

## diaphragm seal with threaded connection



Diaphragm seals are designed to isolate the sensing element of pressure gauges, pressure switches and electronic pressure transmitters from the process fluids which may be corrosive, viscous, sediment and/or with a high temperature. The diaphragm, which is welded in model 1B0 while it is mechanically clamped between the upper housing and intermediate ring in model 1BS, is leak proof tested to guarantee that the filling fluid separation and the process fluid remain separated. This diaphragm seal can be cleaned by removing the lower housing. This type of construction and the compact design suit to many applications requiring frequent maintenance operations.

### 4.1B0 - MGS9/1B0 - without intermediate ring

**Available ranges** (see table below): *from 0...40 INWC to 0...580 psi* (from 0...0,1 to 0...40 bar).

**Max working pressure:** *0...870 psi* (60 bar) (3).

**Process temperature:** *-49...+302°F (-45°C...+150°C).*

**Accuracy (1):** (add to instrument accuracy)  $\pm 0,5\%$  for direct mounting,  $\pm 1\%$  for capillary mounting.

**Instrument connection:** AISI 304 st.st.

#### Diaphragm material:

**4** - AISI 316L st.st.,

**6** - Monel 400,

**9** - Hastelloy C 276,

**B** - Tantalum,

**J** - Alloy 600,

**I** - Alloy 825;

**Gaskets:** PTFE up to  $+482^{\circ}\text{F}$  ( $+250^{\circ}\text{C}$ ); graphite over  $+482^{\circ}\text{F}$  ( $+250^{\circ}\text{C}$ )

#### Process connection:

**5** - AISI 316L st.st.

**N** - AISI 316L st.st. PTFE coated (2),

**6** - Monel 400

**9** - Hastelloy C 276.

**Clamp nuts and bolts:** AISI 304 st.st.

**Filling liquids:** Silicon oil.

### 4.1BS - MGS9/1BS - with intermediate ring

**Available ranges** (see table below): *from -30...0 INHG to 0...580 psi* (from -1...0 to 0...40 bar).

**Max working pressure:** *0...870 psi* (60 bar) (3).

**Process temperature:** *-49...+302°F (-45°C...+150°C).*

**Accuracy (1):** (add to instrument accuracy)  $\pm 0,5\%$  for direct mounting,  $\pm 1\%$  for capillary mounting.

**Instrument connection:** AISI 304 st.st..

#### Diaphragm material:

**4** - AISI 316L st.st.

**8** - AISI 316L st.st. PTFE coated,(2)

**E** - Hastelloy C276 PTFE coated,(2)

**C** - Tantalum PTFE coated,(2)

**2** - Titanium.

**Gaskets:** PTFE up to  $+482^{\circ}\text{F}$  ( $+250^{\circ}\text{C}$ ); graphite over  $+482^{\circ}\text{F}$  ( $+250^{\circ}\text{C}$ )

#### Process connection and intermediate ring:

**5** - AISI 316L st.st.

**N** - AISI 316L st.st.,PTFE coated,(2)

**F** - Polipropylene,

**V** - PVC.

**Clamp bolts:** AISI 304 st.st.

**Filling liquids:** Silicon oil.

(1) at  $68^{\circ}\text{F}$  ( $20^{\circ}\text{C}$ ) process temperature (or state temperature when ordering)

(2) Max temperature  $+302^{\circ}\text{F}$  ( $+150^{\circ}\text{C}$ ), with PTFE coating - G 1/2 A only

(3) In case of order on demand of "continuous duty" model or in case of accidental overpressure, please see our catalogue MGS9/2B

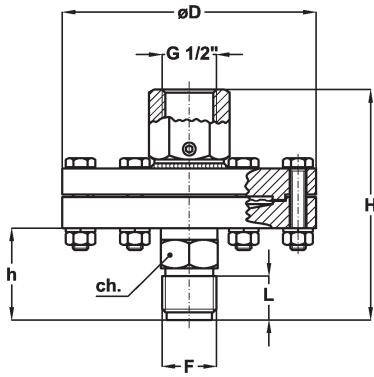
## Ranges

Instrument type	Minimum range	Maximum range	Notes
Bourdon tube, DS 4", 6" (100...150 mm)	<i>0...10 psi</i> (0...0,6 bar)	<i>0...580 psi</i> (0...40 bar)	Vacuum and compound gauges included
Diaphragm differential pressure gauges	<i>0...100 InH<sub>2</sub>O</i> (0...250 mbar)	<i>0...360 psi</i> (0...25 bar)	Max static pressure 60 bar
Diaphragm pressure switches	<i>0...15 psi</i> (0...15 bar)	<i>0...580 psi</i> (0...40 bar)	Vacuum and compound gauges included
Pressure transmitters	<i>0...40 InH<sub>2</sub>O</i> (0...100 mbar)	<i>0...580 psi</i> (0...40 bar)	Max static pressure 60 bar

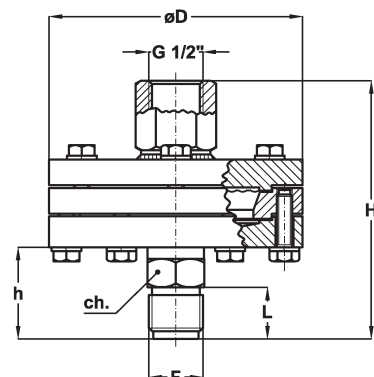
# diaphragm seal with threaded connection

# MGS9/1B

MGS9/1B0



MGS9/1BS



F	ø D	ch	H	h	L	Weight
<b>41M</b> -G 1/2 B	3.85"	0.87"	3.50"	1.40"	0.78"	3.13 lbs
<b>43M</b> -1/2 NPT*	(98)	(22)	(89)	(35,5)	(20)	(1,300 kg)

dimensions : inches (mm)

F	D	ch	H	h	L	Weight
<b>41M</b> -G 1/2 B	3.85"	0.87"	3.94"	1.40"	0.78"	3.90 lbs
<b>43M</b> -1/2 NPT*	(98)	(22)	(100)	(35,5)	(20)	(1,770 kg)

dimensions : inches (mm)

\*Not available with PTFE coated process connections.

## ASSEMBLING

All diaphragm seals are mounted on the instruments and fixed by an aluminium protection label. For applications with capillary: should diaphragm seal and instrument not be at the same level, instrument adjustment is required). (For use and installation, see data sheet "4")

<b>D</b> - Direct	<b>9</b> - Capillary AISI304 st.st., AISI304 st.st. armoured, 36.37" max (6 mt max)
<b>I</b> - Nude capillary AISI304, 36.37" max (6 mt max)	<b>6</b> - Capillary AISI316 st.st., AISI316 st.st. armoured, 36.37" max (6 mt max)

## FILLING FLUIDS and process fluid temperature

Fluid	Vacuum	Pressure	Fluid	Vacuum	Pressure
Standard silicon oil	-40...+122°F (-40...+100°C)	-40...+302°F (-40...+150°C)	<b>E</b> - Fluorinated liquid "E"	-40...+212°F (-40...+100°C)	-40...+302°F (-40...+150°C)
<b>B</b> - Silicon oil "B"	-40...+302°F (-40...+150°C)	-40...+482°F (-40...+250°C)	<b>F</b> - Silicon oil "C"	-130...+176°F (-90...+80°C)	-130...+302°F (-90...+150°C)
<b>C</b> - Silicon oil "C"	-14...+392°F (-10...+200°C)	-14...+662°F (-10...+350°C)	<b>G</b> - Mineral food oil "G"	-14...+302°F (-10...+150°C)	-14...+392°F (-10...+200°C)
<b>D</b> - Silicon oil "D"	-14...+392°F (-10...+200°C)	-14...+752°F (-10...+400°C)			

## OPTIONS

Description	MGS9/1B0	MGS9/1BS
<b>C05</b> - Helium Test	◆	◆
<b>E30</b> - Nace version MR0103/MR0175 (ISO 15156) (1)	◆	◆
<b>TS5</b> - Washing plug - 1/4" NPT (4)	◆	◆
<b>P04</b> - Dye penetrant test	◆	◆
<b>P02</b> - Oxygen degreasing(2)	◆	◆
<b>MPP</b> - PTFE diaphragm protection, for temperature up to 302 °F (150 °C) (3)	◆	◆
Special process connections (4) : 1/4" NPTF; 1/2" NPTF; 3/4" NPTF; 3/4" NPTM	◆	◆

- (1) Stainless steel process connection and Monel 400 or Hastelloy C276 diaphragm  
 (2) To be ordered together with fluorinated liquid filling  
 (3) Except for pressure gauges and vacuum gauges  
 (4) Stainless steel process connection only

## "HOW TO ORDER" SEQUENCE

Section/Model/Connection material/Diaphragm material/Process Connection/Instrument connection/Assembling / Options

**4** **1B0** **5, N, 6** **4, 6, 9** **41M** **41F - G 1/2 F** **D** **B...G**  
**1BS** **9, F, V** **B, J, I** **43M** **1, 9, 6** **C05...MPP**  
**8, E** **43F**  
**C, 2**

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