

Diaphragm Seal Options

Ten Steps to Select a Diaphragm Seal

	CODE	SS Armored Capillary	SS Armored Capillary w/PVC Sleeve	Pipe Plug for Flushing Conn.	Top Housing 316 SS	Top Housing Monel	Top Housing Hastelloy C	SS Clamp/Flange Rings Bolts Nuts	High Pressure Clamp Rings	Clamping Bolts 300 Series SS	Cleaning For Gaseous Oxygen or Strong Oxidizing Agents	Inst. Welded to Seal	Positive Material Ident. (PMI)
	TYPE NUMBER												
THREADED	100	•	•		•			•	•(1)	•	•	•	•
	101	•	•		•			•	•(1)	•	•	•	•
	200	•	•		•	•		•	•(1)	•	•	•	•
	201	•	•		•	•		•	•(1)	•	•	•	•
	300	•	•		•			•	•(1)	•	•	•	•
	301	•	•		•			•	•(1)	•	•	•	•
	104	•	•		•						•	•	•
	310	•	•								•	•	•
	315	•	•								•	•	•
	311	•	•								•	•	•
	312	•	•								•	•	•
	330	•	•								•	•	•
	400	•	•				•	•	•(2)	•	•	•	•
	401	•	•				•	•	•(2)	•	•	•	•
	500	•	•				•				•	•	•
	501	•	•				•				•	•	•
510	•	•							•(1)	•	•	STD	
511	•	•								•	•	STD	
740	•	•								•	•	•	
FLANGED	102	•	•		•			•		•	•	•	•
	103	•	•	•	•			•		•	•	•	•
	202	•	•		•			•		•	•	•	•
	203	•	•	•	•			•		•	•	•	•
	302	•	•		•			•		•	•	•	•
	303	•	•	•	•			•		•	•	•	•
	106	•	•		•			•		•	•	•	•
	206	•	•		•			•		•	•	•	•
	402	•	•							•	•	•	•
	403	•	•	•						•	•	•	•
702	•	•							•	•	•	•	
703	•	•	•						•	•	•	•	
IN-LINE	105	•	•		•			•		•	•	•	•
	107	•	•		•					•	•	•	•
	108	•	•		•			•		•	•	•	•
	205	•	•		•			•		•	•	•	•
	207	•	•		•					•	•	•	•
208	•	•		•					•	•	•	•	
QUICK CONN.	320	•	•							•	•	•	



- SEAL TYPE**
Determine if the diaphragm seal process connection is threaded, flange or in-line to the process. A threaded design seal connects directly to the process with a female or male NPT connection. A flanged design seal is attached to the process with a flange as specified in ASME B 16.5. An in-line welded design seal is suitable for flow-thru applications.
- PROCESS CONNECTION SIZE & TYPE**
Select process connection size. If the requirement is for a threaded seal determine if a male or female connection is required.
- INSTRUMENT CONNECTION SIZE**
Determine if a 1/4 NPT or 1/2 NPT is required
- DIAPHRAGM TYPE**
Is the requirement for the diaphragm configuration threaded, welded, bonded or clamped to the top housing. Design types are:
Threaded Design: ensures a positive sealing surface. The diaphragm can be replaced if damaged.
Welded or Bonded Design: Metallic Diaphragm- welded to top housing. Elastomeric Diaphragm: bonded to top housing. Both ensure maximum leak integrity.
Clamped Design: available with elastomeric diaphragms only. Diaphragm is clamped between top and bottom housing.
- MAXIMUM ALLOWABLE WORKING PRESSURE**
Ensure the instrument full scale range does not exceed the rated pressure of the diaphragm seal. Flanged seal class ratings are in accordance with ASME B16.5. If the diaphragm seal will be used with a differential pressure instrument, the instrument static pressure should not exceed the rated pressure of the diaphragm seal.
- FLANGE TYPE**
If the requirement is for a flanged seal, determine if a raised face, flat face or ring joint flange is required
- PROCESS TEMPERATURE LIMITS**
When selecting the required system assembly fill fluid, lower housing and diaphragm material, ensure minimum and maximum temperature limits are compatible with the selected fill fluid, diaphragm and lower housing materials. When the requirement is for a flanged seal, refer to ASME B16.5 for pressure and temperature limits.
- TOP HOUSING, FLANGE OR CLAMP RING MATERIAL, CLAMP BOLTS**
Consider environmental compatibility when selecting.
Flanged Type Seals: Standard flange material is zinc plated carbon steel.
Threaded Type Seals: When a clamped ring is offered, standard material is black painted carbon steel.
Clamping Bolts: Standard bolt material is zinc plated carbon steel. See Diaphragm Seal Options page 4 when the standard material is not compatible with environmental conditions.
- LOWER HOUSING & DIAPHRAGM MATERIAL**
Both the diaphragm and lower housing are 'wetted parts' and must be compatible with the process media. See www.ashcroft.com, Technical Information, Corrosion Data Guide for material compatibility. Process temperature limits and concentration are a requirement when selecting lower housing and diaphragm material.
- FILL FLUID**
Consider process temperature and process media compatibility when selecting the system fill fluid. A fill fluid other than glycerin is required for vacuum and compound gauge ranges. Glycerin fill is not available when capillary is required between the instrument and diaphragm seal.

HOW TO ORDER: (Refer To Table On Pages 2 & 3)

Typical ordering code: 10-102-SS-04T-150-RF-XCGYT

2 — From process connection size (code 10 = 1")
 1 — From type number (code 102 = flanged seal with threaded diaphragm)
 9 — From lower housing and diaphragm material (1st S = 316 st. st. diaphragm, 2nd S = 316 st. st. lower housing)
 3 — From instrument connection size (code 04T = 1/2npt)
 5 — If a flanged seal, select flange rating (code 150 = 150 ANSI B16.5 class flange)
 6 — If for a flanged seal, select flange type (code RF = ANSI B16.5 raised face flange)
 10 — Diaphragm seal assembly fill fluid & options; precede option code with 'X' (code CG from page 3 = glycerin instrument and seal fill, code YT from page 4 above = top housing 316st. st.)

NOTES:
 (1) 5000 psi pressure rating
 (2) 9000 psi pressure rating



Glycerin
Silicone
Halocarbon

ISO 9001
REGISTERED FIRM
BULLETIN S10

All specifications are subject to change without notice.
 All sales subject to standard terms and conditions.
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		1	2	3	4	5	6	7	8	9	10					
SEAL TYPE	MODEL NUMBER	PROCESS CONNECTION SIZE (inches)	INST CONN. SIZE (NPTF)	DIAPH. TYPE	MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP) For process temperature <100°F					FLANGE TYPE	PROCESS TEMP. LIMITS		TOP HOUSING	LOWER HOUSING & DIAPHRAGM	FILL FLUIDS	
		FEMALE (F), MALE (M)			PSI	CLASS FLANGE ANSI B 16.5						DIAPHRAGM	LOWER HOUSING	MATERIALS	MATERIALS	PROCESS TEMP. LIMITS
		1/4 (Code 25 (female), Code 02 (male)) 1/2 (Code 50 (female), Code 04 (male)) 3/4 (Code 75 (female), Code 06 (male)) 1 (Code 10 (female), Code 08 (male)) 1 1/2 (Code 15 (female)) 2 (Code 20 (female)) 3 (Code 30 (female)) 4 (Code 40 (female)) 6 (Code 60) 8 (Code 80)	1/4 (Code 02 (female)) 1/2 (Code 04 (female))	Threaded (100 series) Welded or bonded elastomer (200 series) Clamped (300 series)	75# (PVC lower housing) 200# (PVC or Kynar lower housing) 270# (Teflon lower housing) 500# 500# (Viton or Kalrez diaphragm) 750# 1000# 1500# 2500# (Teflon & metal diaphragms) 3000# 4400# 9000# (with XHP)	150 Class Flange 300 Class Flange 600 Class Flange 900 Class Flange 1500 Class Flange 2500 Class Flange	Raised Face (RF) Flat Face (FF) Ring Joint	Metal (750°) Teflon (-40/400°F) Viton (-40/350°F) Kalrez (30/212°F)	Metal (750°F) PVC: (74°F), flanged (100°F) Teflon: (74°F), flanged (150°F) Kynar: (100°F)	Nickel plated carbon steel 316 SS (XYT when not standard) Monel (XYM when not standard) Titanium Hastelloy C276 (XHB)	304 SS (lower housing and/or diaphragm), code C diaphragm, code C lower housing 316 SS (lower housing and/or diaphragm), code S diaphragm, code S lower housing Monel 400 (lower housing and/or diaphragm), code P diaphragm, code M lower housing Nickel (lower housing and/or diaphragm), code N diaphragm, code N lower housing Carpenter 20 (lower housing and/or diaphragm), code D diaphragm, code D lower housing Tantalum/Tantalum clad (lower housing & diaphragm), code U diaphragm, code SU lower housing Hastelloy B (lower housing and/or diaphragm), code G diaphragm, code G lower housing Hastelloy C 276 (lower housing and/or diaphragm), code H diaphragm, code H lower housing Hastelloy C 22 (lower housing and/or diaphragm), code J diaphragm, code J lower housing Titanium (lower housing and/or diaphragm), code T diaphragm, code T lower housing Halar coated Monel (lower housing and/or diaphragm), code R diaphragm, code RH lower housing Viton (diaphragm only), code Y Teflon (diaphragm only), code T Kalrez (diaphragm only), code K Steel (lower housing), code B Inconel (lower housing only), code W PVC (lower housing only), code V 1/4, 1/2 process conn. size only Teflon (diaphragm only), code T 1/4, 1/2 process conn. size only Kynar (lower housing only), code KY 1/4, 1/2 process conn. size only	Glycerin (0/400°F, -18/204°C) direct mount only (Code CG) Silicone (-40/600°F, -40/315°C) (code CK) Food grade Silicone (-40/600°F, -40/315°C) (code CZ) Halocarbon ⁽¹⁾ (-70/300°F, -56/149°C) (code CF) Syltherm (-40/750°F, -40/400°C) (code HA) Neobee M-20 (0/320°F, -17/160°C) (code NM)				
THREADED	100 101 200 201 300 301 104 310 315 311 312 330 400 401 500 501 510 511 740 741	F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F F F/M F/M F/M F/M F/M F/M F/M F/M F F F F M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M F/M M M F F F F F F F F														
FLANGED	102 103 202 203 302 303 106 206 402 403 702 703															
IN-LINE	104 105 107 108 204 205 207 208															
QUICK CONNECT	320															ALL

NOTES: (1) standard when welded monel diaphragm is specified (2) standard when titanium diaphragm is specified (3) 2" Triclamp size only (4) Lower housing only (5) Diaphragm only (6) 1", 1 1/2", 2" only (7) For use with process media containing strong oxidizing agents.