

Z30

Force Transducers

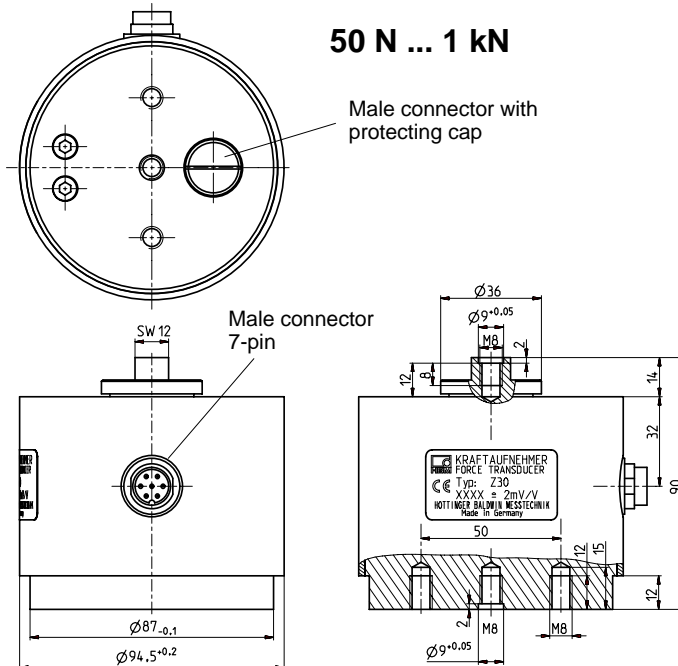


Special features

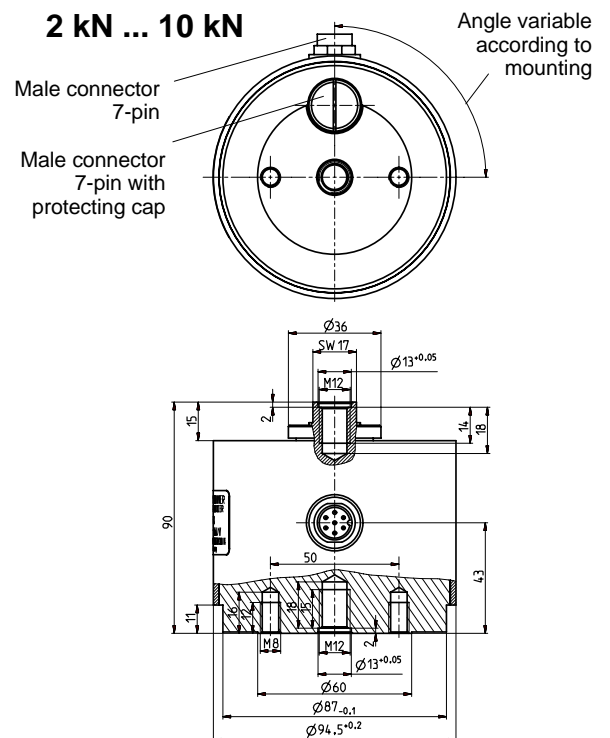
- Tensile / compressive force transducer with maximum accuracy
- Nominal forces 50 N ... 10 kN
- Possible classification according to instrument class 00 in conjunction with DKD calibration certificate according to EN10002-3 or ISO376
- Transfer standard in
- Good long-term stability

Dimensions (in mm = 0.03937 inches)

50 N ... 1 kN



2 kN ... 10 kN



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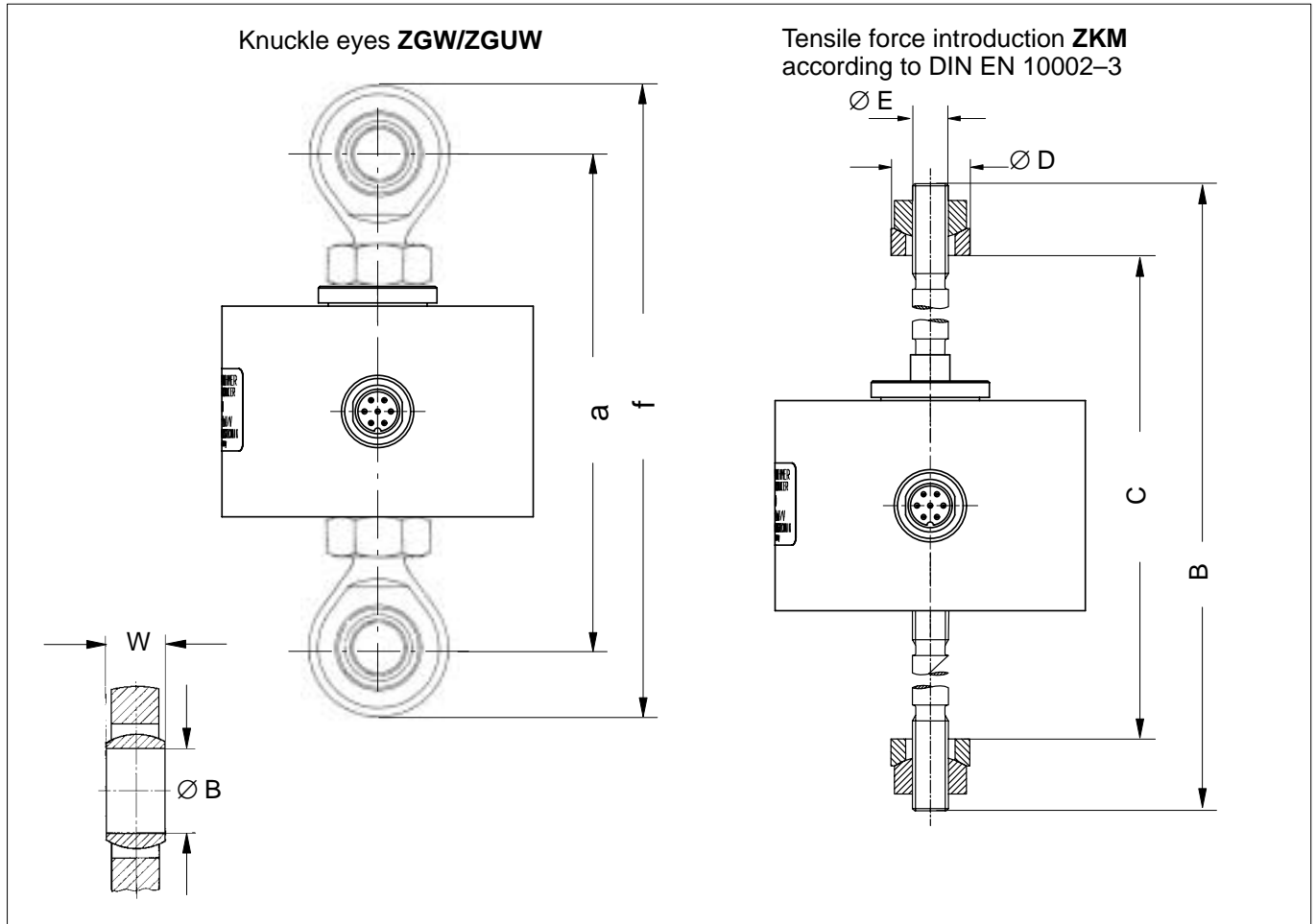
Specifications

Type	Z30										
Data according to VDI standards 2638											
Nominal force	F _{nom}	N	50	100	200	500	1000	2 k	5 k	10 k	
Accuracy class	00 ¹⁾										
Nominal sensitivity	C _{nom}	mV/V	2								
rel. sensitivity deviation (pressure)	d _c	%	0.1								
rel. tensile/compressive force sensitivity difference	d _{zd}	%	0.1								
rel. zero signal deviation	d _{s,o}	%	0.2	0.1							
rel. zero point compensation ¹⁾	f _o	%	0.008								
Rel. range (0.2F _{nom} to F _{nom}) at: ¹⁾											
unchanged mounting position	b _i	%	0.02								
different mounting positions	b	%	0.04								
Rel. range of inversion (0.2F _{nom} to F _{nom}) ¹⁾	u	%	0.06								
Linearity deviation	d _{lin}	%	0.03								
Effect of temperature on sensitivity/10 K by reference to nominal sensitivity ¹⁾	TK _c	%	0.02								
Effect of temperature on zero signal/10 K by reference to nominal sensitivity ¹⁾	TK ₀	%	0.02								
Effect of transverse forces (transverse forces 10 % F _{nom})	d _Q	%	0.1								
Effect of eccentricity per mm	d _E	%	0.03								
Rel. creep over 15 min	d _{crF+E}	%	0.03								
Input resistance	R _e	Ω	>345				>690				
Output resistance	R _a	Ω	300–500				600–800				
Isolation resistance	R _{is}	Ω	>5·10 ⁹								
Reference excitation voltage	U _{ref}	V	5								
Operating range of the excitation voltage	B _{U,G}	V	0.5 ... 12								
Nominal temperature range	B _{t,nom}	°C	+10...+40								
Operating temperature range	B _{t,G}	°C	-10...+70								
Storage temperature range	B _{t,S}	°C	-25...+85								
Reference temperature	t _{ref}	°C	+22								
Max. operational force	(F _G)	%	120				150				
Limit force	(F _L)	%	150								
Breaking force	(F _B)	%	250								
Static lateral limit force	(F _Q)	%	60								
Permissible torque	(M _G)	Nm	1.5	3	5	5	5	80			
Nominal displacement	S _{nom}	mm	< 0.4						approx. 0.2		
Fundamental resonance frequency	f _G	kHz	0.2	0.3	0.5	0.9	1.1	1.1	1.1	1.25	
Weight		kg	appr. 0.9						appr. 2.3		
Rel. permissible vibrational stress	F _{rb}	%	70								
Cable length, six-wire connection		m	Standard 6m, see accessories								
Degree of protection to DIN EN 60529	IP50										

¹⁾ Classification guaranteed only if accompanied by a DKD calibration certificate according to EN10002–3 or ISO376

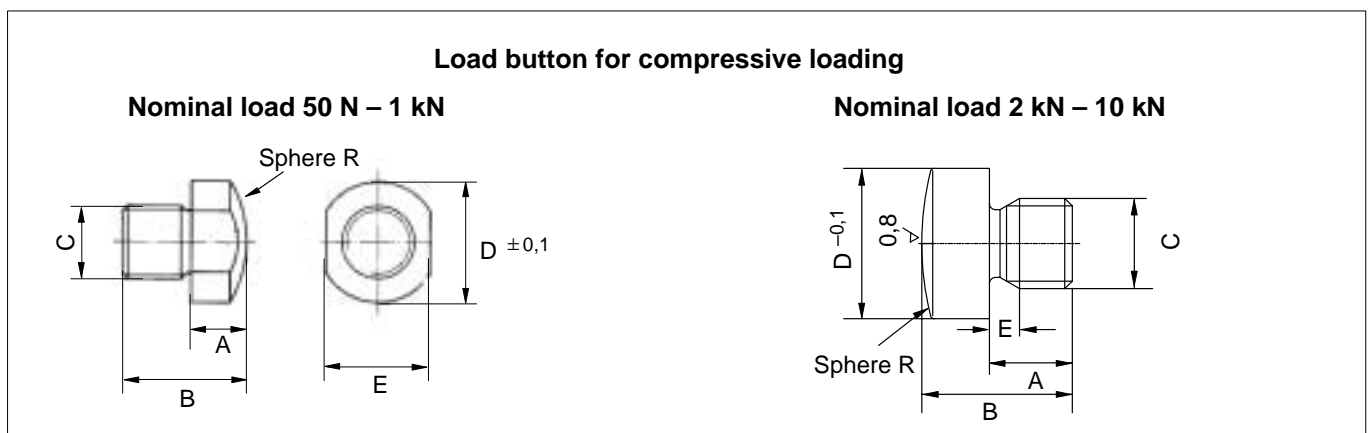
Accessories

Force introduction parts for tensile loading



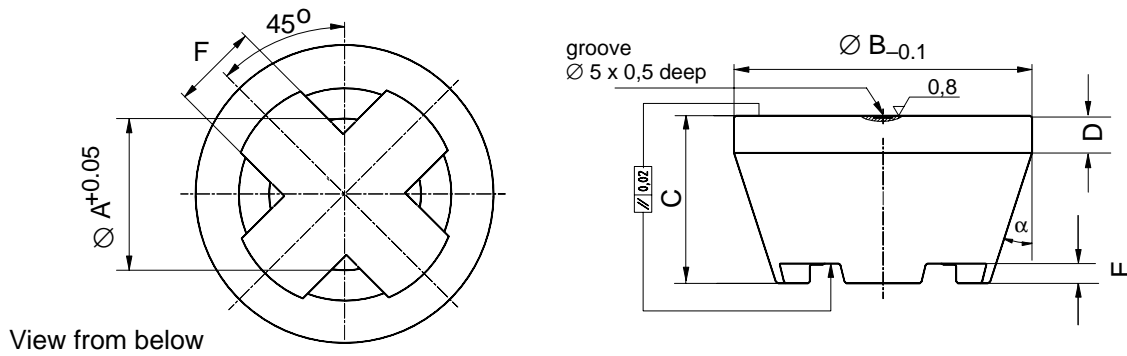
Type	ZKM Order number	B	C		ØD
			min	max	
Z30/2-10 kN	1-Z30/10 kN/ZKM	229	250	312	35 -0.120 -0.280

Type	Knuckle eye upper/lower Order number	a	f	W	ØB
Z30/50 N - 1000 N	1-U1R/200 kg/ZGW	147.5	170	12	8 ^{H7}
Z30/2 kN - 10 kN	1-U2A/1 t/ZGUW	169	201	16	12 ^{H7}



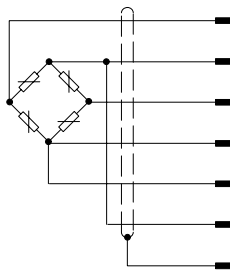
Type	Load button	A	B	C	D	E	R
Z30/50 N - 1000 N	1-U1R/200kg/ZL	8	15	M8	13	11	16
Z30/2 kN - 10 kN	3-9202.0140	11	20	M12	20	4	40

Thrust piece EDO4/EDO3 for precision measurements



Type	Thrust piece	Weight (kg)	$\varnothing A$	$\varnothing B$	C	D	E	F	α
Z30/ 50 N – 1000 N	EDO3/1 kN	approx. 0.2	13.2	37	22	6	3	8	18°
Z30/ 2 kN – 10 kN	EDO4/50 kN	0.34	20.2	48	29	8	5	12	18°

Pin assignment of the Z30 (for KAB139A–6 connection cable)

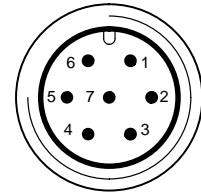


- WH (white) Measurement signal (+) U_A
- BK (black) Excitation voltage (-) U_B
- RD (red) Measurement signal (-) U_A
- BU (blue) Excitation voltage (+) U_B
- GN (green) Sensor circuit (+)
- GY (grey) Sensor circuit (-)
- shielding Cable shielding, connected to housing

Pin on male connector

- 1
- 2
- 4
- 3
- 6
- 7
- 5 (no function)

Top view



Transport case for 4 force transducers Z30 and accesories,
Order number: 1–Z30/BOX

Dimensions: 440 x 320 x 147 mm

Accessories (not included in the scope of supply):

Connection cable

Cable socket and unterminated (6 m)

Order number: 1–KAB139A–6

Modifications reserved.
All details describe our products in general form only. They are not to be understood as express warranty and do not constitute any liability whatsoever.



measurement with confidence