

Hydraulic Compression Force Transducer Heavy Duty - Version

Forces from 1 kN up to 2500 kN

F1108 – ND 10
F1125 – ND 40
F1142 – ND 100
F1157 – ND 250



Description

Robust hydraulic compression force transducer for use in rough environmental conditions.

Hydraulic force measurement is an easy way to measure and display force in various applications.

The force measurement utilizes the hydraulic principle: The force applied to a piston generates a hydraulic pressure, which is displayed with an indicating device. The scale of the indicating device can show various units e.g. N, kN, kg, t.

The connection of the indicating device can optionally be done via capillary or measuring tube. This enables the customer to read the measurement result easily. Furthermore the measuring tube allows a "leak free separation", which enables the change of the indicating unit without dismantling the force transducer.

Applications for the hydraulic force transducers can be found in apparatus engineering, mining, test and measurement equipment and special mechanical engineering.

The Leakproofness Guarantee is prolonged to five years*. In the unlikely event of a leakage the transducers will be repaired free of charge. Therewith we underline the quality of our products and the trust in our technology.

Features

- Stainless steel housing and piston
- Accuracy min. $\pm 0,5\%$ F.S.
- Very robust design for use in rough environmental conditions
- Connection optionally via capillary tube or measuring tube
- Operates without power supply
- Piston movement $\leq 0,8$ mm
- 5 Years Leak-Proofness Guarantee*

Measuring range

- 0 ... 1 kN up to 0 ... 2500 kN

Applications

- Apparatus engineering
- Test and measurement equipment
- Special mechanical engineering
- Geotechnics
- Foundation construction

*Precondition for the prolonged guarantee to five years is that the hydraulic force transducer is only used within the intended using conditions.

Model: F1108, F1125, F1142, F1157

Selection - Dimension - Sheet: Hydraulic Compression Force Transducer – Heavy Duty - Version

Model	F1108 / F1125 / F1142 / F1157		Options
Nominal diameter	ND 10 / ND 40 / ND 100 / ND 250		
Nominal load F_{nom}	0 ... 1 kN up to 0 ... 2500 kN		
Version	Analog Display	Digital Display	
Accuracy class	$\leq \pm 1,0\%$ F.S. at +21°C	$\leq \pm 0,5\%$ F.S. at +21°C	
Limit load	100% F_{nom} (dependent on measuring range)		
Breaking load	$> 130\%$ F_{nom} (dependent on measuring range)		
Piston movement	$< 0,8$ mm		
Nominal temperature range	-25 ... +90°C		
Protection type acc. EN60529/IEC529	IP 65		
Housing	Stainless steel		- Mounting flange
Piston	Stainless steel		
Diaphragm	Plastic		
Connection type	Adapter		- Capillary tube - Measuring tube for "leak free separation"
Display	Pressure gauge P2324 (ND100)	Digital pressure gauge P3962	- Drag pointer - Pressure gauge P2032 (ND63) - Pressure gauge with contacts - Pressure sensor P3276
Filling liquid	Glycerin/Water 70%		
Mounting	threaded holes in the housing bottom		

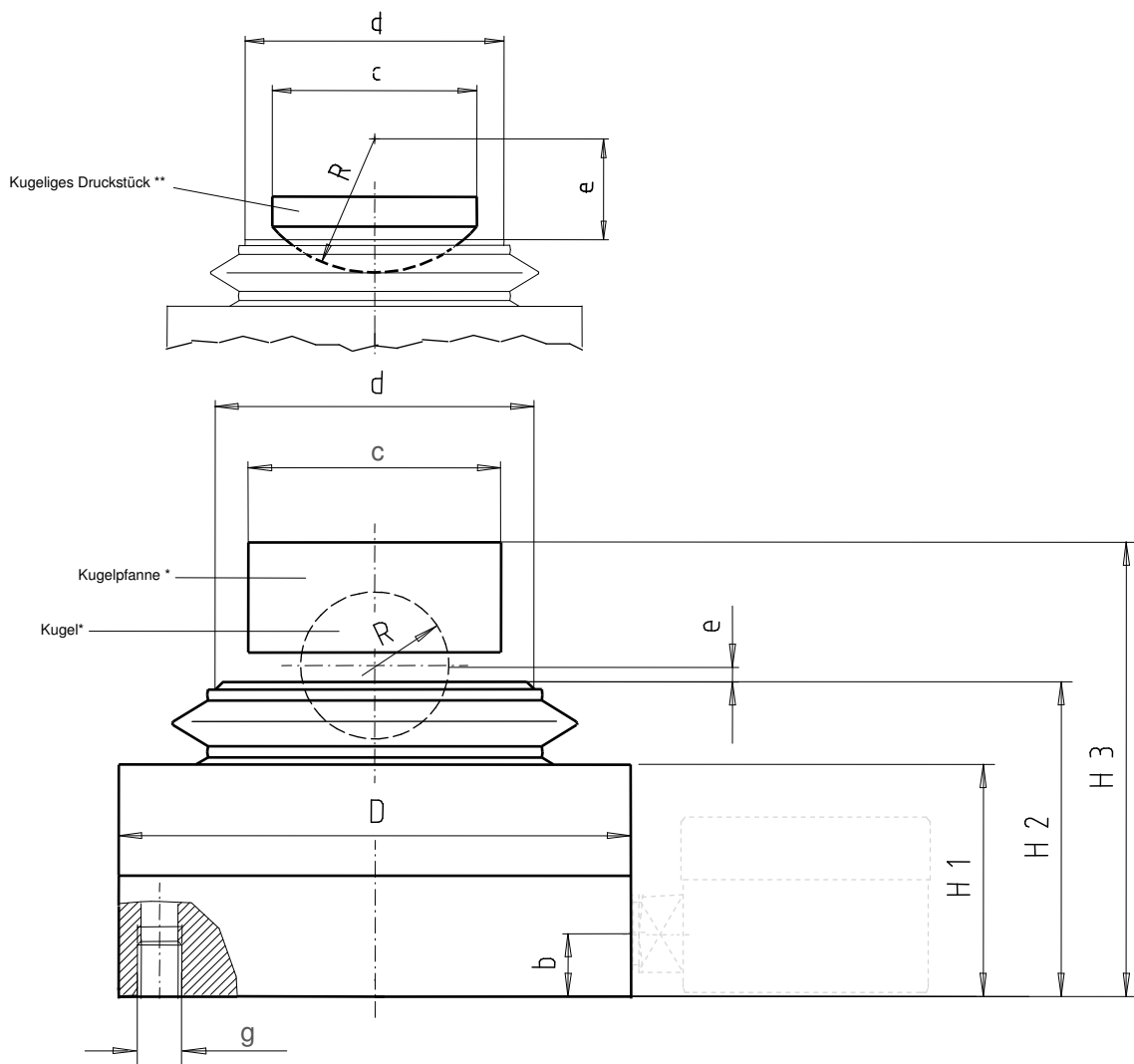
Version				Display		Options		Dimensions											
Model	ND [cm ²]	Nominal load	Resolution	bar	P2324	P3962	Meas. tube DN2 [max. L 1]	Capillary tube [max. L 1]	\varnothing D	\varnothing d	\varnothing c	H1	H2	H3	R	b	g	e	Weight [approx. kg]
									[mm]										
F1108	10	1 kN	20 N	10	■	-	1,0	2,0	88	45	35	56	79	99	10	16	M8	2,5	2,9
F1108	10	1,6 kN	50 N	16	■	-	1,0	2,0											
F1108	10	2 kN	-	20	-	■*	1,5	2,0											
F1108	10	2,5 kN	50 N	25	■	-	1,5	2,0											
F1108	10	4 kN	100 N	40	■	-	1,5	2,0											
F1108	10	5 kN	-	50	-	■	2,0	2,0											
F1108	10	6 kN	100 N	60	■	-	2,0	2,0											
F1108	10	10 kN	200 N	100	■	-	2,0	2,0											
F1108	10	16 kN	500 N	160	■	-	2,0	4,0											
F1108	10	25 kN	500 N	250	■	■	3,2	4,0											
F1108	10	40 kN	1 kN	400	■	■	3,2	6,0											
F1108	10	60 kN	1 kN	600	■	■	3,2	6,0											
F1108	10	100 kN	2 kN	1000	■	-	---	6,0											
F1125	40	4 kN	100 N	10	■	-	1,0	2,0	138	90	68	63	85,5	123,5	20	17	M10	4	12,0
F1125	40	6 kN	100 N	16	■	-	1,0	2,0											
F1125	40	8 kN	-	20	-	■*	1,5	2,0											
F1125	40	10 kN	200 N	25	■	-	1,5	2,0											
F1125	40	16 kN	500 N	40	■	-	1,5	2,0											
F1125	40	20 kN	-	50	-	■	2,0	2,0											
F1125	40	25 kN	500 N	60	■	-	2,0	2,0											
F1125	40	40 kN	1 kN	100	■	-	2,0	2,0											
F1125	40	60 kN	1 kN	160	■	-	2,0	4,0											
F1125	40	100 kN	2 kN	250	■	■	3,2	4,0											
F1125	40	160 kN	5 kN	400	■	■	3,2	6,0											
F1125	40	250 kN	5 kN	600	■	■	3,2	6,0											
F1125	40	400 kN	10 kN	1000	■	-	---	6,0											
F1142	100	10 kN	200 N	10	■	-	1,0	2,0	192	128	76	72	98,5	117,8	45	17	M12	33,5	18,0
F1142	100	16 kN	500 N	16	■	-	1,0	2,0											
F1142	100	20 kN	-	20	-	■*	1,5	2,0											
F1142	100	25 kN	500 N	25	■	-	1,5	2,0											
F1142	100	40 kN	1 kN	40	■	-	1,5	2,0											
F1142	100	50 kN	-	50	-	■	2,0	2,0											
F1142	100	60 kN	1 kN	60	■	-	2,0	2,0											
F1142	100	100 kN	2 kN	100	■	-	2,0	2,0											
F1142	100	160 kN	5 kN	160	■	-	2,0	4,0											
F1142	100	250 kN	5 kN	250	■	■	3,2	4,0											
F1142	100	400 kN	10 kN	400	■	■	3,2	6,0											
F1142	100	600 kN	10 kN	600	■	■	3,2	6,0											
F1142	100	1000 kN	20 kN	1000	■	-	---	6,0											

F1157	250	25	kN	500 N	10	■	-	1,0	2,0											
F1157	250	40	kN	1 kN	16	■	-	1,0	2,0	262	198	118	77	104,5	130,8	70	17	M12	49	60,0
F1157	250	50	kN	-	20	-	■*	1,5	2,0											
F1157	250	60	kN	1 kN	25	■	-	1,5	2,0											
F1157	250	100	kN	2 kN	40	■	-	1,5	2,0											
F1157	250	120	kN	-	50	-	■	2,0	2,0											
F1157	250	160	kN	5 kN	60	■	-	2,0	2,0											
F1157	250	250	kN	5 kN	100	■	-	2,0	2,0											
F1157	250	400	kN	10 kN	160	■	-	2,0	4,0											
F1157	250	600	kN	10 kN	250	■	■	3,2	4,0											
F1157	250	1000	kN	20 kN	400	■	■	3,2	6,0											
F1157	250	1500	kN	50 kN	600	■	■	3,2	6,0											
F1157	250	2500	kN	50 kN	1000	■	-	---	6,0											

Other nominal loads and versions on request

*Accuracy class: $\leq \pm 1,0\%$ v.E.

Model: F1108 / F1125 / F1142 / F1157



* Kugel und Kugelpfanne / Ball and ball socket: ND10 + ND40
 ** Kugeliges Druckstück / Spherical pressure piece: ND100 + ND250

**Remark: Couplings of the hydraulic force transducer must not be disconnected!
 In case of violation there will be no guarantee and no measuring function.**