

100/101, 200/201, 300/301 Threaded Diaphragm Seal

FEATURES

- 316L stainless steel top housing (standard)
- Available in wide range of wetted materials for process compatibility
- Flushing port (101, 201, 301) provides for easy cleaning of process
- Continuous duty design contains process if instrument is inadvertently removed

TYPICAL USES

- Oil and gas
- Refineries
- Chemical and petrochemical
- Water and wastewater
- NACE Compliant processes (Sour Gas Separation)
- Biogas and biodiesel



100 Series
Diaphragm Threaded To Top Housing - flexible design

200 Series
Diaphragm Welded or Bonded To Top Housing - eliminates leak path

300 Series
Diaphragm Clamped Between Upper & Lower Housing - flexible design for elastomeric diaphragms

SPECIFICATIONS

Connection Style:	100, 200, 300: Threaded 101, 201, 301: Threaded with flushing port
Process Connection:	¼ to ½ NPT Female, ¼ to 1 NPT Male
Instrument Connection:	¼ to ½ NPT
MAWP:	2500 psi; 5000 psi (OPT.)
Fill Fluid:	See table 3 on page 3
Approvals:	CRN

WETTED COMPONENTS

Diaphragm	Bottom Housing	Gasket
See table 1 on page 2	See table 2 on page 2	PTFE (rated for -150°F to 500°F)

NON-WETTED COMPONENTS

Top Housing	Bolt/Clamp Rings	Nuts/Bolts
316L SS (standard), Monel®, Titanium	Carbon steel	Zinc plated alloy steel

KEY BENEFITS

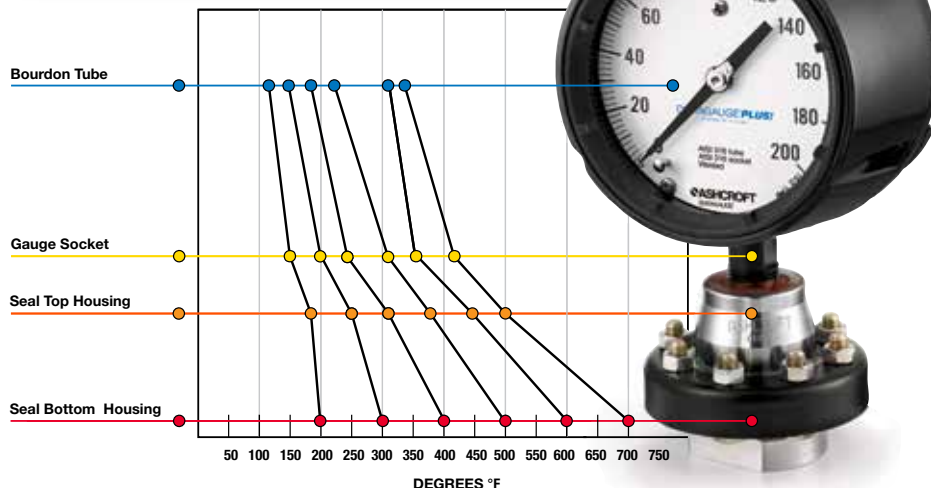
- Protects instrumentation from corrosive media
- Prevents pressure measuring instrument from clogging
- Dissipates elevated process temperature

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TABLE 1 - DIAPHRAGM MATERIALS					
Material	Letter Code	100 Series	200 Series	300 Series	Notes
316L SS	S	•	•		
304L SS	C	•	•		
904L SS	F		•		
Monel® 400	P	•	•		200-series must be ordered with XYM Monel® top housing option
Tantalum	U	•	•		
Hastelloy® C-276	H	•	•		
Hastelloy® B	G	•	•		
Hastelloy® C-22	J	•	•		
Carpenter 20®	D	•	•		
PTFE	T		•	•	Temp limits: -40°F to 400°F
Viton®	Y		•	•	Temp limits: -40°F to 350°F Max. pressure: 500 psi
Kalrez®	K		•	•	Temp limits: 30°F to 212°F Max. pressure: 500 psi
Nickel	N	•	•		
Titanium	Ti		•		Includes titanium top housing
Gold Plated 316L SS	W	•			

TABLE 2 - BOTTOM HOUSING MATERIALS		
Material	Letter Code	Notes
316L SS	S	
304L SS	C	
904L SS	F	
Carbon Steel	B	
Monel® 400	M	
Hastelloy® C-276	H	
Hastelloy® B	G	
Hastelloy® C-22	J	
Duplex 2205®	Z	
Super Duplex 2507®	A	Contact Ashcroft for availability
Carpenter 20®	D	
Inconel® 625	W	
Incoloy® 825	L	
Nickel	N	
Titanium	Ti	
PVDF	KY	Only offered in ½ NPT, ¼ NPT, and socket weld process connections. Not available with flushing connection. PVDF Temperature Limits: 200 psi - 74°F, 125 psi - 125°F, 80 psi - 150°F
PVC	V	Only offered in ½ NPT, ¼ NPT, and socket weld process connections. Not available with flushing connection. PVC Temperature Limits: 200 psi - 74°F, 125 psi - 125°F, 80 psi - 150°F

This graph represents the heat dissipation based on results of a specific laboratory test. These results may vary in the field based on multiple factors such as ambient temperature, type of process media and/or velocity. This data set is to be used as a reference point only. These test results are based on an ambient temperature of 68°F.



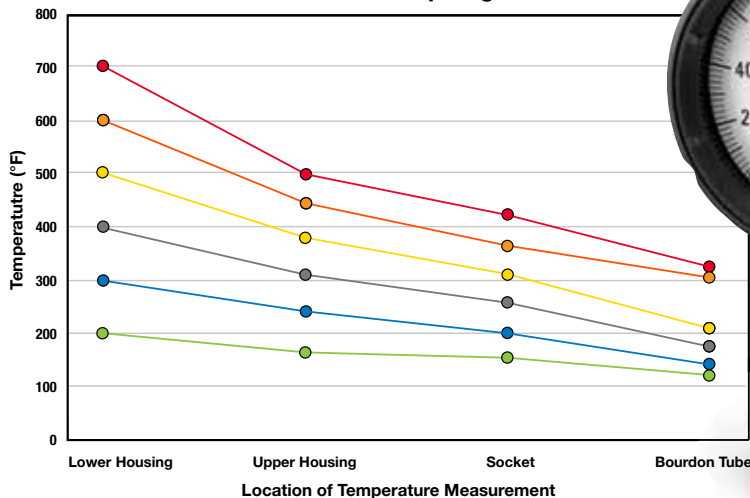
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TABLE 3 - FILL FLUIDS

Fill Fluid	Temperature	Viscosity (cSt at 70°F (21°C))	Variation Code	Notes
Glycerin (food grade)	0°F to 400°F (-18°C to 204°C)	1,300	CG	Direct-mounting only. Not for use with vacuum service
50 cSt Silicone	-40°F to 500°F (-40°C to 260°C)	50	CK	
10 cSt Silicone	-40°F to 500°F (-40°C to 260°C)	10	DJ	
Halocarbon® 4.2	-70°F to 300°F (-57°C to 199°C)	4.2	CF	For use with oxygen/oxidizing process media
Slytherm® 800	-40°F to 750°F (-40°C to 400°C)	10	HA	High temperature applications
Syltherm® XLT	-150°F to 500°F (-100°C to 260°C)	1.4	CC	Low temperature applications
Calflo® AF	-20°F to 600°F (-29°C to 316°C)	60	KF	High temperature, silicone-free
Mineral Oil	10°F to 400°F (-12°C to 204°C)	75	MY	
Neobee® M-20 (food grade)	5°F to 400°F (-15°C to 204°C)	9.5	NM	
Silicone (food grade)	-40°F to 500°F (-40°C to 260°C)	350	CZ	
Distilled Water	40°F to 185°F (4°C to 85°C)	0.9	FJ	
50/50 Glycerin/Water	15°F to 200°F (-9°C to 93°C)	30	GH	
Propylene Glycol	-50°F to 325°F (-46°C to 163°C)	54	CV	
Ethylene Glycol	20°F to 325°F (-7°C to 163°C)	14	FK	
50/50 Ethylene Glycol/Water	-25°F to 190°F (-32°C to 88°C)	2.9	CT	
80/20 Glycerin/Water	15°F to 225°F (-9°C to 107°C)	270	GR	
95/5 Water/Propylene Glycol	40°F to 185°F (4°C to 85°C)	1.0	PY	

This graph represents the heat dissipation based on results of a specific elevated process temperature test at 68°F (20°C) ambient temperature with constant static temperature.

Direct Mounted Diaphragm Seal



Duragauge® pressure gauge with type 200SS diaphragm seal

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ORDERING CODE	Example:	10	2	01	S	S	02T	XCK	NH
Process Connection Size									
25 - 1/4" NPT Female									
50 - 1/2" NPT Female									
75 - 3/4" NPT Female									
10 - 1" NPT Female		10							
15 - 1 1/2" NPT Female									
02 - 1/4" NPT Male									
04 - 1/2" NPT Male									
06 - 3/4" NPT Male									
08 - 1" NPT Male									
SA - 1/4" Socket weld									
SB - 1/2" Socket weld									
SC - 3/4" Socket weld									
SD - 1" Socket weld									
Diaphragm Type									
1 - 100 series capsule diaphragm threaded into top housing									
2 - 200 series diaphragm welded (metallic) or bonded (elastomeric) to top housing			2						
3 - 300 series elastomeric diaphragm clamped between top and lower housing									
Flushing Port									
00 - No flushing port									
01 - Flushing port in lower housing				01					
Diaphragm Materials (See Table 1 on page 2)									
S - 316L SS					S				
Bottom Housing Materials (See Table 2 on page 2)									
S - 316L SS						S			
Instrument Connection Size									
02T - 1/4" NPT Female instrument connection							02T		
04T - 1/2" NPT Female instrument connection									
Options (if choosing an option(s) must include an "X")									
									X__
Fill Fluid (for seals attached to instruments) (See Table 3 on page 3 for more available fill fluids)									
CK - 50 cSt Silicone								CK	
Optional Features (for more options, see table 4 on page 5)									
NH - SS instrument tag									NH

When selecting an instrument, refer to the [Min/Max Guide](#) for compatibility with this diaphragm seal or scan the QR code to the right.



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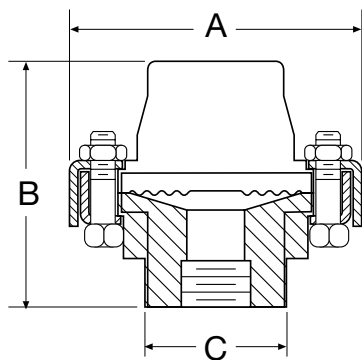
TABLE 4 - OPTIONS

Code	Option	Notes
Flushing Port		
AW	Single 1/2" flushing connection	Process connection must be 3/4 NPT or smaller
DB	Dual 1/2" flushing connections	Process connection must be 3/4 NPT or smaller
DK	Dual 1/4" flushing connections	
PU	Pipe plug for flushing connection	Plug will match bottom housing material. Seals with flushing connections only
Top Housing		
YM	Monel® 400 top housing	Must be ordered with Monel® or tantalum diaphragm
Assembly/Hardware		
SB	SS clamping bolts	
SE	SS rings and bolts	
HP	High-pressure clamping rings	Increases MAWP to 5,000 psi unless otherwise limited by material
LD	SS locking device	
NH	SS instrument tag	
NX	Teflon®-free diaphragm seal	200 psi maximum working pressure, 200 series only
DU	Instrument welded to top housing	Instrument socket must be like-material to top housing
Other		
MQ	Positive material identification	
NH	SS instrument tag	
6B	Cleaned for oxygen service	
CD-5	NACE compliance certificate	Stainless, Hastelloy®, or Monel® wetted materials Must be ordered as a separate line item

DIMENSIONS in [] are millimeters

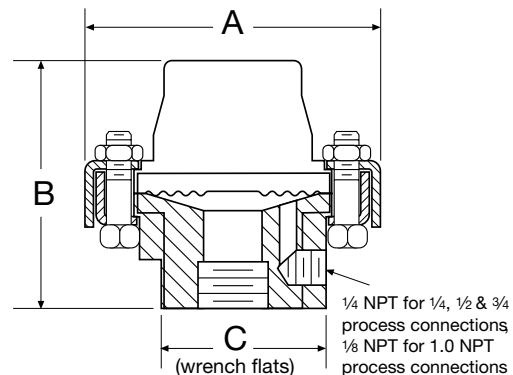
For reference only, consult Ashcroft for specific dimensional drawings

100, 200, 300 THREADED DIAPHRAGM SEAL



A	B	C
3 3/4 [95]	2 7/8 [73]	1 13/16 [46]

101, 201, 301 THREADED DIAPHRAGM SEAL WITH FLUSHING PORT



A	B	C
3 3/4 [95]	2 7/8 [73]	1 13/16 [46]