

Hydraulic compression force transducer

Compact version up to 850 kN

Model F1145

WIKA data sheet FO 52.19

Applications

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

Special features

- Measuring ranges 0 ... 6 kN to 0 ... 850 kN
- Relative linearity error $\pm 1.0 \dots 1.6 \%$ with analogue pressure gauge, $\pm 0.5 \%$ 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 F1145

Description

The hydraulic compression force transducer model F1145 is available with a nominal size NS 141. Measurement of rated forces from 6 up to 850 kN is possible. The robust mechanical design enables use in harsh operating conditions. Applications for this hydraulic force measurement can be found in equipment manufacturing, in device and special machine building and also with measuring and control systems.

Hydraulic force transducers operate on the principle that the force acting on the piston is converted into a hydraulic pressure - in proportion to the piston surface area. Via the connected measuring instrument, which can be either analogue or digital, the measured value is output. The scale of the connected pressure gauge can be defined in various units, e.g., in N, kN, kg, or even 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 forces below 500 N, the relative linearity error is $\pm 1.6 \% F_{nom}$ for all connected measuring instruments.

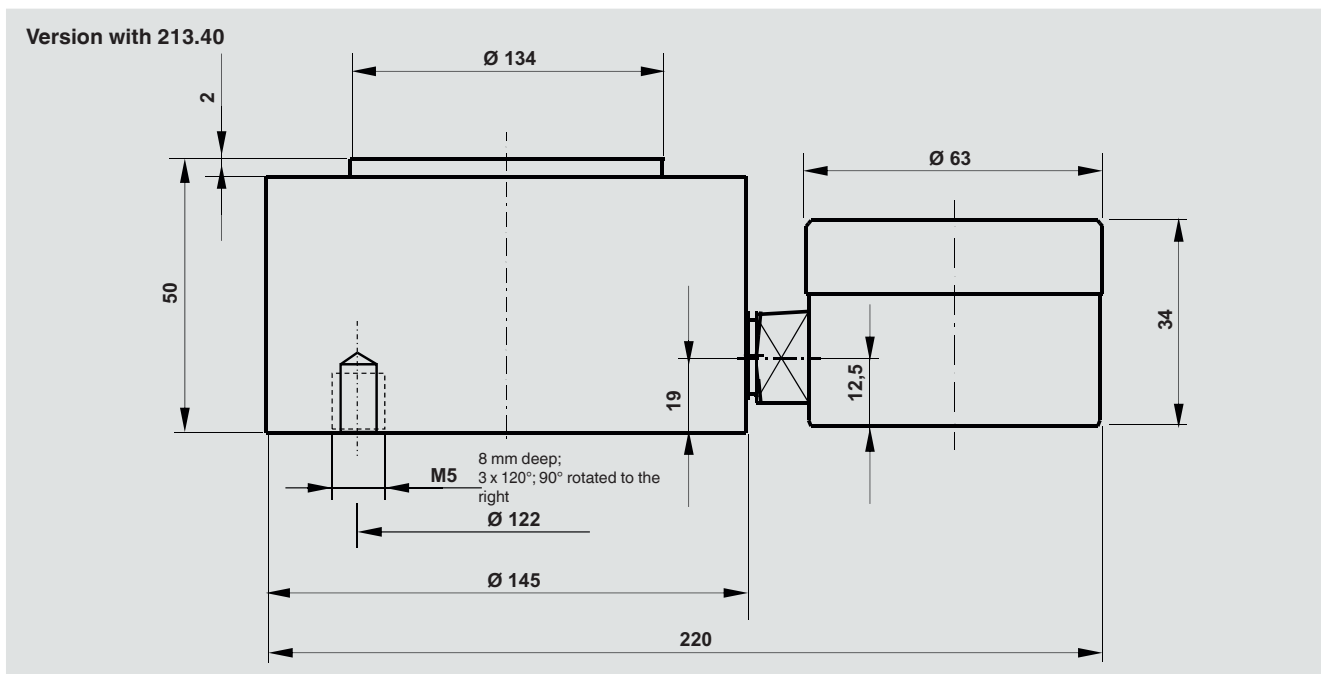
2) Use of the force measuring unit as intended is a prerequisite for the extended 5-year warranty.

Specifications per VDI/VDE/DKD 2638

Model F1145	
Rated force F_{nom}	0 ... 6 kN to 0 ... 850 kN
Nominal size	NS 141
Display <ul style="list-style-type: none"> ■ Standard ■ Option 	Pressure gauge 213.40 (NS 63) Digital pressure gauge DG-10 Pressure gauge PSG23.160 (NS 100), optionally with contacts 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 	Direct Adapter, capillary, measuring hose for "separation without any losses"
Fill fluid	Glycerine 70 %, water 30 %
Assembly aid	Threaded holes on the bottom of the case
Options	Spacer disc
Weight in kg <ul style="list-style-type: none"> ■ with pressure gauge 213.40 (NS 63) ■ with digital pressure gauge DG-10 	5.6 5.8

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 DN 2 (max. L)	Capillary (max. L)
kN	bar			m	
6	4	■	-	-	1.0
8	6	■	-	0.5	1.0
14	10	■	-	1.0	2.0
22	16	■	-	1.0	2.0
28	20	-	■ ¹⁾	1.5	2.0
34	25	■	-	1.5	2.0
60	40	■	-	1.5	2.0
70	50	-	■	2.0	2.0
80	60	■	-	2.0	2.0
140	100	■	■	2.0	2.0
220	160	■	■	2.0	4.0
350	250	■	■	3.2	4.0
450	315	■	-	3.2	4.0
560	400	■	■	3.2	6.0
850	600	■	■	3.2	6.0

Other rated loads and versions on request

■ = possible selection

1) Relative linearity error < ±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.

