

M50



Stainless steel compression diaphragm-type load cells.
Capacity range from 500 to 5000 kg.
Environmental protection IP68

Key features

- The load cells are made from materials and components supplied by the world's leading manufacturers
- Each load cell is sealed with a stainless steel cover welded to a flexible element by laser welding
- Each load cell is tested for leaks with a helium leak detector
- The load cells are tested using TENSO-M load producing machines.
- The machines are certified as first-grade reference machines based on the State Verification Procedure for Load Measuring Instruments (GOST 8.640-2014)
- The load cells are supplied in groups to be used together in scales
- The warranty period is 4 years

Application

Vessel and tank weighing systems

Standards compliance

GOST 8.631-2013

Basic configuration

- Design according to GOST 8.631-2013: 3000 verification intervals
- Cable length 3 m
- Four-wire connection diagram
- Cable shield is not connected to the load cell body
- Explosion protection according to TR TS 012/2011

Options

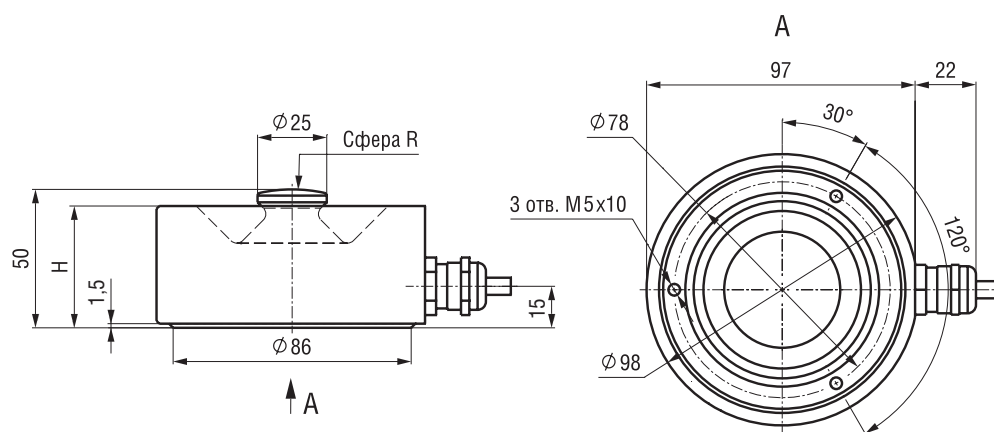
- Design according to GOST 8.631-2013: 1000 verification intervals
- Cable length from 2 to 100 m
- Six-wire connection diagram
- Input voltage from 2 to 24 V

Specifications

Load cell characteristics	Unit of measure	Values	
Maximum capacity	t	0,5; 1,0; 2,0; 3,0; 5,0	
Accuracy class according to GOST 8.631-2013		C1	C3
Number of verification intervals		1000	3000
Minimum verification interval		Max capacity / 5000	Max capacity / 10000
Operating voltage ratio (OVR)	mV/V	2 ±0,010	2 ±0,002
Initial voltage ratio (IVR)	% of OVR	< 3	< 3
Combined error	% of OVR	≤ ±0,040	≤ ±0,020
Creep (30 minutes)	% of OVR	≤ ±0,049	≤ ±0,025
Temperature effect on IVR	% of OVR/°C	≤ ±0,0028	≤ ±0,0014
Temperature effect on OVR	% of OVR/°C	≤ ±0,0022	≤ ±0,0011
Max DC input voltage	V	12	
Input resistance	Ω	750 ±15	
Output resistance	Ω	700 ±1	
Insulation resistance	GΩ	≥ 5	
Temperature compensation range	°C	-30... +40	
Nominal temperature range	°C	-50... +50	
Environmental protection according to GOST 14254		IP68	
Safe load limit for no more than 1 hour	% of max capacity	25	
Ultimate load	% of max capacity	300	
Load cell material		Stainless steel	

Weight and dimensions

Maximum capacity, t	H, mm	R, mm	Load cell weight, kg	Cable length, m
0,5	39	30	1,5	3
1	42	55		
2				
3	43			
5	44			



Hardware

M/ПУ

Basic load transfer device for hanging a vessel on load cells

Combined construction of a soft steel flange and a heat treated insert ensures proper installation at low costs.

Used with horizontal base plate and foot.

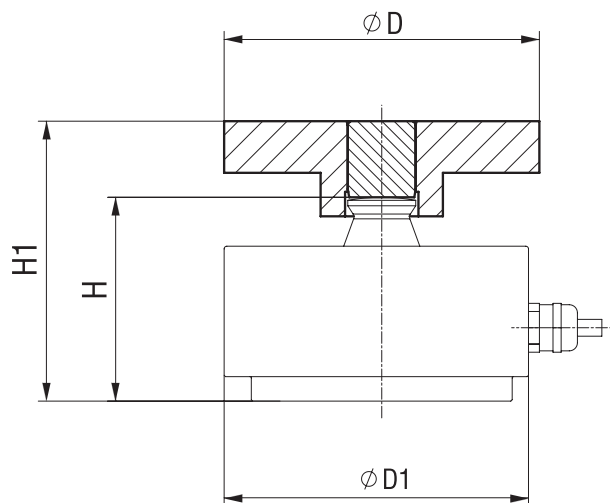
Material — structural or stainless steel



Load transfer devices for compression load cells

Dimensions

Load cell type	Designation	Material	D, mm	D1, mm	H, mm	H1, mm
M50	M50/ПУ	structural steel	116	98	50	78
	M50/ПУН	stainless steel	98			
M70	M70К/ПУ	structural steel	116	116	75	103
	M70К/ПУН	stainless steel				
M100	M100/ПУ	structural steel	156	156	100	140
	M100/ПУН	stainless steel				



M50, M70K/P, P1, P2, PK1, M100/P2

Load transfer device (adjustable mount) for hanging a vessel on load cells

Combined with adjustable РП/РПН/РПА/РПАН embedded part it is used to install vessels on load cells even in challenging conditions (sloped foundation or mounts of different heights).

P: Thread diameter of the sleeve M48.
Material – structural steel.

P1, PK: Thread diameter of the sleeve from M20 to M48. Material – stainless steel and structural steel. Supplied with a protective cover.

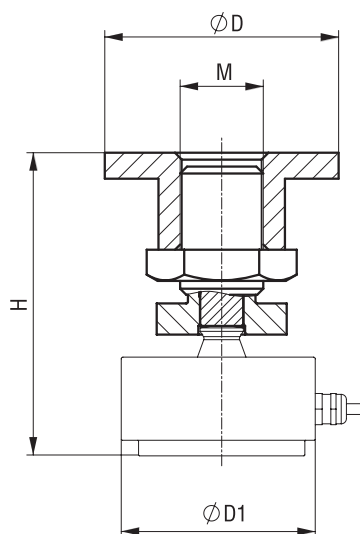
P2: Thread diameter of the sleeve M56x3.
Material – structural steel.

PK1: Used with a threaded hole in the tank mount.
Material – stainless steel. Supplied with a protective cover.



Dimensions

Load cell type	Designation	Material	H, mm	D, mm	D1, mm	M, mm
M50	M50/P	structural steel	150... 170	116	98	M48
M70	M70K/P		170... 190			



Adjustable mounts

Dimensions

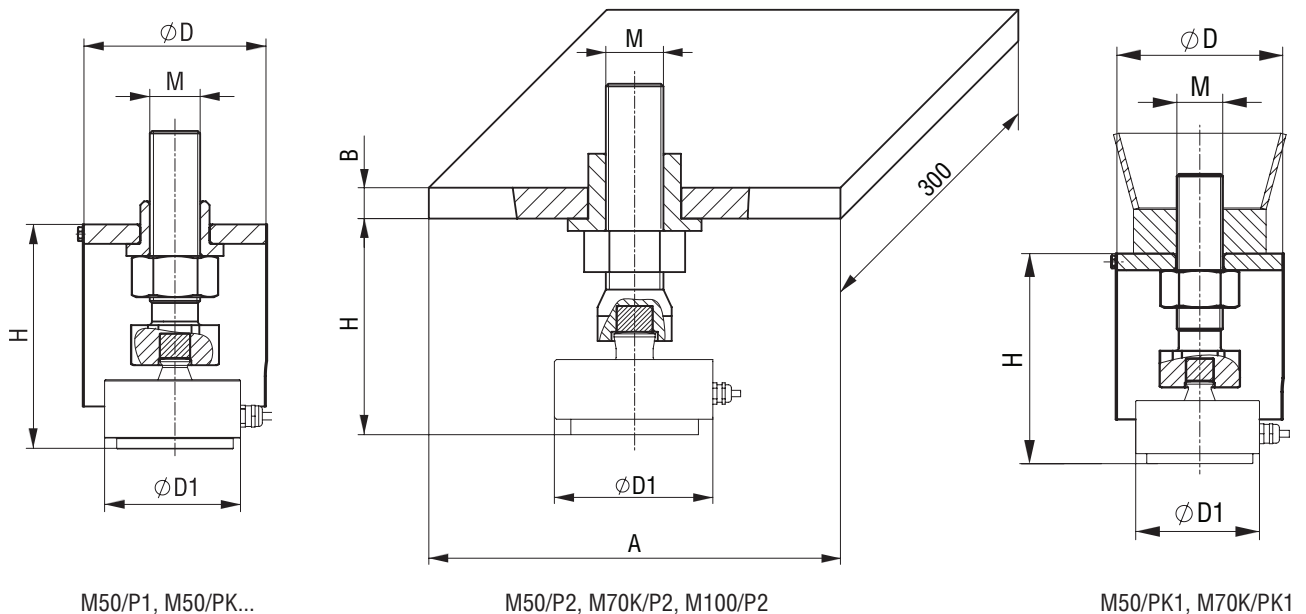
Load cell type	Designation	Material	M, mm	D, mm	D1, mm	H, mm
M50	M50/P1	structural steel*	M20, M24, M30, M36, M42, M48	150	98	190... 220
M70	M70K/P1				116	
M50	M50/PK	stainless steel	M20, M24, M30, M36, M42, M48		98	
M70K	M70K/PK				116	

Load cell type	Designation	Material	A, mm	B, mm	H, mm	D1, mm	M, mm
M70 or 15τ	M70K/P2	structural steel*	300x400	min 25	210... 260	116	M56x3
M100	M100/P2					156	

* – stainless steel cover

Load cell type	Designation	Material	M, mm	D, mm	D1, mm	H, mm
M50	M50/PK1	stainless steel	M20, M24, M27, M30, M42, M48**	150	98	180... 220
M70	M70K/PK1				116	

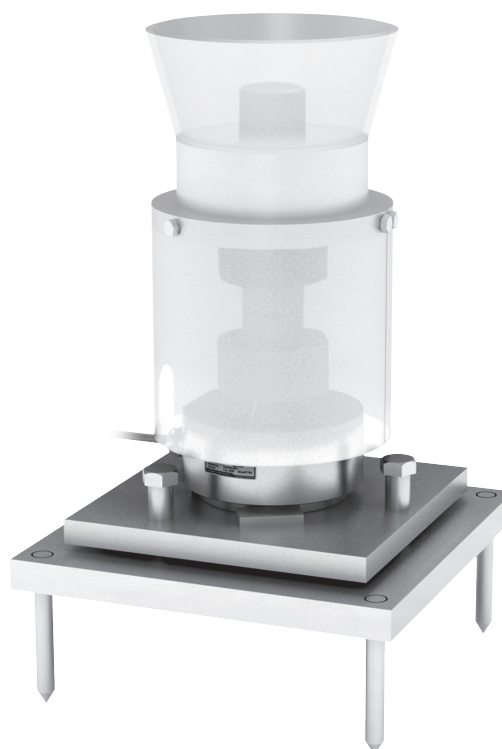
** – threading also possible upon request



M50, M70K/РП, РПН, РПА, РПАН

Adjustable embedded mount
with limit stops and anchor bolts
for installing a vessel on load cells

Used to install a vessel on load cells
with a sloped foundation. Can be used together
with the adjustable PK/P1/P2/PK1 mount



Dimensions

Load cell type	Designation	Material	A, mm	A1, mm	B, mm	B1, mm	B2, mm	D1, mm
M50	M50/РП, M50/РПА	structural steel	250	200	16, 20	16, 20	100	98
M70	M70K/РП, M70K/РПА							116
M50	M50/РПН, M50/РПАН	stainless steel						98
M70	M70K/РПН, M70K/РПАН							116

