

FORCE MEASURING SYSTEMS Hydraulic Load Cells

Standard - Programme

Ring type load cells (with clear centre) for static and dynamic loads giving readings accurate to $\pm 1\%$ of full scale. (For load cells giving readings of higher accuracy, see leaflet D 35.) The load cells can be used in ambient temperatures ranging from -20°C to $+50^{\circ}\text{C}$.



Fig. 500/2

Fig. 504/2

Application:

Ring type load cells are preferably used where machine components (shafts, spindles, bolts, pins, etc.) must be passed through the cell body as is required, for instance, for measuring thrusts occurring in machine tool operation. They can also be arranged for taking tension force measurement.

Description:

These load cells consist of a ring type capsule with annular piston and a special diaphragm which hermetically seals the fluid system. On loading the piston, the pressure generated in the fluid is transmitted via the diaphragm to the pressure gauge. As the fluid system is filled under a high vacuum, the stroke of the piston will not exceed 1 mm.

Available in ranges from 0 to 1000 N and 0 to 2,5 MN, subdivided into 6 range groups. See table on page 2.

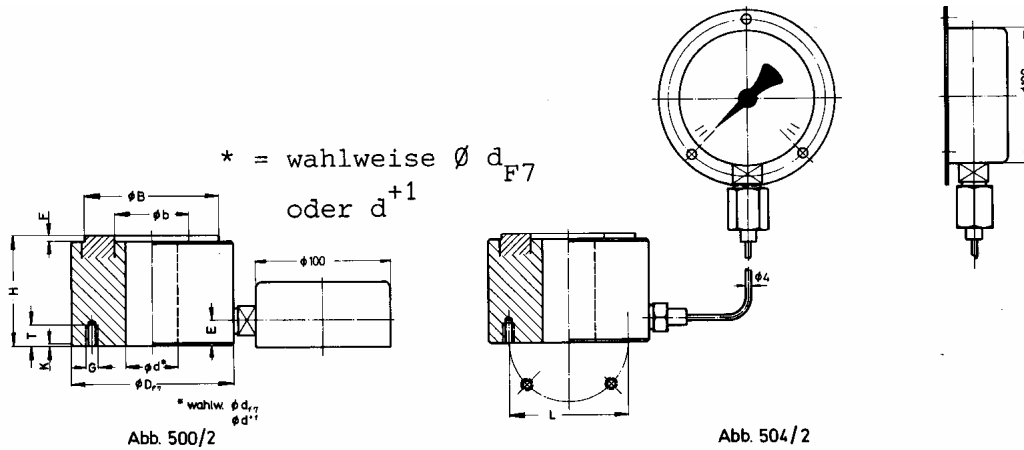
The standard pressure gauge is 100 mm in diameter.

A maximum pointer, which can be re-set from outside by a key, and with electrical single or double contacts of the normal or magnetic type can be fitted, if required.

Fig. 500/2 = Load cell with rigidly connected pressure gauge.

Fig. 504/2 = Load cell with copper capillary (F) connected to a pressure gauge with back rim for surface-mounting (optionally with front ring for flush-mounting; standard length of capillary 2; diameter 4/2 mm).

Typical Designs:



Ranges and Dimensions *)

Range-groups	1,0 kN	1,6 kN	2,5 kN	4,0 kN	6,0 kN	10 kN	16 kN	25 kN	40 kN	60 kN	100 kN	160 kN	250 kN	400 kN	600 kN	1,0 MN	1,6 MN	2,5 Mn
I	0	0	0	0	0	0	0	X	X	X	X	X	X					
II		0	0	0	0	0	0	0	X	X	X	X	X	X				
III			0	0	0	0	0	0	0	X	X	X	X	X	X			
IV				0	0	0	0	0	0	0	X	X	X	X	X	X		
V					0	0	0	0	0	0	0	X	X	X	X	X	X	
VI						0	0	0	0	0	0	0	X	X	X	X	X	X
Scale-graduation	0,02 kN	0,05 kN	0,05 kN	0,1 kN	0,1 kN	0,2 kN	0,5 kN	0,5 kN	1 kN	1 kN	2 kN	5 kN	5 kN	10 kN	10 kN	0,02 MN	0,05 MN	0,05 MN

Dimensions in mm

	B	b	D	d	E	F	G	H	K	L	T	Netweight in kg
I	80	40	100	25	18	3	M8	58	1	70	15	4,3
II	100	56	120	40	18	5	M8	62	1	90	15	5,7
III	130	80	170	60	20	5	M10	68	1	120	18	11,0
IV	180	120	210	100	22	5	M10	70	1,5	170	18	15,2
V	220	146	250	125	22	5	M12	75	1,5	200	20	22,0
VI	280	180	310	160	22	5	M12	75	2	260	20	33,0

- 0 = For these load ranges, if cell is used with remote-indication line, please state the height difference between bottom of load cell and centre of pressure gauge (enabling us to correct the error caused by the fluid column).
- X = If the height difference is less than 2.000 mm, no correction of the error due to the fluid column is necessary.
- *) = For scale graduations, see leaflet D 38, page 2.