

105/205 In-Line Saddle Weld Diaphragm Seal

FEATURES

- 316L stainless steel top housing (standard)
- Available with diaphragm welded or bonded to top housing or removable threaded capsule diaphragms
- Weld-in design reduces the possibility of clogging
- 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:	Saddle Weld
Process Connection:	3" or larger pipes
Instrument Connection:	¼ or ½ NPT
Fill Fluid:	See table 3 on page

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 SS	Carbon steel	Carbon steel



100 Series

200 Series



Diaphragm Threaded To Top Housing - flexible design

Diaphragm Welded or Bonded To Top Housing - eliminates leak path



KEY BENEFITS

- Ideal for viscous media, slurries and emulsions
- Protects from process media, extending instrumentation life
- Versatile design can be welded into any size pipe 3" and larger

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TABLE 1 - 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 2 - BOTTOM HOUSING MATERIALS	
Material	Letter Code
Steel	B
304L SS	C
316L SS	S
Hastelloy® B	G
Hastelloy® C-22	J
Hastelloy® C-276	H
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
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	

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ORDERING CODE	Example:	30	1	05	S	S	02T	XCK	SE
Process Connection Size									
30 - 3" pipe		30							
40 - 4" and larger pipe									
Diaphragm Type									
1 - 100-series: Capsule diaphragm threaded into top housing			1						
2 - 200-series: Diaphragm welded (metallic) or bonded (elastomeric) to top housing									
Lower Housing Type									
05 - Weld-in saddle seal				05					
Diaphragm Materials									
S - 316L SS					S				
See Table 1 on page 2									
Bottom Housing Material									
S - 316L SS						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
SE - SS rings and bolts									
LD - SS locking device									
NH - SS 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.

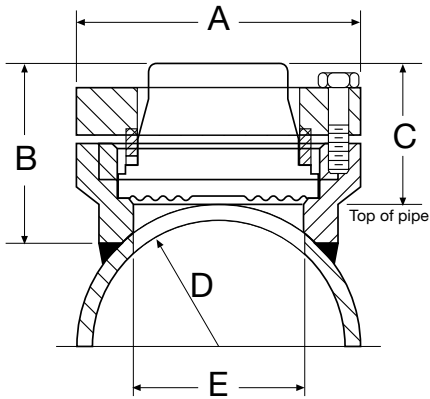


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DIMENSIONS in [] are millimeters

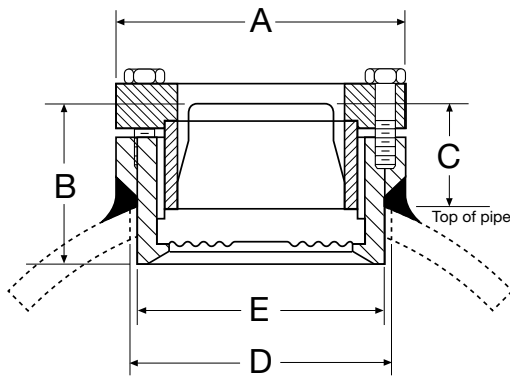
For reference only, consult Ashcroft for specific dimensional drawings

105/205 SADDLE WELD DIAPHRAGM SEAL 3" PIPE ONLY



A	B	C	D	E
3.50 [89]	2.25 [57]	1.88 [48]	1.75 [44]	2.13 [54]

105/205 SADDLE WELD DIAPHRAGM SEAL 4" PIPE ONLY



A	B	C	D	E
3.5 [89]	1.94 [50]	1.19 [31]	3.00 [76]	2.97 [75]