

# diaphragm seal with threaded connection

# MGS9/1B



Diaphragm seals are designed to isolate the sensing element of pressure gauges, pressure switches and electronic pressure transmitter from process fluids which may be corrosive, viscous, sedimentous and/or with a high temperature. The diaphragm, welded for model 1B0 and mechanically clamped between the upper housing and intermediate ring for model 1BS, is leak proof tested to guarantee full fluid separation from process fluid. This diaphragm seal can be cleaned by removing the lower housing. This construction feature and its compact design suits to many applications requiring frequent maintenance.

#### 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) ±0,5% for direct mounting, ±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;
- U - 25.22.2.

**Gaskets:** PTFE up to +482°F (+250°C); Buna S over +482°F (+250°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) ±0,5% for direct mounting, ±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°F (+250°C); Buna S over +482°F (+250°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°F (20 °C) process temperature (or state temperature when ordering)

(2) Max temperature +302°F (+150°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

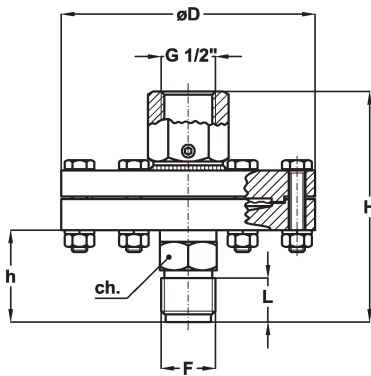
## Ranges

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

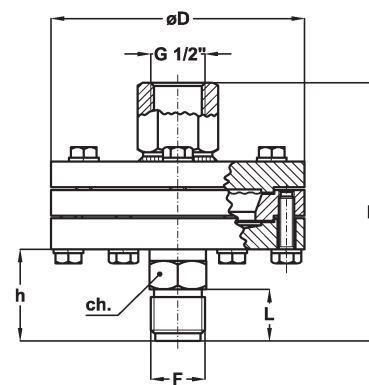
# diaphragm seal with threaded connection

# MGS9/1B

MGS9/1B0



MGS9/1BS



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

dimensions : inches (mm)

F	D	ch	H	h	L	Weight
41M-G 1/2 B	3.85"	0.87"	3.94"	1.40"	0.78"	3.90 lbs
43M-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 "MGS9")

<b>D</b> - Direct
<b>T</b> - Cooling extension - T.e. $\geq 212^{\circ}\text{F}$ - ( $100^{\circ}\text{C}$ )
<b>1</b> - Capillary AISI304 st.st., 236" max (6 mt max)
<b>9</b> - Capillary AISI304 st.st., covered with AISI304 st.st. armour, 236" max (6 mt max)
<b>6</b> - Capillary AISI316 st.st., covered with AISI316 st.st. armour, 236" max (6 mt max)

## OPTIONS

Description	MGS9/1B0	MGS9/1BS
<b>B</b> - Silicon liquid "B" for process fluid temperature from $-4^{\circ}\text{F}$ to $+482^{\circ}\text{F}$ (from $-20^{\circ}\text{C}$ to $+250^{\circ}\text{C}$ )	◆	◆
<b>C</b> - Silicon liquid "C" for process fluid temperature from $-20^{\circ}\text{F}$ to $+644^{\circ}\text{F}$ (from $-5^{\circ}\text{C}$ to $+340^{\circ}\text{C}$ )	◆	◆
<b>E</b> - Fluorinated liquid "E" for process fluid temperature from $-76^{\circ}\text{F}$ to $+302^{\circ}\text{F}$ (from $-60^{\circ}\text{C}$ to $+150^{\circ}\text{C}$ )	◆	◆
<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 $302^{\circ}\text{F}$ ( $150^{\circ}\text{C}$ ) (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, T B...MPP
1BS 9, F, V B, J, I 43M 1, 9, 6
U, 8, E 43F
C, 2