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

tecsis

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 ±1.0 ... 1.6 % with analogue pressure gauge, ±0.5 % with digital pressure gauge or pressure sensor[1]
- Piston stroke ≤ 0.5 mm
- Operates without supply voltage
- 5-year leak-tightness warranty[2]

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[2]. 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 ±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.

WIKA

Part of your business

Specifications per VDI/VDE/DKD 2638

Model F1135	
Rated force F$_{nom}$	0 ... 2 kN to 0 ... 480 kN
Nominal size	NS 80
Display ■ 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$_{lin}$ ■ 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 ■ Standard ■ Option	Direct Adapter, capillary, measuring hose for "separation without any losses"
Fill fluid	Glycerine/water 70 %/30 %
Assembly aid	Threaded holes on the bottom of the case
Options	Spacer disc
Weight in kg ■ with pressure gauge 213.40 (NS 63) ■ with digital pressure gauge DG-10	4.6 4.8

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

Dimensions in mm

Version with 213.40
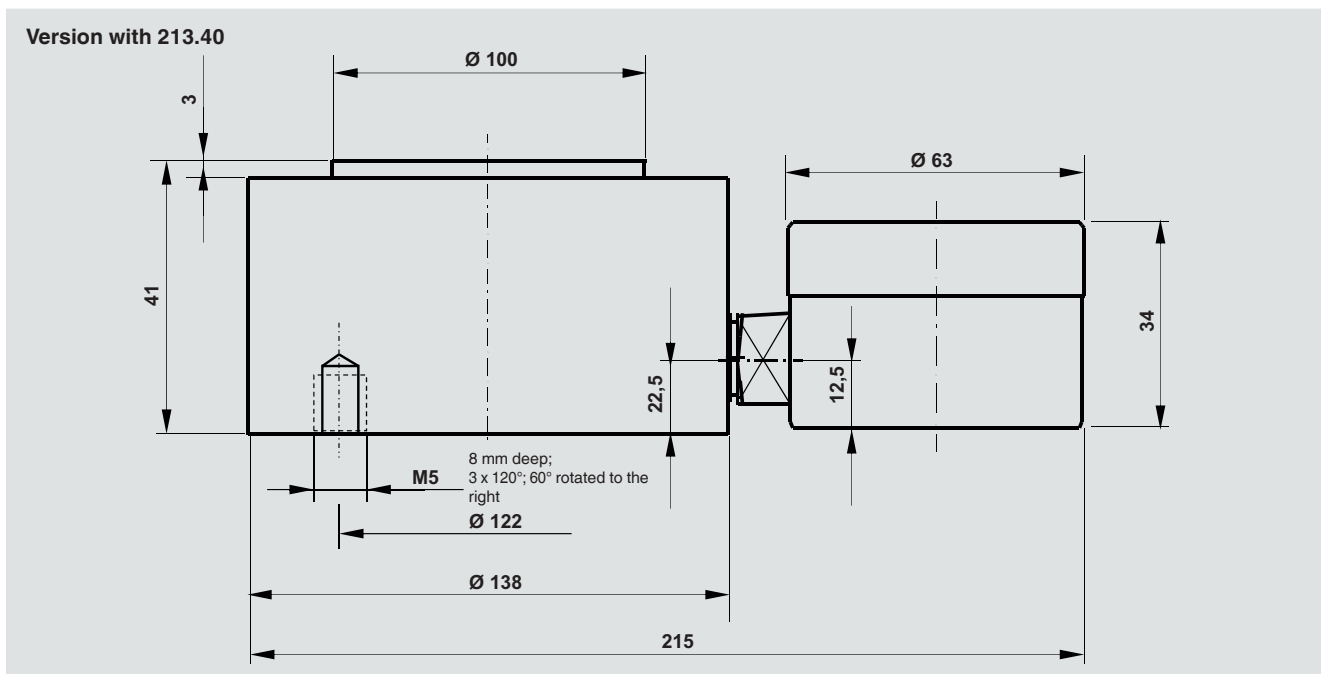
ℹ The sealed threaded connections of the hydraulic force transducer must not be loosened!
Non-compliant handling invalidates the warranty and a measuring function is no longer assured.

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	-	■[1]	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 < ±1.0 % F_{nom}

07/2019 EN