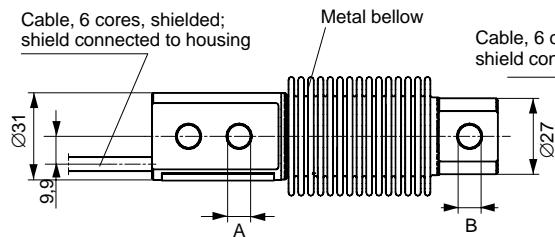
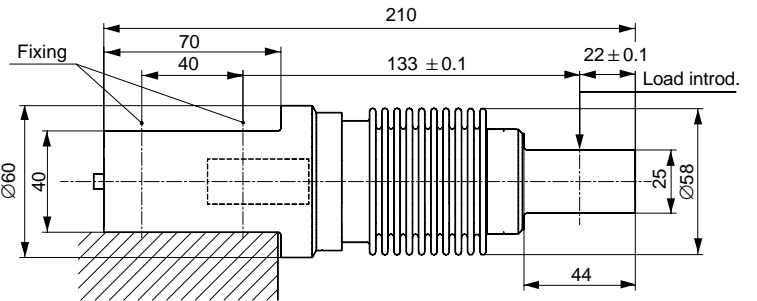
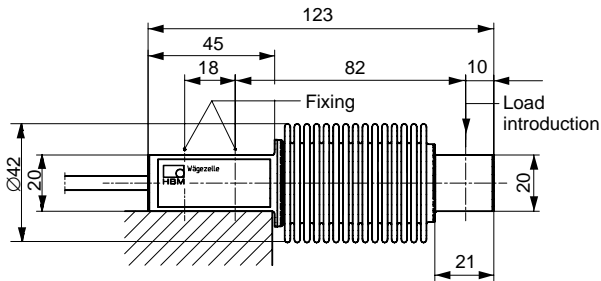
- Welded on metal bellow
- Max. capacities 5 kg...1 t
- Load cells and mounting aids entirely made from stainless material
- Complies with OIML R60 regulations up to 6000 d
- Six-wire circuit
- Optimized for parallel connection with corner-pretadjustment
- Meets today EMC/ESD requirements according to 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/M17.5 | 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}) | | - | - | $0.5 \cdot E_{max} / 7500$ | - | - |
| Sensitivity (C_n) | mV/V | 2 | | | | |
| Tolerance on sensitivity | % | < +1; -0.1 | < $\pm 0.05^1$ | | | |
| Temperature effect on sensitivity (TK_C) ² | % of $C_n/10$ K | < ± 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_{hy}) ² | % | < ± 0.0500 | < ± 0.0170 | < ± 0.0066 | < ± 0.0130 | < ± 0.0080 |
| Linearity deviation (d_{lin}) ² | % | < ± 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) | Ω | 356 ± 0.2 | 356 ± 0.12 | | | |
| Reference excitation voltage (U_{ref}) | V | 5 | | | | |
| Nominal range of excitation voltage (B_U) | V | 0.5...12 | | | | |
| Insulation resistance (R_{is}) | G Ω | > 5 | | | | |
| Nominal temperature range (B_T) | $^{\circ}C$ [$^{\circ}F$] | -10...+40 [15...+105] | | | | |
| Service temperature range (B_{tu}) | $^{\circ}C$ [$^{\circ}F$] | -30...+70 [-20...+160] | | | | |
| Storage temperature range (B_{tl}) | $^{\circ}C$ [$^{\circ}F$] | -50...+85 [-60...+185] | | | | |
| Safe load limit (E_L) | % of E_{max} | 150 | | | | |
| Breaking load (E_d) | % of E_{max} | ≥ 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: $\leq \pm 0.1$ %.

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 for Z6FC3:

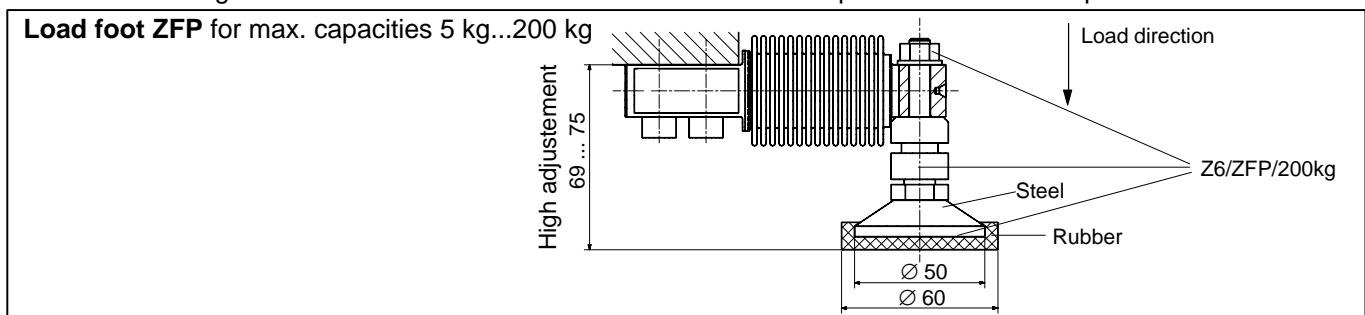
Explosion-proof versions according to ATEX 95:

- 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 $^{\circ}C$ (Zone 21) *)
- II 3 D IP68 T80 $^{\circ}C$ (Zone 22 for non-conductive dust)

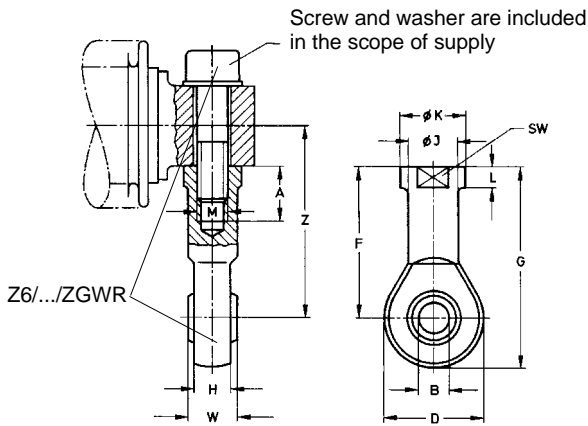
*) with EC-type examination certificate

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

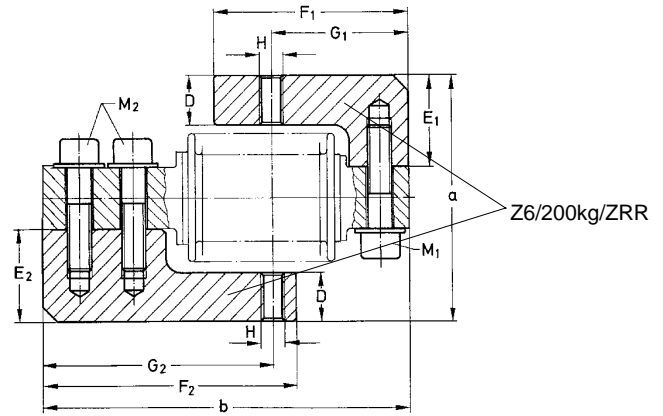
Note: All mounting aids are made from stainless mat. The ZEL rubber parts are from chloroprene caoutchouc.



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



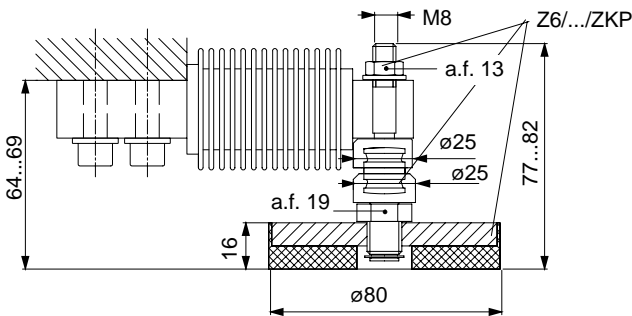
ZRR Fold-back arm for max. capacities of 5 kg...200 kg



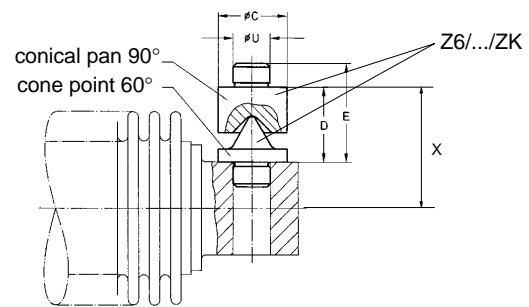
| Max. capacity | ZGWR Knuckle eye | A | B | D | F | G | H | J | K | L | M | SW | W | Z |
|---------------|------------------|----|------------------|----|----|----|------|------|----|-----|-----|----|----|---------|
| 5 kg...200 kg | Z6/200kg/ZGWR | 16 | 8 ^{H7} | 24 | 36 | 48 | 9 | 12.5 | 16 | 5 | 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 | M ₂ | a | b | Width |
|---------------|-------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----------|-----|-------|
| 5 kg...200 kg | Z6/200kg/ZRR | 16 | 30 | 30 | 65 | 85 | 46 | 77 | M8 | M8x30 | M8x30 | 80 ± 1.1 | 123 | 15 |

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



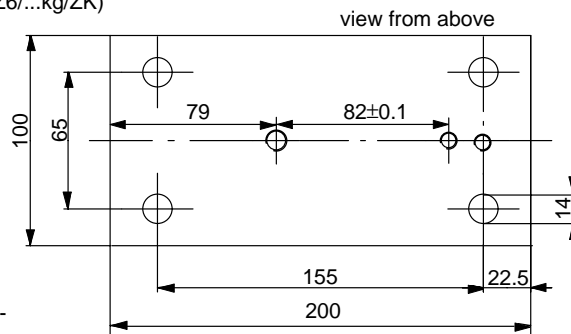
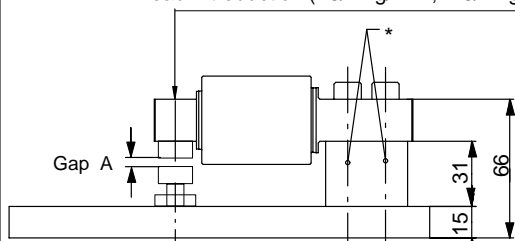
Cone and conical pan ZK for max. capacities 5 kg...1 t



| Max. capacity | Cone and conical pan ZK | C | D | E | 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 |

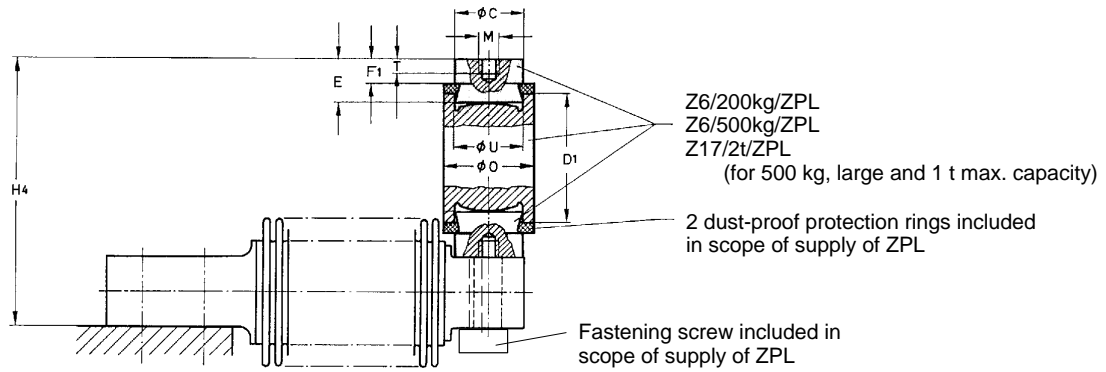
Base / Assembly set for max. capacities 5 kg (Z6/ZPU/200kg) ... 500 kg (Z6/ZPU/500kg)

load-introduction (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: With the load cell loaded up to its maximum capacity, the gap width should be 0.05 mm

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

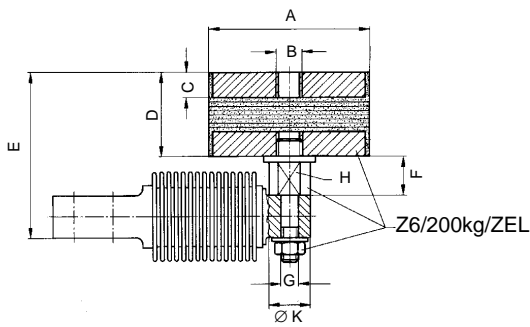


| Max. capacity | Pendle bearing ZPL | C | D ₁ | H ₄ | M | O | T | E | F ₁ | U | F _R * (% of applied load) | S _{max} ** (mm) |
|---------------|--------------------|--------------------|----------------|------------------------------------|-----|----|-----|----|----------------|-------------------|--------------------------------------|--------------------------|
| 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 |

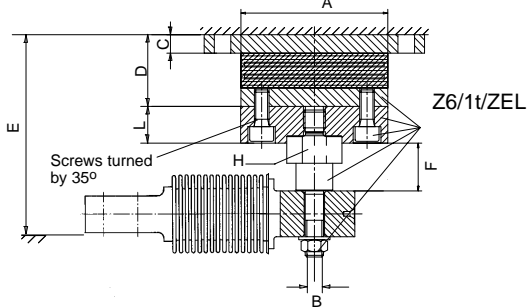
* F_R: restoring force in N for s = 1 mm

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

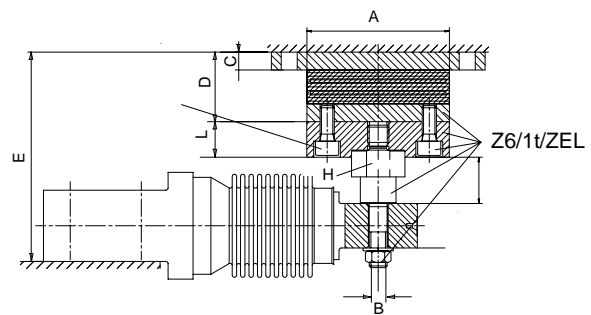
ZEL Elastomer bearing for max. capacities of 5 kg...200 kg



for max. capacity of 500 kg



ZEL Elastomer bearing for max. capacity 1 t



Correct mounting position of the elastomer bearing

| Max. capacity | ZEL Elastomer-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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