

Z30

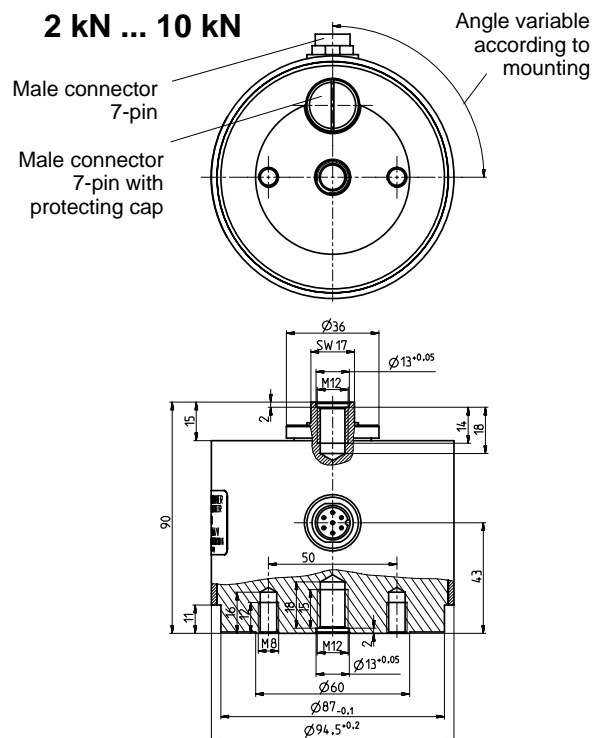
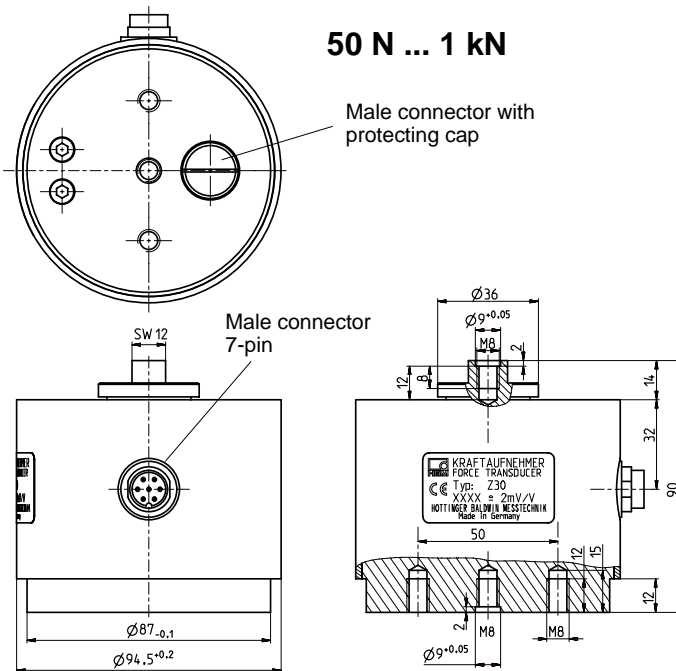
Force Transducers



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)



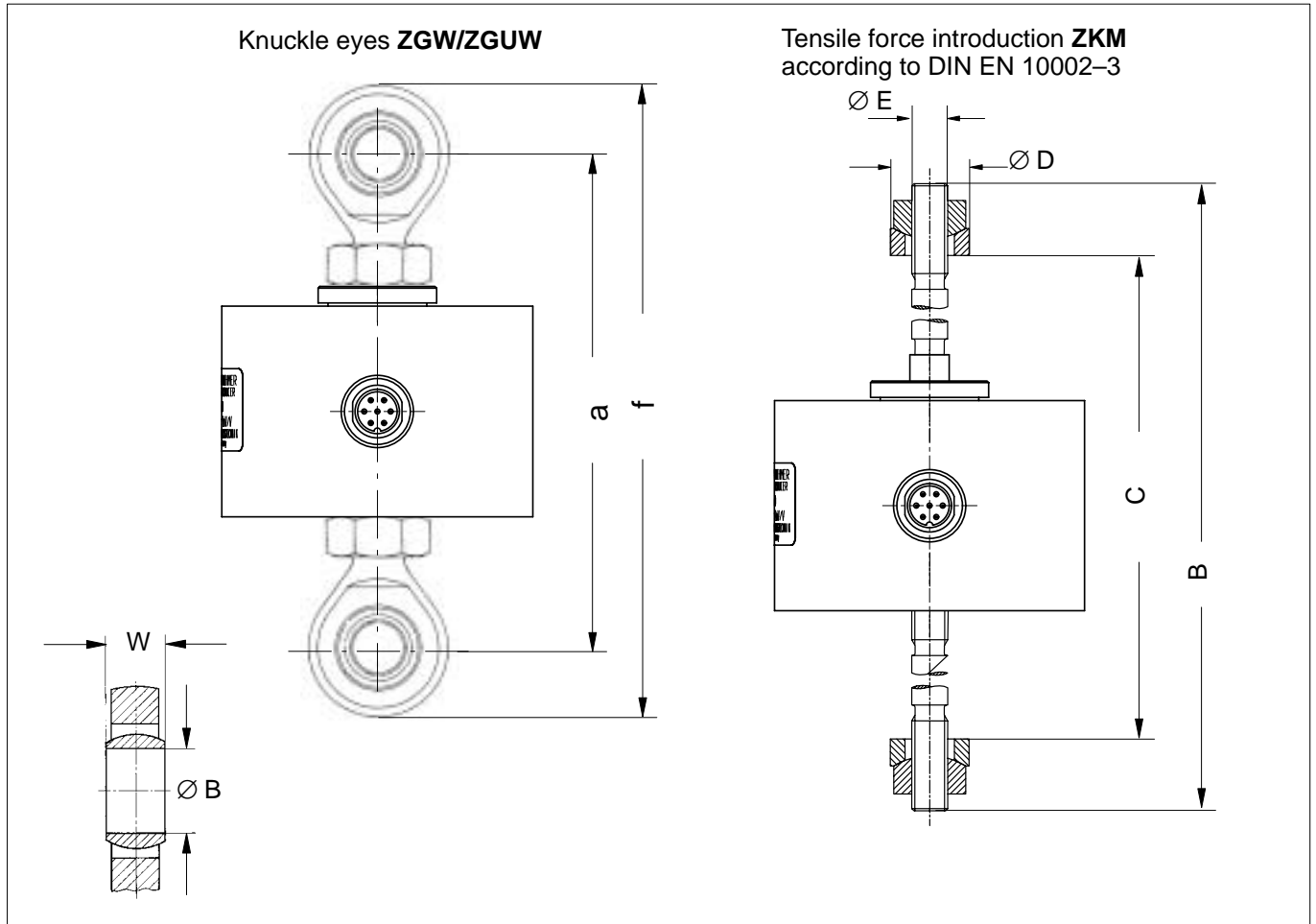
Specifications

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,0}	%	0.2								0.1	
rel. zero point compensation ¹⁾	f ₀	%									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			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

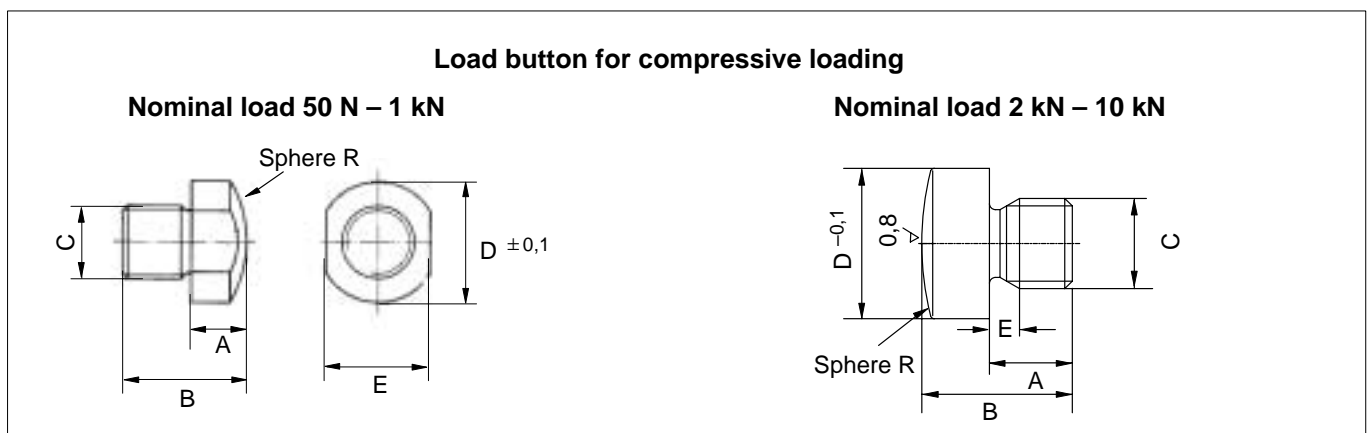
Accessories

Force introduction parts for tensile loading



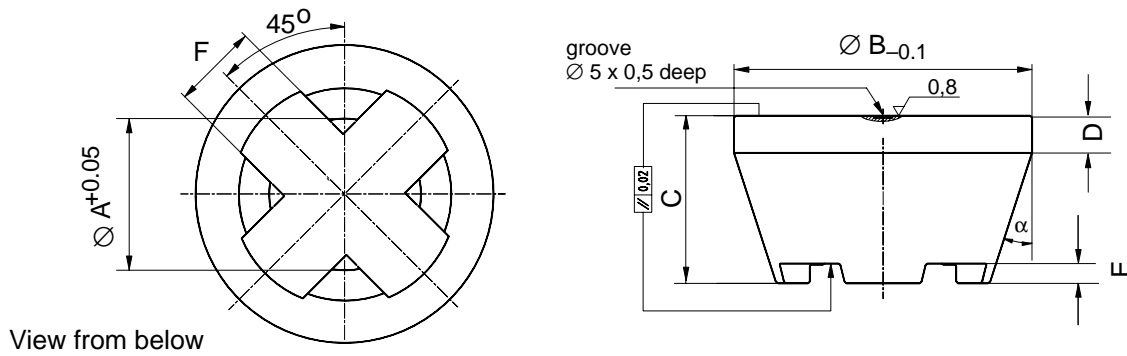
Type	ZKM Order number	B	C		ØD
			min	max	
Z30/2-10 kN	1-Z30/10 kN/ZKM	229	250	312	35 -0.120 -0.280

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}



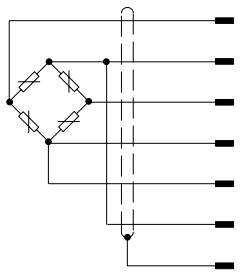
Type	Load button	A	B	C	D	E	R
Z30/50 N – 1000 N	1-U1R/200kg/ZL	8	15	M8	13	11	16
Z30/2 kN – 10 kN	3-9202.0140	11	20	M12	20	4	40

Thrust piece EDO4/EDO3 for precision measurements

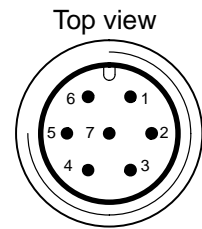


Type	Thrust piece	Weight (kg)	$\varnothing A$	$\varnothing B$	C	D	E	F	α
Z30/ 50 N – 1000 N	EDO3/1 kN	approx. 0.2	13.2	37	22	6	3	8	18°
Z30/ 2 kN – 10 kN	EDO4/50 kN	0.34	20.2	48	29	8	5	12	18°

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



Color	Function	Pin on male connector
WH (white)	Measurement signal (+) U_A	1
BK (black)	Excitation voltage (-) U_B	2
RD (red)	Measurement signal (-) U_A	4
BU (blue)	Excitation voltage (+) U_B	3
GN (green)	Sensor circuit (+)	6
GY (grey)	Sensor circuit (-)	7
shielding	Cable shielding, connected to housing	5 (no function)



Transport case for 4 force transucers 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.

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