

Hydraulic compression load cell up to 500 kN

Models F1119 - ND 20, F6136 - ND 80



WIKA Data sheet FO 52.10

Applications

- Force measurement in parallel clamps
- Apparatus engineering
- Construction of jigs and fixtures
- Special mechanical engineering
- Test and measurement equipment

Special features

- Stainless steel housing and piston
- Flattened housing for stable measuring
- Accuracy $\pm 1.0 \dots 1.6 \%$ with analogue pressure gauge, accuracy $\pm 0.5 \%$ with digital pressure gauge or pressure sensor ¹⁾
- Operates without power supply
- 5 years leak-proofness guarantee ²⁾



Hydraulic compression load cell,
Models F1119 and F6136

Description

Hydraulic force measurement is an easy way to measure and display force in various applications. The flattened housing of this compression load cell enables a stable measuring in parallel clamps.

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 leak-proofness guarantee is prolonged to five years ²⁾. In the unlikely event of a leakage the transducers will be repaired free of charge.

Measuring ranges

0 ... 320 N up to 0 ... 500 kN

¹⁾ For nominal loads below 500 N the accuracy class is $\pm 1,6 \%$ of F.S. for all pressure gauges.

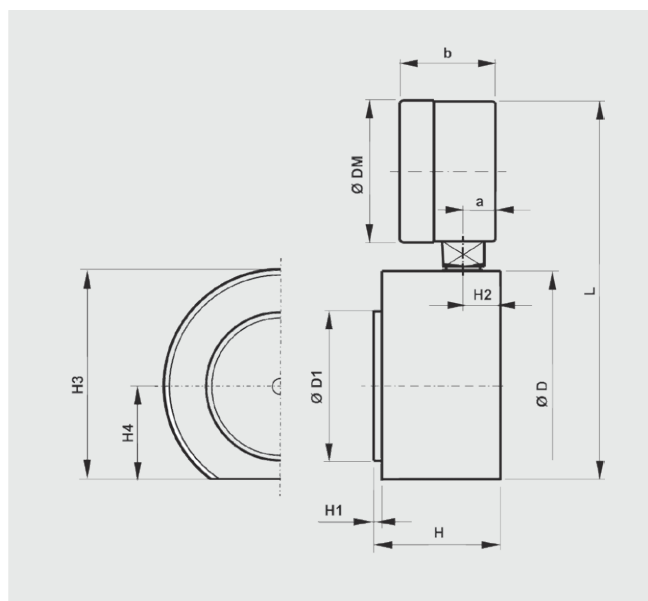
²⁾ Precondition for the prolonged guarantee to five years is that the hydraulic force transducer is only used within the intended using conditions.

Technical data in accordance with VDI/VDE/DKD 2638

Models F1119 / F1136		
Version	Analog display	Digital display
Display	Pressure gauge P1515 (NG63) Optional: Drag pointer, pressure gauge P2032 (NS63), Pressure gauge P2324 (NS100) (optional with contacts) pressure sensor P3276	Digital pressure gauge P3962
Relative linearity error d_{lin}	$\leq \pm 1.6$ % of F.S. at +21 °C	$\leq \pm 0.5$ % of F.S. at +21 °C ¹⁾
Nominal diameter	Model F1119: ND 20 Model F1136: ND 80	
Nominal load F_{nom}	0 ... 320 N up to 0 ... 500 kN	
Force limit load F_L	100 % F_{nom} (dependent on measuring range)	
Breaking force F_B	> 130 % F_{nom} (dependent on measuring range)	
Nominal deflection s_{nom}	< 0.5 mm	
Rated temperature $B_{T, nom}$	-10 ... +50 °C	
Protection type	IP65 in accordance with EN/IEC 60529	
Housing	Stainless steel	
Piston		
Connection type	Direct (Optional: adapter, capillary tube, measuring tube for "leak free separation")	
Filling liquid	Glycerin/water 70 %	

F. S. = full scale value

Dimensions in mm



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

		Version				Display		Options		Dimensions										
Model	NS	Nominal load	Resolution	bar	P1515	P3962	Meas. tube DN2 [max. L ¹⁾]	Capillary tube [max. L ¹⁾]	Ø D	Ø D1	H	H1	H2	H3	H4	DM	a	b	ca. L	Weight
	[cm ²]								[mm]											[ca. kg]
F1119	20	320	N	10 N	1.6	■	-	---	90	50	38	3	14	75	30	63 (P1515)	12.5 (P1515)	34 (P1515)	150 (P1515)	1.8 (P1515)
		500		10 N	2.5	■	-	---								83.5 (P3962)	15.8 (P3962)	43.1 (P3962)	160 (P3962)	2.0 (P3962)
		800		20 N	4	■	-	---												
		1.2	50 N	6	■	-	0.5	1.0												
		2	100 N	10	■	-	1.0	2.0												
		3.2	100 N	16	■	-	1.0	2.0												
		4	-	20	-	■*	1.5	2.0												
		5	100 N	25	■	-	1.5	2.0												
		8	200 N	40	■	-	1.5	2.0												
		10	-	50	-	■	2.0	2.0												
		12	400 N	60	■	-	2.0	2.0												
		20	1 kN	100	■	■	2.0	2.0												
		32	1 kN	160	■	■	2.0	4.0												
		50	2 kN	250	■	■	3.2	4.0												
		60	2 kN	315	■	-	3.2	4.0												
		80	2 kN	400	■	■	3.2	6.0												
120	5 kN	600	■	■	3.2	6.0														
F1136	80	1.2	kN	50 N	1.6	■	-	---	138	100	41	3	22.5	124	55	63 (P1515)	12.5 (P1515)	34 (P1515)	200 (P1515)	4.3 (P1515)
		2		100 N	2.5	■	-	---								83.5 (P3962)	15.8 (P3962)	43.1 (P3962)	210 (P3962)	4.5 (P3962)
		3.2		100 N	4	■	-	---												
		5	100 N	6	■	-	0.5	1.0												
		8	200 N	10	■	-	1.0	2.0												
		12	400 N	16	■	-	1.0	2.0												
		16	-	20	-	■*	1.5	2.0												
		20	1 kN	25	■	-	1.5	2.0												
		32	1 kN	40	■	-	1.5	2.0												
		40	-	50	-	■	2.0	2.0												
		50	2 kN	60	■	-	2.0	2.0												
		80	2 kN	100	■	■	2.0	2.0												
		120	5 kN	160	■	■	2.0	4.0												
		200	10 kN	250	■	■	3.2	4.0												
		250	10 kN	315	■	-	3.2	4.0												
		320	10 kN	400	■	■	3.2	6.0												
500	20 kN	600	■	■	3.2	6.0														

* Accuracy class $\leq \pm 1.0\%$ of F.S.

¹⁾ For nominal loads below 500 N the accuracy class is $\pm 1,6\%$ for all pressure gauges.

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