

Diaphragm Seal Pressure Gauges

DSU-2002

The fitting of a diaphragm seal unit to a pressure gauge is recommended where the medium to be measured is highly viscous or contains suspended solids or is potentially corrosive to the Bourdon Tube. Seal units are normally connected directly to the gauge, but connection may be made by flexible capillary, which makes them ideal for remote pressure indication. Flexible capillary can be used to facilitate the fitting of a gauge in a surface or panel mounting location. Maximum capillary length is 25 metres.

Pressure is transmitted from the diaphragm seal unit to the bourdon tube by a suitable filling medium, the selection of which will ensure compatibility with the process and process temperature. Where it is known that the instrument will be used on processes subject to extremes of temperature, the temperature at the tapping point should be advised at the time of ordering.

Diaphragm seal units can be fitted to Rototherm gauge types: SPG, RPG, DMC, SPGA and Turret gauges. Please refer to individual pressure gauge data sheets for full instrument specifications.



Type A

Diaphragm Seal Arrangements - Welded Diaphragm Construction

Type A seals are of fully welded construction and are hence most suited to applications that do not involve viscous fluids, suspended solids or crystallising liquids. **Type B** seals are of a bolted construction with the diaphragm welded to the top section enabling the seal to be easily disassembled and are particularly suited for applications in which periodic cleaning of the seal may be required. **Type C** seals use similar construction to the **Type B**, but are flange mounted and are most suitable for viscous product applications. **Type C** seals require a flange with a nominal bore of at least 2"; for applications requiring smaller bore flanges please refer to details on Rototherm extended flange seals Types 4 and 6

Maximum Working Pressures

Type A & B* 5000 psi (* Type B 3000 psi)
Type C Refer to flange maximum pressure rating

Process Connections

Type A (male screwed) 3/8", 1/2" BSP, 1/2" BSPT, 1/2" NPT, 1" BSP and 1" BSPT. Other screwed connections on request.
Type B - as Type A
Type C - Flange mounted seals (see tables below)

Diaphragm Materials - Types A, B and C

Stainless steel - standard
Monel, Hastelloy and Tantalum
PTFE coatings are available on most models

Materials of Construction

Type A - all 316 stainless steel construction
Type B & C - 316 stainless steel tops
Bases are available in 316 stainless steel, PTFE lined, Monel and Hastelloy



Type B

Flange Rating & Size

Flanges to ANSI B16.5

Flange Size	Rating					
2"	150	300	600	900	1500	2500
2.5"	150	300	600	900	1500	2500
3"	150	300	600	900	1500	2500
3.5"	150	300	600	900		
4"	150	300	600	900	1500	2500

Flanges to BS4504

Flange Size	Rating		
DN40	PN10	PN16	
DN50	PN6	PN10	PN16

Flanges to BS10

Flange Size	Rating			
2"	Table D	Table E	Table F	Table H

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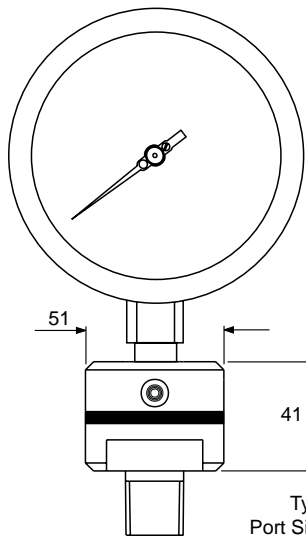
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instrumentation and control

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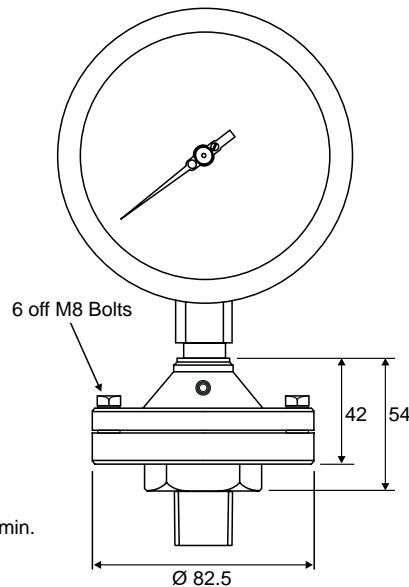
Filling Fluids Available

Filling Fluid	Process Temperatures	Recommended Usage
Mineral Oil (Diala DX) Standard Filling	-40 to 120°C	Standard applications NOT suitable for food
Lockheed	-20 to 35°C	As above
Galdon DO5	-20 to 150°C	Most higher than ambient applications
Glycerine/Water	0 to 30°C	Food systems
Silicone 200/100	-20 to 160°C	Higher temperatures NOT suitable for food
Silicone 704	80 to 300°C	As above
Fluorolube FS5	0 to 250°C	Higher temperature applications

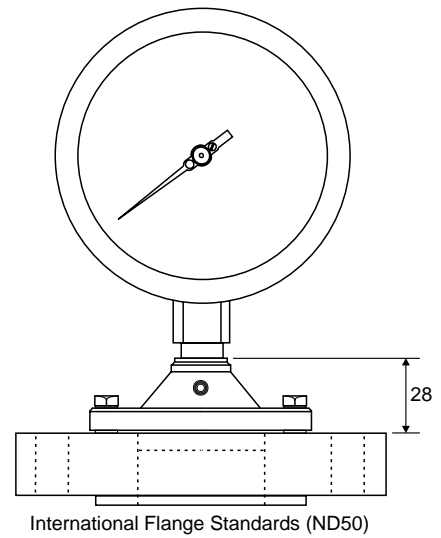
Diaphragm Seal Arrangements



Type A



Type B

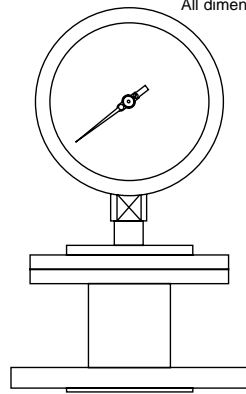


Type C

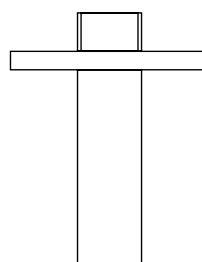
All dimensions are in mm. Drawings are for illustration purposes only. Dimensions may vary to those shown.



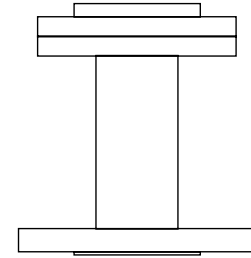
Type C



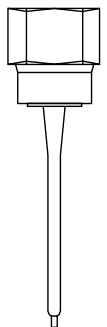
Type 4 Extended Flange
1" (25 mm) Gap



Type 5 Insert Base



Type 6 Extended Flange
3.5" (90 mm) Gap



Type 7 Homogeniser

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