

Model 400B

Diaphragm Seals for Flanged Off-Line Process Connections 1" (25.40mm) and Larger

Process Connection Sizes

1" through 3"

ASME/ANSI Flange Ratings Up to 600#

Maximum Working Pressure

Conforms to Flange Pressure-Temperature Ratings per ASME/ANSI B16.5

Flange Faces (125 - 250 R_A Spiral Finish is Standard)

Raised Face

Flat Face

Ring Type Joint

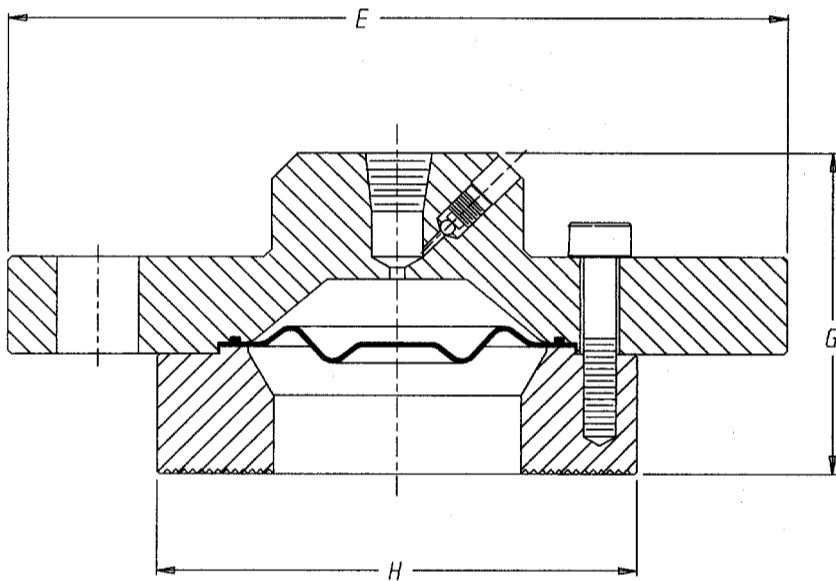
Special Flange Faces available, consult the Factory

Dimensional Data

Process Connection Size

150# RF	1"	1-1/2"	2"	3"
E	4" (102)	5" (128)	6" (153)	7.500" (191)
G	2.625" (67)	2.625" (67)	2.625" (67)	2.625" (67)
H	2" (51)	2.875" (73)	4" (102)	5" (128)

() Dimensions in millimeters



Standard Features and Options

This flanged off-line seal has a replaceable Viton diaphragm. These seals are designed for direct connection to standard ASME/ANSI flanges 1" through 3" sizes and up to 600# ratings. Larger sizes are available upon request. The displacement capability of this series of diaphragm seal is 0.90 cubic inches with a 3.00" diameter diaphragm. Due to the material strength of non-metals, the maximum pressure rating and temperature rating for this series seal is 200 PSIG (1.38 MPa) at 140°F (60°C), when non-metallic lowers are required. Flushing connections in metallic lowers is optional and the seal-off feature is standard.

Offerings

Lower Materials: All metallic and non-metallic

Upper Materials: Carbon Steel or 316 Stainless Steel

Diaphragm Materials: Viton

Bolting: Carbon Steel or 300 Series Stainless Steel (See Note 6)

CONTROL ENGINEERING DATA

E3S6 9 1 2 VI C 0 C N

(13) FILL LIQUID

N = (Standard)

(12) BOLTING

0 = None (Standard)

C = Carbon Steel, Grade 5

S = 300 Series Stainless Steel

(11) FLUSH CONNECTION (See Note 1) (Not Shown)

0 = None (Standard)

1 = 1/8" NPTF

2 = 1/4" NPTF

3 = 1/4" NPTF-DUAL

(10) UPPER HOUSING MATERIAL

C = Carbon Steel (Standard)

S = 316 Stainless Steel

(8-9) SEAL DIAPHRAGM MATERIAL

VI = Viton

(7) SEAL INSTRUMENT CONNECTION

1 = 1/4" NPTF w/Bleed

2 = 1/2" NPTF w/Bleed

(6) SEAL FLANGE PRESSURE RATING (See Note 4)

1 = 150# RF

2 = 150# FF

3 = 150# RTJ

4 = 300# RF

5 = 300# FF

6 = 300# RTJ

7 = 600# RF

9 = 600# FF

A = 600# RTJ

(5) SEAL PROCESS CONNECTION

6 = 1"

7 = 1-1/4"

8 = 1-1/2"

9 = 2"

B = 3"

(3-4) LOWER HOUSING MATERIAL (WETTED)

C2 = Carpenter 20 CB-3

CS = Carbon Steel

HB = Hastelloy B3

HC = Hastelloy C-276

I6 = Inconel 600

KN = Kynar

M4 = Monel 400

N2 = Nickel 200

PP = Polypropylene

PV = PVC

S4 = 304 Stainless Steel

S6 = 316 Stainless Steel

SF = 304L Stainless Steel

SL = 316L Stainless Steel

TC = Teflon - Carbon Filled

TG = Teflon - Glass Filled

TI = Titanium - Grade 4

TP = Tantalum Clad (Wetted Surface Only) (See Note 2)

(1-2) DIAPHRAGM SEAL DESIGN

E3 = 400B- Flanged Off-Line

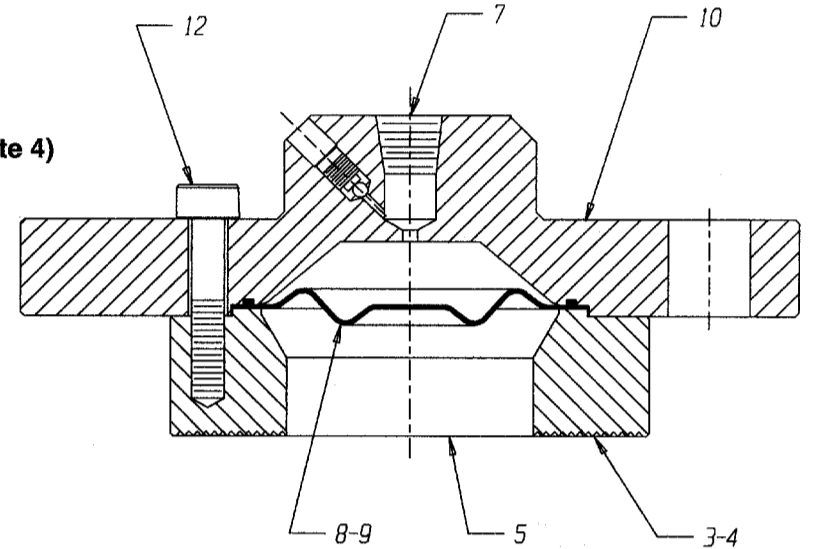
*E4 = 400BR Flanged Off-Line (Ring Type Joint)

*E5 = 400BZ Flanged Off-Line

(Customer to specify pipe style)

*For metallic lower housings only.

CATALOG NUMBERS AS RECEIVED FOR THE 400B SERIES MUST CONTAIN THIRTEEN (13) CHARACTERS.



Notes:

- Flushing ports are not available with lower housings manufactured in KN, PP, PV, TC and TG.
- Tantalum clad lower housings will be supplied with a raised face - smooth flange face - no serrations. Tantalum plated lowers cannot be supplied with flush connections.
- N.A.C.E. - Non-welded diaphragm seals with 316 Stainless Steel, Hastelloy C-276 or Monel wetted materials of construction will meet the requirements of N.A.C.E. International Document MR-0175-1995.
- Refer to Miscellaneous Data Section for Pressure-Temperature Rating Guide.
- Non-metallic lower housings are not available for flange ratings greater than 300#. The maximum temperature and pressure rating for non-metallic lowers is 200 PSIG (1.38 MPa) at 140°F (60°C), regardless of the mating flange size.
- The use of 300 Series Stainless Steel bolts and nuts will not affect the maximum pressure rating.

Model 400B

Diaphragm Seals for Flanged Off-Line Process Connections Less Than 1" (25.40mm)

Process Connection Sizes

1/2" and 3/4"

ASME/ANSI Flange Ratings Up to 600#.

Maximum Working Pressure

Conforms to Flange Ratings per ASME/ANSI B16.5 (See Notes 3, 4, 5, 7 and 8)

Flange Faces (125 - 250 R_A Spiral Finish is Standard)

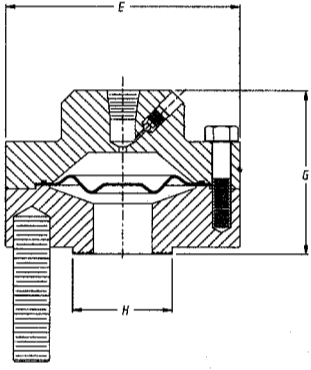
Raised Face, Flat Face, Ring Type Joint and Special Flange Faces available, consult the Factory

Dimensional Data

Process Connection Size

150# RF	1/2"	3/4"
E	4.00" (102)	4.00" (102)
G	2.63" (67)	2.63" (67)
H	1.38" (35)	1.69" (43)

() Dimensions in millimeters



Standard Features and Options

This flanged off-line seal has a replaceable Viton diaphragm. These seals are designed for direct connection to standard ASME/ANSI flanges 1/2" through 3/4" sizes and up to 600# ratings. The upper housing is bolted to the lower with sufficient load to maintain ASME/ANSI B16.5 pressure and temperature ratings (See Note 4). Because of the bolt circle location, as defined by ASME/ANSI B16.5, threaded flange studs are provided. The displacement capability of this series of diaphragm seal is 0.90 cubic inches with a 3.00" diameter diaphragm. Larger sizes are available upon request. Due to the material strength of non-metallics, the maximum pressure rating and temperature rating for this series seal is 200 PSIG (1.38 MPa) at 140°F (60°C), when non-metallic lowers are required. Flushing connections in metallic lowers is optional and the seal-off feature is standard.

Offerings

Lower Materials: All metallic and non-metallic (See Note B)

Upper Material: Carbon Steel or 316 Stainless Steel

Diaphragm Materials: Viton

Bolting: Carbon Steel or 300 Series Stainless Steel (See Notes 3, 4, 5, 7 and 8)

CONTROL ENGINEERING DATA

E3S6 5 1 2 VI C 0 C N

(13) FILL LIQUID

N = (Standard)

(12) BOLTING

C = Carbon Steel, Grade 5 (See Note 2)

S = 300 Series Stainless Steel (See Note 3)

H = 300 Series Stainless Steel Hi-Strength (See Note 4)

(11) FLUSH CONNECTION (See Note 1) (Not Shown)

0 = None (Standard)

1 = 1/8" NPTF

2 = 1/4" NPTF

3 = 1/4" NPTF-DUAL

(10) UPPER HOUSING MATERIAL

C = Carbon Steel (Standard)

S = 316 Stainless Steel

(8-9) SEAL DIAPHRAGM MATERIAL

VI = Viton

(7) SEAL INSTRUMENT CONNECTION

1 = 1/4" NPTF w/Bleed

2 = 1/2" NPTF w/Bleed

(6) SEAL FLANGE PRESSURE RATING (See Note 7)

1 = 150# RF

2 = 150# FF

3 = 150# RTJ

4 = 300# RF

5 = 300# FF

6 = 300# RTJ

7 = 600# RF

9 = 600# FF

A = 600# RTJ

(5) SEAL PROCESS CONNECTION

4 = 1/2"

5 = 3/4"

(3-4) LOWER HOUSING MATERIAL (WETTED)

C2 = Carpenter 20 CB-3

CS = Carbon Steel

HB = Hastelloy B3

HC = Hastelloy C-276

I6 = Inconel 600

KN = Kynar

M4 = Monel 400

N2 = Nickel 200

PP = Polypropylene

PV = PVC

S4 = 304 Stainless Steel

S6 = 316 Stainless Steel

SF = 304L Stainless Steel

SL = 316L Stainless Steel

TC = Teflon - Carbon Filled

TG = Teflon - Glass Filled

TI = Titanium - Grade 4

TP = Tantalum Clad (Wetted Surface Only) (See Note 5)

(1-2) DIAPHRAGM SEAL DESIGN

E3 = 400B- Flanged Off-Line

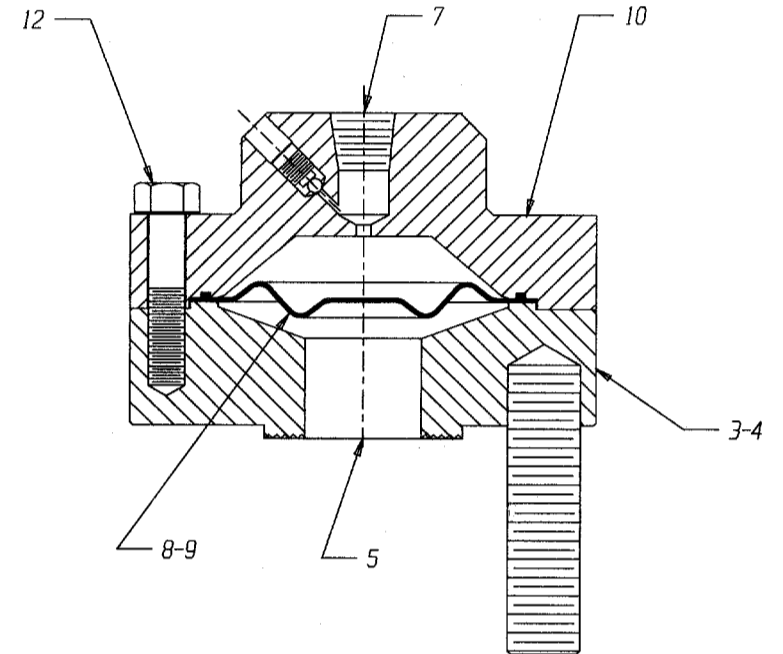
*E4 = 400BR Flanged Off-Line (Ring Type Joint)

*E5 = 400BZ Flanged Off-Line

(Customer to specify pipe style)

*For metallic lower housings only.

CATALOG NUMBERS AS RECEIVED FOR THE 400B SERIES MUST CONTAIN THIRTEEN (13) CHARACTERS.



Notes:

- Flushing ports are not available with lower housings manufactured in KN, PP, PV, TC and TG.
- Using Grade 5 bolts and will maintain the pressure rating chosen in Option 6
- When using 300 Series Stainless Steel bolts the pressure rating specified in Option 6 will be reduced by 50% when the seal flange is rated at 600#.
- To maintain the pressure rating chosen in Option 6 when 300 Series Stainless Steel bolts are required, then high-strength stainless steel bolts are required. Flanges rated for 600# will be supplied with high-strength stainless steel bolts to maintain ASME/ANSI pressure rating when 300 Series Stainless Steel bolts are required.
- Tantalum clad lower housings will be supplied with a raised face - smooth flange face - no serrations. Tantalum plated lowers cannot be supplied with flush connections.
- N.A.C.E. - Non-welded diaphragm seals with 316 Stainless Steel, Hastelloy C-276 or Monel wetted materials of construction will meet the requirements of N.A.C.E. International Document MR-0175-1995.
- Non-metallic lower housings are not available for flange ratings greater than 300#. The maximum temperature and pressure rating for non-metallic lowers is 200 PSIG (1.38 MPa) at 140°F (60°C), regardless of the mating flange size.
- Refer to Miscellaneous Data Section for Pressure-Temperature Rating Guide.