Data Sheet | Force Transducer Series K

Nominal Force
0.2 kN — 630 kN

Applications | Key Facts

- Applications: materials testing | component and structural testing | industrial quality and process control
- Compressive and tensile forces, static and dynamic
- Flat, robust design | low mass, high resonance frequency
- Accuracy class: 0.02 to 0.05 | high-precision measurement results over the entire measuring range
- Force introduction via flange or thread
- Fatigue and long-term stability | cycles: > 100 million cycles *note amplitude
- Standard variants with short delivery time or configurable variants for maximum flexibility

Options | Accessories

- Available as flange, threaded or flange and threaded version
- Optional second axial measuring circuit for redundancy
- Optional bending moment measuring circuits Mx, My
- Optional expanded temperature range
- Extensive electrical connection options
- Extensive mechanical accessories
- Tension Torsion combination with Series M torque transducer

Technical Data | 0.2 – 2.5 kN

	Nominal forcecompression/tension	$\pm F_{nom}$	kN	0.2	0.5	1	2.5
Metrological Data	Accuracy class			0.02			
	Force measurment range		%	1 - 100			
	Linearity error	d_{lin}	%	0.02			
	Interpolation error	f_c	%	0.4			
	Hysteresis	h	%	0.02			
	Reversibility error	v	%	0.2			
	Repeatability (f.s.)		%	0.003			
	Creep		%	0.03			
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0.04			
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0.025			
	Eccentricity effect		%/mm	0.015			
	Bending moment effect		%/N·m	0.075	0.03	0.015	0.006
	Lateral force effect		%/(0.1·F_{nom})	0.02			
	Torque effect		%/(mm·F_{nom})	0.2			
	Characteristic value difference, tension/compression force	d_{ZD}	%	0.15			
Electrical Data	Rated characteristic value	C_{nom}	mV/V	2			
	Characteristic value tolerance	d_c	%	0.2			
	Zero signal deviation	$d_{S,0}$	%	0.5			
	Input resistance	R_e	Ω	> 550			
	Output resistance	R_a	Ω	> 400			
	Insulation resistance	R_{is}	Ω	> 10^9			
	Operating range of excitation voltage	$B_{U,\ G}$	V	5 - 20			
	Protection (DIN EN 60529)			50[1] ; 67[2]			

Technical Data | 0.2 – 2.5 kN

Mechanical Data	Nominal forcecompression/tension	$\pm F_{nom}$	kN	0.2	0.5	1	2.5
	Rated Displacement	s_{nom}	mm	0.05			
	Spring rigidity	c_{ax}	kN/mm	3.5	7	14	35
	Mass	m	kg	0.3		0.5	
	Proportionate moving mass	m_{mess}	kg	0.01		0.013	
	Fundamental resonant frequency	f_G	kHz	8			
	Permissible oscillation stress		%	± 80			
Limits	Force limit		%	±150			
	Breaking force		%	> 300			
	Lateral force limit		%	±100			
	Permissible eccentricity	e_G	mm	10			
	Bending moment limit	$M_{b\,zul}$	N·m	2.5	5	15	30
	Rated temperature range	$B_{T,\,nom}$	°C	10 - 60			
	Operating temperature range	$B_{T,\,G}$	°C	-40 - +120			

1) Connection pluggable

2) Permanent connection

Technical Data | 4 – 630 kN

Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
Accuracy class			0.02							0.03	0.05
Force measurment range		%	1 - 100								
Linearity error	d_{lin}	%	0.02							0.03	
Interpolation error	f_c	%	0.4								
Hysteresis	h	%	0.02						0.03	0.05	0.08
Reversibility error	v	%	0.2								
Repeatability (f.s.)		%	0.003								
Creep		%	0.025								
Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0.04								
Temperature effect on zero signal per 10 K	TK_0	%/10 K	0.025								
Eccentricity effect		%/mm	0.015								
Bending moment effect		%/N·m	< 0.003								
Lateral force effect		%/(0.1·F_{nom})	0.02								
Torque effect		%/(mm·F_{nom})	0.005								
Characteristic value difference, tension/compression force	d_{ZD}	%	0.07						0.1		

Metrological Data

Rated characteristic value[3)]	C_{nom}	mV/V	2			1 ; 2			1 ; 2		2
Characteristic value tolerance	d_c	%	0.2								
Zero signal deviation	$d_{S,0}$	%	0.5								
Input resistance	R_e	Ω	1000 - 1200	1100 - 1400	1100 - 1200	1200 - 1500			1000 - 1200	1100 - 1500	
Output resistance	R_a	Ω	900 - 1000	900 - 1200	900 - 1100	1000 - 1200			800 - 1000	900 - 1100	1000 - 1200
Insulation resistance	R_{is}	Ω	> 10^9								
Operating range of excitation voltage	$B_{U,G}$	V	5 - 20								
Protection (DIN EN 60529)			50[1)] ; 68[2)]								

Electrical Data

Technical Data | 4 – 630 kN

Mechanical Data	Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
	Rated Displacement[4]	s_{nom}	mm	0.093 0.08 0.086	0.071		0.12	0.15	0.16	0.19	0.21	0.32
	Spring rigidity[4]	c_{ax}	kN/mm	43 70 73	140 280 350 420	560 700 890	830	1000		1050 1300 1580	1900 2400	2000
	Mass	m	kg	0.5	1	1.2	3.7			10.4	20	31
	Proportionate moving mass	m_{mess}	kg	0.12	0.22	0.35	0.8			2.4	4	5
	Fundamental resonant frequency[4]	f_G	kHz	3 3.5 4	4	6.8	5			3.7	4	3
	Permissible oscillation stress[3]		%	± 80								
Limits	Force limit		%	150								
	Breaking force		%	300								
	Lateral force limit		%	100								
	Permissible eccentricity	e_G	mm	10			15			20	25	
	Bending moment limit	$M_{b\,zul}$	kN·m	0.25	0.4	1	3.5	5		10	20	
	Rated temperature range	$B_{T,\,nom}$	°C	10 – 60								
	Operating temperature range	$B_{T,\,G}$	°C	- 40 – +120								

1) Plug -in connection

2) Permanent connection

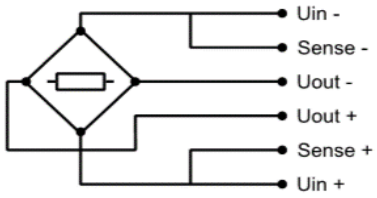
3) Rated characteristic value 1mV/V with permissible oscillation stress ± 100 % available on request.

4) Information for rated characteristic value 2mV/V; 1mV/V available on request.

Miscellaneous

Nominal force [kN] compression/tension	0.2 0.5 1 2.5	4 5 6,3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
Series K transducer version: flange = F			✓	✓	✓	✓	✓	✓	✓	✓
Series K transducer version: thread = T	✓		✓	✓						
Series K transducer version: thread and flange = B		✓								
Measuring principle | bending beam according to the principle of the symetrical spoke	✓									
Measuring principle | bending ring						✓				
Material spring body	0.2 kN - 0.5 kN: high strenght aluminium alloy | 1 kN - 630 kN: alloyed heat treated steel | Other special steels on request									

Cable Connection | 0.2 – 630 kN



Configurable variants Fixed cable connection with open cable ends	All standard variants Plug-in cable connection[1)2)]
SMC: grey | Ø 6.5 mm | twisted in pairs | 3 x 2 x 0.25 mm² | -35 °C to +90 °C TMC: red | Ø 7.2 mm | twisted in pairs | 3 x 2 x 0.25 mm² | -50 °C to +180 °C	7-pole LEMO Series 1 Female: - Male: 

Connection		Wire colour	Pin
Supply voltage (+)	U_{in+}	SMC: blue | TMC: white	3
Supply voltage (-)	U_{in-}	SMC: black | TMC: brown	2
Measurement signal (+)	U_{out+}	SMC: white | TMC: grey	1
Measurement signal (-)	U_{out-}	SMC: red | TMC: pink	4
Sense (+)	Sense+	SMC: green | TMC: green	5
Sense (-)	Sense-	SMC: grey | TMC: yellow	6
Shielding		SMC: yellow | TMC: black	Housing

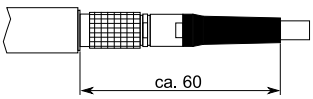
1) View too weldingside

2) Female LEMO S.A. Typ: EGG.1B.307.CLL; Male: FGG.1B.307.CLA.D72

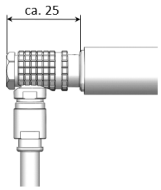
Pluggable cable connection

All standard variants of the series K are equipped with a pluggable LEMO socket. Suitable measuring cables S-CAB / C-CAB are available as accessories.

Plug-in cable connection with shielded measuring cable type SMC (S-CAB-L-5M-F)



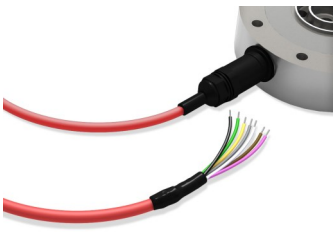
Note: when using angled 90° connectors (not rotatable), the alignment must be observed. In the standard version, the connection socket of the series K force transducer is positioned so that the 90° angled plug points downwards. Other orientations (up, right, left) are possible for non-rotatable 90° angle connectors on request.



Fixed measuring cable

All configurable variants of the series K are optionally available with fixed measuring cables, e.g. with 5 / 10 m shielded standard measuring cable type SMC or 5 m high / low temperature measuring cables and open cable ends or various connectors for strain gauge measuring amplifier connections.

Fixed shielded measuring cable type SMC with open cable ends



Fixed shielded high/low temperatur measuring cable type TMC with open cable ends

Fixed shielded measuring cable type SMC with connector

Fixed shielded high/low temperatur measuring cable type TMC with connector

Double Bridge | 4 – 630 kN

- For the double measuring bridge (available as configurable variant), the technical data apply equally to both measuring circuits.

- **Standard force transducer series K**
  Single bridge | 1 x LEMO push-pull connection socket (female) | flange version

- **Configurable force transducer series K**
  Double bridge | 2 x LEMO push-pull connection sockets (female)| flange version

Bending Moment Measuring Circuits | 4 – 630 kN

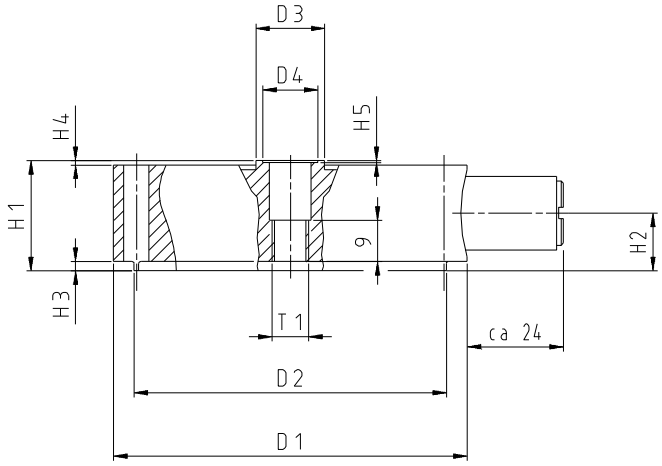
- The bending moment measuring circuits (available as configurable variant) Mx and My can be used advantagously with the use of a multi-channel measuring amplifier to control the force application.

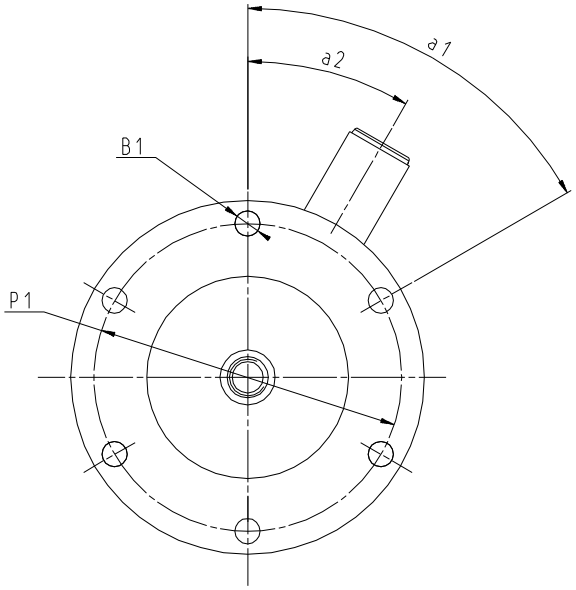
Nominal force	F_{nom}	kN	4 - 630 (2mV/V)	100 - 630 (1 mV/V)
Rated bending moment	Mb_{nom}	N·m	F_{nom} · 8 mm	F_{nom} · 12 mm
Reproducibility		%	0.01	
Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0.2	
Temperature effect on zero signal per 10 K	TK_0	%/10 K	0.2	
Rated characteristic value	C_{nom}	mV/V	ca. 0.3	
Input resistance	R_e	Ω	400	
Operating range of excitation voltage	$B_{U,G}$	V	5 - 12	

- **Configurable force transducer series K**
  Single bridge | | bending moment measuring ciruits Mx, My | 3 x LEMO push-pull connection sockets (female) | flange version

Dimensions | Threaded Version | 0.2 – 2.5 kN

- Force transducer Series K design: thread
- Transducer design: 0.2 kN - 2.5 kN

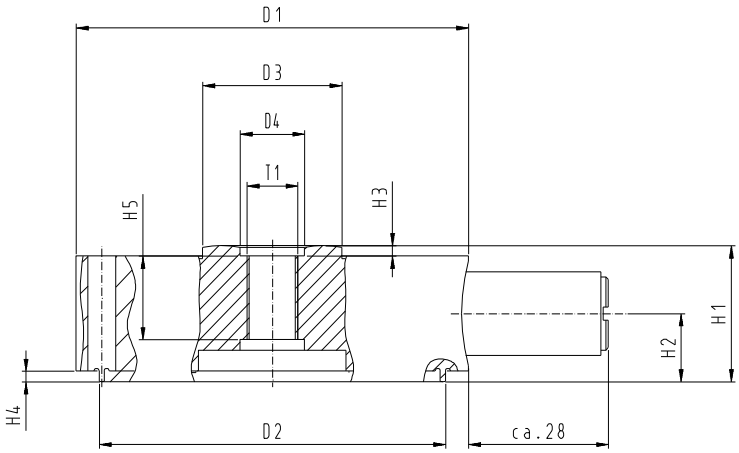


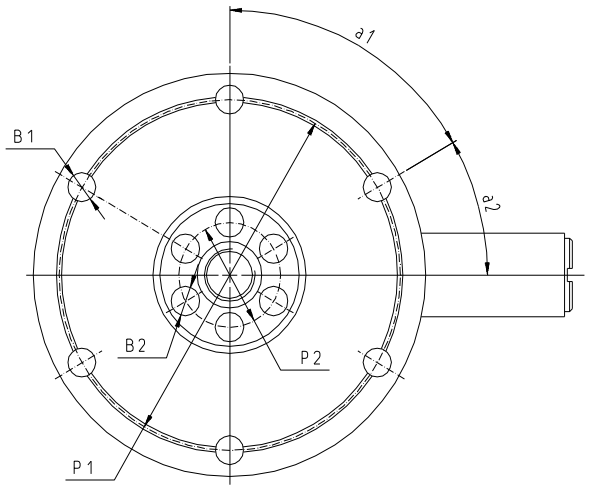


Nominal force compression/tension	$\pm F_{nom}$	kN	0.2	0.5	1	2.5
Bore	$ØB_1$	mm	5.5			
Diameter	$ØD_1$	mm	77			
Diameter	$ØD_2$	mm	68-0.1			
Diameter	$ØD_3$	mm	15			
Diameter	$ØD_4$	mm	12+0.1			
Pitch circle diameter	$ØP_1$	mm	67±0.1			
Thread	T_1		M8			
Height	H_1	mm	24			
Height	H_2	mm	12.5			
Height	H_3	mm	2			
Height	H_4	mm	1			
Height	H_5	mm	2			
Angle	a_1		60°			
Angle	a_2		30°			

Dimensions | Flange & Threaded Version | 4 – 6.3 kN

- Force transducer Series K design: flange and thread
- Transducer design: 4 kN - 6.3 kN

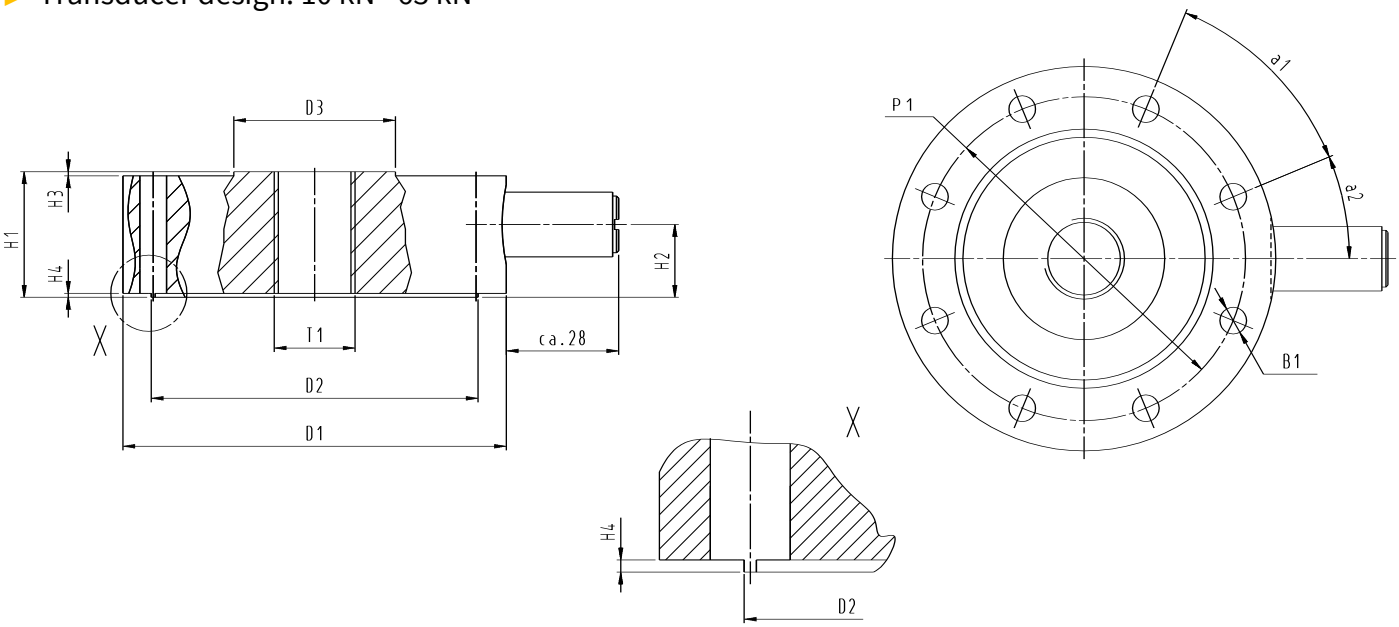




Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3
Bore	$ØB_1$	mm	5.3
Bore	$ØB_2$	mm	20±0.1
Diameter	$ØD_1$	mm	77-0.1
Diameter	$ØD_2$	mm	68-0.05
Diameter	$ØD_3$	mm	27.3
Diameter	$ØD_4$	mm	12.7+0.05
Pitch circle diameter	$ØP_1$	mm	67±0.1
Pitch circle diameter	$ØP_2$	mm	20±0.1
Thread	T_1		M10 x 1
Height	H_1	mm	26-0.1
Height	H_2	mm	13
Height	H_3	mm	2
Height	H_4	mm	2
Height	H_5	mm	16
Angle	a_1		6 x 60°
Angle	a_2		30°

Dimensions | Threaded Version | 10 – 63 kN

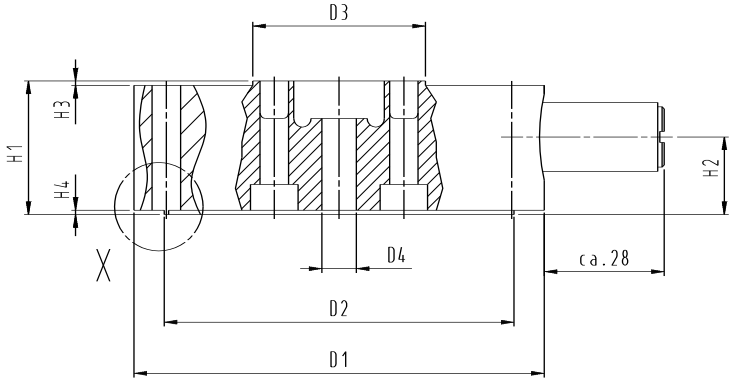
- Force transducer Series K design: thread
- Transducer design: 10 kN - 63 kN

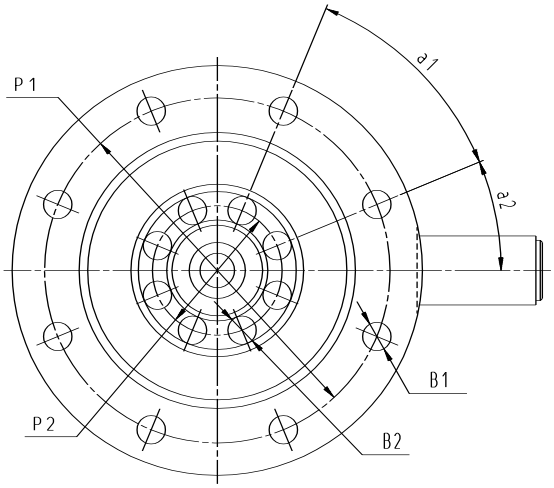


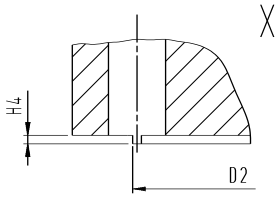
Nominal force compression/tension	$\pm F_{nom}$	kN	10 20	25 30	40 50 63
Bore	$ØB_1$	mm	6,6		
Diameter	$ØD_1$	mm	95-0,1		101-0,1
Diameter	$ØD_2$	mm	81-0,1		87,5-0,1
Diameter	$ØD_3$	mm	40-0,1		38,6-0,1
Pitch circle diameter	$ØP_1$	mm	80±0,1		86±0,1
Thread	T_1		M20 x 1,5		
Height	H_1	mm	31-0,1		
Height	H_2	mm	18		
Height	H_3	mm	1		1,5
Height	H_4	mm	1		
Angle	a_1		8 x 45°		
Angle	a_2		22,5°		

Dimension | Flange Version | 10 – 160 kN

- Force transducer Series K design: flange
- Transducer design: 10 kN - 160 kN



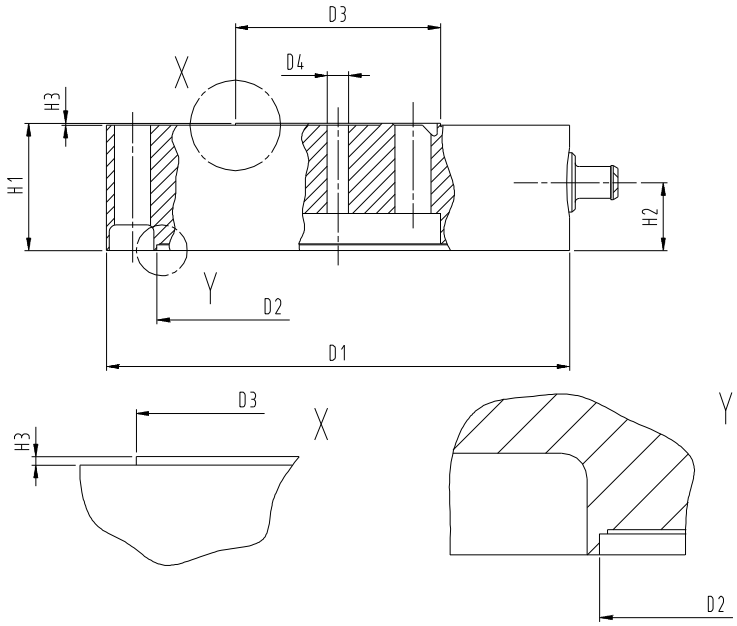


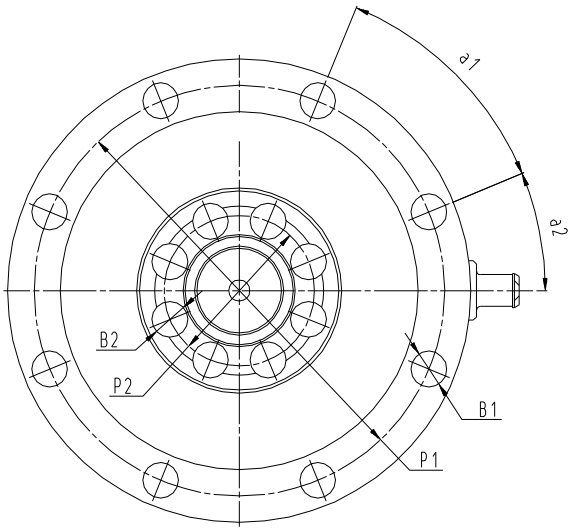


Nominal force compression/tension	$\pm F_{nom}$	kN	10 20	25 30	40 50 63	100 150 160
Bore	$ØB_1$	mm	6,6			11
Bore	$ØB_2$	mm	6,6			11
Diameter	$ØD_1$	mm	95-0,1		101-0,1	148-0,1
Diameter	$ØD_2$	mm	81-0,1		87,5-0,1	131,4-0,1
Diameter	$ØD_3$	mm	40-0,1		38,6-0,1	63
Diameter	$ØD_4$	mm	8H9			10+0,1
Pitch circle diameter	$ØP_1$	mm	80±0,1		86±0,1	130±0,1
Pitch circle diameter	$ØP_2$	mm	30±0,1			45±0,1
Height	H_1	mm	31-0,1			49-0,1
Height	H_2	mm	18			25
Height	H_3	mm	1		1,5	0,5
Height	H_4	mm	1			
Angle	a_1		8 x 45°			
Angle	a_2		22,5°			

Dimension | Flange Version | 200 – 630 kN

- Force transducer Series K design: flange
- Transducer design: 200 kN - 630 kN





Nominal force compression/tension	$\pm F_{nom}$	kN	200 250 300	400 500	630
Bore	$ØB_1$	mm	17	22	26
Bore	$ØB_2$	mm	17	22	26
Diameter	$ØD_1$	mm	219-0.1	270-0.1	312-0.2
Diameter	$ØD_2$	mm	171.05+0.1	203+0.1	226+0.1
Diameter	$ØD_3$	mm	97-0.1	128-0.1	151-0.1
Diameter	$ØD_4$	mm		10+0.1	
Pitch circle diameter	$ØP_1$	mm	194±0.1	235±0.1	267±0.1
Pitch circle diameter	$ØP_2$	mm	71±0.1	95±0.1	112±0.1
Height	H_1	mm	60-0.1	80-0.1	90-0.1
Height	H_2	mm	32	40	45
Height	H_3	mm		1	
Angle	a_1			8 x 45°	
Angle	a_2			22.5°	

Order Numbers | Standard Variants

▶ Force transducer Series K | standard variants available at short notice

Nominal force	Description	Order number
200 N	Standard force transducer series K | 0.2 kN | threaded version	S-K-K200-T
500 N	Standard force transducer series K | 0.5 kN | threaded version	S-K-K500-T
1 kN	Standard force transducer series K | 1 kN | threaded version	S-K-1K00-T
2.5 kN	Standard force transducer series K | 2.5 kN | threaded version	S-K-2K50-T
5 kN	Standard force transducer series K | 5 kN | threaded and flanged version	S-K-5K00-B
10 kN	Standard force transducer series K | 10 kN | flange version	S-K-10K0-F
10 kN	Standard force transducer series K | 10 kN | threaded version	S-K-10K0-T
20 kN	Standard force transducer series K | 20 kN | flange version	S-K-20K0-F
20 kN	Standard force transducer series K | 20 kN | threaded version	S-K-20K0-T
25 kN	Standard force transducer series K | 25 kN | flange version	S-K-25K0-F
25 kN	Standard force transducer series K | 25 kN | threaded version	S-K-25K0-T
40 kN	Standard force transducer series K | 40 kN | flange version	S-K-40K0-F
50 kN	Standard force transducer series K | 50 kN | flange version	S-K-50K0-F
50 kN	Standard force transducer series K | 50 kN | threaded version	S-K-50K0-T
63 kN	Standard force transducer series K | 63 kN | flange version	S-K-63K0-F
63 kN	Standard force transducer series K | 63 kN | threaded version	S-K-63K0-T
100 kN	Standard force transducer series K | 100 kN | flange version	S-K-100K-F
150 kN	Standard force transducer series K | 150 kN | flange version	S-K-150K-F
200 kN	Standard force transducer series K | 200 kN | flange version	S-K-200K-F
250 kN	Standard force transducer series K | 250 kN | flange version	S-K-250K-F
500 kN	Standard force transducer series K | 500 kN | flange version	S-K-500K-F
630 kN	Standard force transducer series K | 630 kN | flange version	S-K-630K-F

Note: all standard versions always (1) without attachments (2) no plug protection (3) 2 mV/V (4) single measuring bridge (5) standard temperature range (6) 1x LEMO connection socket 7-pin push-pull | no measuring cables included

Order Numbers | Configurable Variants

Force transducer Series K | configurable variants

Item	Code	Description
Force Transducer Series K	C-K	Configurable force transducer series K
Nominal Force	K200	200 N
	K500	500 N
	1K00	1 kN
	2K50	2.5 kN
	4K00	4 kN
	5K00	5 kN
	6K30	6.3 kN
	10K0	10 kN
	20K0	20 kN
	25K0	25 kN
	30K0	30 kN
	40K0	40 kN
	50K0	50 kN
	63K0	63 kN
	100K	100 kN
	150K	150 kN
	160K	160 kN
	200K	200 kN
	250K	250 kN
	300K	300 kN
	400K	400 kN
	500K	500 kN
	630K	630 kN
Mechanical design	F	Flange
	T	Thread
	B	Flange and thread
Mounting adapter	N	No mounting parts
	Y	With mounting parts
Plug protection	N	No plug protection
	Y	With plug protection
Nominal sensitivity	2	2 mV/V
	1	1 mV/V
Single or double measuring bridge	SB	Single bridge
	DB	Double bridge
Bending moment measuring circuits Mx, My	NO	No bending moment measuring circuits Mx, My
	BM	Bending moment measuring circuits Mx, My
Temperature range	S	Standard temp. range | +10°C - +60°C
	E	Extended temp. range | +10°C - ≤ +120°C |temperature adjustment
	L	Low and extended temp. range | -40°C - ≤ +120°C | temp. adjustment | low temp. protective measures
	H	High temp. range | +10°C - +180°C | temp. adjustment | high temp. protective measures
	B	High and low temp. range | -40°C - +180°C | temp. adjustment | high and low temp. protective measures
Electrical transducer connection (for all selected measuring circuits)	P	LEMO connection sockets(s) | 7-pole | push-pull | on all measuring circuits
	A	1 x 5 m | fixed standard measuring cable type SMC | on all measuring circuits
	B	1 x 10 m | fixed standard measuring cable type SMC | on all measuring circuits
	S	1 x 5 m | fixed high/low temperature measuring cable type TMC | on all measuring circuits
Cable connection type (for all selected measuring circuits)	P	LEMO connection sockets(s) selected | no fixed measuring cable(s)
	F	Free cable ends
	A	D-Sub 9-pole plug
	B	D-Sub 15-pole plug
	C	MS 7-pole plug
	M	M12 8-pole plug (for in-line amplifier series ILA)

Order Example

C	-	K	-	630K	-	F	-	N	-	N	-	2	-	DB	-	NO	-	S	-	A	-	F
				630 kN		flange		no mounting parts		no plug protection		2 mV/V		double bridge		no bending moment Mx, My		standard temperatur		5 m fixed cable type SMC		free ends

Order Numbers | Configurable Variants

Item	Description
Mechanical design	The series K force transducer has different mechanical interfaces depending on the nominal load. F = Flange version | nominal load: 10 - 630 kN T = Threaded version | nominal load: 0.2 - 2.5 kN and 10 - 63 kN B = Flange & threaded version | nominal load: 4 - 6.3 kN
Mounting adapter	Depending on the nominal load, the force transducer series K can be equipped with additional attachments. The attachments are all pre-assembled at the factory. - Nominal load: 0.2 - 2.5 kN with base plate M8 | screwed - Nominal load: 4 - 6.3 with base plate M10x1 | screwed - Nominal load: 10 - 63 kN with base plate M20x1.5 | screwed - Nominal load: 100 - 160 kN with base plate and thread adapter M30x2 | screwed - Nominal load: 200 - 300 kN with base plate and threaded adapter M42x3 | screwed - Nominal load: 400 - 500 kN with base plate and threaded adapter M56x4 | screwed - Nominal load: 630 kN with base plate and threaded adapter M56x4 | screwed
Plug protection	In special cases it may be necessary to additionally equip the electrical connections on the force transducer series K with a protective profile around the plug connection. Dimensions depending on nominal load.
Nominal sensitivity	The series K force transducer is specified for a permissible osccilation stress ± 80% (@2 mV/V). For the nominal forces 100 kN - 500 kN the option nominal value 1 mV/V can be selected. This allows a permissible osccilation stress of ±100% (@1 mV/V) to be achieved for these nominal force ranges.
Single or double measuring bridge 4 - 630 kN	For redundancy reasons, it is necessary, for example in safety-relevant applications, to check the safety-relevant integrity of the measuring signal by means of a second measuring bridge (functional redundancy in the same force transducer). Via two separate measuring amplifier channels, two series K force transducers output signals are processed and evaluated independently of each other. This makes it possible to connect two measuring amplifiers with different characteristics (DC / CF). The second redundant measuring circuit is characterised by no crosstalk between the channels at different carrier frequencies. The selection of a double measuring bridge affects the number of connection sockets and measuring cables (if selected).
Bending moment measuring circuits Mx, My 4 - 630 kN	The series K force transducer can be optionally equipped with bending moment measuring circuits. The additional bending moment measuring circuits can be measured to control the horizontal bending moments Mx and My and can be provided as separate channels. The selection of bending moment measuring circuits affects the number of connection sockets and measuring cables (if selected).
Temperature range	The selection of the temperature range has an effect on the feature electrical transducer connection / measuring cables, additonal temperature compensation and additional protective measures for high and / or low temperature ranges. S = For the standard temperature range +10°C - +60°C shielded measuring cables type SMC are used. E = For the extended temperature range +10°C - ≤ +120°C shielded high/low temperature measuring cables type TMC are used | additional temperature compensation L = For the low and extended temperature range -40°C - ≤ +120°C shielded high/low temperature measuring cables type TMC are used | additional temperature compensation | additional protective measures for use in the low temperature range H = For the high temperature range +10° - +180°C shielded high/low temperature measuring cables type TMC are used | additional temperature compensation | additional protective measures for use in the high temperature range B = For the high and low temperature range -40° - +180°C shielded high/low temperature measuring cables type TMC are used | additional temperature compensation | additional protective measures for use in the high and low temperature range Note: temperature compensation ensures that the series K force transducer fullfills the metrological characteristics over the selected temperature range.
Electrical transducer connection	The series K force transducer can be configured with fixed push-pull connection plugs (female) or fixed cables (type SMC or TMC) in different lengths. P = LEMO connection socket(s) | 7-pole | push-pull A = 5 m | fixed standard measuring cable type SMC B = 10 m | fixed standard measuring cable type SMC S = 5 m | fixed high/low temperature measuring cable type TMC Notes: the number of connection plugs and measuring cables results from the number of selected measuring bridges. The type of measuring cable depends on the selected temperature range.
Cable connection type	If the series K force transducer is configured with fixed measuring cables, different connector types for strain-gauge measuring amplifiers can be selected in addition to open cable ends. The assembly of the selected connectors is carried out by GTM. The force transducer can be connected directly to a measuring amplifier. P = LEMO push-pull connection socket(s) | no fixed measuring cables F = free cable ends | on all configured measuring circuits A = D-Sub 9-pin | on all configured measuring circuits B = D-Sub 15-pin | on all configured measuring circuits C = MS 7-pole | on all configured measuring circuits M = M12 8-pole | on all configured measuring circuits

Order Numbers | Accessories

Description	Order number
Measuring cable	
Standard measuring cable | grey | 5 m | shielded and twisted in pairs | cable sheath Ø 6.5 mm | 6-wire technology | transducer connection: straight plug (male) type LEMO 7-pole push-pull | cable end amplifier: open	S-CAB-SMC-L-5M-F
Double-shielded measuring cable | yellow | 5 m | double shielded and twisted in pairs | cable sheath Ø 6.5 mm | 6-wire technology | transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) | cable end amplifier: open	S-CAB-DMC-L-5M-F
Temperature-resistant measuring cable | red | 5 m | shielded and twisted in pairs | cable sheath Ø 7.2 mm | 6-wire technology | transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) | cable end amplifier: open	S-CAB-TMC-L-5M-F
High flexible measuring cable | black | 5 m | double shielded and twisted in pairs | cable sheath Ø 2.9 mm | 6-wire technology | transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) | cable end amplifier: open	S-CAB-FMC-L-5M-F
Configurable measuring cable type SMC, DMC, TMC, FMC | in different lengths | with different connectors	C-CAB-…
Series K | Base plate (1 piece)	
Series K | 0.2 - 0.5 kN | base plate	S-MA-K-BP-00
Series K | 1 - 2.5 kN | base plate	S-MA-K-BP-01
Series K | 4 - 6.3 kN | base plate	S-MA-K-BP-02
Series K | 10 - 30 kN | base plate	S-MA-K-BP-03
Series K | 40 - 63 kN | base plate	S-MA-K-BP-04
Series K | 100 - 160 kN | base plate	S-MA-K-BP-05
Series K | 200 - 300 kN | base plate	S-MA-K-BP-06
Series K | 400 - 500 kN | base plate	S-MA-K-BP-07
Series K | 630 kN | base plate	S-MA-K-BP-08
Note: 0.2 - 0.5 kN | Material: aluminium	
Series K | bolts outer hole circle (1 set)	
Series K | 0.2 - 0.5 kN | bolts set outer hole circle	S-MA-K-BO-00
Series K | 1 - 2.5 kN | bolts set outer hole circle	S-MA-K-BO-01
Series K | 4 - 6.3 kN | bolts set outer hole circle	S-MA-K-BO-02
Series K | 10 - 63 kN | bolts set outer hole circle	S-MA-K-BO-03
Series K | 100 - 160 kN | bolts set outer hole circle	S-MA-K-BO-04
Series K | 200 - 300 kN | bolts set outer hole circle	S-MA-K-BO-05
Series K | 400 - 500 kN | bolts set outer hole circle	S-MA-K-BO-06
Series K | 630 kN | bolts set outer hole circle	S-MA-K-BO-07
Note: 1 set for mounting the foot plate over outer hole circle	

Order Numbers | Accessories

Description	Order number
Series K | load button | threaded version (1 piece)	
Series K | 0.2 - 2.5 kN | load button threaded version	S-MA-K-LB-T-00
Series K | 4 - 6.3 kN | load button threaded version	S-MA-K-LB-T-01
Series K | 10 -63 kN | load button threaded version	S-MA-K-LB-T-02
Series K | 100 - 160 kN | load button threaded version	S-MA-K-LB-T-03
Series K | 200 - 300 kN | load button threaded version	S-MA-K-LB-T-04
Series K | 400 - 630 kN | load button threaded version	S-MA-K-LB-T-05
Series K | load button | flange version (1 piece)	
Series K | 4 - 6.3 kN | load button flange version	S-MA-K-LB-F-00
Series K | 10 - 63 kN | load button flange version	S-MA-K-LB-F-01
Series K | 100 - 160 kN | load button flange version	S-MA-K-LB-F-02
Series K | 200 -300 kN | load button flange version	S-MA-K-LB-F-03
Series K | 400 - 500 kN | load button flange version	S-MA-K-LB-F-04
Series K | 630 kN | load button flange version	S-MA-K-LB-F-05
Series K | flange tensile force introduction (1 piece)	
Series K | 4 - 6.3 kN | flange tensile force introduction	S-MA-K-F-F-00
Series K | 10 - 63 kN | flange tensile force introduction	S-MA-K-F-F-01
Series K | 100 - 160 kN | flange tensile force introduction	S-MA-K-F-F-02
Series K | 200 - 300 kN | flange tensile force introduction	S-MA-K-F-F-03
Series K | 400 - 500 kN | flange tensile force introduction	S-MA-K-F-F-04
Series K | 630 kN | flange tensile force introduction	S-MA-K-F-F-05
Series K | bolts inner hole circle (1 set)	
Series K | 4 - 6.3 kN | bolts set inner bolt circle	S-MA-K-BI-00
Series K | 10 - 63 kN | bolts set inner hole circle	S-MA-K-BI-01
Series K | 100 - 160 kN | bolts set inner hole circle	S-MA-K-BI-02
Series K | 200 - 300 kN | bolts set inner hole circle	S-MA-K-BI-03
Series K | 400 - 500 kN | bolts set inner hole circle	S-MA-K-BI-04
Series K | 630 kN | bolts set inner hole circle	S-MA-K-BI-05
Note: 1 set for mounting the tensile force introduction via inner hole circle	
Series K | tension bolts (1 set)	
Series K | 4 - 6.3 kN | tension bolts	S-MA-K-TB-00
Series K | 10 - 63 kN | tension bolts	S-MA-K-TB-01
Series K | 100 - 160 kN | tension bolts	S-MA-K-TB-02
Series K | 200 - 300 kN | tension bolts	S-MA-K-TB-03
Series K | 400 - 500 kN | tension bolts	S-MA-K-TB-04
Series K | 630 kN | tension bolts	S-MA-K-TB-05
Note: expansion screws are recommended for dynamic use	

Order Numbers | Accessories

Description	Order number
Series K | thrust piece (1 piece)	
Series K | 0.2 - 2.5 kN | thrust piece	S-MA-K-TP-00
Series K | 4 - 6.3 kN | thrust piece	S-MA-K-TP-01
Series K | 10 - 30 kN | thrust piece	S-MA-K-TP-02
Series K | 40 - 63 kN | thrust piece	S-MA-K-TP-03
Series K | 100 - 160 kN | thrust piece	S-MA-K-TP-04
Series K | 200 - 300 kN | thrust piece	S-MA-K-TP-05
Series K | 400 - 500 kN | thrust piece	S-MA-K-TP-06
Series K | 630 kN | thrust piece	S-MA-K-TP-07
Series K | threaded adapter flange (1 piece)	
Series K | 10 - 63 kN | threaded adapter flange	S-MA-K-TAF-00
Series K | 100 - 160 kN | threaded adapter flange	S-MA-K-TAF-01
Series K | 200 - 300 kN | Threaded adapter flange	S-MA-K-TAF-02
Series K | 400 - 500 kN | Threaded adapter flange	S-MA-K-TAF-03
Series K | 630 kN | Threaded adapter flange	S-MA-K-TAF-04
Series K | tension Adapter (1 piece)	
Series K | 4 - 6.3 kN | tension adapter	S-MA-K-TA-00
Series K | 10 - 63 kN | tension adapter	S-MA-K-TA-01
Series K | 100 - 150 kN | tension adapter	S-MA-K-TA-02
Series K | 200 - 300 kN | tension adapter	S-MA-K-TA-03
Series K | 400 - 500 kN | tension adapter	S-MA-K-TA-04
Series K | 630 kN | tension adapter	S-MA-K-TA-05
Series K | tension rod (1 piece)	
Series K | 0.2 - 2.5 kN | tension rod	S-MA-K-TR-00
Series K | 4 - 6.3 kN | tension rod	S-MA-K-TR-01
Series K | 10 - 63 kN | tension rod	S-MA-K-TR-02
Series K | 100 - 150 kN | tension rod	S-MA-K-TR-03
Series K | 160 kN | tension rod	S-MA-K-TR-04
Series K | 200 kN | tension rod	S-MA-K-TR-05
Series K | 250 - 300 kN | tension rod	S-MA-K-TR-06
Series K | 400 - 500 kN | tension rod	S-MA-K-TR-07
Series K | 630 kN | tension rod	S-MA-K-TR-08
Series K | kulový plášť / matice(1 pair)	
Series K | 0.2 - 40 kN | spherical shell / nut	S-MA-K-SWN-00
Series K | 50 - 63 kN | spherical shell / nut	S-MA-K-SWN-01
Series K | 100 - 150 kN | spherical shell / nut	S-MA-K-SWN-02
Series K | 160 - 200 kN | spherical shell / nut	S-MA-K-SWN-03
Series K | 250 - 400 kN | spherical shell / nut	S-MA-K-SWN-04
Series K | 500 - 600 kN | spherical shell / nut	S-MA-K-SWN-05
Series K | 630 kN | spherical shell / nut	S-MA-K-SWN-06

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