

Diaphragm Seal Units

Model DSU

Data sheet : DSU/2012

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 5 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 directly or remotely fitted to Rototherm gauge types: SPG, RPG, DMC, SPGA and Turret gauges.

Diaphragm Seal Arrangements

Type A - Welded 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.

Maximum Working Pressure: 5000 psi

Process Connections : Male screwed:
3/8", 1/2" BSP, 1/2" BSPT, 1/2" NPT, 1" BSP and 1" BSPT. Other screwed connections on request.
Flanged connections:
Any standard flange size - see table

Diaphragm Materials: 316 Stainless steel - standard
Monel, Hastelloy, Tantalum and PTFE coatings are available on request

Materials of Construction: 304 stainless steel top housing
316 stainless steel bottom housing
(316 stainless steel top housing option)

Type B - Bolted Construction

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.

Maximum Working Pressure: 3000 psi

Process Connections : Male screwed:
3/8", 1/2" BSP, 1/2" BSPT, 1/2" NPT, 1" BSP and 1" BSPT. Other screwed connections on request.
Flanged connections:
Any standard flange size - see table

Diaphragm Materials: 316 Stainless steel - standard
Monel, Hastelloy, Tantalum and PTFE coatings are available on request



Model SPG Pressure Gauge fitted to a Type A Diaphragm Seal Unit



Model RPG Pressure Gauge fitted to a Type B Diaphragm Seal Unit



Model RPG Pressure Gauge fitted to a Type C Diaphragm Seal Unit

Materials of Construction: 304 stainless steel top housing
316 stainless steel bottom housing
(316 stainless steel top housing option)

Type C - Welded Diaphragm Bolted to Flange Construction

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.

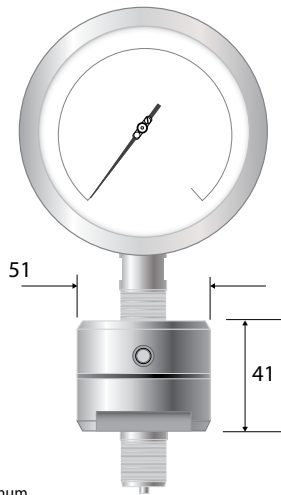
Maximum Working Pressure : Refer to flange maximum pressure rating table

Process Connections: Flange mounted seals - see table

Diaphragm Materials: Stainless steel - standard, Monel, Hastelloy and Tantalum

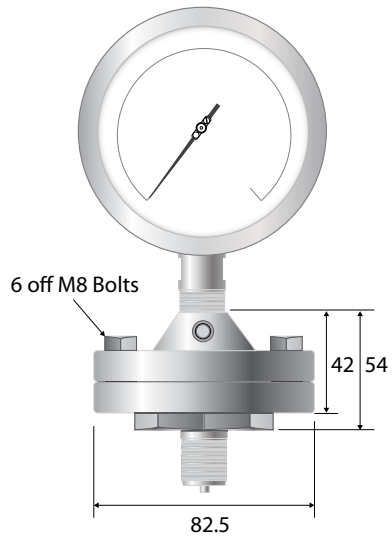
Materials of Construction: PTFE coatings are available on most models
316 stainless steel tops - bases are available in 316 stainless steel, PTFE lined, Monel and Hastelloy - others are available on request.

Dimensions in mm

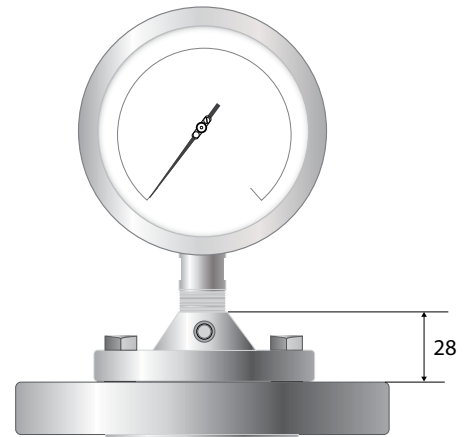


Type A & B
Port Size: 10mm minimum

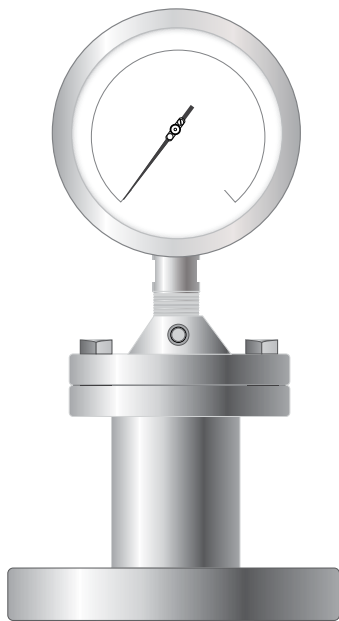
Type A
Welded Construction



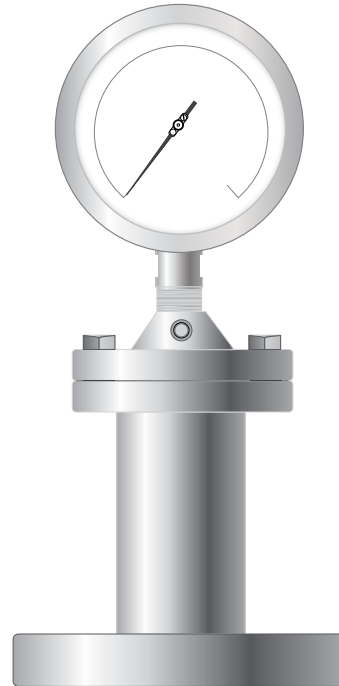
Type B
Bolted Construction



Type C
Welded Diaphragm Bolted
to Flange Construction



Type 4
Extended Flange
1" (25 mm) Gap



Type 6
Extended Flange
3.5" (90 mm) Gap

All dimensions are in mm. Drawings are for illustration purposes only.

Flange Rating & Sizes

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

Filling Fluids Available

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

Other fillings may be available on request

Ordering Information

