Hydraulic ring force transducer Compact version to 120 kN Model F6116

Applications

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

Special features

- Measuring ranges 0 ... 320 N to 0 ... 120 kN
- Relative linearity error:
  ≤ ±1,0 % ... ≤ ±1,6 % F_{nom} with analogue pressure gauge,
  ≤ ±0.5 % F_{nom} with digital pressure gauge or pressure sensor
- Piston stroke ≤ 0.5 mm
- Operates without supply voltage
- 5-year leak-tightness warranty

Hydraulic ring force transducer, model F6116

Description

The model F6116 compact hydraulic ring force transducer enables the simple and economical measurement and display of forces. Its measuring ranges from 320 N to 120 kN. Since it is independent of any power source, this type of measuring system offers ideal operating conditions for different fields of application.

Hydraulic force measurement makes use of a piston-case combination with different seals as a sensor unit. The force acting is the product of the area and the pressure. For the display of the pressure, either pressure gauges, pressure sensors or pressure measuring instruments with contact devices can be used. The scale of the display instrument can be defined in various units, e.g. in N, kN, kg, t.

Leak-tightness warranty
The warranty on leak tightness of the hydraulic force measuring unit was extended to 5 years. The prerequisite for this is of course the intended use of the force measuring unit. A force transducer that starts to leak within this period will be repaired free of charge. In this way, we are underlining the quality of our hydraulic force transducers and our confidence in our own technology.

Data sheets showing similar products:

Hydraulic ring force transducer; Geotechnical version to 700 kN; model F6137; data sheet: FO52.20
Hydraulic compression force transducer; Compact version, for forces of 550 N to 310 kN; model F6198; data sheet: FO52.28

Specifications per VDI/VDE/DKD 2638

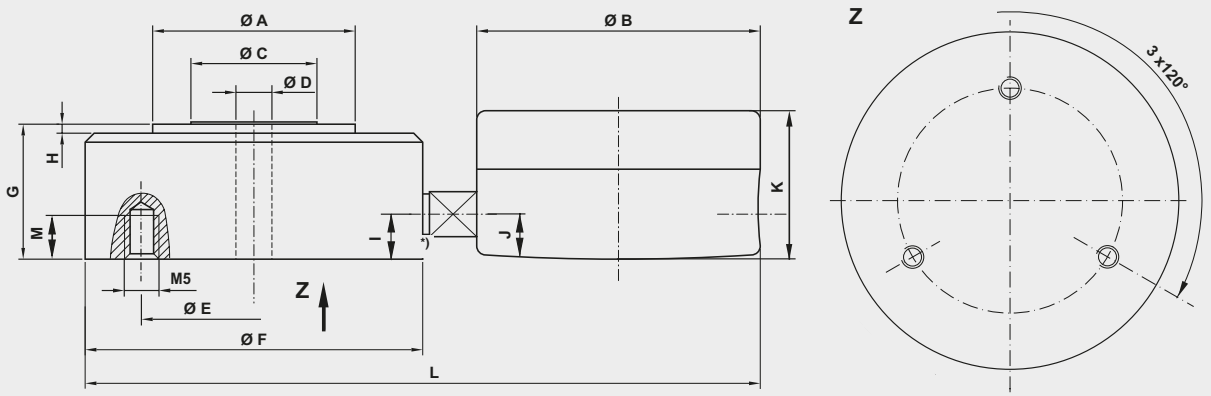
Model F6116	
Rated force F_{nom}	0 ... 320 N to 0 ... 120 kN [0 ... 72 lbf to 0 ... 26.977 lbf]
Nominal size	NS 20 ring
Display	
Standard	Pressure gauge 213.40 (NS 63)
Option	Pressure gauge with contacts PGS23
	Digital pressure gauge DG-10
	Pressure sensor (on request)
Relative linearity error d_{lin}	
Standard	≤ ±1.6 % F_{nom} (analogue display)
Option	≤ ±0.5 % F_{nom} (pressure sensor/digital pressure gauge)
Limit force F_L	100 % F_{nom}
Breaking force F_B	> 130 % F_{nom}
Rated displacement s_{nom}	< 0.5 mm [< 0.02 in]
Rated temperature range $B_{T, nom}$	-25 … +50 °C [-13 ... 122 °F]
Ingress protection (per EN/IEC 60529)	IP65
Case	Stainless steel
Piston	Stainless steel
Mounting type	
Standard	Direct mounting
Option	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
Weight	
with pressure gauge 213.40 (NS 63)	2.1 kg [4.63 lbs]
with digital pressure gauge DG-10	2.3 kg [5.1 lbs]

Approvals

Logo	Description	Region
CE	**EU declaration of conformity**	European Union
	EMV-directive	
	RoHS-directive	
EAC	**EAC (option)**	Eurasian Economic Community
	EMV-directive	

Dimensions in mm[in]

Version with Manometer 213.40



Dimensions in mm [in]												
ØA	ØB	ØC	ØD	ØE	ØF	G	H	I	J	K	L	M
60 [2.36]	63 [2.48]	36 [1.48]	20 [0.79]	70 [2.76]	90 [3.54]	38 [1.5]	3 [0.19]	14 [0.55]	12.5 [0.49]	34 [1.34]	165 [0.55]	8 [0.03]

Version			Pressure gauge	Digital pressure gauge	Options	
Rated force		System pressure	213.40	DG-10	Measuring hose DN 2 [max. L]	Capillary [max. L]
N/kN [lbf]		bar			m	m
320 [72]	N [lbf]	1.6	■[1)]	-	-	-
500 [112]		2.5	■[1)]	-	-	-
800 [180]		4	■	-	-	1.0
1.2 [270]	kN [lbf]	6	■	-	0.5	1.0
2 [450]		10	■	-	1.0	2.0
3.2 [719]		16	■	-	1.0	2.0
4 [900]		20	■	■[2)]	1.5	2.0
5 [1,124]		25	■	-	1.5	2.0
8 [1,798.5]		40	■	-	1.5	2.0
10 [2,248]		50	■	■	2.0	2.0
12 [2,698]		60	■	-	2.0	2.0
20 [4,496]		100	■	■	2.0	2.0
32 [7,194]		160	■	■	2.0	Other length on request
50 [11,240]		250	■	■	3.2	
60 [13,488]		315	■	-	3.2	
80 [17,984]		400	■	■	3.2	
120 [26,977]		600	■	■	3.2	
Other rated loads and versions on request						

■ = possible selection

1) For a rated force below 500 N, the relative linearity error is ≤ ±1.6 % Fnom for all connected measuring instruments.

2) Relative linearity error ≤ ±1.0 % F_{nom}

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