

## Hydraulic Compression Force Transducer Lathe Chuck - Version

Forces from 1.1 kN up to 1,000 kN

F1103 – ND 3x6

F1112 – ND 3x16

F1122 – ND 3x33



### Description

Hydraulic compression force transducer for use in lathe chucks.

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.

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  $\pm 0.5\%$  F.S. with digital pressure gauge P3962 or pressure sensor P3276
- Accuracy  $\pm 1.0\%$  -  $1.6\%$  F.S. with pressure gauge
- Operates without power supply
- Piston movement  $\leq 0.5$  mm
- 5 Years Leak-Proofness Guarantee\*
- Application of force as total clamping force

### Measuring range

- 0 ... 1.1 kN up to 0 ... 1,000 kN

### Applications

- Apparatus engineering
- Test and measurement equipment
- Special mechanical engineering

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

## Selection - Dimension - Sheet: Hydraulic Compression Force Transducer – Lathe Chuck - Version

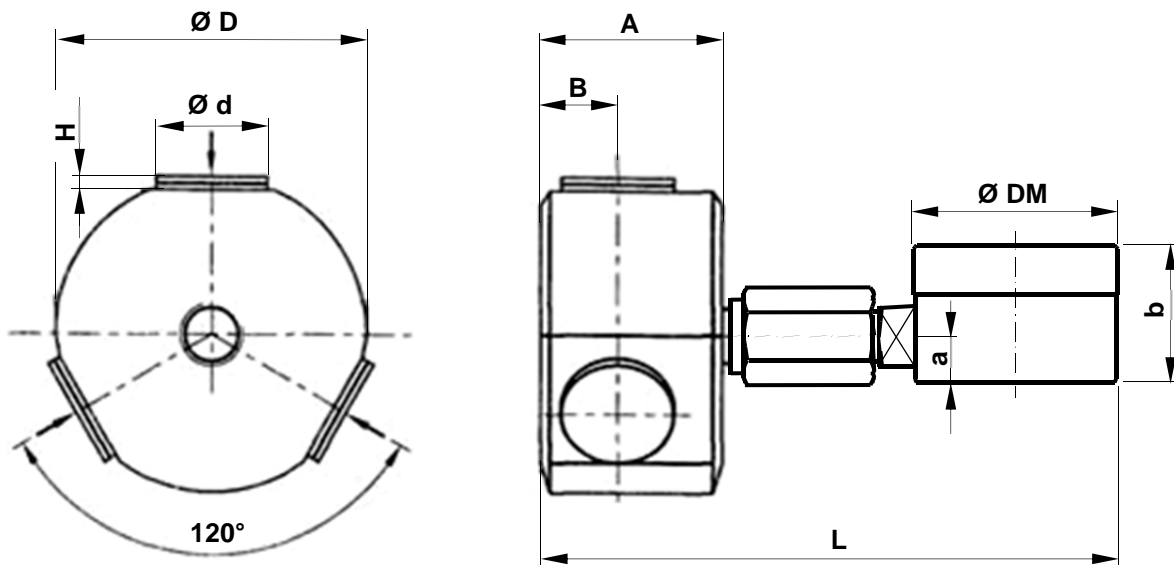
<b>Model</b>	<b>F1103 / F1112 / F1122</b>		<b>Optionen</b>
Nominal diameter	ND 3x6 / ND 3x16 / ND 3x33		
Nominal load $F_{nom}$	0 ... 1.1 kN up to 0 ... 1000 kN		
Version	<b>Analog Display</b>	<b>Digital Display</b>	
Accuracy class	$\leq \pm 1.0\%$ F.S. at +21°C	$\leq \pm 0.5\%$ F.S. at +21°C	
Limit load	100% $F_{nom}$ (dependent on measuring range)		
Breaking load	$> 130\%$ $F_{nom}$ (dependent on measuring range)		
Piston movement	$< 0.5$ mm		
Nominal temperature range	-10 ... +50°C		
Application of force	Total clamping force		Clamping force per jaw chuck
Protection type acc. EN60529/IEC529	IP 65		
Housing	Stainless steel		
Piston	Stainless steel		
Connection type	Adapter		- Capillary tube - Measuring tube for "leak free separation"
Display	Pressure gauge P1515 (NG63)	Digital pressure gauge P3962	- Drag pointer - Pressure gauge P2032 (ND63) - Pressure with contacts - Pressure sensor P3276
Filling liquid	Glycerin/Water 70%		

Version				Display		Options		Dimensions										
Model	ND [cm <sup>3</sup> ]	Nominal load	Resolution	bar	P2324	P3962	Meas. tube DN2 [max. L 1]	Capillary tube [max. L 1]	$\varnothing$ D	$\varnothing$ d	A	B	H	DM	a	b	ca. L	Weight [ca. kg]
							[m]	[m]					[mm]					
F1103	3x6	1.1 kN	20 N	6	■	-	0.5	1.0	70	25	40	20	3	101 (P2324)	17.7 (P2324)	54 (P2324)	190 (P2324)	2.4 (P2324)
F1103	3x6	1.8 kN	50 N	10	■	-	1.0	2.0										
F1103	3x6	3 kN	50 N	16	■	-	1.0	2.0										
F1103	3x6	3.5 kN	-	20	-	■*	1.5	2.0										
F1103	3x6	4.8 kN	100 N	25	■	-	1.5	2.0										
F1103	3x6	7 kN	200 N	40	■	-	1.5	2.0										
F1103	3x6	10 kN	200 N	50	-	■	2.0	2.0										
F1103	3x6	11 kN	-	60	■	-	2.0	2.0										
F1103	3x6	18 kN	500 N	100	■	■	2.0	2.0										
F1103	3x6	30 kN	500 N	160	■	■	2.0	4.0										
F1103	3x6	45 kN	1 kN	250	■	■	3.2	4.0										
F1103	3x6	75 kN	2 kN	400	■	■	3.2	6.0										
F1103	3x6	110 kN	2 kN	600	■	■	3.2	6.0										
F1103	3x6	180 kN	5 kN	1000	■	-	---	6.0										
F1112	3x16	2.5 kN	50 N	6	■	-	0.5	1.0	90	42	57	28.5	3	101 (P2324)	17.7 (P2324)	54 (P2324)	200 (P2324)	4.1 (P2324)
F1112	3x16	5 kN	100 N	10	■	-	1.0	2.0										
F1112	3x16	7.5 kN	200 N	16	■	-	1.0	2.0										
F1112	3x16	10 kN	-	20	-	■*	1.5	2.0										
F1112	3x16	12 kN	200 N	25	■	-	1.5	2.0										
F1112	3x16	19 kN	500 N	40	■	-	1.5	2.0										
F1112	3x16	25 kN	-	50	-	■	2.0	2.0										
F1112	3x16	30 kN	500 N	60	■	-	2.0	2.0										
F1112	3x16	50 kN	1 kN	100	■	■	2.0	2.0										
F1112	3x16	75 kN	2 kN	160	■	■	2.0	4.0										
F1112	3x16	120 kN	2 kN	250	■	■	3.2	4.0										
F1112	3x16	190 kN	5 kN	400	■	■	3.2	6.0										
F1112	3x16	280 kN	5 kN	600	■	■	3.2	6.0										
F1112	3x16	470 kN	10 kN	1000	■	-	---	6.0										
F1122	3x33	6 kN	100 N	6	■	-	0.5	1.0	110	62	77	38.5	3	101 (P2324)	17.7 (P2324)	54 (P2324)	220 (P2324)	6.9 (P2324)
F1122	3x33	10 kN	200 N	10	■	-	1.0	2.0										
F1122	3x33	16 kN	500 N	16	■	-	1.0	2.0										
F1122	3x33	20 kN	-	20	-	■*	1.5	2.0										
F1122	3x33	25 kN	500 N	25	■	-	1.5	2.0										
F1122	3x33	40 kN	1 kN	40	■	-	1.5	2.0										
F1122	3x33	50 kN	-	50	-	■	2.0	2.0										
F1122	3x33	60 kN	1 kN	60	■	-	2.0	2.0										
F1122	3x33	100 kN	2 kN	100	■	■	2.0	2.0										
F1122	3x33	160 kN	5 kN	160	■	■	2.0	4.0										
F1122	3x33	250 kN	5 kN	250	■	■	3.2	4.0										
F1122	3x33	400 kN	10 kN	400	■	■	3.2	6.0										
F1122	3x33	600 kN	10 kN	600	■	■	3.2	6.0										
F1122	3x33	1000 kN	20 kN	1000	■	-	---	6.0										

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

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Model: F1103 / F1112 / F1122



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