KD/STZ

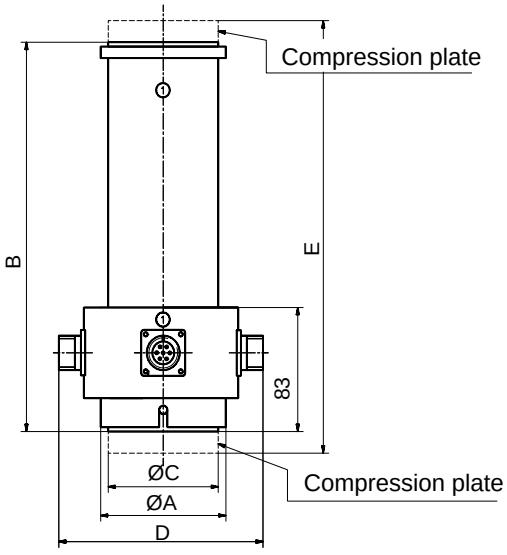
Force transducers

Special features

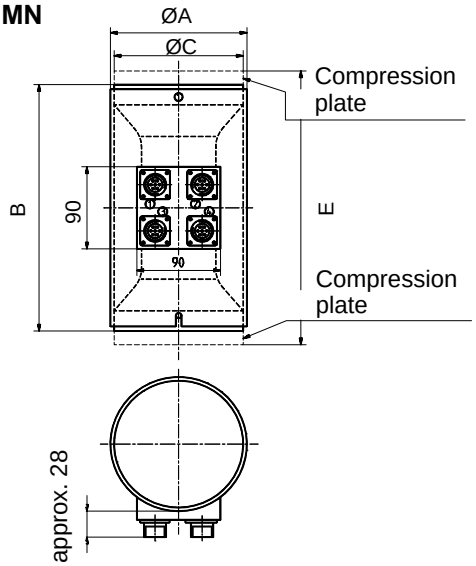
- **KD: compressive force transducers**
  STZ: tensile force transducers
- **Nominal forces 600 kN ... 5 MN**
- **Standard: 4 full bridges for direct bending moment acquisition**
- **KD/STZ-specification for material testing machines**

Data sheet

KD 1...2 MN



KD 3...5 MN



Dimensions (in mm; 1 mm= 0.03937 inches)

Type order no.	ØA	B	ØC	approx. D	E	Weight
1-KD / 1 MN	91	270	80	155	300	10 kg
1-KD / 2 MN	124	270	113	188	300	18 kg
1-KD / 3 MN	147	270	139	-	320	27 kg
1-KD / 5 MN	189	370	179	-	440	64 kg

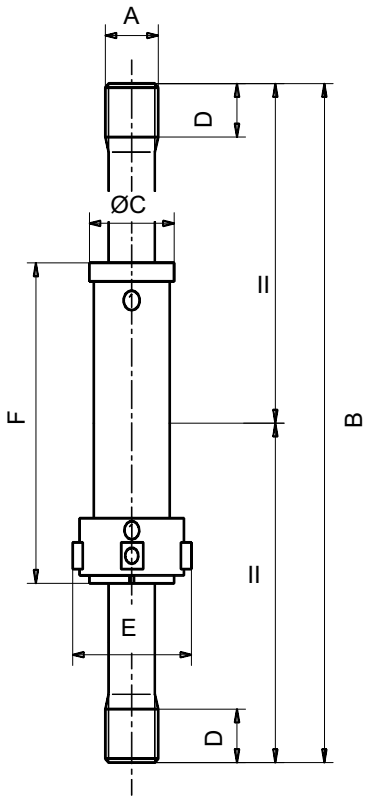
Specifications KD/STZ

Type			**KD compression cylinder**				**STZ tension bar**	
Data according to VDI 2638 standards								
Nominal force	F_{nom}	**kN**	**1 000**	**2 000**	**3 000**	**5 000**	**600**	**1 000**
Class under ISO 376 (0.2F_{nom} to F_{nom})[1)]			0.5					
Nominal sensitivity	C_{nom}	mV/V	2.3 to 2.4					
Rel. zero point compensation (zero signal return)	f_0	%	< 0.025 (typ. 0.012)					
Relative range (0.2F_{nom} to F_{nom}) at								
unchanged mounting position, typ.	b_i	%	0.02					
different mounting positions, typ.	b	%	0.07					
Relative range of inversion (0.2F_{nom} to F_{nom})	u	%	0.13 (typ. 0.07)					
Effect of temperature on sensitivity / 10 K by reference to nominal sensitivity	TK_c	%	0.1					
Effect of temperature on the zero signal / 10 K by reference to nominal sensitivity	TK_0	%	0.1					
Number of strain gauge full bridges			4					
Input resistance	Re	Ω	700 ±2 %					
Isolation resistance	R_{is}	Ω	> 5 x 10^9					
Reference excitation voltage	U_{ref}	V	5					
Operating range of excitation voltage	$B_{U, G}$	V	0.5 ... 12					
Nominal temperature range	$B_{t,nom}$	°C	+10...+40					
Storage temperature range	$B_{t,S}$	°C	-25...+85					
Reference temperature	t_{ref}	°C	+22					
Max. operational force	(F_G)	%	115					
Weight, approx.		kg	see drawings					
Degree of protection to DIN EN 60529			IP64					
Electrical connection			4 MS3102A16S-1S device boxes					

1) Classification can only be obtained in conjunction with a DKD calibration under ISO 376 from HBM

Dimensions

STZ 0.6...1MN



Typ. ord.no.	A	B	ØC	D	approx. E	F
1-STZ / 0.6 MN	M56x4	650	78,3	40	142	232
1-STZ / 1 MN	M64x4	750	96.3	60	160	240

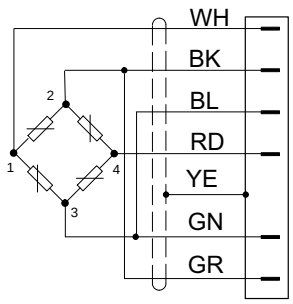
These special KD and STZ transducers are used to check out material testing machines and are designed in accordance to ISO 376. They are compressive force transducers and tensile force transducers that, because of their maximum overall height, are suitable for checking material testing machines according to ISO 7500-1.

The transducers can be used to not only check the force measuring device itself, but also its machine frame under loading. The transducers are therefore each equipped with four SG full bridges, attached around 90° at the circumference of the transducer spring body. In this way, it is possible to determine if the machine frame and the force introduction parts allow the correct, axial stress of a properly installed test specimen.

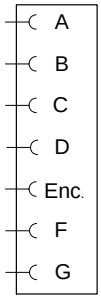
Accessories, to be ordered separately:

1-KAB159-5 Connection cable with male connector MS3106PEMV and free ends, length 5 m

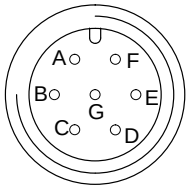
Pin assignment KD/STZ



WH	Measurement signal (+)
BK	Excitation voltage (-)
BL	Excitation voltage (+)
RD	Measurement signal (-)
YE	Cable shield
GN	Sensor circuit (+)
GR	Sensor circuit (-)



Top view



MS3102A16S-1S

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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