

Hydraulic compression force transducer

Closing force test instrument up to 36 kN

Model F1101



WIKA data sheet FO 52.14

Applications

- Equipment manufacturing
- Construction of jigs and fixtures
- Special-purpose machine building
- Measuring and control instruments

Special features

- Measuring ranges 0 ... 100 N to 0 ... 36 kN
- Relative linearity error $\pm 1.0 \dots 1.6 \% F_{\text{nom}}$ with analogue pressure gauge, $\pm 0.5 \% F_{\text{nom}}$ with digital pressure gauge or pressure sensor¹⁾
- Piston stroke $\leq 0.5 \text{ mm}$
- Operates without supply voltage
- 5-year leak-tightness warranty²⁾



Hydraulic compression force transducer, model F1101

Description

The hydraulic force transducer model F1101 is used in applications with little mounting space to easily capture and display forces. The very small dimensions allow for installation even in applications with limited mounting space.

The hydraulic transducer is especially suited to measuring compression forces exerted during the closing of automatic doors and gates or similar bodies. Hydraulic force measurement is a simple way to capture and display the forces occurring in various applications.

The force measurement is made using the principle of hydraulics: The force acting on a piston leads to a pressure increase which can be visualised on a connected display instrument. The scale of the display instrument can be defined in various units (e.g. N, kN, kg, t).

Leak-tightness warranty

The warranty on leak tightness of the hydraulic force measuring unit was extended to 5 years²⁾. A force transducer that starts to leak within this period will be repaired free of charge.

1) For rated force below 500 N, the relative linearity error is $\pm 1.6 \% F_{\text{nom}}$ for all connected measuring instruments.

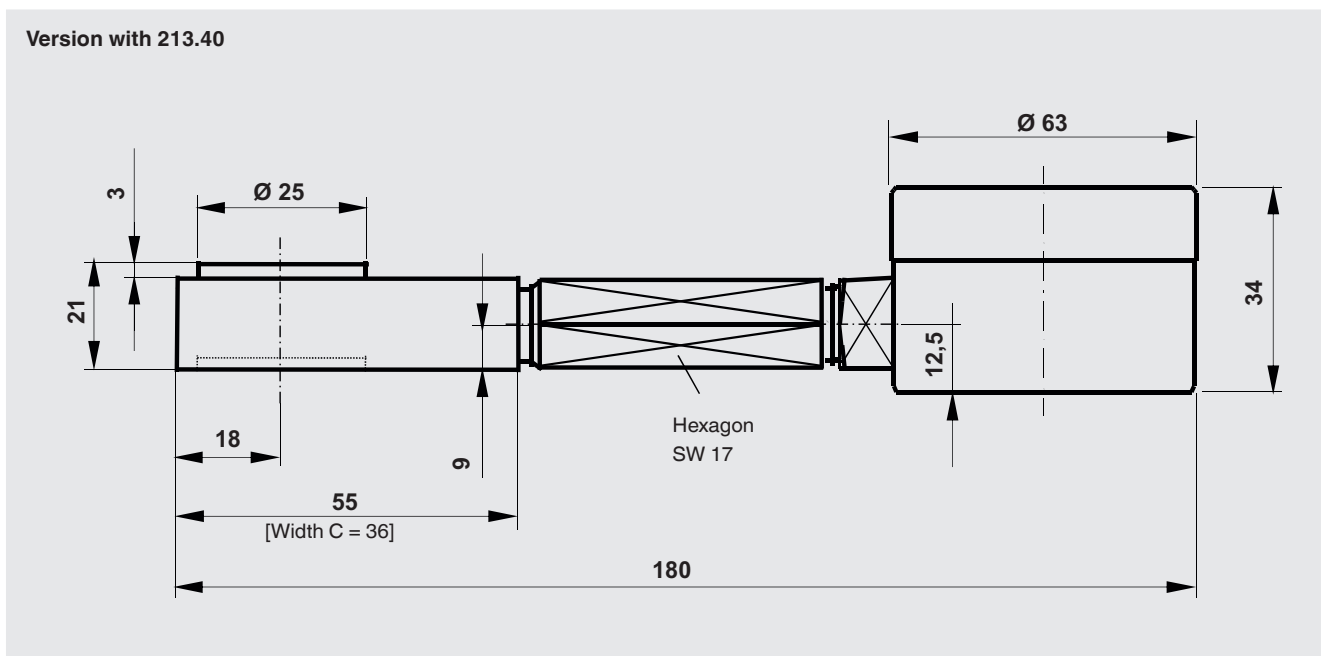
2) Use of the force measuring unit as intended is a prerequisite for the extended 5-year warranty.

Specifications per VDI/VDE/DKD 2638

Model F1101	
Rated force F_{nom}	0 ... 100 N to 0 ... 36 kN
Nominal size	NS 6
Display <ul style="list-style-type: none"> ■ Standard ■ Option 	Pressure gauge 213.40 (NS 63) Digital pressure gauge DG-10 Pressure sensor (on request)
Relative linearity error d_{lin} <ul style="list-style-type: none"> ■ Standard ■ Option 	$\leq \pm 1.6 \% F_{nom}$ (analogue display) ¹⁾ $\leq \pm 0.5 \% F_{nom}$ (pressure sensor/digital pressure gauge) ¹⁾
Limit force F_L	100 % F_{nom}
Breaking force F_B	> 130 % F_{nom}
Rated displacement s_{nom}	< 0.5 mm
Rated temperature range $B_{T, nom}$	-25 ... +50 °C
Ingress protection (per EN/IEC 60529)	IP65
Case	Stainless steel
Piston	Stainless steel
Mounting type <ul style="list-style-type: none"> ■ Standard ■ Option 	Adapter L = 50 mm Capillary Measuring hose for "separation without any losses"
Fill fluid	Glycerine/water 70 %/30 %
Weight in kg <ul style="list-style-type: none"> ■ with pressure gauge 213.40 (NS 63) ■ with digital pressure gauge DG-10 	0.6 1

1) For rated forces below 500 N, the relative linearity error is $\pm 1.6 \% F_{nom}$ for all connected measuring instruments.

Dimensions in mm



The sealed threaded connections of the hydraulic force transducer must not be loosened!
Non-compliant handling invalidates the warranty and a measuring function is no longer assured.

Version		Display		Options		
Rated force		System pressure	213.40	DG-10	Measuring hose DN2 [max. L ¹⁾]	Capillary [max. L ¹⁾]
N/kN		bar			m	
100	N	1.6	■	-	-	-
160		2.5	■	-	-	-
250		4	■	-	-	1.0
400		6	■	-	0.5	1.0
600		10	■	-	1.0	2.0
1	kN	16	■	-	1.0	2.0
1.2		20	-	■ ²⁾	1.5	2.0
1.6		25	■	-	1.5	2.0
2.5		40	■	-	1.5	2.0
3.2		50	-	■	2.0	2.0
4		60	■	-	2.0	2.0
6		100	■	■	2.0	2.0
10		160	■	■	2.0	4.0
16		250	■	■	3.2	4.0
20		315	■	-	3.2	4.0
25		400	■	■	3.2	6.0
36		600	■	■	3.2	6.0

Other rated loads and versions on request

■ = possible selection

1) For a rated force below 500 N, the relative linearity error is $\pm 1.6\% F_{nom}$ for all connected measuring instruments.

2) Relative linearity error $< \pm 1.0\% F_{nom}$

© 2019 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.