B.1.19.

PRESUURE GAUGE WITH SEPARATING MEMBRANE

diameters 100, 160mm bottom connection

DESCRIPTION:

- bayonet case made of stainless steel 17 240/1.4301
- glass inspection hole, safety glass
- bottom/back connection
- measure mechanism made of CuZn and copper alloys

APPLICATION:

- power engineering
- food industry
- hydraulics

TECHNICAL PARAMETERS:

- diameter: 100, 160mm
- measuring ranges:

0-4, 6, 10, 16, 25, 40, 60, 100, 160, 250, 400, 600kPa
0-1; 1,6; 2,5; 4; 6; 10; 16; 25; 40; 60MPa
-0,1+2,4; -0,1+1,5; -0,1+0,9MPa
-100+500, -100+300, -100+150, -100+150kPa
-0,6+1; -1+1,5; -1,5+2,5; -2+4; -4+6kPa
-6+10; -10+15; -15+25kPa
-1-0; -1,6-0; -2,5-0; -4-0; -6-0; -10-0; -16-0; -25-0; -40-0kPa

- connection threads: G1/4, G1/2,M12x1,5, M20x1,5
- scale: Pa, bar, individual
- accuracy class: 1,6%, 2,5%
- design: pressure gauge, pressure-vacuum indicator, vacuum indicator

SPECIFICATION:

Pressure gauges with separating membrane are made in accordance with standard EN837-3. These pressure gauges are used in all applications, where it is necessary to separate the medium from measure mechanism and in applications, where it is impossible to use pressure gauges with Bourdon pen. They may be used for all aggressive mediums. For mediums of high viscosity and loose mediums it is applicable to use flange with widened connection thread or an opened flange. Environment temp. T_{min} -40 up to T_{max} 60°C, medium temp. T_{max} 80°C (higher according to the application). Pressure gauges are supplied in default with screwed type of membrane (type 41, PN 25), but may be supplied in wide range of separating membranes (for food industry, clamp, for paper industry, opened, front membrane, see chapter E.7.) Other options of design on individual request - special scale design, connection threads, with switch-off contacts, etc.

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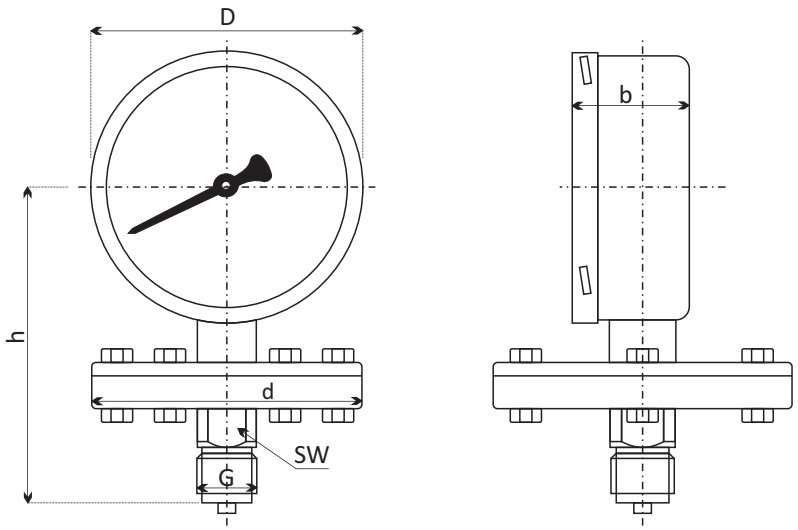
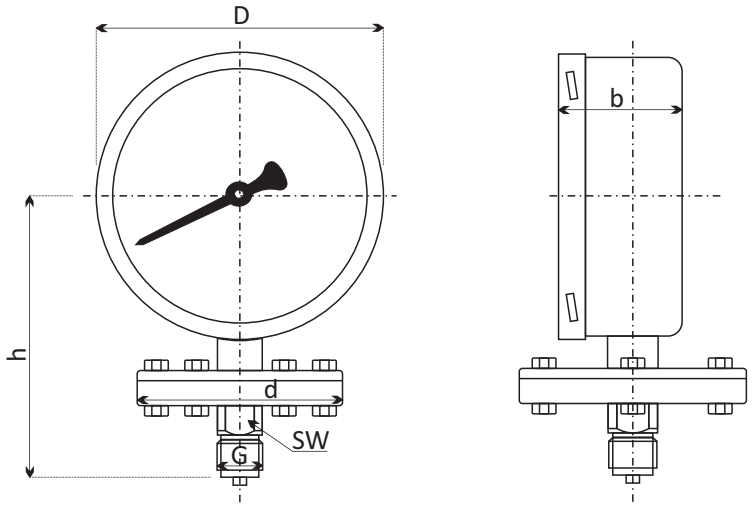
Code	379	379G	379M
Diameter	100mm		
Design	bottom connection	bottom connection, glycerine	bottom connection
Accuracy class	1,6% / 2,5%		
Measuring range	0-60kPa...0-2,5MPa (screwed- together membrane) 0-60kPa...0-60MPa (screwed together with welded-on membrane) pressure and vacuum		0-4...0-40kPa
Highest accuracy	constant pressure - 3/4 from all range, fluctuating pressure - 2/3 from all range		
Case	black/ stainless steel sheet/aluminium cast		
Ring	black/ stainless steel sheet		
Inspection hole	glass		
Dial	white Al sheet with black print according to DIN 16 109		
Needle	black sprayed Al sheet		
Machine basis	CuZn - alloy/stainless steel		
Pen	Cu - alloy/stainless steel		
Connection	M20x1,5, G1/2, threads up to M65x2 (G1 1), opened flange from DN 15 to DN 80		
Weight approx.	2,1kg	2,6kg	2,1kg
Medium temper.	T_{max} 80°C (may vary with design)		
Environ. temper.	T_{min} -40°C, T_{max} 60°C		
Measur. dependance on temperature	0,3%/10K for deviations from normal temperature 20°C		
Flange	cast iron, leaded cast iron , rubberized cast iron, stainless steel, brass, rubberized steel		
Separating membrane	leaded steel, teflon, stainless steel, sprayed with epox. varnish, PTFE, Hestelloy, Monel, Nickel, Tantan, Titan, silver-plated		



Dimensions in mm							
Type	Nom. size	b	D	d	G	h	SW
379	100	49	101	100	M20x1,5, G1/2	117	22

Code	376	376G	376M
Diameter	160mm		
Design	bottom connection	bottom connection, glycerine	bottom connection
Accuracy class	1,6% / 2,5%		
Measuring range	0-60kPa...0-2,5MPa (screwed- together membrane) 0-60kPa...0-60MPa (screwed together with welded-on membrane) pressure and vacuum		0-4...0-40kPa
Highest accuracy	constant pressure - 3/4 from all range, fluctuating pressure - 2/3 from all range		
Case	stainless steel sheet		
Ring	stainless steel - bayonet		
Inspection hole	glass		
Dial	white Al sheet with black print according to DIN 16 109		
Needle	black sprayed Al sheet		
Machine basis	CuZn - alloy/stainless steel		
Pen	Cu - alloy/stainless steel		
Connection	M20x1,5, G1/2, threads up to M65x2 (G1 1), opened flange from DN 15 to DN 80		
Weight approx.	3,0kg	3,9kg	3,0kg
Medium temper.	T_{max} 80°C (may vary with design)		
Environ. temper.	T_{min} -40°C, T_{max} 60°C		
Measur. dependance on temperature	0,3%/10K for deviations from normal temperature 20°C		
Flange	cast iron, leaded cast iron , rubberized cast iron, stainless steel, brass, rubberized steel		
Separating membrane	leaded steel, teflon, stainless steel, sprayed with epox. varnish, PTFE, Hestelloy, Monel, Nickel, Tantan, Titan, silver-plated		



Dimensions in mm							
Type	Nom.size	b	D	d	G	h	SW
376	160	49	161	100	M20x1,5, G1/2	149	22

SEPARATING MEMBRANES

Type 41.. (DN) a) screwed together

Screwed-together separating membrane is designed for separation of sensing element and the measure unit from impact of liquid, which may be corrosive, caustic, of higher density or high temperature. This membrane is suitable for pressures from -1 to 25 bar. Enables utilization of big membrane with small connection dimensions: G1/2, M20x1,5, NPT1/2 (other on request). Separator may be taken apart and the inner space may be cleaned. For pressure measurements of aggressive chemicals it is possible to use membranes made of tantal or protection foil PTFE; bottom part may be made of resistant plastic or equipped with lining.

b) screwed together with welded-on membrane

Screwed-together separating membrane is designed for separation of sensing element and the measure unit from impact of measured medium, which may be corrosive, of high viscosity or of other aggressive characteristics. The membrane is welded on to the upper part by tantal-stainless steel weld. This design enables easy cleaning of the system. Welded-on membrane is suitable for pressures from -1 up to 400bar.

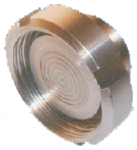
Type 55.. (DN): flange

Flange separating membrane is designed for separation of the sensing element from impact of measured medium, which may be corrosive, of high viscosity or of other aggressive characteristics, using flange process connection according to DIN 2501, EN 1092-1, ANSI B16,5 or flange on individual request.

Type 53.. (DN): clamp

Separating membrane is welded onto the construction. Mainly used in food, drink, water industry or other applications with toughened hygienic requirements. Quick-connect coupling with clamp connection, dimensions DN: 25, 32, 40, 50, 65 (DN 25, 32 and 40 with identical outer dimension). Quick-connect coupling enables easy disassembly for cleaning.

Type 32.. (DN): food industry



Separating membrane is welded onto the construction. Mainly used in food, drink, water industry or other applications with toughened hygienic requirements. Connection using quick-connect coupling with union nut according to DIN 11851. Conical socket (special design: threaded socket). Dimensions DN: 25, 32, 40, 50.

Type 34.. (DN): paper industry

Connection using union nut flange (alternatively fixed flange). Separators body with short tube. Membrane diameter 48 up to 59mm. Mainly used in paper industry. Dimensions of the flange are distinct from the standartized ones in order to use big membrane and maintain small assembly dimensions.

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SEPARATING MEMBRANES

Type 45.. (DN): welded-together

Welded-together membrane is designed for separation of sensing element and measure unit from impact of liquid, which may be corrosive, caustic, of higher density or high temperature. This membrane is suitable for pressures from 0 to 600 bar. Commonly used for efficient pressure shock absorption, because it enables use of a very narrow throttling cross section without the danger of clogging. Connection: G1/2, M20x1,5, G1/4, M12x1,5 according to DIN 16288. Device diameter: 40, 50, 60mm. Membranes size correspondents with the diameter of the device. Material: stainless steel (on request Monel, nickel, etc.)

Type 43.. (DN): threaded pin

Separating membrane type 43 is designed for separation of sensing element and measure unit from impact of liquid, which may be corrosive, have high viscosity or feature another kind of agressivity. Universal separating membrane with wide range of use thanks to the universal connection with G - thread. Suitable for high pressures up to 60 MPa

Type 56.. (DN): with cooling extension

Membrane separators are besides other things used for pressure measurements of hot substances and liquid alloys, which would otherwise solidify inside pressure gauge or transducer. Measured pressure is transferred by means of working liquid through capillary that is cooled by the outside environment. Cooling extension prevents the pressure gauge or transducer from overheating. When filled with high-temperature oil, the cooling extension enables pressure measurement of mediums of temperatures up to 400°C.

Type 57.. (DN): with movable capillary

Mainly used for level measurements in closed containers, for liquid density and flow measurements. The separator itself is usually flange or sandwich type. Other types with membrane of minimum diameter 48mm may be used as well. In order to balance the temperature error it is recommended to use capillaries of same lengths and as short as practicable; capillaries lengths usually up to 6m.

Other: Type 58.. (DN)

Separator exploits the characteristics of big membrane while built into a pipeline of smaller inner diameter . Thanks to the special construction it is still possible to maintain the sanitation characteristics without the need of separators disassembly. The membrane is efficiently washed by the flowing liquid in the pipe. Sealing of the lid meets strict hygienic regulations.

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