

# Hydraulic compression force transducer Clamping force test instrument up to 500 kN Model F1136

## Applications

- Force measurement in vices and clamping systems
- Equipment manufacturing
- Construction of jigs and fixtures
- Special machine building
- Measuring and control systems

## Special features

- Measuring ranges 0 ... 1.2 kN to 0 ... 500 kN
- Flattened case for stable measurement
- Relative linearity error  $\pm 1.0 \dots 1.6 \% F_{nom}$  with analogue pressure gauge,  $\pm 0.5 \% F_{nom}$  with digital pressure gauge or pressure sensor<sup>1)</sup>
- Operates without supply voltage
- 5-year leak-tightness warranty<sup>2)</sup>



Hydraulic compression force transducer, model F1136

## Description

The model F1136 (NS 80) hydraulic force transducer enables the simple and economical force measurement in vices and clamping systems and display of forces of measuring ranges up to 500 kN. The flattened case of this compression force transducer enables a stable force measurement.

The force is measured using the principle of hydraulics: The force acting on a piston leads to a pressure increase that 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 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.

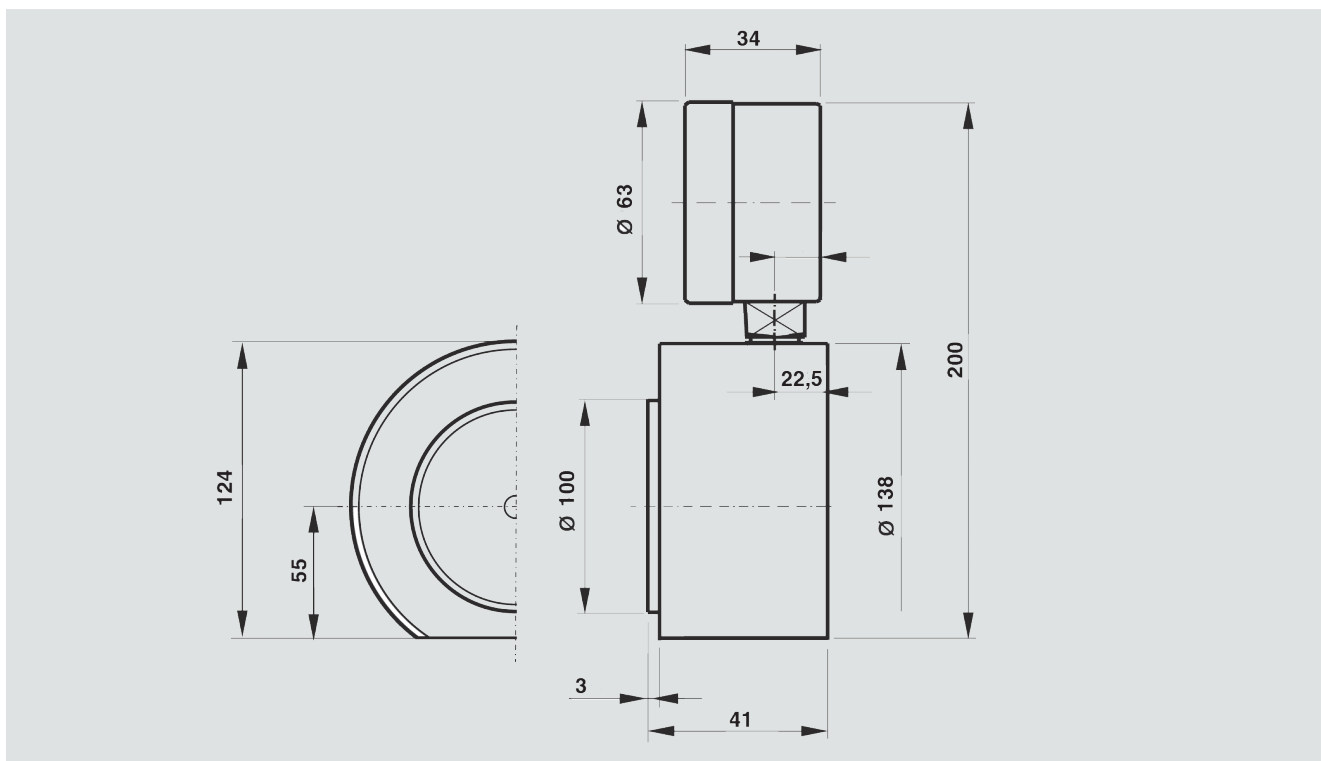
2) Use of the force measuring unit as intended is a prerequisite for the extended 5-year warranty.

## Specifications per VDI/VDE/DKD 2638

Model F1136	
Rated force $F_{nom}$	0 ... 1.2 kN to 0 ... 500 kN
Nominal size	NS 80
Display <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 sensor (on request)
Relative linearity error $d_{lin}$ <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>
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	IP65 per EN/IEC 60529
Case	Stainless steel
Piston	Stainless steel
Mounting type <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	Direct Adapter, capillary, measuring hose for "separation without any losses"
Fill fluid	Glycerine 70 %, water 30 %
Weight in kg <ul style="list-style-type: none"> <li>■ with pressure gauge 213.40 (NS 63)</li> <li>■ with digital pressure gauge DG-10</li> </ul>	4.3 4.5

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	
1.2	1.6	■	-	-	-
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
500	600	■	■	3.2	6.0

Other rated loads and versions on request

■ = possible selection

1) Relative linearity error < ±1.0 % F<sub>nom</sub>

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