

SEPARATING MEMBRANES



DESCRIPTION:

Measured pressure acts through membrane upon working liquid, that fills up the area behind membrane and transfers the pressure onto measure mechanism of sensor or pressure gauge. Pressure transfer is performed by means of oil, that fills up the pressure gauge. In between the upper and lower flange there is a membrane, that separates in inlet of measured medium from the measure mechanism and transfers the measured pressure onto the pressure gauges filling. If not mentioned otherwise, the membranes are made of corrosion-resistant steel. Membranes may also be produced in the following designs: leaded steel, teflon-plated steel, stainless steel, sprayed with epox. polish, PTFE, Hestelloy, Monel, Nickel, Tantan, Titan, silver-plated steel.

Flanges: cast-iron, leaded cast-iron, rubberized cast-iron, stainless steel, brass, rubberized steel. Separating membranes are suitable for all pressure gauges of diameters: 63, 100 and 160mm.

APPLICATION:

- power-engineering
- petrochemical industry
 - food industry
- pharmaceutical industry

SPECIFICATION:

Separating membranes are used during pressure measurements in cases, where it is impermissible to let the measured substance get in contact with the measurement mechanism of the sensor or the pressure gauge. Separating membranes enable pressure measurement of chemical substances, that have corrosive effect on material of the pressure gauges measure element. Perfect sealing of the area filled with working liquid is a basic prerequisite for a reliable and trouble-free operation. For these purposes the most suitable are separators with metal membranes, which are welded to the separator body. All used construction elements and their connection must meet requirements of vacuum tightness.

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 tantalum 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 tantalum-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 standardized ones in order to use big membrane and maintain small assembly dimensions.

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 corresponds 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 aggressivity. 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.