

## 106/206 In-Line Flanged Diaphragm Seals

### 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
- Large 2½" diaphragm compatible with most Ashcroft instrumentation

### TYPICAL USES

- Oil and gas
- Refineries
- Chemical and petrochemical
- Water and wastewater
- NACE Compliant processes (sour gas separation)
- Biogas and biodiesel

### SPECIFICATIONS

Connection style:	In-line flanged
Process Connection:	½, ¾, 1, 1½, 2, 3, 4, 6 or 8 NPS
Instrument Connection:	¼ or ½ NPT
Fill Fluid:	See table 4 on page 3

### WETTED COMPONENTS

Diaphragm	Bottom Housing	Gasket
See table 2 on page 2	See table 3 on page 2	PTFE (rated for -150°F to 500°F)

### NON-WETTED COMPONENTS

Top Housing	Bolt/Clamp Rings	Clamp Rings
316L SS	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

- Ideal for viscous media, slurries and emulsions
- Protects instrumentation from process media

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**TABLE 1 - FLANGE RATINGS**

CARBON STEEL FLANGE							STAINLESS STEEL FLANGE						
Maximum Allowable Pressure (psi)							Maximum Allowable Pressure (psi)						
Temp. (°F)	FLANGE CLASS						Temp. (°F)	FLANGE CLASS					
	150	300	600	900	1500	2500		150	300	600	900	1500	2500
<100	285	740	1480	2220	3705	6170	<100	275	750	1440	2160	3600	6000
200	260	675	1350	2025	3375	5625	200	230	600	1200	1800	3000	5000
300	230	655	1315	1970	3280	5470	300	205	540	1075	1615	2690	4480
400	200	635	1270	1900	3170	5280	400	190	495	995	1490	2485	4140
500	170	600	1200	1795	2995	4990	500	170	465	930	1395	2330	3880
600	140	550	1095	1640	2735	4560	600	140	440	885	1325	2210	3680
650	125	535	1075	1610	2685	4475	650	125	430	865	1295	2160	3600
700	110	535	1065	1600	2665	4440	700	110	420	845	1265	2110	3520
750	95	505	1010	1510	2520	4200	750	95	415	825	1240	2065	3440
800	80	410	825	1235	2060	3430	800	80	405	810	1215	2030	3380
850	65	270	535	805	1340	2230	850	65	395	790	1190	1980	3300
900	50	170	345	515	860	1430	900	50	390	780	1165	1945	3240
950	35	105	205	310	515	860	950	35	380	765	1145	1910	3180
1000	20	50	105	155	280	430	1000	20	355	710	1065	1770	2950

**TABLE 2 - DIAPHRAGM MATERIALS**

Material	Letter Code	100 Series	200 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 3 - BOTTOM HOUSING MATERIALS**

Material	Letter Code
Steel	B
304L SS	C
316L SS	S
Hastelloy® B	G
Hastelloy® C-276	H
Carpenter 20®	D
Monel® 400	M
Top Housing and Mounting Hardware only	X

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**TABLE 4 - 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 <sup>®</sup> 4.2	-70°F to 300°F (-57°C to 199°C)	4.2	CF	For use with oxygen/oxidizing process media
Slytherm <sup>®</sup> 800	-40°F to 750°F (-40°C to 400°C)	10	HA	High temperature applications
Syltherm <sup>®</sup> XLT	-150°F to 500°F (-100°C to 260°C)	1.4	CC	Low temperature applications
Calflo <sup>®</sup> 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 <sup>®</sup> 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	

## 106/206 In-Line Flanged Diaphragm Seals

ORDERING CODE	Example:	10	1	06	S	S	02T	XCK	SE	150	RF
<b>Process Connection Size</b>											
50 - 1/2"											
75 - 3/4"											
10 - 1"											
15 - 1 1/2"											
20 - 2"											
30 - 3"											
40 - 4"											
60 - 6"											
80 - 8"											
<b>Diaphragm Type</b>											
1 - 100-series: Capsule diaphragm threaded into top housing			1								
2 - 200-series: Diaphragm welded (metallic) or bonded (elastomeric) to top housing											
<b>Lower Housing Type</b>											
06 - In-line flanged lower housing (dual ASME flange connections)				06							
<b>Diaphragm Materials</b>											
S - 316L Stainless steel					S						
See Table 2 on page 2											
<b>Bottom Housing Material</b>											
S - 316L Stainless steel						S					
See table 3 on page 2											
<b>Instrument Connection Size</b>											
02T - 1/4 NPT Female instrument connection							02T				
04T - 1/2 NPT Female instrument connection											
<b>Options (if choosing option(s) must include an "X")</b>											
<b>Fill Fluid (See Table 4 on page 3 for more available fill fluids)</b>											
CK - 50 cSt Silicone								X			
<b>Optional Features</b>											
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)											
<b>Flange Rating</b>											
150 - 150 class ASME										150	
300 - 300 class ASME											
<b>Flange Type</b>											
RF - Raised Face (contact Ashcroft for alternate flange form availability)											RF

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

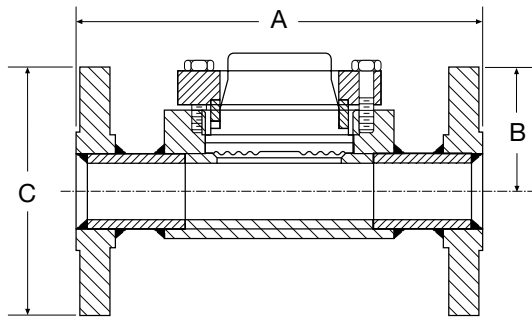


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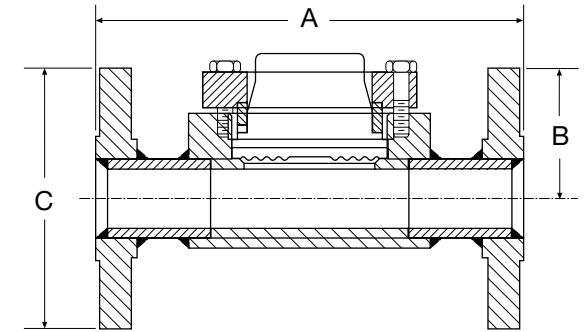
**DIMENSIONS** in [ ] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

### 106/206 - IN-LINE FLANGED DIAPHRAGM SEAL 1/2", 1", 1 1/2", 2", 3"



### 106/206 - IN-LINE FLANGED DIAPHRAGM SEAL 4", 6", 8"



Size	Flange Rating	A	B	C
1/2"	150#	7 [178]	2.44 [62]	3.50 [89]
	300#	7 [178]	2.44 [62]	3.88 [98]
1"	150#	7 [178]	2.44 [62]	4.25 [108]
	300#	8 [203]	2.44 [62]	4.88 [124]
1 1/2"	150#	8 [203]	2.69 [68]	5.00 [127]
	300#	9 [229]	2.69 [68]	6.13 [156]
2"	150#	9 [229]	2.94 [75]	6.00 [152]
	300#	10 [254]	2.94 [75]	6.50 [165]
3"	150#	11 [279]	3.63 [92]	7.50 [191]
	300#	12 [305]	3.63 [92]	8.25 [210]

Size	Flange Rating	A	B	C
4"	150#	13 [330]	3.38 [86]	9.00 [229]
	300#	14 [356]	3.38 [86]	10.00 [254]
6"	150#	16 [406]	4.44 [113]	11.00 [279]
	300#	17 [432]	4.44 [113]	12.50 [318]
8"	150#	16 [406]	5.44 [138]	13.50 [343]