

Z30A

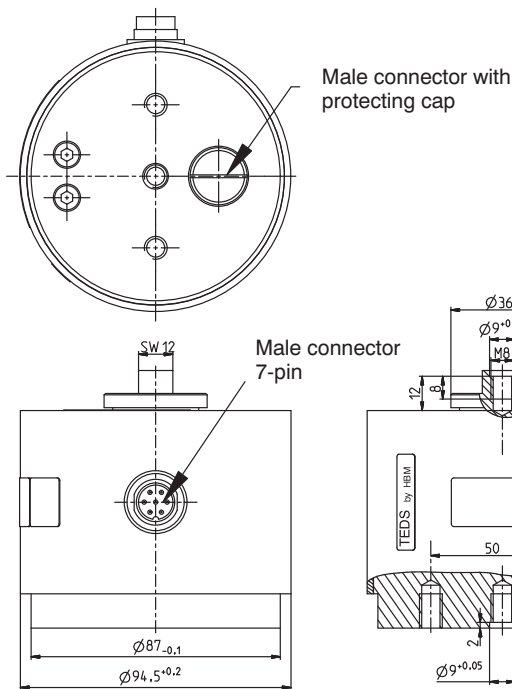
Force Transducer



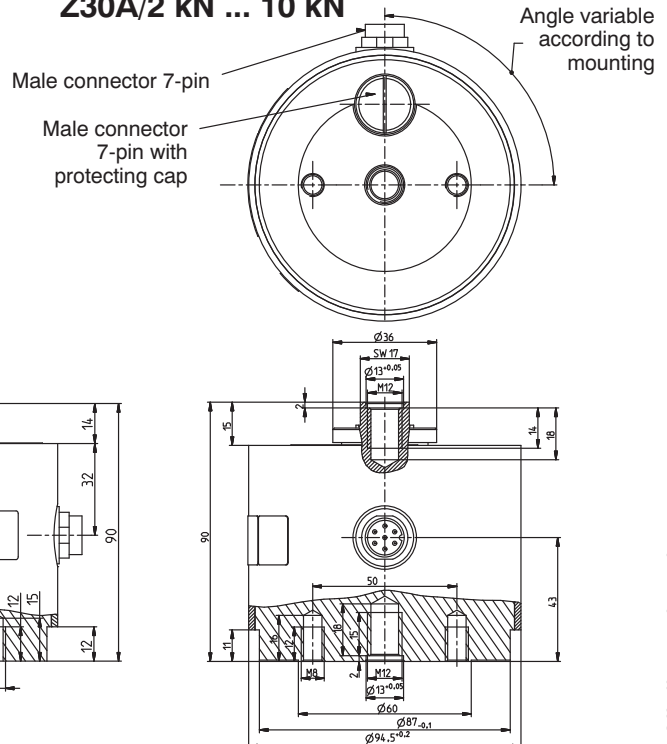
Special features

- Tensile / compressive force transducer with maximum accuracy
- Nominal (rated) forces 50 N ... 10 kN
- Class 00 in conjunction with DKD calibration certificate according to ISO 376
- Good long-term stability
- Overload protection at nominal (rated) force ≤ 1000 N
- TEDS (Transducer electronic data sheet)

Z30A/50 N ... 1000 N



Z30A/2 kN ... 10 kN



All dimensions in mm
(1 mm = 0.03937 inches)

Specifications

Type	Z30A										
Data according to VDI 2638 and ISO 376											
Nominal (rated) force	F _{nom}	N	50	100	200	500	1000				
		kN						2	5	10	
Class acc. to ISO 376 (0.2 F _{nom} to F _{nom})	00 ¹⁾										
Nominal sensitivity	C _{nom}	mV/V	2								
rel. sensitivity error (compression)	d _c	%	< ± 0.1								
rel. sensitivity variation (tension/compression)	d _{zd}	%	< ± 0.1								
rel. zero signal error	d _{s,0}	mV/V	< ± 0.2	< ± 0.1							
Rel. repeatability error without rotation (0.2F _{nom} to F _{nom})	b'	%	< ± 0.02								
Rel. reproducibility error with rotation (0.2F _{nom} to F _{nom})	b	%	< ± 0.04								
Rel. interpolation error (0,2F _{nom} to F _{nom})	f _c	%	< ± 0.02								
Rel. zero error (zero signal return)	f _o	%	< ± 0.008								
Rel. reversibility error (0.2F _{nom} to F _{nom})	v	%	< ± 0.06								
Rel. linearity error	d _{lin}	%	< ± 0.03								
Effect of temperature on sensitivity/10 K by reference to nominal sensitivity	TK _c	%	< ± 0.02								
Effect of temperature on zero signal/10 K by reference to nominal sensitivity	TK ₀	%	< ± 0.02								
Rel. creep over 30 min	d _{crF+E}	%	< ± 0.03								
Effect of lateral forces (lateral force 10 % F _{nom})	d _Q	%	< 0.1								
Effect of eccentricity per mm	d _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								
Limit torque	(M _G)	N·m	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	
Rel. permissible oscillatory stress	F _{rb}	%	70								
Weight		kg	approx. 0.9				approx. 2.3				
Degree of protection per DIN EN 60529	IP50										
Connector, six-wire connection	Binder series 723, radial and axial housing plug										
Transducer identification	TEDS, acc. to IEEE 1451.4										

¹⁾ Class 00 according to ISO376 only guaranteed in conjunction with a DKD calibration certificate

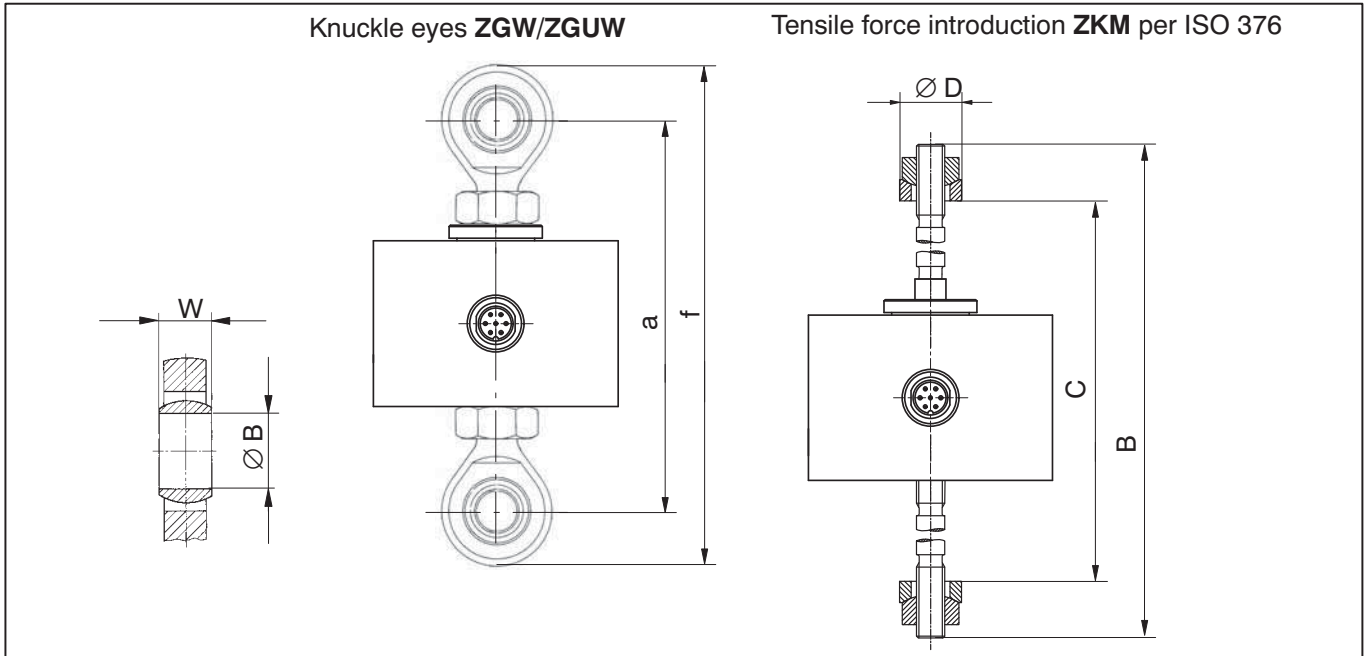
Order numbers: Force transducer

Order code	Nominal (rated) force								Unit
	50	100	200	500	1000				
1-Z30A/ ...									N
						2	5	10	kN

Ordering example: 1-Z30A/2kN

Accessories (not included in the scope of supply)

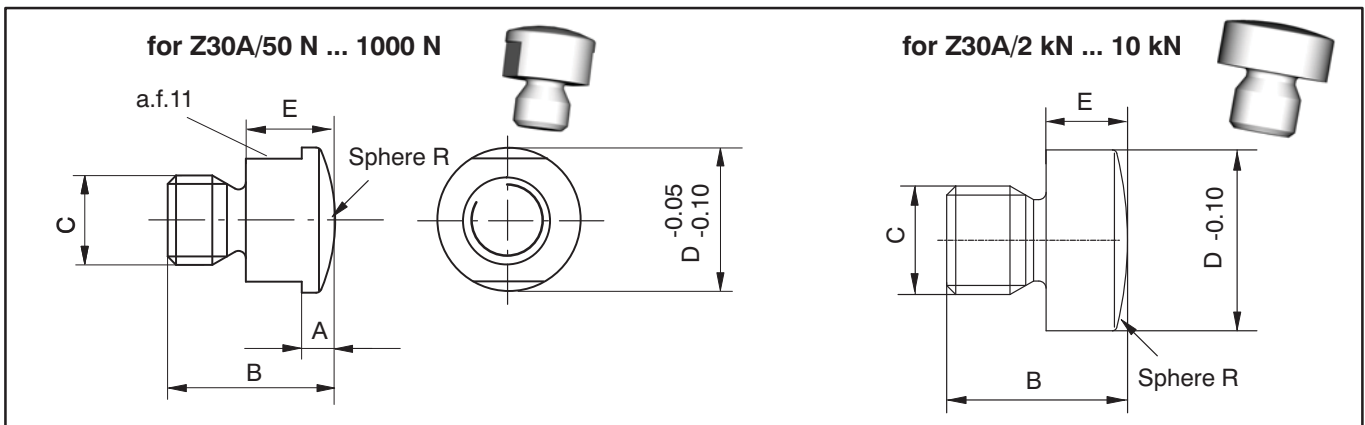
Force introduction parts for tensile loading



Type	ZKM Order number	B	C		ØD
			min	max	
Z30A/2kN - 10kN	1-Z30/10kN/ZKM	229	250	312	35 -0.120 -0.280

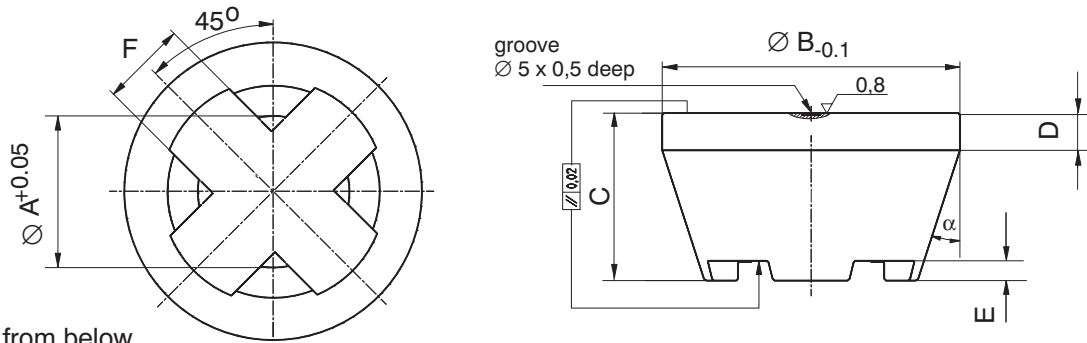
Type	Knuckle eye upper/lower Order number	a	f	W	ØB
Z30A/50N - 1000N	1-U1R/200kg/ZGW	138	170	12	8 ^{H7}
Z30A/2kN - 10kN	1-U2A/1t/ZGUW	169	201	16	12 ^{H7}

Load button for compressive loading



Type	Load button Order number	A	B	C	D	E	R
Z30A/50N - 1000 N	1-U1R/200kg/ZL	3	15	M8	13	8	16
Z30A/2kN - 10 kN	3-9202.0140	-	20	M12	20	9	40

Thrust piece EDO4/EDO3 for precision measurements
(must always be used in combination with the load button, when under compressive loading)



View from below

Type	Thrust piece Order number	Weight (kg)	Ø A	Ø B	C	D	E	F	α
Z30A/50N - 1000N	1-EDO3/1kN	approx. 0.2	13.2	37	22	6	3	8	18°
Z30A/2kN - 10kN	1-EDO4/50kN	0.34	20.2	48	29	8	5	12	18°

Pin assignment of plug and KAB139A-6 connection cable

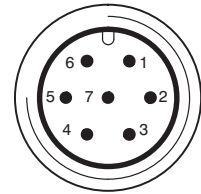


Cable shield, connected to housing

Pin on Binder plug

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

Top view



Binder series 723



Transport case for four Z30A force transducers and accessories,
Order number: 1-Z30/BOX

Dimensions: 440 x 320 x 147 mm

Cable/plug

Order number	
1-KAB139A-6	Kab 139A-6 connection cable, 6m, with Binder cable socket and free ends
D-MS/MONT	MS3106PEMV connection plug fitted to Kab139A
D-15D/MONT	15-pin D-Sub plug fitted to Kab139A

Regional Distributor



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