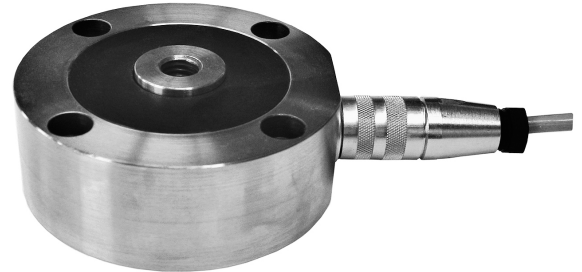


Tension-/compression force transducer for material testing, high dynamic

with electrical output



Description

These load cells are notable for high accuracy and low overall height. They can be used in harsh industrial environments, in laboratories or test bays, for static or dynamic measuring functions.

The load cells have a bore with internal thread leading through the centre, they are splash water protected and function reliably even under difficult service conditions.

The load cells are to be mounted on a level surface of at least the same size if the technical data listed on page 2 are to be maintained.

Note

In order to avoid overloading, it is advantageous to connect the load cell electrically during installation and to monitor the measured value.

The force to be measured must be applied concentrically and free of transverse force.
The load cells are to be mounted on a level surface.

Features

- For tension and compression force measurements
- Simple installation
- Low installation height
- Protection class IP 67
- Accuracy 0.05% or 0.2% of full scale value

Measuring ranges

- 0.5 kN ... 5000 kN

Applications

- Material test facilities
- Plant engineering
- Production lines
- Measurement and monitoring facilities
- Special equipment and machinery construction
- Test systems

Specific information

- Calibration control:
100% Signal (option)
- Load input elements available (option)

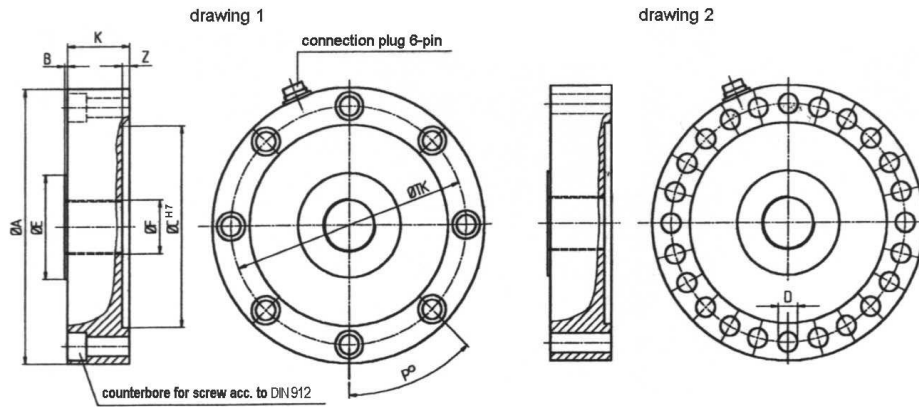
Model: F2210

Technical data

Model	F2210		Options
Nominal load F_{nom}	0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000 kN		higher accuracy
Accuracy class compression, tension and compression	0.2% of F.S. 0.4% of F.S.		0.5% of F.S. 1.0% of F.S.
Limit load	$150\% F_{nom}$		
Breaking load	$>300\% F_{nom}$		
Combined error	$\leq \pm 0.15\%$ of F.S. (tension force) $\leq \pm 0.3\%$ of F.S. (tension and compression force)		$\leq \pm 0.05\%$ of F.S. $\leq \pm 0.10\%$ of F.S.
Max. dynamic load	$\pm 80\% F_{nom}$ acc. to DIN 50100		
Creep, 30 min. at F_{nom}	$\leq \pm 0.08\%$ of F.S.		$\leq \pm 0.03\%$ of F.S.
Nominal deflection	<0.12 mm		
Nominal temperature range	$-10 \dots +55^{\circ}\text{C}$		
Service temperature range	$-30 \dots +65^{\circ}\text{C}$		
Storage temperature range	$-50 \dots +90^{\circ}\text{C}$		
Reference temperature	23°C		
Temperature effect -span -zero	$\leq \pm 0.07\%$ / 10K $\leq \pm 0.05\%$ / 10K		$\leq \pm 0.05\%$ / 10K $\leq \pm 0.03\%$ / 10K
Protection type (acc. to EN 60 529/IEC 529)	IP 67		
Insulation resistance	> 2 G Ω		
Non repeatability	0.08% of F.S.		0.03% of F.S.
Analogue output - Output signal - Bridge resistance - Option - Tolerance of span - Excitation voltage - Electrical connection	2 mV/V 350 Ω Cable integrated amplifier 0 (4) ... 20 mA, 0 ... 10 V DC $\leq \pm 0.1\%$ of F.S. 2 ... 12 V (max. 15 V), 16 ... 32 V DC for cable integrated amplifier Plug, 6-pin (DIN 45 322)		
Calibration control			100% signal
Mounting equipment	see sep. data sheet		
Material of measuring device	Stainless steel		
Weight (kN) - 0,5 - 2 - 5 - 10 - 20 - 50 - 100 - 200 - 500 - 1000 - 2000	1,0 kg 1,1 kg 3,4 kg 5,5 kg 6,0 kg 15,0 kg 69,0 kg 70,0 kg		

of F.S. = full scale value

Dimensions



Electr. connection	
Supply. (-)	Pin 1
Supply (+)	Pin 2
Sign. (+)	Pin 4
Sign. (-)	Pin 5
Control	Pin 6
Screen	Pin 3

Nominal load [kN]	Dimensions in [mm]											Screw torque in [Nm]	
	øA	B	øC	øD	øE	øF	K	øTK	P	S	Z		Picture
0.5 / 1 / 2 / 5 / 10	90	2	60	6.6	25	M 12	32	75	4 x 90°	for M6	2	1	0.8
20 / 50	150	2	105	11	55	M 24 x 2	38	130	8 x 45°	for M10	2	1	40
100 / 200	185	2	135	13	70	M 36 x 3	42	160	8 x 45°	for M12	2	1	70
500	240	2	160	17	90	M 45 x 3	60	200	12 x 30°	for M16	2	1	160
1000	295	5	200	21	130	M 80 x 4	95	250	12 x 30°	for M20	5	2	610
2000	390	3	270	26	190	M 120 x 4	117	330	24 x 15°	for M24	3	2	1050

Subject to technical changes