DIAPHRAGM SEALS

Flanged Series W5/W6

FLANGED OFFLINE WELDED DIAPHRAGM SEALS

Reotemp's Flanged Offline Welded Diaphragm Seals are designed with an upper and lower housing, bolted together with a diaphragm welded to the upper housing. This removable design allows for easy cleanout of the seal chamber, while maintaining the system fill. The flanged offline diaphragm seal can be adapted to fit almost any pressure instrument and process application.





W525 Stud Mount Style





W536 Thru Bolt Style





W626 Stud Bolt Style





W635 Thru Bolt Style

FEATURES / BENEFITS

- Welded Diaphragm for Maximum Durability
- · Wide Variety of Diaphragm and Material Options
- Continuous-duty Disc Protects from Process Fluid Leaking in the Event of a System Breach
- Easy Cleanout of Diaphragm Cavity without Compromising Filled System

SPECIFICATIONS

OI LOII IOA	HONO				
Diaphragm	316/316L SS, Hast C-276, Tantalum, Monel A400, Nickel 201, or Others				
Lower Housing	316/316L SS, Hast C-276, Monel A400, Alloy 20, Hast B, or Others				
Gasket	See Gasket Selection Guide Page 85				
Upper Housing	316/316L SS, 304/304L SS, Monel A400, or Titanium				
Process Temperature Limits	Maximum Temperature 750°F, See Gasket Selection Guide p.85, Fill Fluid Guide Page 90, and Instrument Mounting Configurations Page 84 for exact Temperature Limits				
Ambient Temperature Limits	Determined by the pressure instrument.				

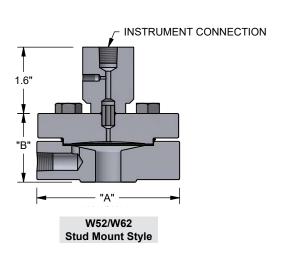
Temperature Limits Minimum

	wiii		
Recon	nmended Span	W5	W6
	2.5" & 3.5" Gauges	15 psi	200" H ₂ O
	4", 4.5", & 6" Gauges	30 psi	200" H ₂ O
	Transmitter (Gauge Pressure)	150" H ₂ O	60" H ₂ O
	Transmitter (Differential Pressure)	300" H ₂ Od	60" H ₂ Od
	Differential Pressure Gauge	N/A	N/A

Maximum Working Pressure Determined by flange.

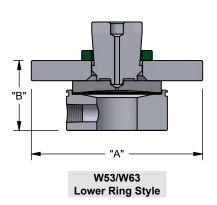
Flanged Series W5/W6

FLANGED OFFLINE WELDED DIAPHRAGM SEALS



W52									
Diaphragm Size	Flange (ANSI)	Α	В						
4 (0)	150#	3.3"	1.7"						
1/2"	300#	3.5"	1.7"						
3/4"	150#	3.5"	1.7"						

W62									
Diaphragm Size	Flange (ANSI)	Α	В						
4 (0)	150#	4.0"	1.7"						
1/2"	300#	4.0"	1.7"						
0/48	150#	4.0"	1.7"						
3/4"	300#	4.0	1.8						
1"	150#	4.0	1.7						
1"	300#	4.8	1.8						



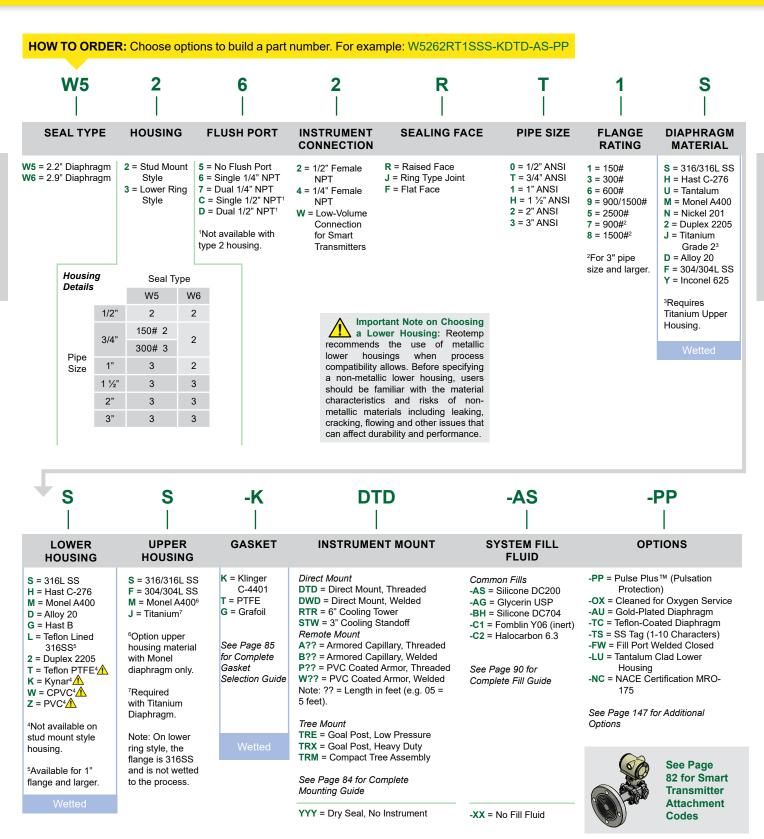
W53									
Diaphragm Size	Flange (ANSI)	Α	В						
3/4"	300#	4.8"	1.7"						
1"	150#	4.3"	1.7"						
'	300#	4.8"	1.7"						
1.5"	150#	5.0	1.7						
1.5	300#	6.0	1.7						

W63									
Diaphragm Size	Flange (ANSI)	Α	В						
1.5"	150#	5.0"	1.7"						
1.5	300#	6.0	1.7						
2"	150#	4.3"	1.7"						
2	300#	4.8"	1.7"						

Note: All drawings depict a single 1/4" NPT Flush Port (optional). Drawing are not to scale. Contact Reotemp customer service for more detailed drawings.

DIAPHRAGM SEALS

FLANGED OFFLINE WELDED DIAPHRAGM SEALS



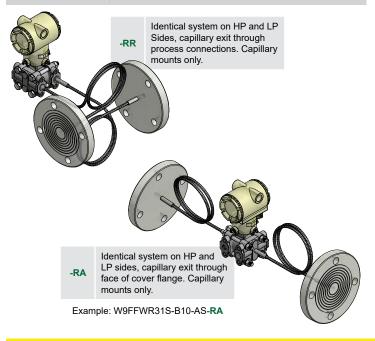
SMART TRANSMITTER ATTACHMENT

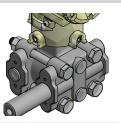


DIFFERENTIAL PRESSURE ASSEMBLY

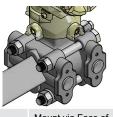
Balanced System A complete assembly with one part number that includes two diaphragm seals, two capillaries, two fills, and one complete assembly calibration certificate.

Unbalanced DP System Where seal, mount, capillary, or fill is not identical. A complete assembly includes one diaphragm seal on the HP side AND one diaphragm seal on the LP side.





-RH Mount via Process Connections Side High Pressure



-RB Mount via Face of Cover Flange
Side High Pressure



-RL Mount via Process Connections
Side Low Pressure



-RC Mount via Face of Cover Flange

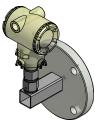
Side Low Pressure

GAUGE PRESSURE ASSEMBLY

In Line Pressure Transmitter



Mount to In-Line Gauge
-R1 Pressure Transmitter.
Direct or remote mount.



Horizontal Mount (Tank Mount) to In-Line Gauge Pressure Transmitter. Direct mount only. **Traditional Mount for Gauge Pressure** Seal mount on one side only, other side is vented.

-R2



Instrument mount through process connections, HP Side. Use "R3" if mounting to LP side



Instrument mount through face of cover flange, HP Side. Use "R9" if mounting to LP Side

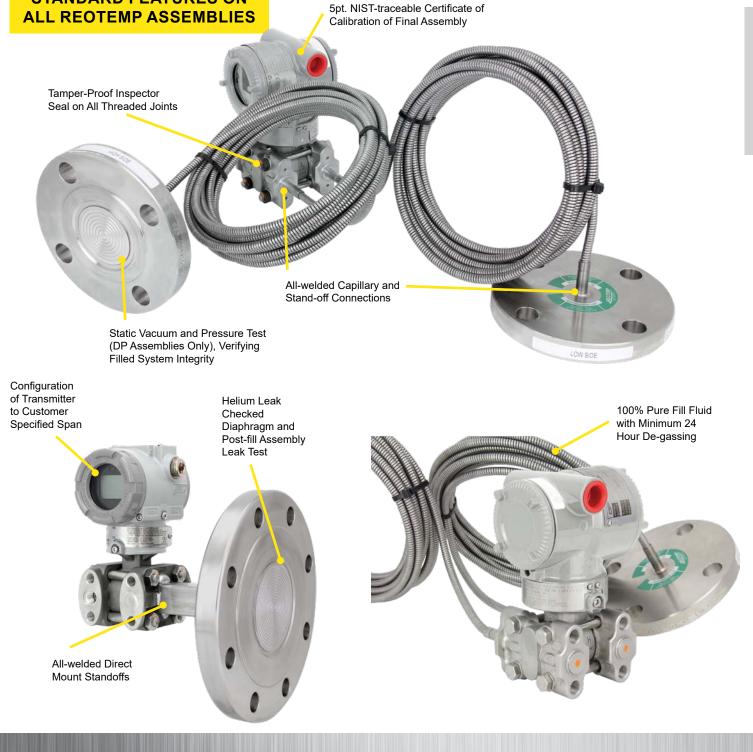
82 (800) 648-7737 reotemp.com PTC-1023

DIAPHRAGM SEAL ASSEMBLY TO SMART TRANSMITTERS

Diaphragm Seals

Reotemp specializes in the unique craft of assembling diaphragm seals to field transmitters for the purpose of measuring pressure, differential pressure, level, and flow. As a trusted supplier to many of the world's leading transmitter manufacturers, Reotemp can assemble a diaphragm seal system to virtually any make or model transmitter. Every transmitter mount includes the features below to ensure superior performance and durability for every assembly. Reotemp also offers repair, refurbishment or replacement of used transmitters with remote seals.

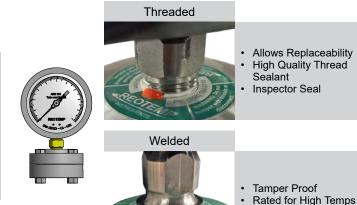
STANDARD FEATURES ON



INSTRUMENT MOUNTING CONFIGURATIONS

DIRECT MOUNT

Direct Mounting a pressure gauge, switch, or transmitter is the most common diaphragm seal assembly.



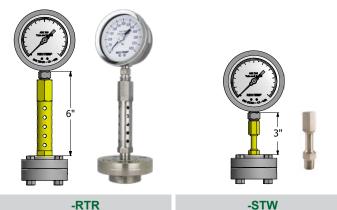
Code	Description	Max. Temp
-DTD	Threaded Instrument Connection	400°F
-DWD	Welded Instrument Connection	600°F

Leak Resistant

Assembly Notes: Welded connection recommended for pressure exceeding 1,500 psi for purposes of leak prevention.

COOLING ELEMENTS

Used in either high temp or cold temp applications, Cooling Elements mounted above diaphragm seals quickly normalize fluid temperature toward ambient. This protects the pressure instrument while still maintaining the convenience of a direct mount.

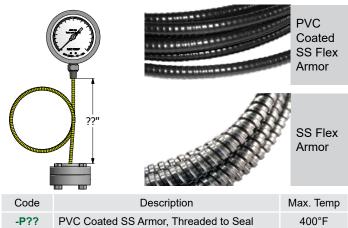


Code	Description	Max. Temp
-RTR	6" Cooling Tower	750°F
-STW	3" Cooling Standoff	600°F

Assembly Notes: Cooling elements are welded to diaphragm seal. Instruments are threaded to cooling element unless specified. All lengths are nominal.

REMOTE MOUNT

Remote Mounting a pressure instrument using flexible capillary is a common mounting method when the point of measurement is in a hazardous or inconvenient location.

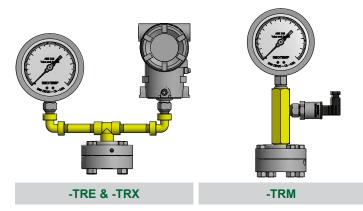


Code	Description	Max. Temp
-P??	PVC Coated SS Armor, Threaded to Seal	400°F
-W??	PVC Coated SS Armor, Welded to Seal	600°F
-A??	SS Flexible Armor, Threaded to Seal	400°F
-B??	SS Flexible Armor, Welded to Seal	750°F
Note: ?? =	Length in feet (e.g. 05 = 5 feet)	

Assembly Notes: Capillary has a 2mm inner diameter unless specified differently by customer. Ambient temp limit of PVC coated armor is 250°F. Standard instrument connection is threaded (Smart Transmitters are welded), unless specified by customer.

TREE ASSEMBLIES

Tree Assemblies offer the ability to mount two pressure instruments onto one diaphragm seal, allowing the user to gain both a local indication and a remote signal without adding an additional pipe insertion.



Code	Description	Max. Temp
-TRE	Goal Post, Low Pressure Assembly (Max. 150 psi)	400°F
-TRX	Goal Post, Heavy Duty (Max. 3,000 psi)	600°F
-TRM	Compact Tree Assembly (Max. 3,000 psi)	600°F

Assembly Notes: Threaded joints are fully welded for consistent instrument orientation. Instrument connections are threaded unless specified by customer. Diaphragm seal must displace enough fluid to drive both instruments.

FILL GUIDE

Diaphragm seals are designed to protect pressure instruments from hot process media and corrosive chemicals while minimizing any negative effect on instrument accuracy and durability. A well-made diaphragm seal can achieve this goal only if it is properly assembled, filled, and tested. Reotemp's highly trained technicians use state-of-the-art equipment so that every diaphragm seal assembly is filled and tested to assure optimal instrument performance:

- 24-hour Minimum Fluid De-gassing
- Evacuated Instrument Chamber Up to 10-8 mbar Absolute
- Complete Fill Integrity Check

DIAPHRAGM SEALS

- Fill-port Leak Test
- Post-fill Static Test
- Verification of Instrument Calibration
- High-temp Pipe Sealant Option for Joints
- Tamper-proof (Inspection Seal) Lacquer used on All Threaded Joints
 - Sturdy Diaphragm Packaging Protection

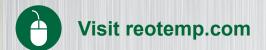
Part Number Code	Name	Description	Temperature Range (Vacuum Service <5psia)	Pulse ^{+™}	Viscosity cst @ ~77°F	Specific Gravity @ ~77°F	Thermal Expansion cc/cc/°C
		STANDARD FILL FLUID					
AS	Silicone DC200 ¹	This is the standard fill fluid for most diaphragm seal applications.	-40°F to 400°F (-40°F to 250°F)	Yes	20	0.94	.00104
		HIGH TEMP SILICONE					
ВН	Silicone DC704 ¹	Standard for Smart Transmitters and capillary systems. Performs well in applications with high temperature and a deep vacuum.	0°F to 650°F (0°F to 450°F)	No	44	1.07	.00077
B1	Silicone DC710 ¹	Highest temperature rating; ideal for gauge seal assemblies. Too thick for capillary assemblies. Response time can become very slow in cold conditions.	50°F to 750°F (50°F to 400°F)	Yes	500	1.11	.00043
C8	Syltherm 800 ²	Low viscosity allows it to perform well in both low and high temperatures. Not recommended for vacuum service or at high temperatures when under low static pressure.	-40°F to 750°F (-40°F to 150°F)	No	9.5	0.93	.00136
B5	Silicone DC705 ¹	Performs very well in high temperatures when under vacuum. The high viscosity and freezing point of this fluid makes it a poor choice for cold or outdoor installations without heat tracing.	50°F to 675°F (50°F to 550°F)	Yes	175	1.09	.00096
B2	Silicone DC550 ¹	Similar high temperature performance as DC705, however it performs better at lower temperatures.	-40°F to 575°F (-40°F to 400°F)	No	125	1.07	.00076
		FOOD GRADE					
AG	Glycerin USP	This is the standard fill fluid for most gauge seal assemblies for food, beverage, and pharmaceutical applications. Its high viscosity will cause very slow response at times in low temperature and outdoor installations.	60°F to 450°F (Not Suitable)	Yes	1100	1.26	.00061
BN	NEOBEE M207	Low viscosity and a wide temperature range makes this the standard sanitary fill fluid for Smart Transmitters and capillary systems.	-10°F to 400°F (-10°F to 200°F)	No	10	0.92	.00101
BS	Food Grade Silicone	Highest temperature limit for food grade fluids. Because of its high viscosity it does not perform well in low temperatures.	20°F to 550°F (20°F to 250°F)	Yes	350	0.97	.00096
ВР	Propylene Glycol	This is the fill fluid used when Glycol is called for on the customer specification. It has a very narrow temperature range.	0°F to 200°F (Not Suitable)	No	2.85	1.03	.00073
	INE	RT (TYPICALLY FOR CHLORINE AND OXYGEN APPLICATIONS O	R IN SILICONE-	REE ENVIR	RONMENTS)	
C1	Fomblin Y06⁴	Ideal inert fluid for transmitter applications. Relatively high vapor pressure above 200°F. Not recommended for use in high temperature situations with low static pressure.	-40°F to 450°F (0°F to 250°F)	No	71	1.88	.00086
C2	Halocarbon 6.3 ³	Standard inert fluid used in gauge seal assemblies.	-40°F to 400°F (-40°F to 200°F)	Yes	6.3	1.87	.00084
С3	Halocarbon 1.8 ³	Typically used in low temperature applications because of its low viscosity.	-110°F to 220°F (-100°F to 100°F)	No	1.8	1.82	.00084
C4	Fluorolube FS-5 ⁵	Similar performance to Halocarbon 6.3, however not suitable for vacuum service.	-40°F to 450°F (Not Suitable)	No	5	1.86	.00087
		SPECIALTY					
СК	Krytox 1506 ⁶	Specialty fill fluid, inert.	-40°F to 350°F (-40°F to 300°F)	No	62	1.88	.00095
BE	Ethylene Glycol	Occasionally used in annular (O-ring) seal assemblies.	-25°F to 320°F (Not Suitable)	No	30	1.10	.00062
СТ	Syltherm XLT ²	Used for very low process temperatures.	-150°F to 500°F (Not Suitable)	No	1.4	0.85	.00168

- 1 Trademark Dow Corning
- 3 Trademark Halocarbon Product Corporation
- 5 Trademark Hooker Chemical Company
- 7 Trademark Stepan Specialty Products

- 2 Trademark The Dow Chemical Company
- 4 Trademark AUSIMONT S.P.A
- 6 Trademark The Chemours Company FC, LLC

Note: PulsePlus™ fill fluids may have different physical properties than specified. Chemical composition and temperature ranges do not vary.

DIAPHRAGM SEAL OPTIONS



N/A Indicates the option is not available

- ✓ Check Stock
- ✓ Get Price
- ✓ Configure Part #
- ✓ Download PDF Data Sheets

		MS4 MS6 MS8	W5 W6 W7	T5 T6 V5	W9FF W9FR	W9XT	W9FP	DSTC75	DSTC15 AND LARGER	DSTF05	DSTF75 AND LARGER	OR	DXFR
	PULSATION PROTI											,	
-PP	Pulse Plus™	√	✓	✓	✓	√	N/A	N/A	✓	N/A	✓	√	N/A
411	0.1181.1.181.1			21/2		AGM CO						21/2	21/2
-AU	Gold Plated Diaphragm	N/A	√	N/A	√	✓	√	✓	√	√	*	N/A	N/A
-TC	Teflon Coated Diaphragm PTFE	N/A	√	N/A	√	√	√	N/A	√	N/A	✓	N/A	N/A
-EP	Electropolished Diaphragm	N/A	N/A	N/A	N/A	N/A	N/A	✓	√	✓	✓	N/A	N/A
-	577.5	0.7.04				FILL						21/4	21/2
-FW	Fill Port Welded Closed	STD ¹	√	✓	✓	✓	√	√	√	√	✓	N/A	N/A
-VF	Fill for Vacuum Service	N/A	✓	N/A	√	✓	✓	N/A	✓	N/A	✓	N/A	N/A
						NG AND							
-DG	Degreased, Shipped in Sealed Bag	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	N/A	✓
-OX	Cleaned for Oxygen Service per ASME B40.1	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A	✓
-OY	Cleaned for Oxygen Service per MIL-STD-1330D	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A	✓
					PLUG FO	R FLUS	PORT						
-GS	1/4" SS Plug Installed	STD	STD	STD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
-JS	1/2" SS Plug Installed	N/A	STD	STD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
-GH	1/4" Hast C Plug Installed	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
-JH	1/2" Hast C Plug Installed	N/A	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
-GM	1/4" Monel Plug Installed	N/A	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
-JM	1/2" Monel Plug Installed	N/A	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
					TA	G OPTIO	N						
-TS	Stainless Steel Tag (1-10 Characters)							✓					
-TM	Stainless Steel Tag (11-80 Characters)							✓					
-TP	Paper Tag							✓					
				C	ERTIFIC	ATION O	PTIONS						
-NC	Certificate of NACE Compliance	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓	✓	N/A	✓
-CM	General Material Conformance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-MR	MTR - Mill Test Report Certificate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	✓
-РМ	PMI - Positive Material Identification Certificate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	✓
-HT	Hydrostatic Test per ASME B31.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
-HL	Helium Leak Test Certificate	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
✓	Indicates that the option is available								¹ S	tandard on N	//S8, available	e on MS	4 & MS6.