

Z30

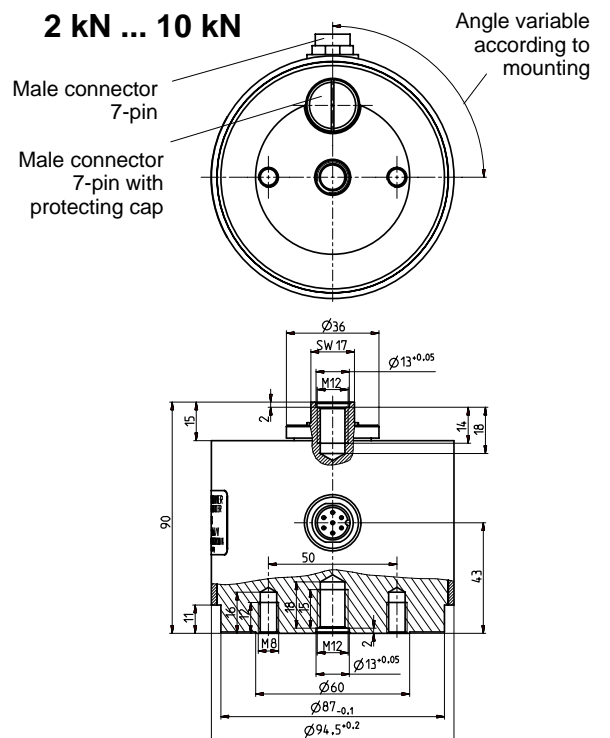
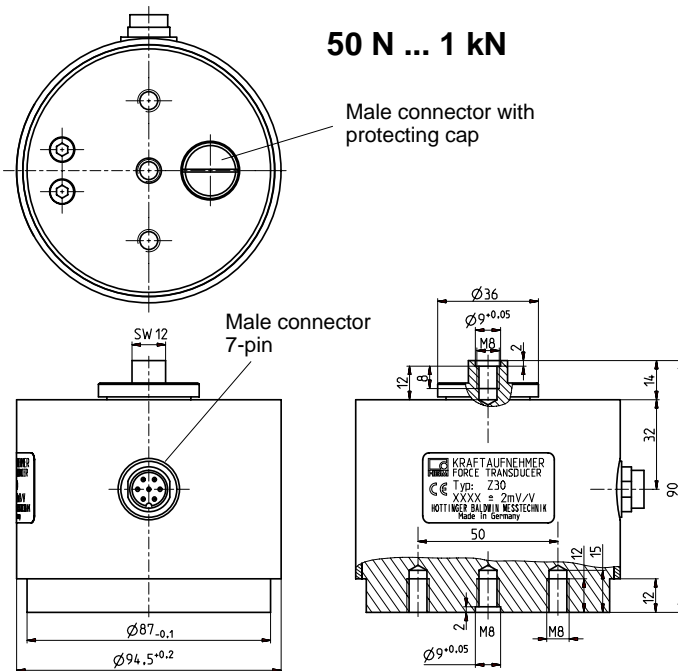
Force Transducers



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)



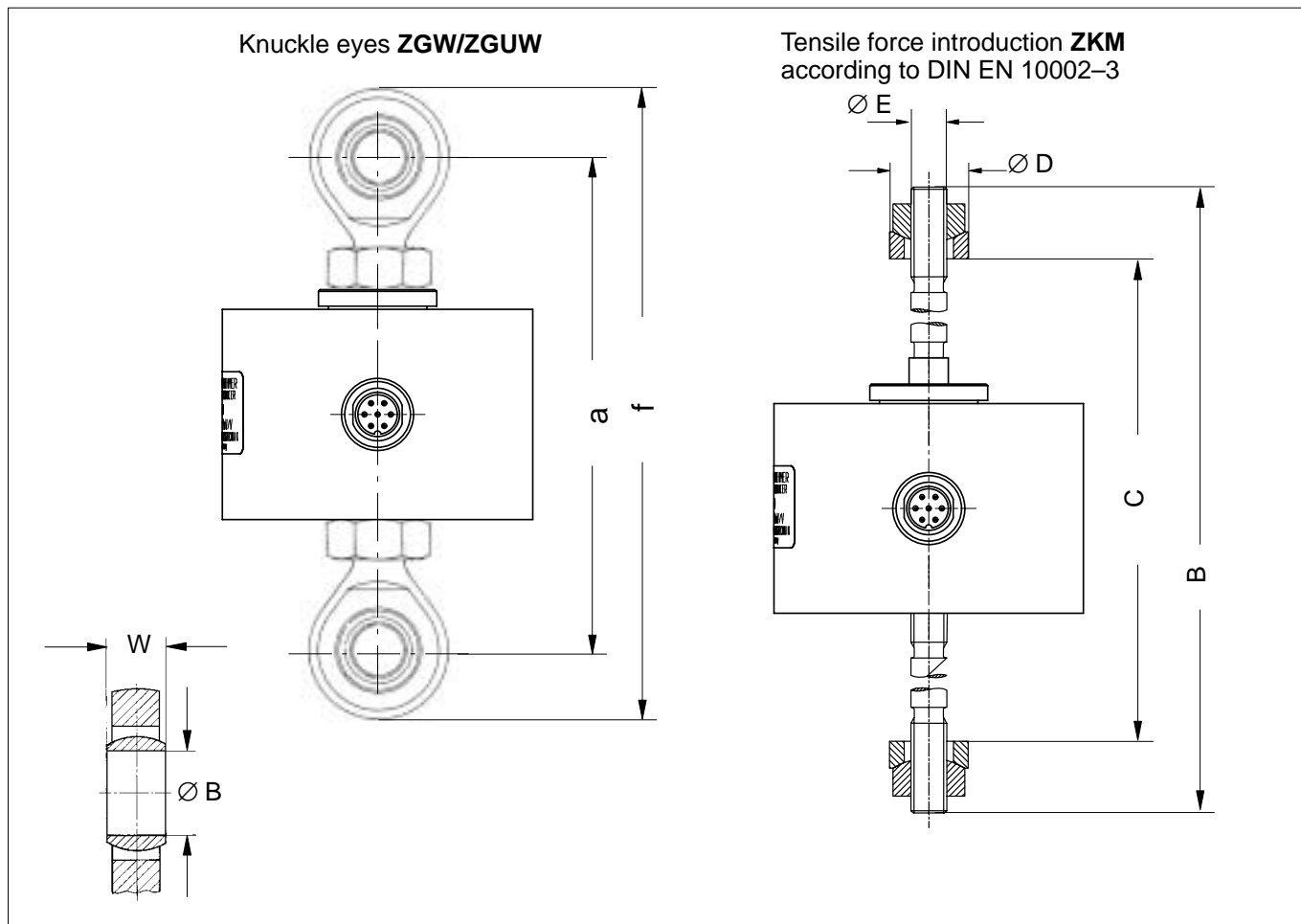
Specifications

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

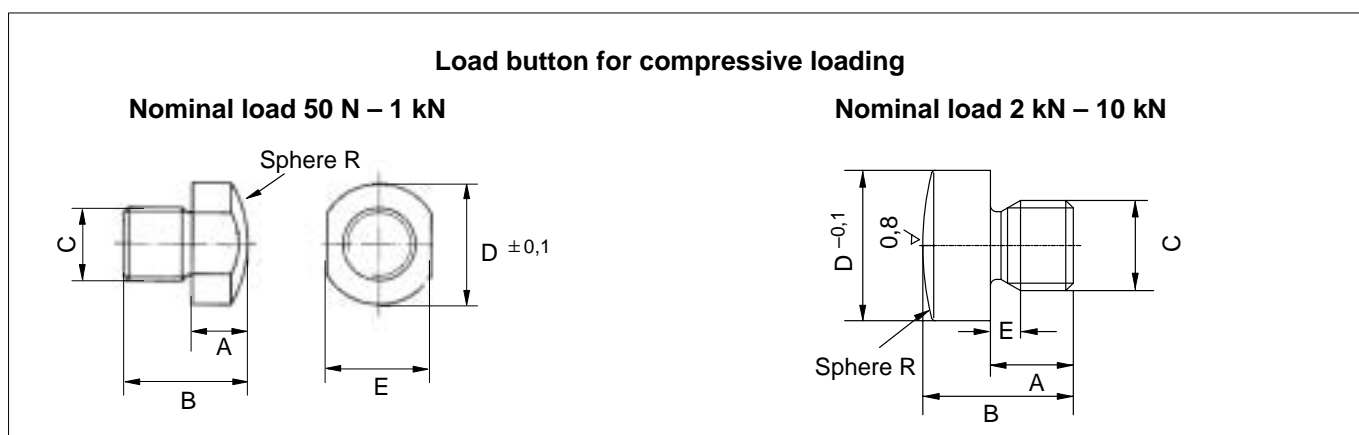
Accessories

Force introduction parts for tensile loading



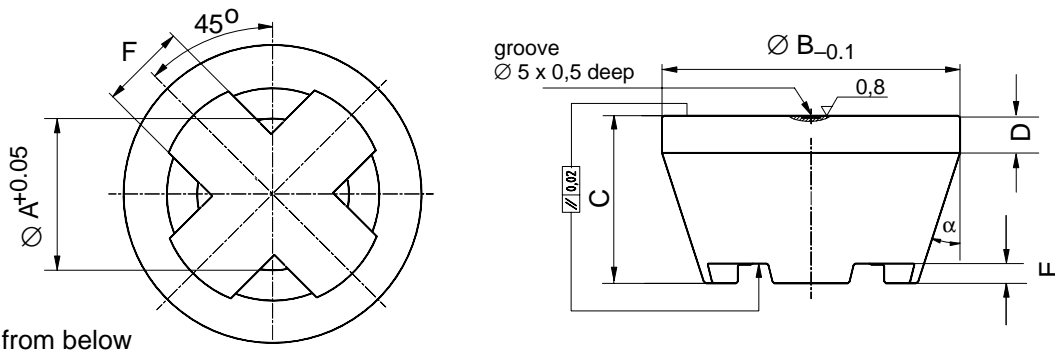
Type	ZKM Order number	B	C		ØD
			min	max	
Z30/2-10 kN	1-Z30/10 kN/ZKM	229	250	312	35 -0.120 -0.280

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

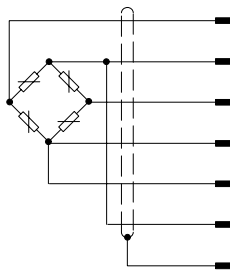
Thrust piece EDO4/EDO3 for precision measurements



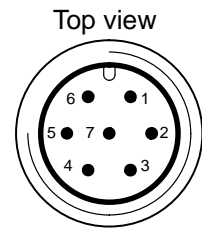
View from below

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	Pin on male connector	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.

Hottinger Baldwin Messtechnik GmbH

Postfach 10 01 51, D-64201 Darmstadt
Im Tiefen See 45, D-64293 Darmstadt
Tel.: +49/61 51/ 8 03-0; Fax: +49/61 51/ 8039100
E-mail: support@hbm.com www.hbm.com



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