



# PRECISION INSTRUMENT COMPANY

## DIAPHRAGM SEALS

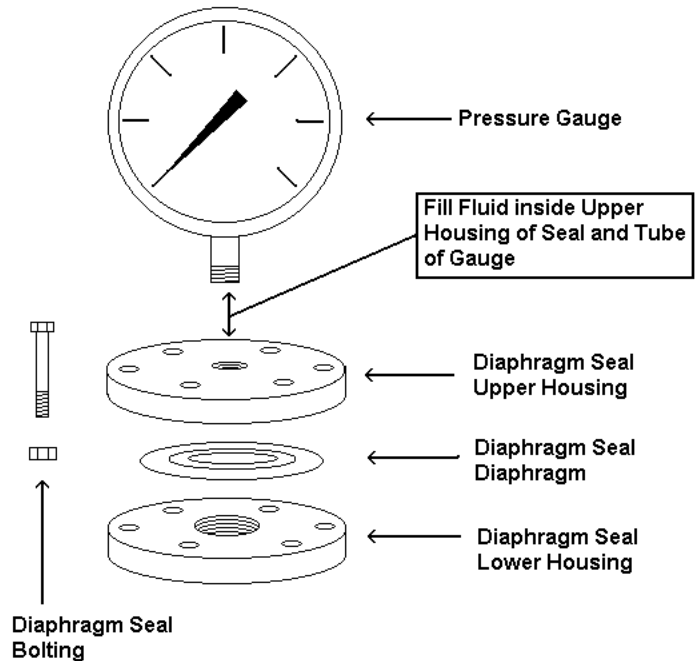
PIC stocks, fills and calibrates complete diaphragm seal assemblies. We can supply materials of construction, connection types and sizes, and fill fluids suitable for any application. We can typically assemble, fill and test standard gauges and diaphragm seal assemblies from stock in 1-2 days. Please call with your inquiry.

Diaphragm Seals are designed for use in applications where chemical compatibility, trash or sludge in process or sanitary requirements prevent the use of a standard pressure gauge or gauge only installation.

Diaphragm Seals consist mainly of an upper housing, lower housing and a separating diaphragm. These components can be selected and made of different type materials for better compatibility with the end process.

Diaphragm seal assemblies can be made and selected with different types of Pressure instruments, instrument connections, process connections or types of seals. It is important to know as much about the application as possible so that the correct specifications are used when selecting the diaphragm seal assembly.

Below you will find some of the information you will need to know to properly select a diaphragm seal assembly.



When specifying, ordering or requesting quotes for diaphragm seals – Be ready to answer the following questions;

### About the application

What type of instrument is required? (Pressure Gauge, Transmitter or Transducer, Pressure Switch or other)

What is the process in contact with the seal?

What else is important for this application?

### About the diaphragm seal

What materials of construction are required for; Upper Housing?

Diaphragm?

Lower Housing?

Gaskets or O-rings (If applicable)?

Bolting or Plugs (If applicable)?

What type of connections is required for;

Instrument Connection?

Process Connection?

Flushing Connection (If applicable)?

What size (and rating) connections are required?

Are there any special requirements for this application?

(Flushing Connection, Clean-out Ring, All Welded Design, Sanitary or Special Cleaning, Capillary System or Other)

### About the Fill Fluid

What fluid is compatible with your process?

(Fill Fluid needs to be compatible with process as a safety concern in case the diaphragm ruptures)

What Special Conditions will the fill fluid be subjected to?

(High Temperatures, Low Temperatures, Wide Range of Temperatures, Long Capillary Lengths, Etc.)

**Mini Diaphragm Seals:** All welded design, Standard pressure rating: 2000 PSI (5000 PSI rated available). Female threaded standard (Male process connection threaded available)

**M3500 SERIES**

1 1/2" Dial through 3 1/2" Dial sizes  
 Pressure transducers and transmitters  
 or other small displacement instruments.

**M4500 SERIES**

All Gauges through 4 1/2" Dial Size  
 Pressure Transducers and Transmitters  
 Most Pressure Switches  
 or other small to medium displacement instruments

DS-□□□□□-□□□□-□

**Model Number:**

M35 M3500 SERIES  
 M45 M4500 SERIES

**Instrument Connection**

1 = 1/4" FNPT  
 2 = 1/2" FNPT

**Process Connection**

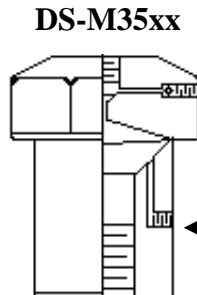
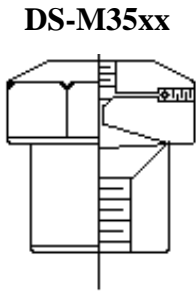
1 = 1/4" FNPT  
 2 = 1/2" FNPT  
 3 = 3/4" FNPT  
 4 = 1" FNPT

**Flushing Connections**

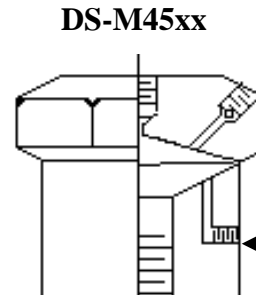
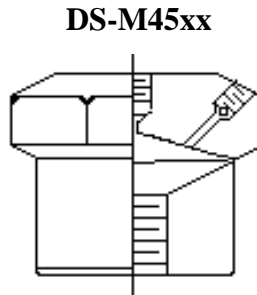
0 = No Flushing Connection  
 F = with Flushing Connection  
 HP = High Pressure Seal

**Material of Const.**

316 = 316SS  
 HTC = Hastalloy 'C'  
 MNL = Monel  
 TAN = Tantalum



FLUSHING CONNECTION



FLUSHING CONNECTION

**Large Body Diaphragm Seals**

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**Product:**

DS = Diaphragm Seal

**Upper Housing:**

S = Carbon Steel  
 J = Stainless Steel

**Instrument Connection:**

1 = 1/4" FNPT  
 2 = 1/2" FNPT

**Diaphragm Material:**

S = Carbon Steel

G = 304 Stainless Steel

J = 316 Stainless Steel

K = Tantalum

M = Monel

T = Teflon

X = Other

**Flushing Connection**

F = Flushing Connection

**Seal / Connection Rating**

A = 2000 PSI (Clamped Diaph.)

B = 5000 PSI

I = 2500 PSI (Welded Diaph.)

E = 150 # (Flange)

F = 300 # (Flange)

**Process Connection Size**

1 = 1/4"

2 = 1/2"

3 = 3/4"

4 = 1"

**Connection Type**

T = Threaded

F = Flanged

S = Sanitary

I = Inline Welded

W = Saddle Weld

