

**PRODUCT INFORMATION****MINIMUM/MAXIMUM PRESSURES FOR DIAPHRAGM SEALS**

When selecting a diaphragm seal, many factors should be considered...

- the diaphragm seal wetted parts must be compatible with the process media
- the seal and fill fluid temperature limits must be compatible with the process temperature
- displacement volume of the seal *diaphragm* must be capable of full deflection of the instrument pressure sensing element
- what type of process connection is required; threaded, flanged, welded, etc.
- what is the instrument/seal accuracy requirement
- what is the location of the diaphragm seal
- are accessories like a snubber or plv required
- is capillary required so the instrument is mounted remotely
- what are the minimum and maximum pressure limits of the process
- what are the minimum and maximum pressure limits of Ashcroft diaphragm seals

Although all of these factors need to be considered when selecting a diaphragm seal, this Product Information page addresses minimum and maximum pressure limits of Ashcroft diaphragm seals.

The attached matrix considers the complete breadth of Ashcroft diaphragm seals as they relate to Ashcroft instruments that can be attached to them.

**NOTE:**

An instrument range *cannot* exceed the maximum pressure limit on the diaphragm seal.

# MIN/MAX OPERATING PRESSURES FOR DIAPHRAGM SEALS

Process Connection Type	Diaphragm Seal Type	Dura-gauge & 4 1/2" & Larger Gauges 30psi & Vac (Compound) to 2500psi (XHP to 5000#)	Unigauging, 2 1/2" & 3", Type 1089 Vac to 2500 psi (XHP to 5000#)	1299, 5500/6500 30psi to 2500psi (XHP to 5000#)	LOW Pressure Bellows Gauges (1188 Series)	5503 DP Gauge	Digital Gauges	Transducers	Switches
THREADED	100/101/200/201 METAL DIAPH.	30psi & Vac (Compound) to 2500psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	30psi to 2500psi (XHP to 5000#)	N/A	N/A	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	6 psi & Above Setpoint
	200/201/300/301 TEFLON DIAPH.	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	30 IWC to 8 psi	10 psid to 400 psid	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	6 psi & Above Setpoint
	200/201/300/301 VITON, OR KALREZ DIAPH.	Vac to 500 psi	Vac to 500 psi	Vac to 500 psi	10 IWC to 8 psi	10 psid to 400 psid	Vac to 500 psi	Vac to 500 psi	10" H <sub>2</sub> O & Above Setpoint
	310/315 ("MINI")	N/A	Vac to 2500 psi	N/A	N/A	N/A	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	30 psi to 1000 psi (direct mount only)
	311/312 ("MIDI")	100 to 1000 psi	60 to 1000 psi	60 to 1000 psi	N/A	N/A	60 to 1000 psi	60 to 1000 psi	30 psi to 1000 psi (direct mount only)
	330 (FLUSH)	N/A	60 to 3000 psi	N/A	N/A	N/A	60 to 3000 psi	60 to 3000 psi	30 psi to 1000 psi (direct mount only)
	400/401 (WELDED)	30psi & Vac (Compound) to 4400psi (XHP to 9000psi)	Vac to 4400 psi (XHP to 9,000 psi)	30psi to 2500psi (XHP to 5000#)	N/A	N/A	Vac to 4400 psi (XHP to 9,000 psi)	Vac to 4400 psi (XHP to 9,000 psi)	6 psi & Above Setpoint
	500/501 (WELDED)	30psi & Vac (Compound) to 2500psi (XHP to 5000#)	Vac to 500 psi	30psi (Pressure), 30psi & Vac (Compound) to 500psi	N/A	N/A	Vac to 500 psi	Vac to 500 psi	6 psi & Above Setpoint
	740/741 (LP)	Vac to 750 psi	Vac to 750 psi	Vac to 750 psi	30 IWC to 8 psi	10 psid to 400 psid	Vac to 750 psi	Vac to 750 psi	30" H <sub>2</sub> O & Above Setpoint
	104/204 METAL DIAPH.	30psi & Vac (Compound) to 2500psi (XHP to 5000#)	Vac to 2500 psi	30psi to 2500psi (XHP to 5000#)	N/A	N/A	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	6 psi & Above Setpoint
IN-LINE THREADED	104/204 TEFLON DIAPH.	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi	Vac to 2500 psi (XHP to 5000#)	30 IWC to 8 psi	10 psid to 400 psid	Vac to 2500 psi (XHP to 5000#)	Vac to 2500 psi (XHP to 5000#)	6 psi & Above Setpoint
	204/304 VITON, OR KALREZ DIAPH.	Vac to 500 psi	Vac to 500 psi	Vac to 500 psi	10 IWC to 8 psi	10 psid to 400 psid	Vac to 500 psi	Vac to 500 psi	10" H <sub>2</sub> O & Above Setpoint
FLANGED	102/103/202/203/402/403 METAL DIAPH.	30psi & Vac (Compound) to Class 2500# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 2500# (Per Group 1.1 Materials, Per ASME B16.5-2003)	30psi to Class 2500# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	N/A	Vac to Class 2500# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 2500# (Per Group 1.1 Materials, Per ASME B16.5-2003)	6 psi & Above Setpoint
	202/203/302/303 TEFLON DIAPH.	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	10 psid to 400 psid	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	30" H <sub>2</sub> O & Above Setpoint
	202/203/302/303 VITON, OR KALREZ DIAPH.	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	10 psid to 400 psid	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 150# (Per Group 1.1 Materials, Per ASME B16.5-2003)	10" H <sub>2</sub> O & Above Setpoint
	702/703	Vac to Class 600# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 600# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 600# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	10 psid to Class 300#	Vac to Class 600# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 600# (Per Group 1.1 Materials, Per ASME B16.5-2003)	10" H <sub>2</sub> O & Above Setpoint
	106/206-METAL DIAPH.	30psi & Vac (Compound) to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	30psi to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	N/A	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	6 psi & Above Setpoint
	106/206 TEFLON DIAPH.	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	10 psid to 400 psid	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	6 psi & Above Setpoint
	206-VITON OR KALREZ DIAPH.	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	10 psid to 400 psid	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	10" H <sub>2</sub> O & Above Setpoint
	107/207-METAL DIAPH.	30psi & Vac (Compound) to 2500psi	Vac to 2500psi	30psi to 2500psi	N/A	N/A	Vac to 2500psi	Vac to 2500 psi	6 psi & Above Setpoint
	207 TEFLON DIAPH.	Vac to 2500psi	Vac to 2500psi	Vac to 2500psi	30 IWC to 8 psi	10 psid to 400 psid	Vac to 2500 psi	Vac to 2500 psi	6 psi & Above Setpoint
	207 VITON, OR KALREZ DIAPH.	Vac to 500psi	Vac to 500psi	Vac to 500psi	10 IWC to 8 psi	10 psid to 400 psid	Vac to 500 psi	Vac to 500 psi	10" H <sub>2</sub> O & Above Setpoint
IN-LINE BUTT WELD	108/208-METAL DIAPH.	30psi & Vac (Compound) to 2500psi	Vac to 2500psi	30psi to 2500psi	N/A	N/A	Vac to 2500 psi	Vac to 2500 psi	6 psi & Above Setpoint
	208 TEFLON DIAPH.	Vac to 2500psi	Vac to 2500psi	Vac to 2500psi	30 IWC to 8 psi	10 psid to 400 psid	Vac to 2500 psi	Vac to 2500 psi	6 psi & Above Setpoint
SAADDLE	105/205 METAL DIAPH.	30psi & Vac (Compound) to 2500psi	Vac to 2500psi	30psi to 2500psi	N/A	N/A	Vac to 2500 psi	Vac to 2500 psi	6 psi & Above Setpoint
	105/205 TEFLON DIAPH.	Vac to 2500psi	Vac to 2500psi	Vac to 2500psi	30 IWC to 8 psi	10 psid to 400 psid	Vac to 2500 psi	Vac to 2500 psi	6 psi & Above Setpoint
ISO RING	205-VITON, OR KALREZ DIAPH.	Vac to 500 psi	Vac to 500 psi	Vac to 500 psi	10 IWC to 8 psi	10 psid to 400 psid	Vac to 500 psi	Vac to 500 psi	10" H <sub>2</sub> O & Above Setpoint
	TYPE 80								
	TYPE 81	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	N/A	N/A	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	Vac to Class 300# (Per Group 1.1 Materials, Per ASME B16.5-2003)	6 psi & Above Setpoint
	TYPE 85								
SANITARY TYPE 320	TYPE 86								
	320	Vac to 1000 psi (2" Tri-Clamp Only)	Vac to 1000 psi	Vac to 1000 psi (2" Tri-Clamp Only)	N/A	N/A	Vac to 1000 psi	Vac to 1000 psi	Vac to 1000 psi