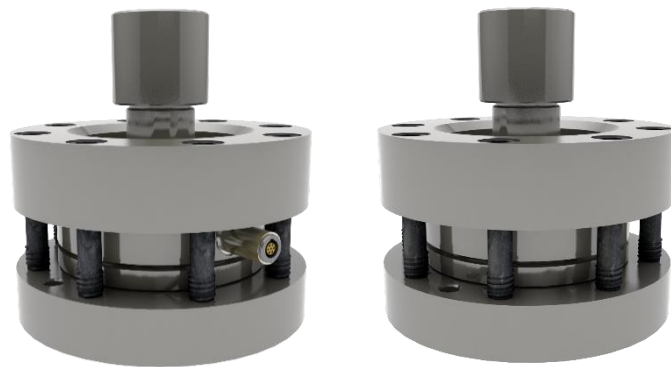


Data sheet

Force Transducer

Series KTN-P

(2,5 kN – 1200 kN)



Benefits/Application

- Class 0.5 according to ISO 376 in the range 5 % to 100 %
- Especially to calibrate testing machines
- Insensitive against parasitic forces and moments
- Little weight
- For static tensile and compressive forces
- Hermetically sealed
- Very small force application effect
- Popular connection dimensions

Options/Accessories

- Bending moment circuits
- Mounting parts for tension and compression
- Class 00 according to ISO 376 in the range 20 % to 100 %

Technical data

Class 00

Nominal force		F_{nom}	kN	2,5	5	10	20	50	100	250	600	1200
Metrological Data	Force measurement range		%	20 - 100								
	Interpolation error	f_c	%	0,02								
	Reversibility error	v	%	0,06								
	Repeatability error in unchanged mounting position	b'	%	0,023								
	Reproducibility error in different mounting positions	b	%	0,045								
	Zero error	f_0	%	0,01								
	Creep		%	0,02								
	Temperature effect on characteristic value per 10 K	TK_c	%/10 K	0,01								
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,01								
	Electrical Data	Rated characteristic value	C_{nom}	mV/V	2							
Input resistance		R_e	Ω	ca. 1100								
Output resistance		R_a	Ω	ca. 1000								
Insulation resistance		R_{is}	Ω	$> 10^9$								
Operating range of excitation voltage		$B_{U, G}$	V	5 - 12								
Protection (DIN EN 60529)				54								
Mechanical Data	Mass	m	kg	0,3	1,2	2,5	3	8,9	7	43	1)	
	Compression force transmission	m	kg	0,15		0,2	0,25	0,4	0,8	2,2	1)	
	Tension force transmission	m	kg	0,5	0,55		0,8	1,25	6,7	7,7	1)	
	Force limit		%	110								
	Breaking force		%	200								
	Rated temperature range	$B_{T, nom}$	$^{\circ}\text{C}$	17 - 27								
	Operating temperature range	$B_{T, G}$	$^{\circ}\text{C}$	10 - 35								

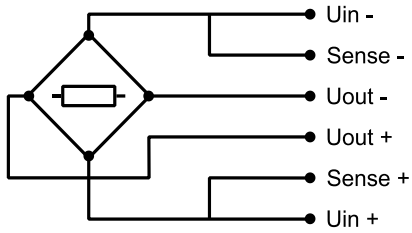
1) Data on request

Technical data

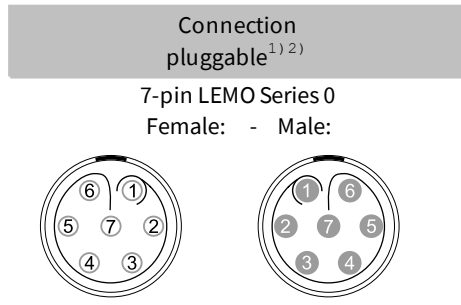
Class 0,5

		Nominal force	F_{nom}	kN	2,5	5	10	20	50	100	250	600	1200
Metrological Data	Force measurement range		%	5 - 100									
	Interpolation error	f_c	%	0,045									
	Reversibility error	v	%	0,14									
	Repeatability error in unchanged mounting position	b'	%	0,045									
	Reproducibility error in different mounting positions	b	%	0,09									
	Zero error	f_0	%	0,02									
	Creep		%	0,03									
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,02									
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,02									
	Electrical Data	Rated characteristic value	C_{nom}	mV/V	2								
Input resistance		R_e	Ω	ca. 1100									
Output resistance		R_a	Ω	ca. 1000									
Insulation resistance		R_{is}	Ω	$> 10^9$									
Operating range of excitation voltage		$B_{U,G}$	V	5 - 12									
Protection (DIN EN 60529)				54									
Mechanical Data	Mass	m	kg	1,4	1,3	1,4	3	3,3	10	13,5	45	100	
	Mass compression force transmission parts	m	kg	0,08				0,13	0,4	0,9	5,5	5,5	
	Mass tension force transmission parts	m	kg	0,5	0,4	0,6	0,8	2,2	8	17	31		
	Force limit		%	110									
	Breaking force		%	200									
	Rated temperature range	$B_{T,nom}$	$^{\circ}\text{C}$	17 - 27									
	Operating temperature range	$B_{T,G}$	$^{\circ}\text{C}$	10 - 35									

Cable connection



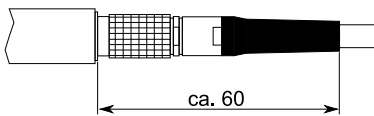
Connection		Pin	Wire colour
Supply voltage (+)	U_{in+}	3	blue
Supply voltage (-)	U_{in-}	2	black
Measurement signal (+)	U_{out+}	1	white
Measurement signal (-)	U_{out-}	4	red
Sense (+)	Sense+	5	green
Sense (-)	Sense-	6	grey
Shielding		Housing	yellow



End not connected

yellow cable
 Ø 6.5 mm
 twisted in pairs, 3 x 2 x 0.25 mm²
 temperature range: -40 °C to +90 °C

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



Pluggable connection



End not connected (optional)

- ▶ The cable is not standard scope of supply in pluggable versions. Suitable measuring cables S-CAB / C-CAB are available as accessories.
- ▶ We recommend S-CAB-DMC-L-5M-F as suitable measuring cable.
- ▶ Other connector types on cable end: D-Sub 9; D-Sub 15; M-S 7pol
- ▶ Configuration with customer defined connection is possible.
- ▶ Optional fixed cable possible.
- ▶ The transducer with bending moment circuits Mx and My on request available.

Option: Bending moment

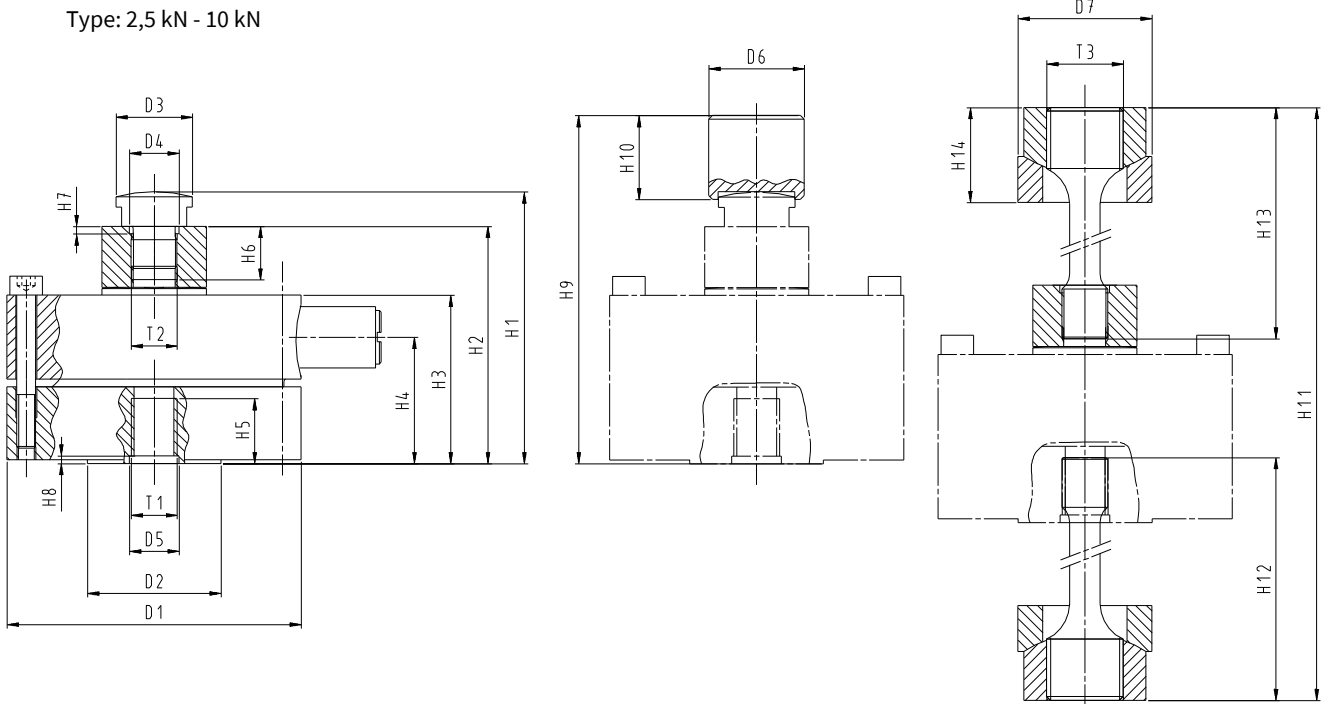
Nominal force	F_{nom}	kN	5 - 1200
Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,2
Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,2
Input resistance	R_e	Ω	400
Operating range of excitation voltage	$B_{U,G}$	V	5 - 12

- Available from 5 kN.

Mating dimensions

up to 100 kN

Type: 2,5 kN - 10 kN

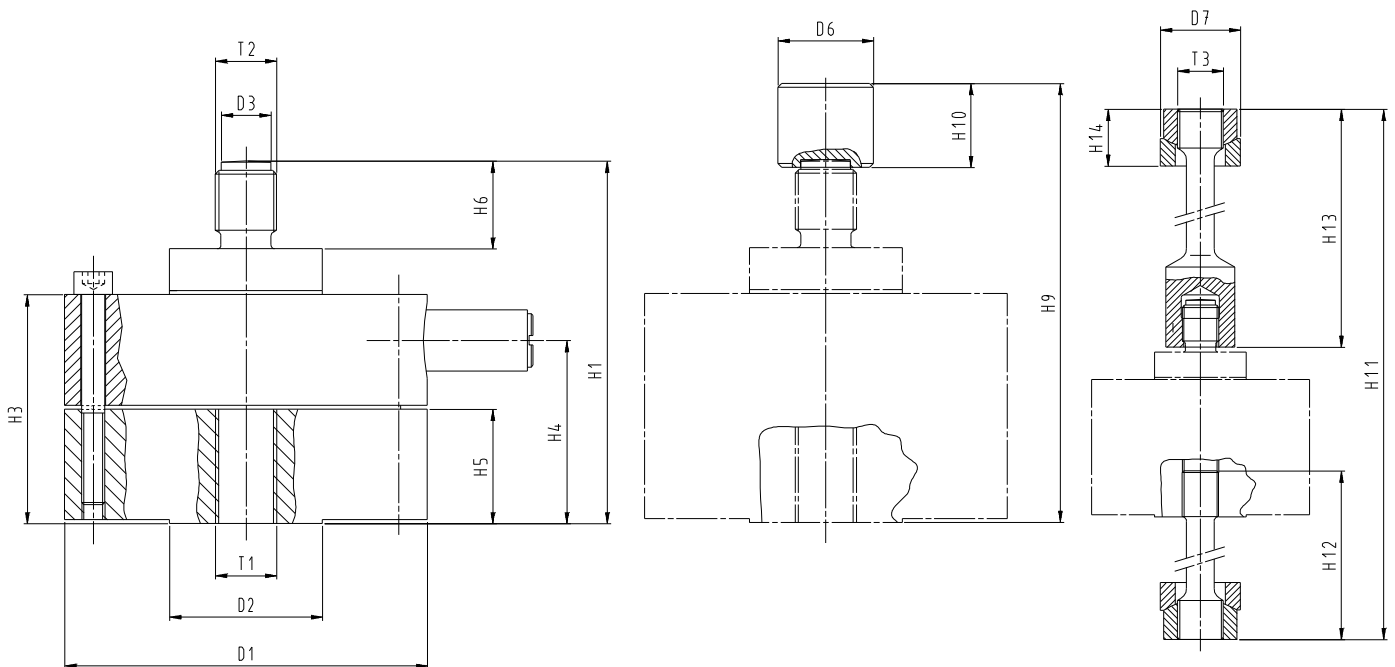


Standard scope of supply

Option: Load button

Option: Tension rod

Type: 20 kN - 100 kN



Standard scope of supply

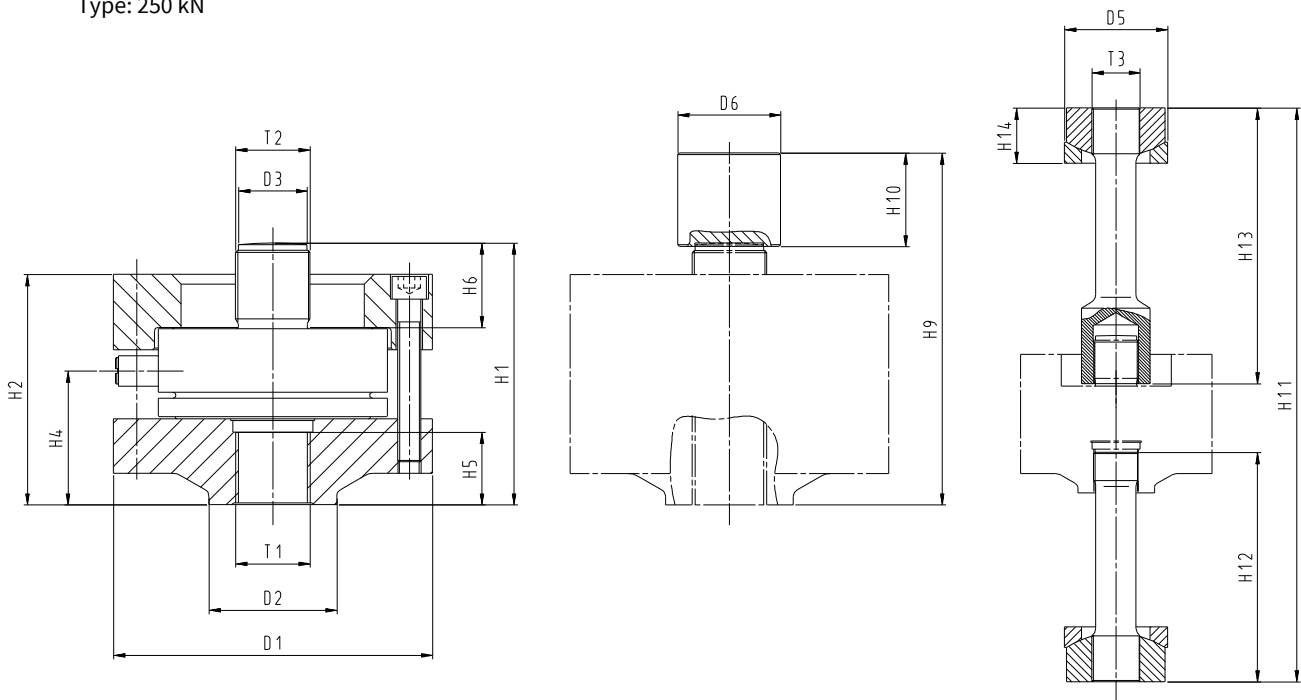
Option: Load button

Option: Tension rod

Mating dimensions

up to 1200 kN

Type: 250 kN

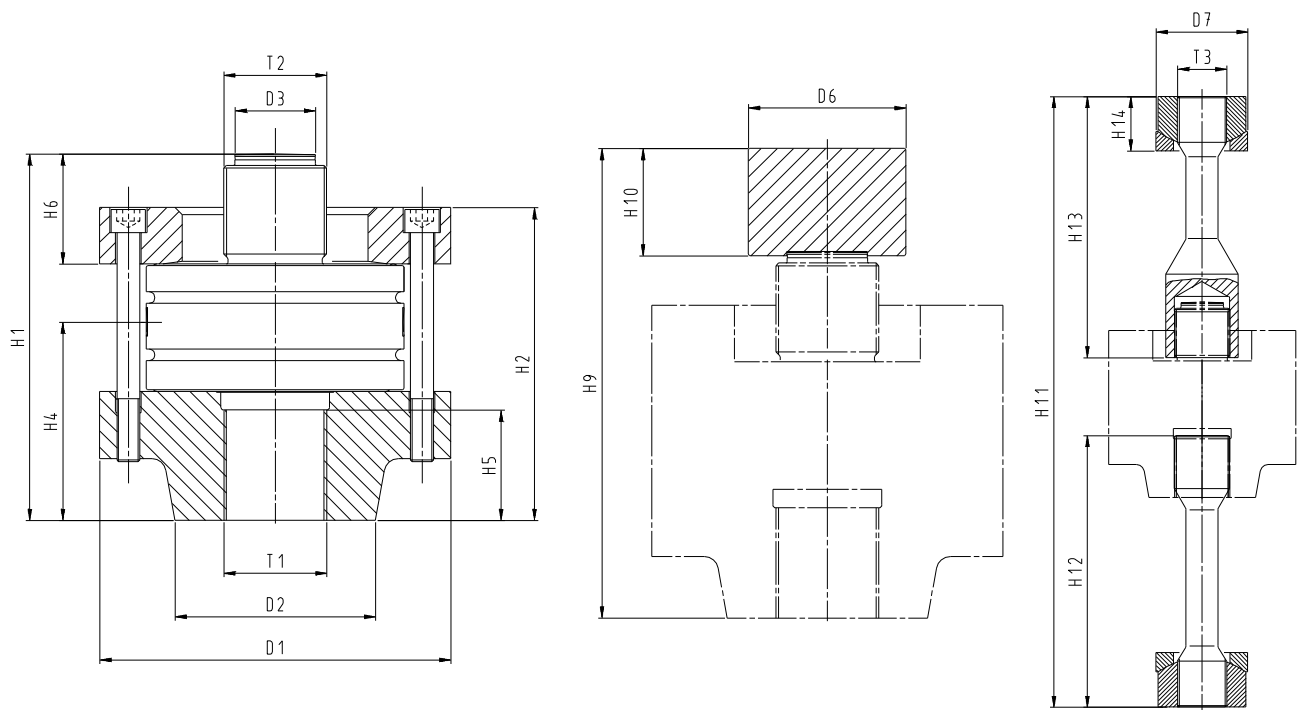


Standard scope of supply

Option: Load button

Option: Tension rod

Type: 600 kN – 1200 kN



Standard scope of supply

Option: Load button

Option: Tension rod

Mating dimensions

Nominal force compression/tension	$\pm F_{nom}$	kN	2,5	5	10	20	50	100	250	600	1200
Diameter	$\varnothing D_1$	mm	77			95	101	148	167	245	335
Diameter	$\varnothing D_2$	mm	35			40	50	60	67	140	120
Diameter	$\varnothing D_3$	mm	20 ^{-0,01}			12,95 ^{-0,05}	17,95 ^{-0,05}	26,95 ^{-0,05}	35,95 ^{-0,05}	56 ^{-0,05/-0,1}	56 ^{-0,05}
Diameter	$\varnothing D_4$	mm	13 _{H8}	13 ^{+0,05}			---				
Diameter	$\varnothing D_5$	mm	13 ^{+0,05}			---					
Diameter	$\varnothing D_6$	mm	25				30	42	54	110	110
Diameter	$\varnothing D_7$	mm	35 _{c11}				45 _{c11}	50 _{c11}	90 _{c11}	90 _{c11}	120 _{c11}
Thread	T_1		M12			M16	M20x1,5	M30x2	M39x2	M72x4	M90x4
Thread	T_2		M12			M16	M20x1,5	M30x2	M39x2	M72x4	M90x4
Thread	T_3		M20x1,5				M24x2	M42x3	M56x4	M64x4	
Height	H_1	mm	75	71	95			140	137	256	298
Height	H_2	mm	66	62	---				120	218,5	236,5
Height	H_3	mm	43	44	60	59,5	88,5	---			
Height	H_4	mm	32,5	33	48		65	70	138,5	178	
Height	H_5	mm	17			30	40	38	77	76	
Height	H_6	mm	13,5	14	23		36	44	77		
Height	H_7	mm	2			---					
Height	H_8	mm	2			---					
Height	H_9	mm	95	91	115	118	177	184	328	370	
Height	H_{10}	mm	22			25	39	49	75		
Height	H_{11}	mm	338	331	354	355,5	517	500	800	840	
Height	H_{12}	mm	150				230	240	356	340	
Height	H_{13}	mm	150				219	200	342	370	
Height	H_{14}	mm	24,8			25,8	30,4	47,9	71,4		

Änderungen vorbehalten. Alle Angaben beschreiben unsere Produkte in allgemeiner Form. Sie stellen keine vereinbarte Beschaffenheit im Sinne des § 434 Abs. 1 BGB dar.



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