

“continuous duty” diaphragm seal, welded, with flanged connection



These diaphragm seals are designed to isolate the sensing element of pressure gauges, pressure switches and electronic pressure transmitters from process fluids which may be corrosive, viscous, sediment and/or with a high temperature. “Continuous duty” version as per ASME B40.2 : if the instrument is removed accidentally or in case liquid filling leakage the diaphragm moves to the upper cup preventing any damage and any process liquid leakage. Thanks to an exclusive calibration system the pressure gauge is able to withstand an overpressure of 210 bar without the support of a pressure control switch. Process connections comply to ASME/EN 1092, and are suitable for application in chemical, petrochemical, water treatment and paper industries.

4.700 - MGS9/7

Pressure gauge ranges: from -30...0 INHG to 0...2320 psi (from -1...0 to 0...160 bar) ⁽¹⁾.

Filling liquid: silicon oil (see “Options” table).

Process fluid max temperature: as per filling liquid (see “Options” table).

Accuracy: (add to instrument accuracy) ±0,5% for direct mounting; ± 1% for capillary mounting ⁽²⁾.

Instrument connection: AISI 304 st.st.

Membrana saldata in: AISI 316L st.st. (code **4**), Monel 400 (code **6**), Hastelloy C276 (code **9**), Tantalum (code **B**), Alloy 600 (code **J**), Alloy 825 (code **I**).

Gasket: PTFE (max. +482°F; +250°C);

Flanged process connection: AISI 316L st.st (cod. **4**), AISI 316L st.st (cod. **5**), Monel 400 (cod. **6**), Hastelloy C276 (cod. **9**), Hastelloy B2 (cod. **1**); other materials available on request.

Dimensions ⁽³⁾: DN 15...50, PN 10...160 EN 1092-1 type B; 1/2”...2” class 150...1500 RF as per ASME B16.5.

Finishing: EN B1 type: Ra 3,2...12,5 ASME RF type: Ra 125...250 AARH (code **RF3**).

Bolts: AISI304 st.st., for flange PN ≤ 100 or class ≤ 600; high resistance steel for flange PN > 100 or class > 600.

(1) Working pressure must be less or equal to the flange rating

(2) at 68°F (20 °C) process temperature (or state temperature when ordering)

(3) other dimensions and finishing are available on request

ASSEMBLING

All diaphragm seals are fastened to the instrument by an aluminium protection label. For applications with capillary: shouldn't both the diaphragm seal and the instrument be at the same level, the adjustment of the instrument is required). (For use and installation, see data sheet “4”)

D - Direct	9 - Capillary AISI304 st.st., AISI304 st.st. armoured, 36.37” max (6 mt max)
1 - Nude capillary AISI304, 36.37” max (6 mt max)	6 - 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)	E - Fluorinated liquid “E”	-40...+212°F (-40...+100°C)	-40...+302°F (-40...+150°C)
B - Silicon oil “B”	-40...+302°F (-40...+150°C)	-40...+482°F (-40...+250°C)	F - Silicon oil “C”	-130...+176°F (-90...+80°C)	-130...+302°F (-90...+150°C)
C - Silicon oil “C”	-14...+392°F (-10...+200°C)	-14...+662°F (-10...+350°C)	G - Mineral food oil “G”	-14...+302°F (-10...+150°C)	-14...+392°F (-10...+200°C)
D - Silicon oil “D”	-14...+392°F (-10...+200°C)	-14...+752°F (-10...+400°C)			

OPTIONS

C05 - Helium Test	S40 - Special calibration for pressure gauges overpressure ^{(3) (4) (5)}
E30 - Nace version MR0103/MR0175 (ISO 15156) ⁽²⁾	MPP - PTFE diaphragm protection, for temperature up to 302 °F (150 °C) ⁽³⁾
T55 - AISI316L stainless steel washing plug, 1/4” NPT ⁽¹⁾	P15 - ASTM A193/B7 - A194/2H studs, nuts and washers
P04 - Dye penetrant test	

(1) on models with AISI316L process connection only

(2) Stainless steel process connection and Monel 400 or Hastelloy C276 diaphragm

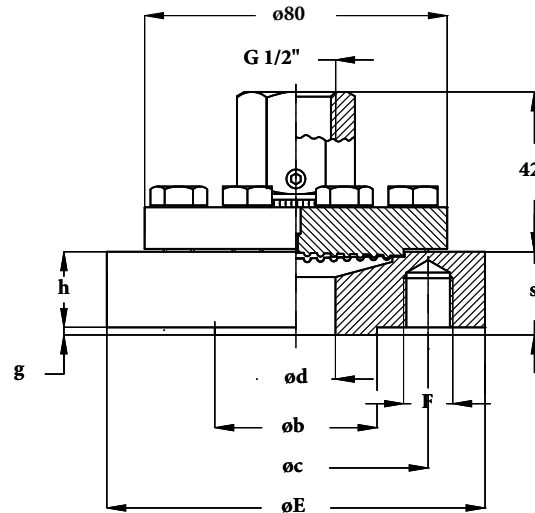
(3) Except for vacuum and compound gauges

(4) Overpressure equal to flange rating, max 3000 psi (210 bar)

(5) To be ordered with silicon oil “B” only

**"continuous duty" diaphragm seal
welded, with flanged connection**

MGS9/7



EN 1092-1:2007 STANDARD

dimensions : mm

DN	PN-bar	Code	h	E	b	d	g	c	s	N (1)	F
15	10-16-25-40	OSO	20	95	45	15	2	65	22	4	M12
15	63...160	OZO	18	105	45	15	2	75	20	4	M12
20	10-16-25-40	PSO	16	105	58	20	2	75	18	4	M12
20	63...100	PUO	20	130	58	20	2	90	22	4	M16
25	10-16-25-40	QSO	16	115	68	25	2	85	18	4	M12
25	63...160	QZO	22	140	68	25	2	100	24	4	M16
40	10-16-25-40	SSO	18	150	88	40	3	110	21	4	M16
40	63...100	SUO	23	170	88	40	3	125	26	4	ø22
40	160	SZO	25	170	88	40	3	125	28	4	ø22
50	10-16-25-40	TSO	17	165	102	50	3	125	20	4	ø18
50	63	TTO	23	180	102	50	3	135	26	4	ø22
50	100	TUO	25	195	102	50	3	145	28	4	ø26
50	160	TZO	27	195	102	50	3	145	30	4	ø26

1) N° threaded or free holes

ASME B16-5:2003 STANDARD

dimensions : inches

DN	Classe (2)	Code	h	E	b	d	g	c	s	N (1)	F
1/2"	150	4AA	0.87"	3.54"	1.37"	0.59"	0.08"	2.37"	0.94"	4	1/2"-13UNC
1/2"	300	4BA	0.81"	3.74"	1.37"	0.59"	0.08"	2.63"	0.89"	4	1/2"-13UNC
1/2"	600	4DA	0.81"	3.74"	1.37"	0.59"	0.28"	2.63"	1.08"	4	1/2"-13UNC
1/2"	900...1500	4FA	0.89"	4.72"	1.61"	0.59"	0.28"	3.25"	1.16"	4	3/4"-10UNC
3/4"	150	5AA	0.79"	3.94"	1.69"	0.79"	0.08"	2.75"	0.87"	4	1/2"-13UNC
3/4"	300	5BA	0.71"	4.53"	1.69"	0.79"	0.08"	3.25"	0.79"	4	5/8"-11UNC
3/4"	600	5DA	0.71"	4.53"	1.69"	0.79"	0.28"	3.25"	0.98"	4	5/8"-11UNC
3/4"	900...1500	5FA	1"	5.12"	1.69"	0.79"	0.28"	3.5"	1.30"	4	3/4"-10UNC
1"	150	6AA	0.63"	4.33"	2"	0.98"	0.08"	3.13"	0.71"	4	1/2"-13UNC
1"	300	6BA	0.71"	4.92"	2"	0.98"	0.08"	3.5"	0.79"	4	5/8"-11UNC
1"	600	6DA	0.71"	4.92"	2"	0.98"	0.28"	3.5"	0.98"	4	5/8"-11UNC
1"	900...1500	6FA	1.14"	5.9"	2"	0.98"	0.28"	4"	1.42"	4	7/8"-9UNC
1 1/2"	150	AAA	0.63"	4.92"	2.87"	1.57"	0.08"	3.87"	0.71"	4	1/2"-13UNC
1 1/2"	300	ABA	0.81"	6.1"	2.87"	1.57"	0.08"	4.5"	0.89"	4	3/4"-10UNC
1 1/2"	600	ADA	0.89"	6.1"	2.87"	1.57"	0.28"	4.5"	1.16"	4	3/4"-10UNC
1 1/2"	900...1500	AFA	1.26"	7.09"	2.87"	1.57"	0.28"	4.87"	1.56"	4	1"-8UNC
2"	150	BAA	0.69"	5.9"	3.63"	1.97"	0.08"	4.75"	0.77"	4	ø 19
2"	300	BBA	0.83"	6.5"	3.63"	1.97"	0.08"	5"	0.91"	8	ø 19
2"	600	BDA	1"	6.5"	3.63"	1.97"	0.28"	5"	1.28"	8	ø 19
2"	900...1500	BFA	1.52"	8.46"	3.63"	1.97"	0.28"	6.51"	1.79"	8	ø 26

1) N° threaded or free holes

2) class 150 : PN 20 bar; class 300 : PN 50 bar; class 600 : PN 100 bar; class 900...1500 : PN 150...250 bar

"HOW TO ORDER" SEQUENCE

Section / Model / Connection / Diaphragm / Process / Flange / Instrument / Assembling / Options	material	material	connection	connection	connection	finishing	connection	connection	Options
4	700	4, 5, 6 9, 1	4, 6, 9 B, J, I	OSO...TZO 4AA...BFA	RF3...RF7	41F	D 1, 9, 6	B...G C05...P15	

Copyright © Nuova Fima srl. All rights reserved. Any part of this publication should not be reproduced without a written Nuova Fima's srl approval



RC3-11/22 IN ORDER TO IMPROVE THEIR PRODUCTION, MESSIS, NUOVA FIMA RESERVE THE RIGHT TO THEMSELVES TO MAKE ALL THE MODIFICATIONS THAT THEY DEEM INDISPENSABLE AT ANY TIME. UPDATED DATA-SHEETS ARE AVAILABLE ON SITE: www.nuovafima.com