

510/511 All-Welded Diaphragm Seal

Features

- Compact design allows seals to fit in confined areas
- Sufficient displacement to drive a wide variety of instrumentation
- Minimal fill volume
- All stainless steel construction; other materials available
- Light weight design

Typical Uses

- Oil and gas
- Refineries (Hydrofluoric / Sulfuric Alkylation)
- Chemical and petrochemical
- Water and wastewater
- Oil and gas fracking
- NACE Compliant processes (sour gas separation)
- Biogas and biodiesel
- Corrosive processes



510/511
Threaded Seals



Specifications

Connection Style:	510: Threaded 511: Threaded with Flushed Connection
Process Connection Size:	½ to 1 NPT Female ¼ to 1 NPT Male
Instrument Connection Size:	½ NPT Female
Pressure Rating (MAWP):	Vac. to 1,500 psi at 100 °F (high pressure option available)
Added Tolerance:	±0.5% typical
Fill Fluid:	See available fills on page 2
Approvals:	CRN, NACE

Wetted Components

Diaphragm	Lower Housing
316L Stainless steel	316L Stainless steel
Hastelloy® C-276	Hastelloy® C-276
Monel® 400	Monel® 400
Duplex 2205	Duplex 2205
Tantalum	Hastelloy® B

Non-Wetted Components

Top Housing
316L Stainless steel (Standard), Hastelloy® C276 (Optional - XHB) Monel® 400 (Optional - XYM)

Key Benefits

- Continuous duty design
- All-welded construction prevents inadvertent disassembly
- Ensures process compatibility
- Male connections eliminate adapters/fittings
- Certified with MTR per 10204 3.1 as standard

Contact Us

 1.800.328.8258
 ashcroft.com

All specifications are subject to change without notice. All sales subject to standard terms and conditions. Ashcroft® and Trust the Shield® are trademarks of Ashcroft Inc. The following non-Ashcroft trademarks are the property of their respective owners: Halocarbon®, Hastelloy®, Monel®, Neobee®, Syltherm®, Tantalum®. For more information, see [Ashcroft Brands & Trademarks](#) ©2026 Ashcroft Inc. 510-511_welded_seal_ds_RevJ_24-Sept-26

510/511 All-Welded Diaphragm Seal

Ordering Code	Example:	04	510	S	S	04T	XCG	NH
Process Connection Size								
02 - ¼ NPT Male								
04 - ½ NPT Male		04						
06 - ¾ NPT Male								
08 - 1 NPT Male								
50 - ½ NPT Female								
75 - ¾ NPT Female								
10 - 1 NPT Female								
Seal Model								
510 - All-welded threaded seal, with no flushing port			510					
511 - All-welded threaded seal, with flushing port								
Diaphragm Material								
H - Hastelloy® C-276								
P - Monel® 400								
S - 316L Stainless steel				S				
U - Tantalum (N/A with high pressure option)								
Z - Duplex 2205								
Bottom Housing Material								
G - Hastelloy® B (510 only)								
H - Hastelloy® C-276								
M - Monel® 400								
S - 316L Stainless steel					S			
Z - Duplex 2205								
Instrument Connection Size								
04T - ½ NPT Female						04T		
Options (if choosing option(s) must include an "X")								
Fill Fluid							X_ _	
CC - Syltherm® XLT (for low-temperature applications)								
CF - Halocarbon®								
CG - Glycerin (direct-mount only)							CG	
CK - 50 cSt Silicone								
CT - 50/50 Ethylene Glycol/Water								
CV - Propylene Glycol								
CZ - Food-grade silicone								
DJ - 10 cSt Silicone								
HA - Syltherm® 800 (for high-temperature applications)								
NM - Neobee® M-20								
MY - Mineral Oil								

510/511 All-Welded Diaphragm Seal

Ordering Code (continued)	Example:	04	510	S	S	04T	XCG	NH
Optional Features								
Flushing Port								
PU - Pipe plug for flushing connection (511 only ; plug material will match bottom housing material)								
Assembly/Hardware								
DU - Instrument welded to top housing (Instrument socket must be like-material to top housing)								
HP - High-pressure clamping rings								
Q7 -Tamper evident sealing on all threaded joints								
Top Housing								
HB - Hastelloy® C-276 top housing								
YM - Monel® 400 top housing (only available with Monel® diaphragm & bottom housing)								
Tagging								
NH - Stainless steel tag								NH
Special Cleaning								
6B - Cleaned for oxygen service (must use Halocarbon® fill fluid)								
Testing/Certificates								
MQ - Positive material identification								
C3 - Material traceability report per EN 10204 3.1 (Standard. Only needed in part number if documents are required to be shipped with product)								
1H - Hydrostatic testing of an assembly								
Certification (miscellaneous charges not included within model code)								
CD-5 - Certificate of Compliance for refineries to NACE MR0103-2010 and for oilfields (production) to NACE MR0175/ISO 15156-2009								
CD-6 - Typical material certification per EN 10204 2.2								

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

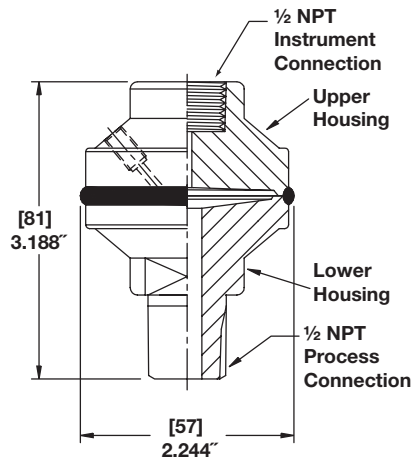


510/511 All-Welded Diaphragm Seal

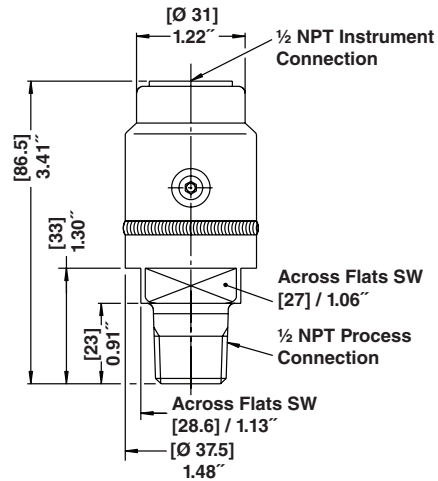
Dimensions

For reference only, consult Ashcroft for specific dimensional drawings

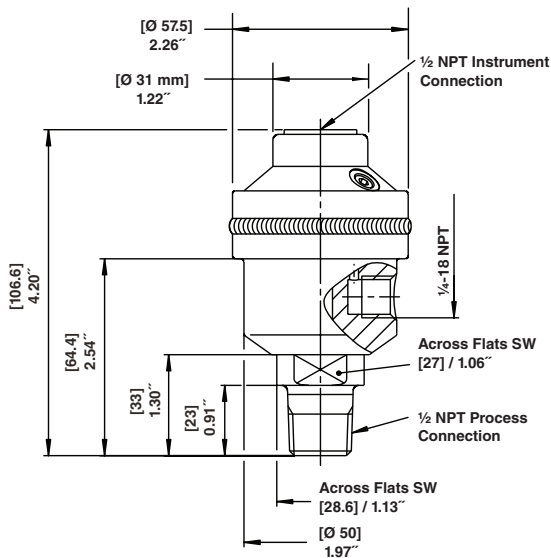
510 Diaphragm Seal



510 High Pressure Diaphragm Seal



511 Diaphragm Seal with Flushing Connection



511 High Pressure Diaphragm Seal with Flushing Connection

