Hydraulic ring force transducer Geotechnical version to 700 kN Model F6137

Applications

- Civil engineering and special construction
- Tunnel construction
- Mining (surface and underground)
- Surveying and bridge building
- Slope stabilisation, retaining walls and excavations

Special features

- Measuring ranges 0 ... 80 kN to 0 ... 700 kN [0 ... 17,985 lbf to 0 ... 157,366 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 ≤ 0.5 mm [≤ 0.02 in]
- Operates without supply voltage
- Case and piston made of galvanised steel

Hydraulic ring force transducer, model F6137

Description

The model F6137 hydraulic ring force transducer, geotechnical version, is available in nominal size NS 82 to 700 kN [157,366 lbf].

This hydraulic force measuring unit can, in conjunction with a measuring or display instrument, display the measured values directly or output them as analogue signals. A cylinder-piston combination, filled with hydraulic medium, in a steel version with surface coating or in stainless steel version (option), forms the basis of the anchor force measuring system. It is an extremely robust design in line with the requirements of geotechnical engineering.

For maximum availability and ease of maintenance, we offer a connection solution that enables external measured value transducers/displays to be disconnected and replaced under operating conditions without loss of hydraulic fluid.

Applications for hydraulic force measuring units can be found in the field of geotechnology in various fields such as tunnel construction, bridge building and slope stabilisation.

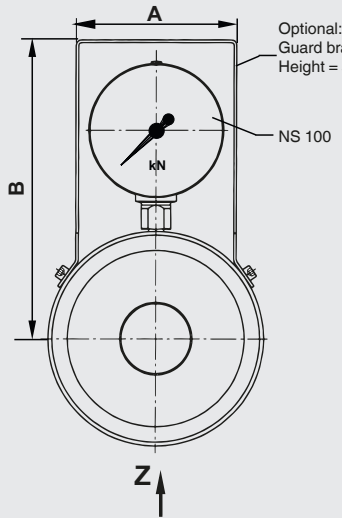
Data sheets showing similar products:
Hydraulic ring force transducer; compact version to 120 kN; model F6116; see data sheet: FO 52.18
Hydraulic ring force transducer; geotechnical version to 1,500 kN; model F6148; see data sheet: FO 52.21
Hydraulic ring force transducer; heavy Duty version bis 1,500 kN; model F6154; see data sheet: FO 52.17
Hydraulic compression force transducer; compact version to 310 kN; model F6198; see data sheet: FO 52.28

Specifications per VDI/VDE/DKD 2638

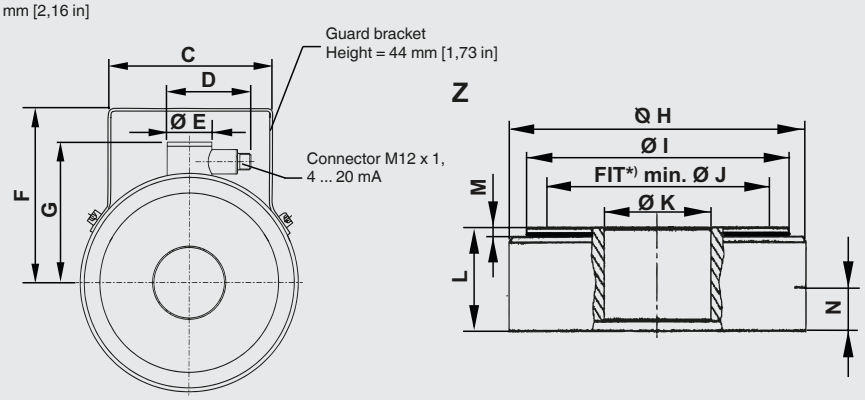
Model F6137	
Rated force F_{nom}	0 ... 80 kN to 0 ... 700 kN [0 ... 17,985 lbf to 0 ... 157,366 lbf]
Nominal size	NS 82
Display	■ Pressure gauge, model 23x.50 (NS 100) ■ Digital pressure gauge, model DG-10 ■ Pressure sensor (on request)
Relative linearity error d_{lin}	
Pressure gauge	≤ ±1.0 % F_{nom}
Pressure sensor/digital pressure gauge	≤ ±0.5 % F_{nom}
Temperature effect on	
the characteristic value TK_C	1 % F_{nom} /10 K
the zero signal TK_0	1 % F_{nom} /10 K
Force limit 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 $B_{T, nom}$	-30 … +60 °C [-22 ... 140 °F]
Ingress protection (per IEC/EN 60529)	
Pressure gauge	IP65
Pressure sensor	IP67
Digital pressure gauge	IP65
Case	■ Steel, electrogalvanised ■ Stainless steel (option)
Piston	■ Steel, electrogalvanised ■ Stainless steel (option)
Guard bracket	
Pressure gauge	Yes
Pressure sensor/digital pressure gauge	Optional
Mounting type	
Pressure gauge	Direct mounting
Pressure sensor/digital pressure gauge	Direct mounting
Option	■ Capillary ■ Measuring hose for “separation without any loss less connection“
Output signal	4 … 20 mA, 2-wire
Analogue output	
Supply voltage	DC 0 … 30 V for current output
Load	≤ (UB - 6V) / 0.024 A
Electrical connection	■ Circular connector M12 x 1, 4-pin Hand-held ■ Measuring instrument ViSens E3908 (option)
Fill fluid	Glycerine 70 % / water 30 %
Force introduction (FIT)	As full-faced as possible, min. 75 % of the piston diameter
Weight	8 kg [17.64 lbs]

Dimensions in mm [in]

Version with model 23x.50 (NS 100)



Version with pressure sensor



*) FIT = Force introduction

Dimensions in mm [in]													
A	B	C	D	ØE	F	G	ØH	ØI	ØJ	ØK	L	M	N
120 [4.7]	215 [8.5]	132 [5.2]	71 [2.8]	33 [1.3]	124 [4.9]	103.5 [4.1]	161 [6.3]	132 [5.2]	112 [4.4]	52 [2]	55 [2.16]	5 [0.2]	19 [0.75]

Version		Pressure gauge
Rated force	System pressure	Model 23x.50 (NS 100)
kN [lbf]	bar	
80 [17,985]	100	■
130 [29,225]	160	■
200 [44,962]	250	■
250 [56,202]	315	■
350 [78,683]	400	■
400 [89,924]	500	■
500 [112,404]	600	■
600 [134,885]	700	■
700 [157,366]	800	■
Other rated loads and versions on request		

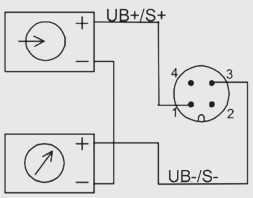
■ = possible selection

Pin assignment, analogue output

4...20 mA (2-wire)		
	Pin	Connection identification
Supply UB+/S+	1	Brown
Supply UB-/S-	3	Blue
Signal S+	1	Brown
Signal S-	3	Blue
Shield ⏚	case	case

Output 4...20 mA, 2-wire

Circular connector M12 x 1, 4-pin



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