

104/204 In-Line Threaded Diaphragm Seal

Features

- 316L Stainless steel top housing (standard)
- Available with diaphragm welded or bonded to top housing or removable threaded capsule diaphragms
- Flow through design reduces the possibility of clogging; ideal for viscous media, slurries and emulsions
- Large 2½" diaphragm compatible with most Ashcroft instrumentation

Typical Uses

- Oil and gas
- Refineries
- Water and wastewater
- NACE-compliant processes (sour gas separation)
- Biogas and biodiesel

Specifications

Connection style:	In-line threaded
Process Connection:	¼ to 1 NPT
Instrument Connection:	¼ or ½ NPT
Fill Fluid:	See table 3 on page 2

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	Clamp Rings
316L Stainless steel	Carbon steel	Carbon steel



100 Series



Diaphragm Threaded to Top Housing - flexible design

200 Series



Diaphragm Welded or Bonded To Top Housing - eliminates leak path



Key Benefits

- Protects instrumentation from corrosive media
- Dissipates elevated process temperatures
- Threaded connections for simple installation

Contact Us

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ashcroft.com

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Table 1 - Diaphragm Materials

Material	Letter Code	100 Series	200 Series	Notes
316L Stainless steel	S		•	
304L Stainless steel	C		•	
904L Stainless steel	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 Stainless steel	W	•		

Table 2 - Bottom Housing Materials

Material	Letter Code
304L Stainless steel	C
316L Stainless steel	S
Hastelloy® B	G
Carpenter 20	D
Monel® 400	M
Top housing and mounting hardware only	X

Table 3 - Fill Fluids

Fill Fluid	Temperature	Viscosity (cSt at RT)	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
Syltherm® 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	
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 8 °C)	1.0	PY	

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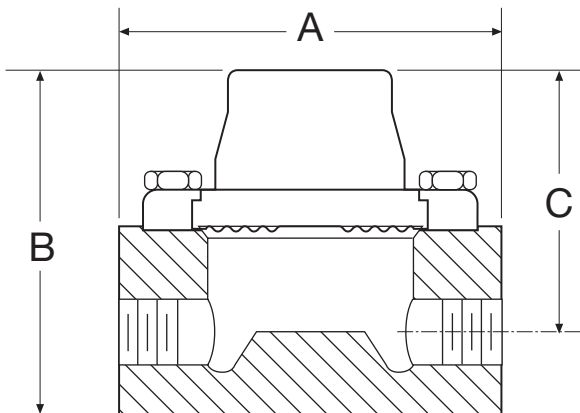
Ordering Code	Example:	25	2	04	S	S	02T	XCK	SE
Process Connection Size									
25 - ¼ NPT		25							
50 - ½ NPT									
75 - ¾ NPT									
10 - 1 NPT									
Diaphragm Type									
1 - 100-series: Capsule diaphragm threaded into top housing									
2 - 200-series: Diaphragm welded (metallic) or bonded (elastomeric) to top housing	2								
Lower Housing Type									
04 - In-line threaded lower housing (dual female NPT connections)				04					
Diaphragm Materials									
S - 316L Stainless steel					S				
See Table 1 on page 2									
Bottom Housing Material									
S - 316L Stainless steel						S			
See table 2 on page 2									
Instrument Connection Size									
02T - ¼ NPT Female instrument connection							02T		
04T - ½ NPT Female instrument connection									
Options (if choosing option(s) must include an "X")								X__	
Fill Fluid (See Table 3 on page 2 for more available fill fluids)									
CK - 50 cSt Silicone								CK	
Optional Features									
YM - Monel® 400 top housing (must be ordered with Monel® or tantalum diaphragm)									
SE - Stainless steel rings and bolts									SE
LD - Stainless steel locking device									
NH - Stainless steel tag									
DU - Instrument Welded to top housing (instrument connection must be like-material to top housing)									
MQ - Positive material identification									
6B - Cleaned for oxygen service									
CD-5 - NACE compliance certificate (must be ordered as a separate line item)									

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



Dimensions in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings



Process Connection	A	B	C
¼ NPT	4 [102]	2.63 [67]	2.13 [54]
½ NPT	4 [102]	3.63 [92]	2.75 [70]
¾ NPT	4 [102]	3.88 [98]	3 [76]
1 NPT	4 [102]	3.88 [98]	3 [76]