

# Hydraulic compression force transducer

## Compact version, for forces of 550 N to 310 kN

### Model F6198

WIKA-data sheet FO 52.28

#### Applications

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

#### Special features

- Measuring ranges 0 ... 550 N to 0 ... 310 kN  
[0 ... 123,645 lbf to 0 ... 69,691 lbf]
- Relative linearity error  
±1.0 %  $F_{nom}$  with analogue pressure gauge,  
±0.5 %  $F_{nom}$  with digital pressure gauge or pressure sensor
- Piston stroke  $\leq 0.5$  mm [ $\leq 0.02$  in]
- Operates without supply voltage
- 5-year leak-tightness warranty



Hydraulic compression force transducer, model F6198

#### Description

This compact hydraulic force transducer enables the simple and economical detection and display of forces.

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 designed in various units, e.g. N, kN, kg, t.

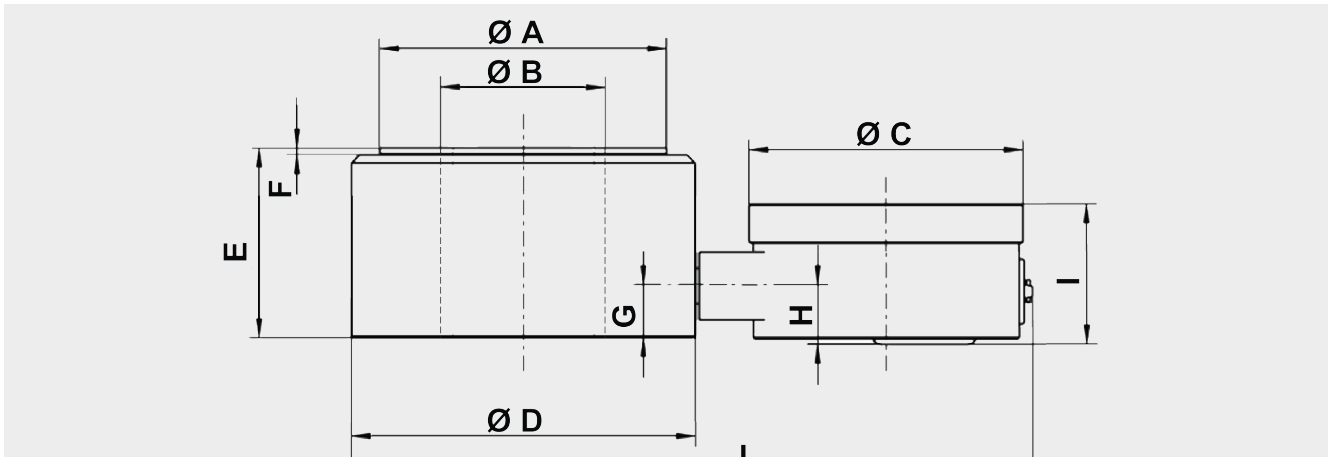
#### Leak-tightness warranty

The warranty on leak tightness of the hydraulic force measuring unit was extended to 5 years (provided the force measuring unit is used as intended). 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.

## Specifications per VDI/VDE/DKD 2638

Model F6198	
<b>Rated force <math>F_{nom}</math></b>	0 ... 550 N to 0 ... 310 kN [0 ... 123,645 lbf to 0 ... 69,691 lbf]
<b>Nominal size</b>	NS 35
<b>Display</b>	<ul style="list-style-type: none"> <li>■ Pressure gauge, model 213.40 (NS 63)</li> <li>■ Pressure gauge, model 23x.50.100 with max. value pointer</li> <li>■ Digital pressure gauge, model DG-10</li> <li>■ Pressure sensor (on request)</li> </ul>
<b>Relative linearity error <math>d_{lin}</math></b>	
Pressure gauge	$\leq \pm 1.6 \% F_{nom}$
Pressure sensor/digital pressure gauge	$\leq \pm 0.5 \% F_{nom}$
<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>	$< 0.5 \text{ mm}$ [ $< 0.02 \text{ in}$ ]
<b>Rated temperature range <math>B_{T, nom}</math></b>	$-10 \dots +50 \text{ }^\circ\text{C}$ [ $14 \dots 122 \text{ }^\circ\text{F}$ ]
<b>Ingress protection (per EN/IEC 60529)</b>	
Pressure gauge / Digital pressure gauge	IP65
Pressure sensor	IP67
<b>Case</b>	Stainless steel
<b>Piston</b>	Stainless steel
<b>Mounting type</b>	
Pressure gauge	Direct mounting
Digital pressure gauge/pressure sensor	Direct mounting
Option	<ul style="list-style-type: none"> <li>■ Capillary</li> <li>■ Measuring hose for "separation without any loss less connection"</li> </ul>
<b>Fill fluid</b>	Glycerine 70 % / water 30 %
<b>Force introduction (optional)</b>	Threaded holes on the bottom of the case
<b>Weight</b>	6 kg [13.23 lbs]

## Dimensions in mm [in]



Add-on measuring device	Dimensions in mm [in]									
	Ø A	Ø B	Ø C	Ø D	E	F	G	H	I	L
213.40	106 [4.17]	52 [2.05]	63 [2.5]	127 [5]	50.8 [2]	4 [0.16]	19.5 [0.78]	12.5 [0.5]	34 [1.34]	220 [8.66]
DG-10			83.5 [3.3]					15.8 [0.62]	43.1 [1.7]	230 [9.05]

Version				Pressure gauge	Digital pressure gauge	Options	
Rated force	Graduation	System pressure		Model 213.40	Model DG-10	Measuring hose DN 2 (max. L)	Capillary (max. L)
		bar					
550 [123.7]	N/[lbf]	10 [2.3]	N/[lbf]	1.6	■	-	-
900 [202.3]		20 [4.5]		2.5	■	-	-
1.4 [314.7]	kN/[lbf]	50 [11.2]		4	■	-	1.0
2.0 [449.6]		100 [22.5]		6	■	-	0.5
3.5 [786.8]		100 [22.5]		10	■	-	1.0
5.5 [1,237]		100 [22.5]		16	■	-	1.0
7 [1,574]		-		20	-	■ <sup>1)</sup>	1.5
9 [2,023]		200 [45]		25	■	-	1.5
14 [3,147]		400 [90]		40	■	-	1.5
18 [4,047]		-		50	-	■	2.0
20 [4,496]		1 [224.8]	kN/[lbf]	60	■	-	2.0
35 [7,868]		1 [224.8]		100	■	■	2.0
55 [12,365]		2 [449.6]		160	■	■	2.0
90 [20,233]		2 [449.6]		250	■	■	3.2
110 [24,729]		5 [1,124]		315	■	-	3.2
140 [31,473]		5 [1,124]		400	■	■	3.2
210 [47,210]		10 [2,248]		600	■	■	3.2
310 [69,691]		10 [2,248]		885	■	■	-

### Other rated forces and versions on request

■ = possible selection / - = not available  
 1) Relative linearity error  $\leq \pm 1.0\%$  F<sub>nom</sub>

© 12/2021 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.



**ICS Schneider Messtechnik GmbH**  
 Briesestrasse 59  
 D-16562 Hohen Neuendorf / OT Bergfelde  
 Tel.: +49 3303 5040-66  
 Fax: +49 3303 5040-68  
 E-Mail: info@ics-schneider.de



**WIKAL Alexander Wiegand SE & Co. KG**  
 Alexander-Wiegand-Straße 30  
 63911 Klingenberg/Germany  
 Tel. +49 9372 132-0  
 info@wika.de  
 www.wika.com