

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:	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

- 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

Contact Us

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105/205 In-Line Saddle Weld Diaphragm Seal

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® 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
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:	30	2	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									
2 - 200-series: Diaphragm welded (metallic) or bonded (elastomeric) to top housing	2								
Lower Housing Type									
05 - Weld-in saddle seal				05					
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")									
Fill Fluid (See Table 3 on page 2 for more available fill fluids)								X__	
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.



Blind Top Housing For Hydrostatic Testing

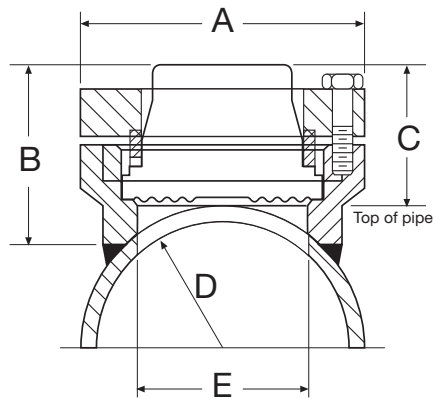
Blind top housings can be used to plug the installed lower housing when top housing / instrument assembly is removed. Recommended during hydrotesting procedures on piping system.

Description	Includes	Part Number
Blind top housing kit 3-inch pipe sizes and smaller	316 Stainless steel plug, PTFE gasket (single use) and 8 cap screws	101A234-01
Blind top housing kit 4-inch pipe sizes and larger	316 Stainless steel plug, PTFE gasket (single use) and 8 cap screws	101A234-02
Extra single use PTFE gasket	1 PTFE single use gasket	ARR121D
Extra cap screw	1 cap screw	ALU83A

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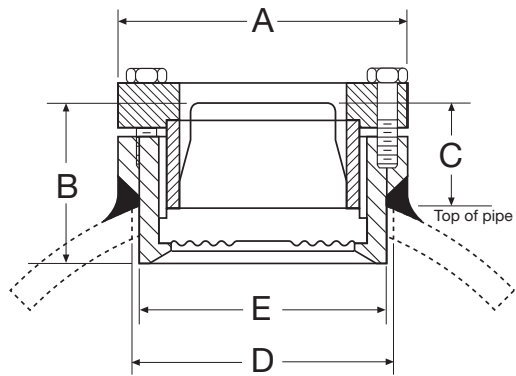
Dimensions in [] are millimeters
For reference only, consult Ashcroft for specific dimensional drawings

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 or Larger



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