Data Sheet

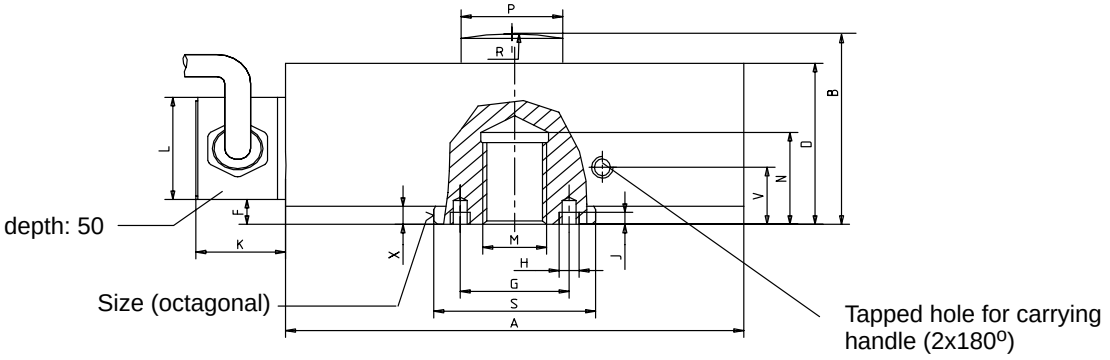
C4

Force Standards

Special features

- **Compression Force transducers with maximum accuracy for use as test standard**
- **Nominal forces 20 kN ... 500 kN**
- **Classification option by device classes with DKD calibration certificate according to EN10002-3**
- **Transfer standard in international force reference**
- **Good long-term stability**

Dimensions (in mm; 1 mm= 0.03937 inches)



Type	∅ A	B	D	F	G	H	J	M	N	R	∅ S_{f7}	V	X	a./f.	K	L	∅ $P_{-0.1}$
C4/20 kN	115	54.5	47	7.3	–	–	–	M16	27	60	40	–	5.3	38	22	30	25
C4/50 kN	120	60.2	55	10.2				M20x1.5	28	160	48		8.2	45			26
C4/100 kN	146	74.2	69	12.2				M30x2	37	300	62		10.2	59			40
C4/200 kN	180	94.2	89	13.1	68	M6	6	M39x2	45	300	76		11.1	73			50
C4/500 kN	275	159	145	21	118	M8	8	M72x4	87	400	140	35	20	134	32	43	64

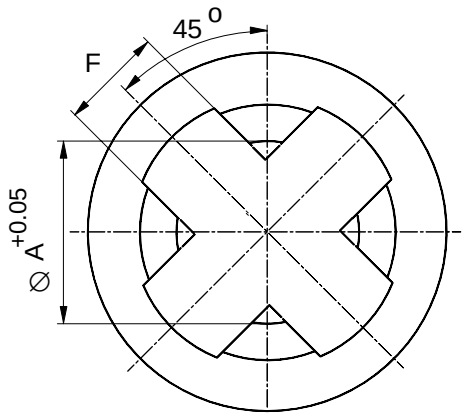
Specifications

Type			**C4**				
Data according to VDI standards 2638							
Nominal force	**F_{nom}**	**kN**	**20**	**50**	**100**	**200**	**500**
possible classification according to EN 10002-3 in conjunction with DKD calibration certificate			0.5				1
Nominal sensitivity	C_{nom}	mV/V	2				
rel. sensitivity deviation	d_c	%	0.1				
zero signal tolerance	$d_{s.o}$	%	0.5				
rel. zero point compensation (zero signal return)	f_o	%	$< \pm 0.02$				
Rel. range (0.2F_{nom} to F_{nom}) at:							
unchanged mounting position, typically	b_{rg}	%	0.02				
different mounting positions, typically	b_{rv}	%	0.03				
Hysteresis (0.2F_{nom} to F_{nom})	u	%	0.1				0.3
Linearity deviation	d_{lin}	%	0.02				0.03
Effect of temperature on sensitivity/10 K by reference to nominal sensitivity	TK_c	%	0.01				
Effect of temperature on zero signal/10 K by reference to nominal sensitivity	TK_0	%	0.015				
Effect of transverse forces (Transverse forces 10 % F_{nom})[1)]	d_Q	%	0.03				
Effect of eccentricity per mm	d_E	%	0.01		0.005		
Ambient pressure influence on zero signal per 10mBar	p_{KQ}	%	0.015	0.006	0.004	0.002	0.001
Rel. creep over 30 min	d_{crF+E}	%	0.02				
Input resistance	R_e	Ω	>345				
Output resistance	R_a	Ω	356 ± 0.3				
Isolation resistance	R_{is}	Ω	$>5 \cdot 10^9$				
Reference excitation voltage	V_{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	-30...+85				
Storage temperature range	$B_{t,S}$	°C	-50...+85				
Reference temperature	t_{ref}	°C	+23				
Max. operational force	(F_G)	%	150				
Limit force	(F_L)	%	150				
Breaking force	(F_B)	%	250				
Static lateral limit force	(F_Q)	%	30				
Nominal displacement	S_{nom}	mm	0.2		0.25	0.28	0.45
Fundamental resonance frequency	f_G	kHz	4.1	4.5	3.4	3.6	2.5
Weight		kg	1.8	2.4	5.5	11.2	42
Rel. permissible vibrational stress	F_{rb}	%	70			50	
Cable length, six-wire connection		m	6				
Degree of protection to DIN EN 60529			IP67				

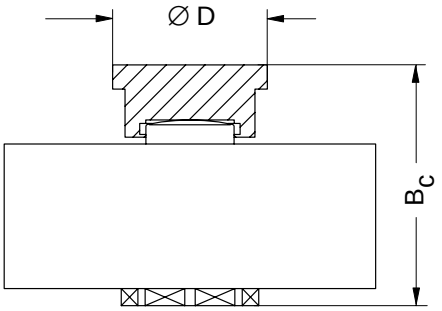
1) corresponds to load introduction point

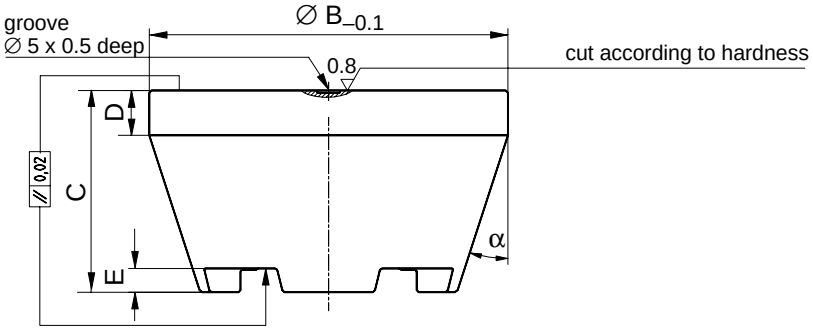
Accessories

EDO3 for precision measurements, acc. to DIN EN10002-3 or ISO/FDIS 376



EPO3 for standard measurements in industry





EDO3 thrust piece

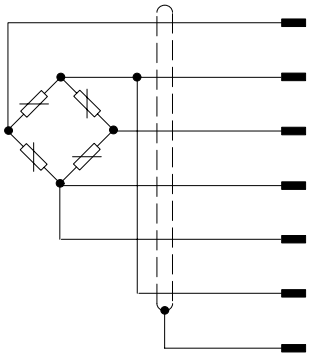
Type	Thrust piece	Weight [kg]	∅ A	∅ B	C	D	E	F	α
C4/20 kN	EDO3/20 kN	0.34	25.2	48	27	8	3	12	18°
C4/50 kN	EDO3/50 kN		26.2		27		3		
C4/100 kN	EDO3/100 kN	1.58	40.2	80	45	10	5	23	
C4/200 kN	EDO3/200 kN		50.2						
C4/500 kN	EDO3/500 kN	4.35	64.2	112	62	15	6	30	15°

EPO3 thrust piece

Type	Thrust piece	Weight [kg]	B_C	∅ D
C4/20 kN	EPO3/5 T	0.10	70	45
C4/50 kN	EPO4/50 kN	0.18	75	45
C4/100 kN	EPO4/100 kN	0.40	109.5	90
C4/200 kN	EPO4/200 kN	1.26	129	90
C4/500 kN	EPO3/100 T	5.80	214	90

Pin assignment

Six-wire connection



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

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