



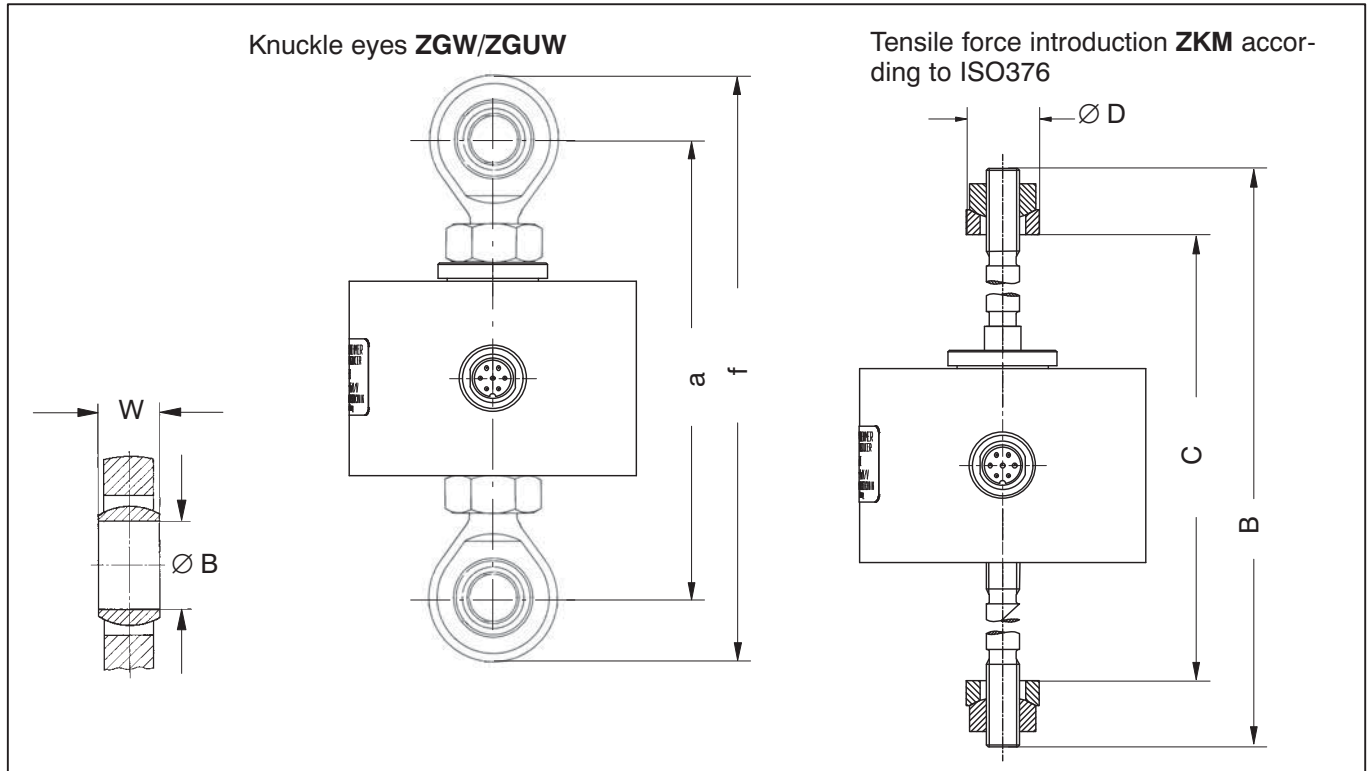
# Specifications

Type	Z30												
Data according to VDI standards 2638 and ISO376													
Nominal (rated) force	F <sub>nom</sub>	N	50	100	200	500	1000	2 k	5 k	10 k			
Class	00 <sup>1)</sup>												
<b>Nominal sensitivity</b>	C <sub>nom</sub>	mV/V								2			
rel. sensitivity deviation (compression)	d <sub>c</sub>	%								0.1			
rel. tensile/compressive force sensitivity difference	d <sub>zd</sub>	%								0.1			
rel. zero signal deviation	d <sub>s,0</sub>	mV/V	0.2						0.1				
rel. zero point compensation	f <sub>0</sub>	%								0.008			
<b>Rel. range (0.2F<sub>nom</sub> to F<sub>nom</sub>) at:</b>													
unchanged mounting position	b <sub>i</sub>	%								0.02			
different mounting positions	b	%								0.04			
<b>Rel. range of inversion (0.2F<sub>nom</sub> to F<sub>nom</sub>)</b>	u	%								0.06			
<b>Linearity deviation</b>	d <sub>lin</sub>	%								0.03			
<b>Effect of temperature on sensitivity/10 K by reference to nominal sensitivity</b>	TK <sub>c</sub>	%								0.02			
<b>Effect of temperature on zero signal/10 K by reference to nominal sensitivity</b>	TK <sub>0</sub>	%								0.02			
<b>Effect of transverse forces (transverse forces 10 % F<sub>nom</sub>)</b>	d <sub>Q</sub>	%								0.1			
<b>Effect of eccentricity per mm</b>	d <sub>E</sub>	%								0.03			
<b>Rel. creep over 30 min</b>	d <sub>crF+E</sub>	%								0.03			
<b>Input resistance</b>	R <sub>e</sub>	Ω					>345			>690			
<b>Output resistance</b>	R <sub>a</sub>	Ω					300-500			600-800			
<b>Isolation resistance</b>	R <sub>is</sub>	Ω								>5·10 <sup>9</sup>			
<b>Reference excitation voltage</b>	U <sub>ref</sub>	V								5			
<b>Operating range of the excitation voltage</b>	B <sub>U,G</sub>	V								0.5 ... 12			
<b>Nominal temperature range</b>	B <sub>t,nom</sub>	°C								+10...+40			
<b>Operating temperature range</b>	B <sub>t,G</sub>	°C								-10...+70			
<b>Storage temperature range</b>	B <sub>t,S</sub>	°C								-25...+85			
<b>Reference temperature</b>	t <sub>ref</sub>	°C								+22			
<b>Max. operational force</b>	(F <sub>G</sub> )	%					120			150			
<b>Limit force</b>	(F <sub>L</sub> )	%								150			
<b>Breaking force</b>	(F <sub>B</sub> )	%								250			
<b>Static lateral limit force</b>	(F <sub>Q</sub> )	%								60			
<b>Permissible torque</b>	(M <sub>G</sub> )	Nm	1.5	3	5	5	5				80		
<b>Nominal displacement</b>	S <sub>nom</sub>	mm								< 0.4			approx. 0.2
<b>Fundamental resonance frequency</b>	f <sub>G</sub>	kHz	0.2	0.3	0.5	0.9	1.1	1.1	1.1	1.25			
<b>Weight</b>		kg						approx. 0.9			approx. 2.3		
<b>Rel. permissible vibrational stress</b>	F <sub>rb</sub>	%								70			
<b>Connector, six-wire connection</b>											radial and axial male connector		
<b>Degree of protection to DIN EN 60529</b>											IP50		

<sup>1)</sup> Accuracy class 00 according to ISO376 only guaranteed in conjunction with a DKD-calibration certificate

## Accessories

### Force introduction parts for tensile loading

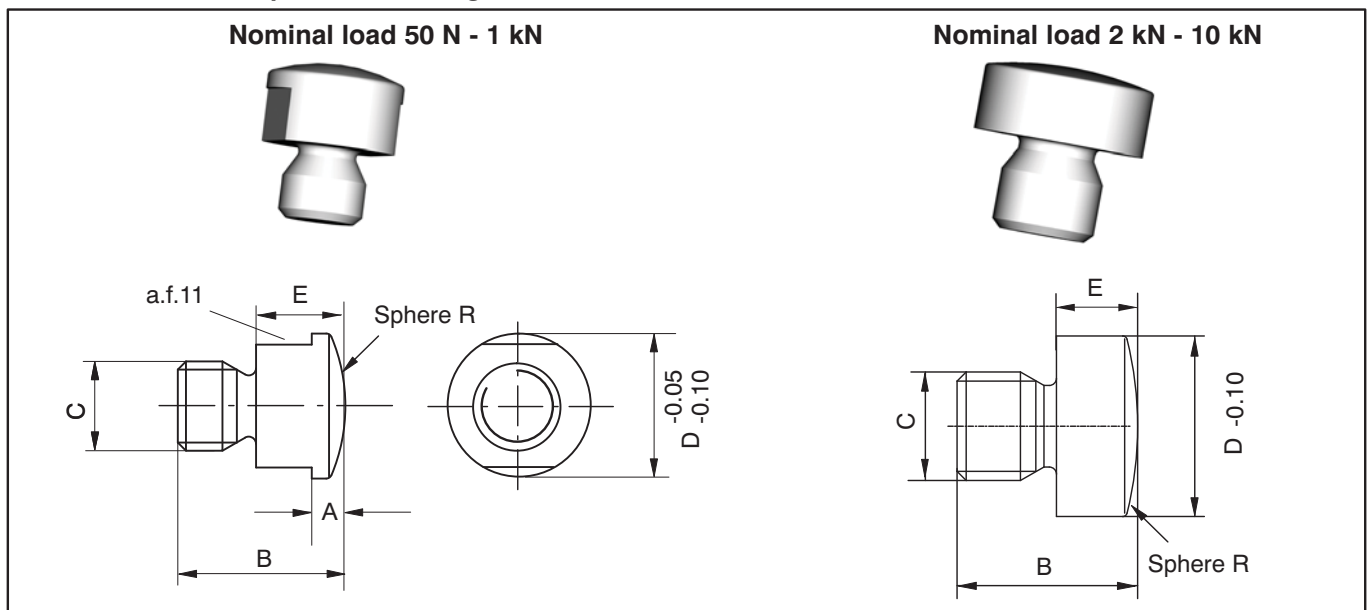


Type	Knuckle eye upper/lower Order number	a	f	W	ØB
Z30/50 N - 1000 N	1-U1R/200 kg/ZGW	147.5	170	12	8 <sup>H7</sup>
Z30/2 kN - 10 kN	1-U2A/1 t/ZGUW	169	201	16	12 <sup>H7</sup>

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

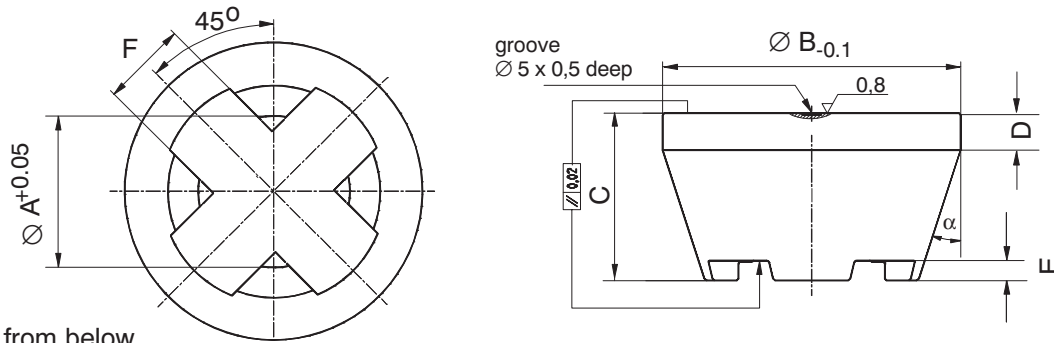
### Load button for compressive loading



Type	Load button	A	B	C	D	E	R
Z30/50N - 1000 N	1-U1R/200kg/ZL	3	15	M8	13	8	16
Z30/2kN - 10 kN	3-9202.0140	11	20	M12	20	9	40

### Thrust piece EDO4/EDO3 for precision measurements

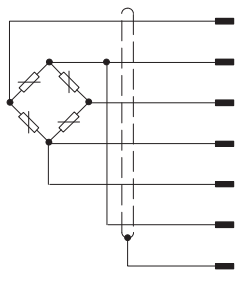
(must always be used in combination with the load button, when under compressive loading)



View from below

Type	Thrust piece	Weight (kg)	$\varnothing A$	$\varnothing B$	C	D	E	F	$\alpha$
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)

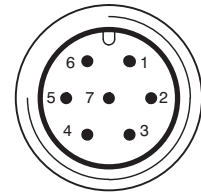


WH (white)	Measurement signal (+) $U_A$
BK (black)	Excitation voltage (-) $U_B$
RD (red)	Measurement signal (-) $U_A$
BU (blue)	Excitation voltage (+) $U_B$
GN (green)	Sensor circuit (+)
GY (grey)	Sensor circuit (-)
shielding	Cable shielding, connected to housing

Pin on male connector

1
2
4
3
6
7
5 (no function)

Top view



Transport case for 4 force transducers Z30 and accessories,  
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

#### Regional Distributor

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