

# C6A

## Force Transducer

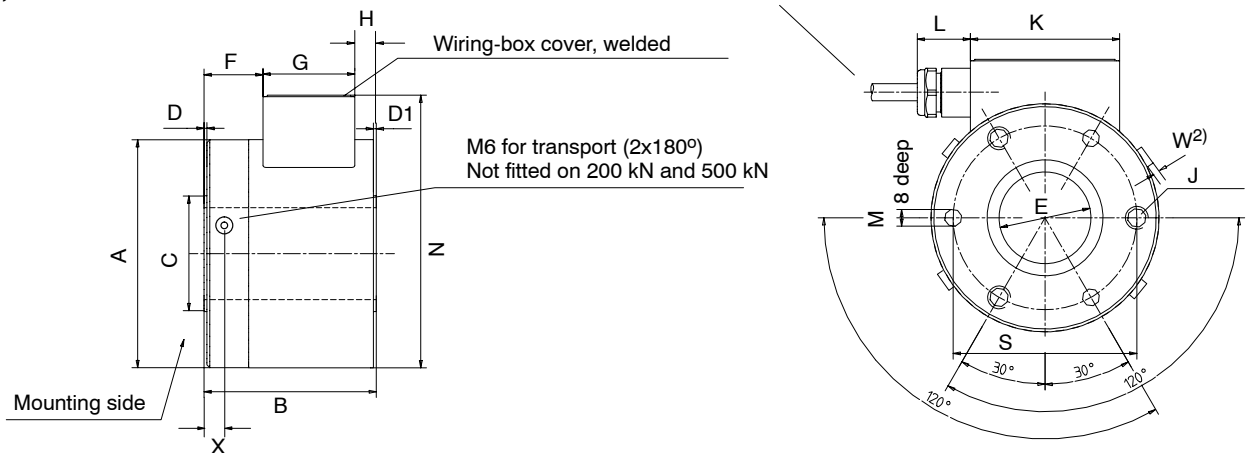


### Special features

- Compressive force transducer
- Nominal forces 200 kN ... 5 MN
- Continuous inner bore for nominal forces from 200 kN to 2 MN
- Rust-resistant version for 200 kN and 500 kN nominal forces
- Extensive mounting accessories

Dimensions (in mm; 1 mm= 0.03937 inches)

**C6A<sup>1)</sup>**, nominal forces 200 kN...2 MN



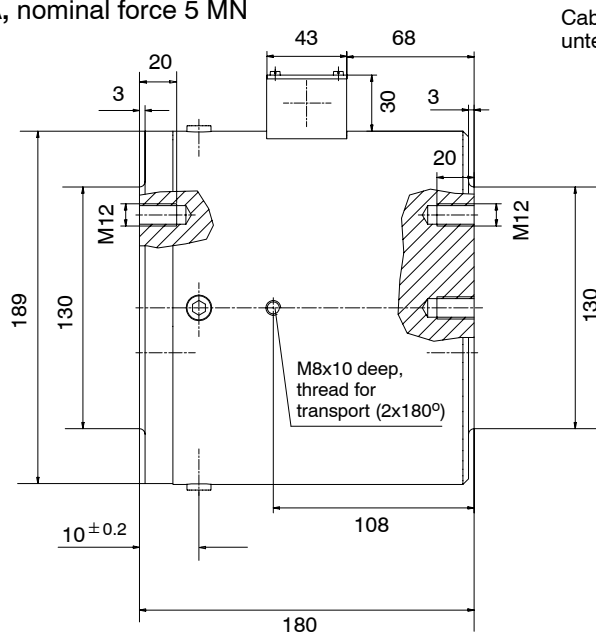
1) Force transducers for nominal loads ≤500kN, manufactured from rust-resistant material

2) For 1 MN and 2 MN only

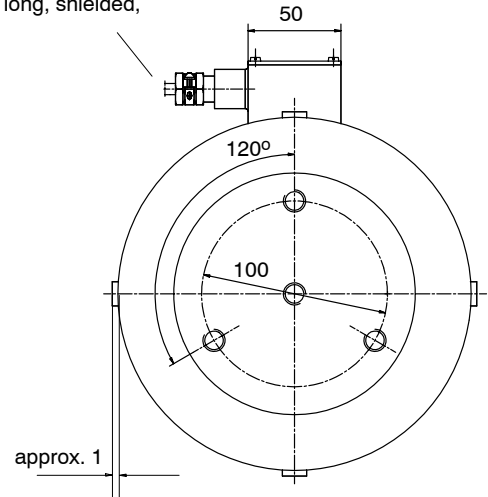
Nominal forces	A	B	C ±0.1	D	D1	E <sup>+0.1</sup>	F	G	H	J	K	L	M <sup>H11</sup>	N	S ±0.1	W	X
200 kN	80	60	40.4	1	1	32	19.5	32.5	8	M8-8deep	53	18.5	6	97.5	64	-	-
500 kN	80	60	52	1	1	32	19.5	32.5	8	M8-8deep	53	18.5	6	97.5	64	-	-
1 MN	168	100	88	2	3	68	29	43	28	M12-15deep	50	35	8	200	130	1	10
2 MN	168	100	106	2	3	68	29	43	28	M12-15deep	50	35	8	200	130	1	10

## Dimensions continued (in mm)

### C6A, nominal force 5 MN



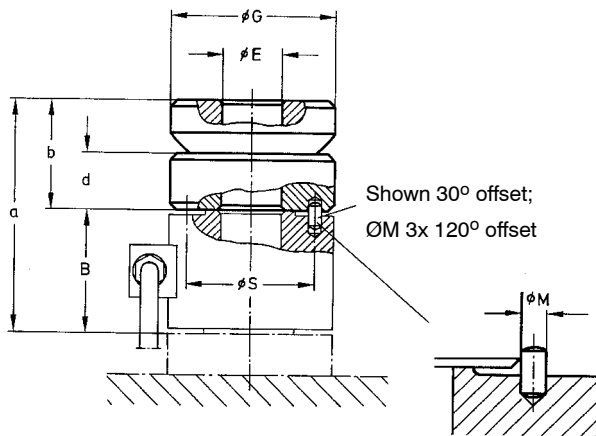
Cable:  $\varnothing 6.5$  mm; 6 m long, shielded, unterminated



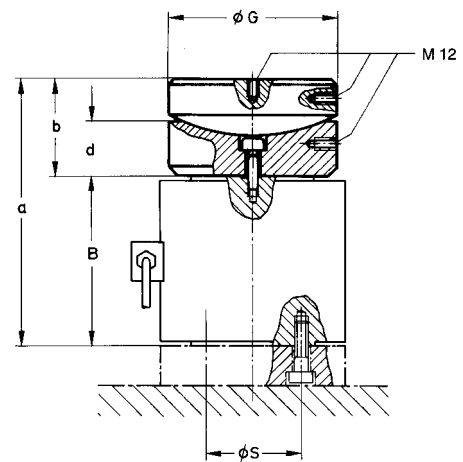
## Mounting accessories

### Spherical cap ZK (Compensation by oblique load introduction)

for nominal forces in range 200 kN...2 MN



for 5 MN nominal forces

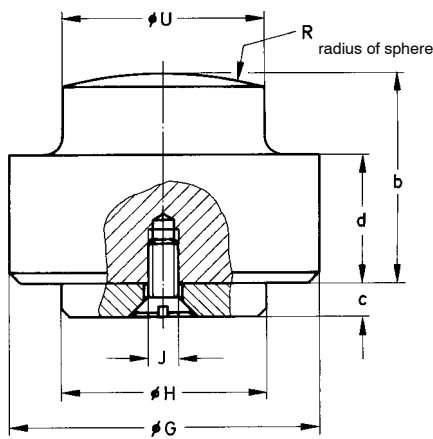


Nominal forces	ZK order no.	Weight in kg	B	E <sup>+0.1</sup>	G	M <sub>h11</sub>	s	a	b	d
200...500 kN	1-C6/50T/ZK	1.7	60	32	82 <sub>-0.2</sub>	6	64 ± 0.1	112	52	28
1 MN	1-C6/100T/ZK	3.8	100	68	121.5 <sub>-0.2</sub>	8	130 ± 0.1	175	74.5	40
2 MN	1-C6/200T/ZK	11.6	100	68	159 <sub>-0.2</sub>	8	130 ± 0.1	195	95	50
5 MN	1-C6/500T/ZK	20.6	180	-	178 <sub>-0.3</sub>	-	100	284	103	61

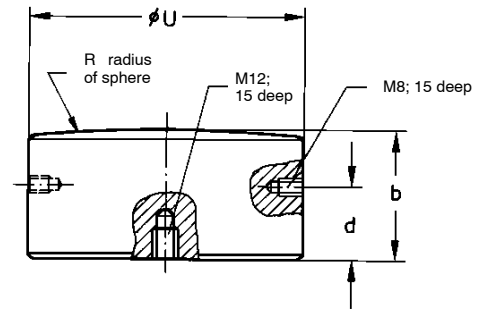
## Mounting accessories continued

### Load button ZL (for high-precision measurement)

for nominal forces in range 200 kN... 2 MN

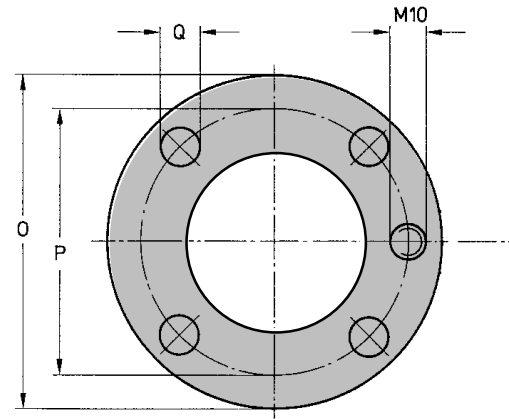
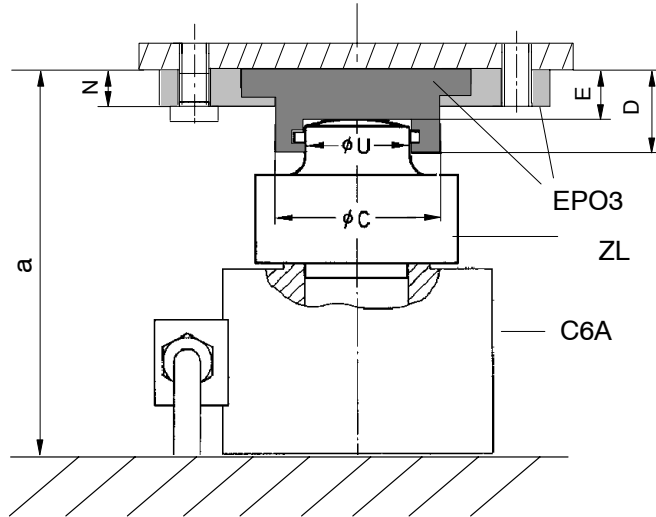


for 5 MN nominal forces



Nominal forces	ZL order no.	Weight in kg	G	H <sub>-0.1</sub>	J	R	U <sub>-0.2</sub>	b	c	d
200 kN	1-C6/20T/ZL	0.8	60	31.9	M5	300	32	45	5	30
500 kN	1-C6/50T/ZL	0.8	60	31.9	M5	300	44	45	5	30
1 MN	1-C6/100T/ZL	6.4	120	67.9	M6	600	64	80	8	60
2 MN	1-C6/200T/ZL	6.8	120	67.9	M6	600	85	80	8	60
5 MN	1-C6/500T/ZL	6.5	-	-	-	-	129.8 <sub>-0.05</sub>	60	-	35

### Thrust piece EPO3



\* Shown with load buttons ZL 0.2 MN...2 MN

Nominal forces	EPO3 order no.	Weight in kg	C	D	E	N	O	P	Q	U <sub>-0.2</sub>	a
200 kN	1-EPO3R/20T	1.2	47.9	27.5	20	14	114	90	13	32	125
500 kN	1-EPO3/50T	3.4	81.9	50	39.5	20	148	120	17	44	144.5
1 MN	1-EPO3/100T	3.2	81.9	50	39.5	20	148	120	17	64	219.5
2 MN	1-EPO3/250T	13.0	139.5	80	67.5	25	225	190	22	85	247.5
5 MN	1-EPO3/500T	27.0	169.8	103	90	33	270	220	26	130	250

## Specifications (data according to VDI standards 2638)

Type	C6A						
Accuracy class	0.5						
Nominal force	F <sub>nom</sub>	MN	200 kN	500 kN	1 MN	2 MN	5 MN
Nominal sensitivity	C <sub>nom</sub>	mV/V	2				
<b>Relative sensitivity deviation<sup>2)</sup></b>	d <sub>c</sub>	%					< ±1
when used with hardened pressure plates		%	< ±2.5				< ±1
when used with load button ZL and pendle bearing EPO3		%	< ±0.5				< ±0.5
when used with spherical cap ZK		%	< ±2.5	< ±4		< ±0.5	
<b>Relative zero signal deviation</b>	d <sub>s,o</sub>	%	< 1				
<b>Relative range of inversion (0.5F<sub>nom</sub>)</b>	u	%	< ±0.8				
<b>Linearity deviation<sup>2)</sup></b>	d <sub>lin</sub>	%					
when used with hardened pressure plates		%	< ±1				< ±0.5
when used with load button ZL and pendle bearing EPO3		%	< ±0.5				< ±0.5
when used with spherical cap ZK		%	< ±1				< ±0.5
<b>Effect of temperature on sensitivity/10 K by reference to nominal sensitivity</b>	TK <sub>c</sub>	%	< ±0.1				
<b>Effect of temperature on zero signal/10 K by reference to nominal sensitivity</b>	TK <sub>0</sub>	%	< ±0.05				
<b>Creep over 30 min, in nominal temperature range<sup>1)</sup></b>	d <sub>crF+E</sub>	%	< ±0.06				
<b>Input resistance at reference temperature</b>	R <sub>e</sub>	Ω	> 345				
<b>Output resistance at reference temperature</b>	R <sub>a</sub>	Ω	356 ± 1.5				
<b>Isolation resistance at test voltage 100 V</b>	R <sub>is</sub>	GΩ	> 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,GT</sub>	V	0.5 ... 12				
<b>Reference temperature</b>	t <sub>ref</sub>	°C	+23				
<b>Nominal temperature range</b>	B <sub>t,nom</sub>	°C	-10...+70				
<b>Operating temperature range</b>	B <sub>t,G</sub>	°C	-30...+85				
<b>Storage temperature range</b>	B <sub>t,S</sub>	°C	-50...+100				
<b>Maximum operating force<sup>1)</sup></b>	F <sub>G</sub>	%	150				
<b>Limit force<sup>1)</sup></b>	F <sub>L</sub>	%	150				
<b>Breaking force<sup>1)</sup></b>	F <sub>B</sub>	%					
when used with hardened pressure plates		%	> 300				
when used with load button ZL and pendle bearing EPO3		%	> 300			> 200	
when used with spherical cap ZK		%	> 200			> 200	
<b>Static lateral limit force<sup>1)</sup></b>	F <sub>Q</sub>	%					
when used with hardened pressure plates		%	20				
when used with load button ZL and pendle bearing EPO3		%	20				10
when used with spherical cap ZK		%	10				
<b>Permissible vibration amplitude<sup>1)</sup> to DIN 50 100</b>	F <sub>rb</sub>	%	70				
<b>Nominal displacement without mounting accessories ( ± 15 %)</b>	S <sub>nom</sub>	mm	0.07	0.08	0.09	0.11	0.26
<b>Natural frequency without coupled ground and without mounting accessories</b>	f <sub>G</sub>	kHz	4.5	8	6	7.5	4.3
<b>Weight, without cable</b>		kg	1.4	1.7	10.8	12.2	33
<b>Degree of protection to DIN EN 60 529</b>			IP 67				
<b>Cable length, 6-wire connection</b>		m	6				

<sup>1)</sup> related to the nominal force

<sup>2)</sup> the differing tolerances when using different mounting accessoires are due to the transducer's low profile

Modifications reserved.

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托驰 (上海) 工业传感器有限公司  
 上海市嘉定区华江路348号1号楼707室  
 电话: +86 021 51069888  
 传真: +86 021 51069009  
 邮箱: zhang@yanatoo.com  
 网址: www.sensor-hbm.com



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