

# Hydraulic compression force transducer Compact version up to 480 kN Model F1135



WIKA data sheet FO 52.15

## Applications

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

## Special features

- Measuring ranges 0 ... 2 kN to 0 ... 480 kN
- Relative linearity error  $\pm 1.0 \dots 1.6 \%$  with analogue pressure gauge,  $\pm 0.5 \%$  with digital pressure gauge or pressure sensor<sup>1)</sup>
- Piston stroke  $\leq 0.5 \text{ mm}$
- Operates without supply voltage
- 5-year leak-tightness warranty<sup>2)</sup>



Hydraulic compression force transducer, model F1135

## Description

The compact hydraulic compression force transducer model F1135 is available with a nominal size NS 80. Measurement of rated forces from 2 up to 480 kN are possible. Through the robust mechanical assembly of the hydraulic compression force transducers, they are ideally suited for use in harsh environmental 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 years<sup>2)</sup>. A force transducer that starts to leak within this period will be repaired free of charge.

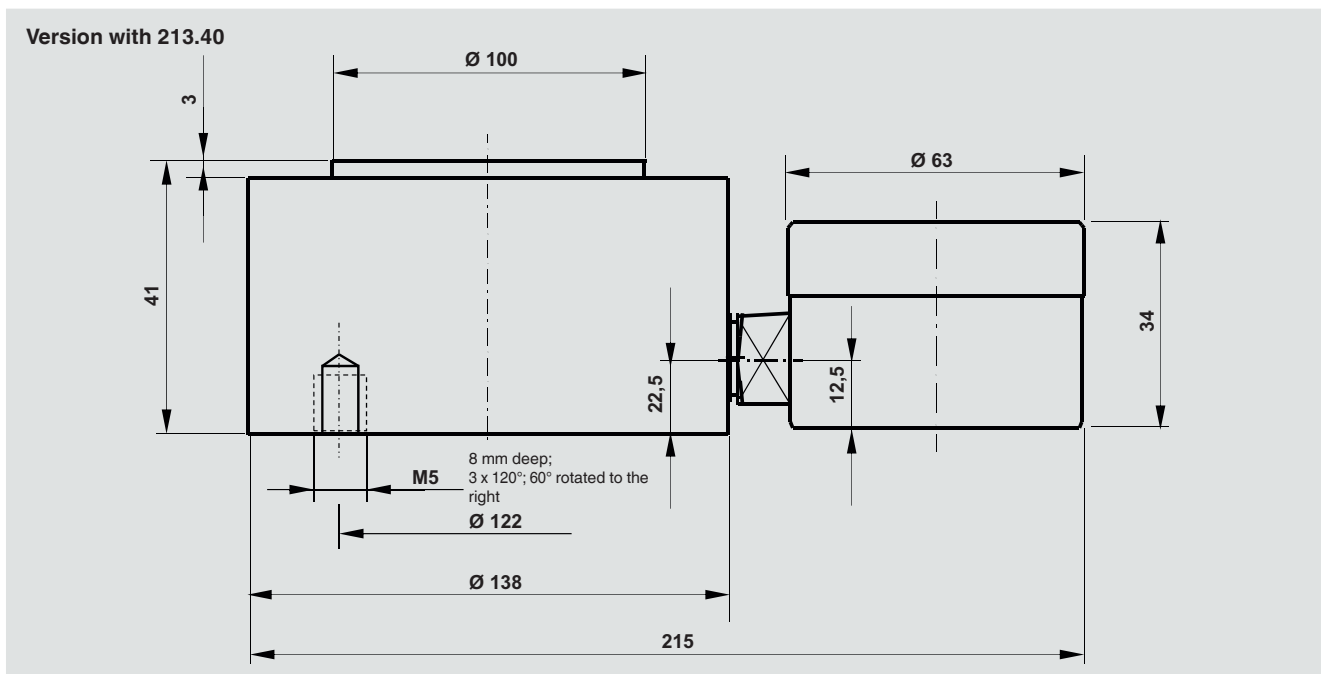
- 1) For rated forces below 500 N, the relative linearity error is  $\pm 1.6 \% F_{nom}$  for all connected measuring instruments.
- 2) Use of the force measuring unit as intended is a prerequisite for the extended 5-year warranty.

## Specifications per VDI/VDE/DKD 2638

Model F1135	
<b>Rated force <math>F_{nom}</math></b>	0 ... 2 kN to 0 ... 480 kN
<b>Nominal size</b>	NS 80
<b>Display</b> <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	Pressure gauge 213.40 (NS 63) Digital pressure gauge DG-10 Pressure gauge PSG23.160 (NS 100), optionally with contacts Pressure sensor (on request)
<b>Relative linearity error <math>d_{lin}</math></b> <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	$\leq \pm 1.6 \% F_{nom}$ (analogue display) <sup>1)</sup> $\leq \pm 0.5 \% F_{nom}$ (pressure sensor/digital pressure gauge) <sup>1)</sup>
<b>Limit force <math>F_L</math></b>	100 % $F_{nom}$
<b>Breaking force <math>F_B</math></b>	> 130 % $F_{nom}$
<b>Rated displacement <math>s_{nom}</math></b>	< 0.5 mm
<b>Rated temperature range <math>B_{T, nom}</math></b>	-25 ... +50 °C
<b>Ingress protection (per EN/IEC 60529)</b>	IP65
<b>Case</b>	Stainless steel
<b>Piston</b>	Stainless steel
<b>Mounting type</b> <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	Direct Adapter, capillary, measuring hose for "separation without any losses"
<b>Fill fluid</b>	Glycerine/water 70 %/30 %
<b>Assembly aid</b>	Threaded holes on the bottom of the case
<b>Options</b>	Spacer disc
<b>Weight in kg</b> <ul style="list-style-type: none"> <li>■ with pressure gauge 213.40 (NS 63)</li> <li>■ with digital pressure gauge DG-10</li> </ul>	4.6 4.8

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	
2	2.5	■	-	-	-
3.2	4	■	-	-	1.0
5	6	■	-	0.5	1.0
8	10	■	-	1.0	2.0
12	16	■	-	1.0	2.0
16	20	-	■ <sup>1)</sup>	1.5	2.0
20	25	■	-	1.5	2.0
32	40	■	-	1.5	2.0
40	50	-	■	2.0	2.0
50	60	■	-	2.0	2.0
80	100	■	■	2.0	2.0
120	160	■	■	2.0	4.0
200	250	■	■	3.2	4.0
250	315	■	-	3.2	4.0
320	400	■	■	3.2	6.0
480	600	■	■	3.2	6.0

Other rated loads and versions on request

■ = possible selection

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

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