

Diaphragm Seals

welded

Types 04.6W0 and 04.6WF

threaded connection **04.6W0**

flanged connection **04.6WF**



Diaphragm seals are designed to isolate the sensing element of pressure gauges and pressure switches from process fluids which may be corrosive, viscous, sedimentous and/or with a high temperature. The diaphragm is welded to the upper body, to ensure separation of filling fluid from process medium. The upper part is detachable from the lower process side for cleaning. An optional flushing hole is available to allow the seal to be cleaned and purged without removal from the process. A choice of wetted part material is available to suit practically all applications.

Functional and constructive characteristics

Ranges: -1/0 ...0/160 bar (max. 175 bar).

Process temperature: -45°C...+150°C.

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

Instrument connection: AISI 304 st. st. 1/2" BSPF, with ball and set screw threaded M5 for filling.

Diaphragm: AISI 316 L st.st., welded.

Gasket: PTFE (max. 250°C).

Process connection: AISI 316 st.st.

type **6W0** (threaded): 1/2" NPTF ANSI B1.20.1;

type **6WF** (flanged) DN 15...50, PN 6...100 UNI-DIN step seal; 1/2"...2", 150...1500 RF ANSI B16.5.

Filling liquid: silicone oil type "A".

Bolts and nuts: AISI 304 st. st.

Capillary (remote mounting): AISI 304 st.st. $\varnothing 3 \times 1$ or AISI 304 st.st. covered with AISI 304 st. st. armour $\varnothing 6$ (max. length 6 mt.).

FILLING LIQUIDS

Liquid type	Limit of process temperature
Silicone oil type "A"	-45...+150 °C
Silicone oil type "B"	-20...+250 °C
Silicone oil type "C"	+20...+340 °C
"Fluorolube" type "E"	-60...+150 °C
"Fluorolube" type "F"	-20...+250 °C
Oil for food industry type "G"	-20...+120 °C

* at 20 °C process temperature (or state temperature when ordering)

Special Versions

Special overpressure: (option S40) 300% of the full scale value of the instrument (max 175 bar).

High temperature version: 340°C, with BUNA S gasket and silicone oil type "C" (option E10).

Instrument connection: AISI 304 st. st. 1/2" NPT F with ball and set screw threaded M5; 1/2" NPT F or 1/4" NPT F, 5/16" UNC hole without ball and screw (not available with instrument mounted: choose option S20).

Diaphragm: Monel 400, Hastelloy C276, Hastelloy B2, Tantalum, welded.

Process connection: AISI 316L st.st., Monel 400, Hastelloy C276, Hastelloy B2.

type **6W0** (threaded): 1/2" BSP/NPT M; 3/4" and 1" NPTF;

type **6WF** (flanged): with special flange finishing (see table SHAPE AND FLANGE FINISHING).

Filling fluids: special filling fluids are available for special process conditions (see table FILLING FLUIDS).

Flushing connection: AISI 316 st. st. 1/4" NPTM .

Not available for these flanged connection:

2", 300-600-900-1500 ANSI B16.5.

Capillary (remote mounting): AISI 316 st.st. covered with AISI 304 st. st. armour $\varnothing 6$; AISI 304 st.st. covered with AISI 304 st. st. armour $\varnothing 6$, PVC coated.

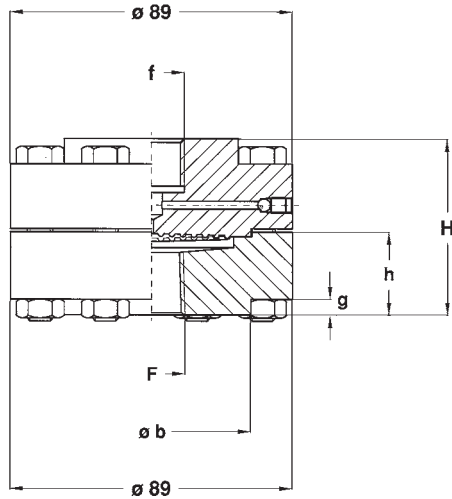
Studs, nuts: ASTM A 193 - B7 studs and ASTM A 194 - 2H nuts (option P15).

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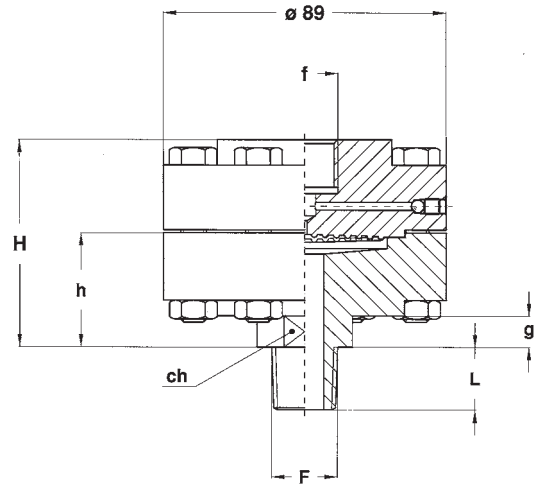
threaded connection **04.6W0**

flanged connection **04.6WF**

DIAPHRAGM SEAL TYPE 6W0, WITH THREADED CONNECTION



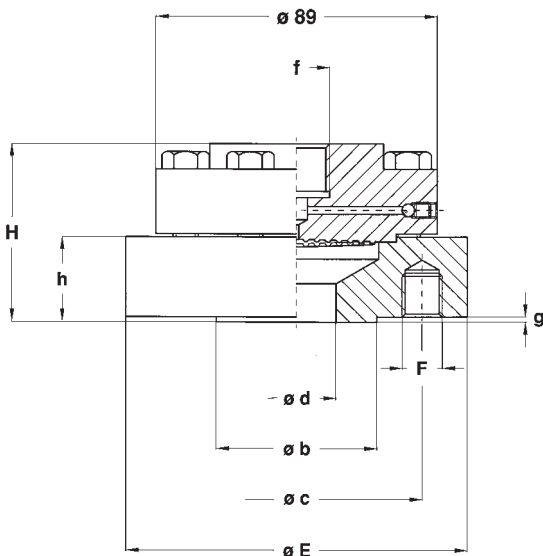
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F	Code	h	H	L	b	g	ch
1/2" NPT F	43F	26,5	56	-	62,9	5	-
3/4" NPT F	53F	26,5	56	-	62,9	5	-
1" NPT F	63F	31,5	61	-	62,9	10	-
1/2" NPT M	43M	36,5	66	20	62,9	10	27
1/2" GAS M	41M	36,5	66	20	62,9	10	27

(dimensions: mm.)

DIAPHRAGM SEAL TYPE 6WF, WITH FLANGED CONNECTION



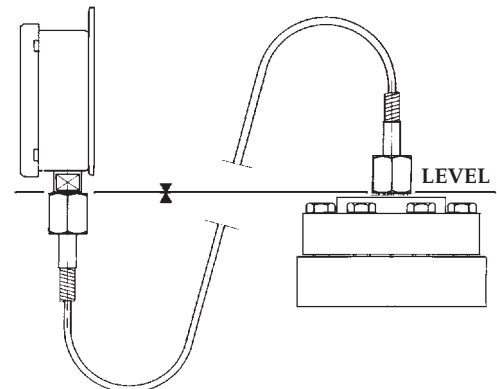
f= as per "HOW TO ORDER"

Dimensions: "Flanged connection as per UNI - DIN
- ANSI", pag. 3.

REMOTE MOUNTING

CAPILLARY TYPE - max. length 6 mt.

CAPILLARY TYPE	COD.
AISI 304 st.st.	1
AISI 316 st.st. covered with AISI 304 st.st. armour	4
AISI 316 st.st. covered with AISI 304 st.st. armour, PVC coated	5
AISI 304 st.st. covered with AISI 304 st.st. armour	9



N.B.

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 a same level, instrument on installation is required. (For use and installation, see data sheet "04").

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threaded connection **04.6W0**

flanged connection **04.6WF**

FLANGED CONNECTION AS PER UNI - DIN : DIMENSIONS (mm.; dimensions as per DIN, between brackets)

DN	PN-bar (1)	Cod.	h	H	E	b	d	g	c	F	N (2)	L (3)
15	6	OOG	34	63,5	80	40	15	2	55	M10	4	70
15	10...16	OQG	27	56,5	95	45	15	2	65	M12	4	70
15	25...40	OSG	27	56,5	95	45	15	2	65	M12	4	70
15	64...100	OUG	45	74,5	105	45	15	2	75	M12	4	70
20	6	POG	34	63,5	90	50	20	2	65	M10	4	70
20	10...16	PQG	27	56,5	105	58	20	2	75	M12	4	70
20	25...40	PSQ	27	56,5	105	58	20	2	75	M12	4	70
20	64...100	PUG	45	74,5	130	58	20	2	90	M16	4	70
25	6	QOG	27	56,5	100	60	25	2	75	M10	4	70
25	10...16	QQG	27	56,5	115	68	25	2	85	M12	4	70
25	25...40	QSG	27	56,5	115	68	25	2	85	M12	4	70
25	64...100	QUG	45	74,5	140	65 (68)	25	2	100	M16	4	70
40	6	SOG	27	56,5	130	80	40	3	100	M12	4	70
40	10...16	SQG	27	56,5	150	88	40	3	110	M16	4	70
40	25...40	SSG	27	56,5	150	88	40	3	110	M16	4	70
40	64...100	SUG	45	74,5	170	85 (88)	40	3	125	M20	4	70
50	6	TOG	27	56,5	140	90	50	3	110	M12	4	70
50	10...16	TQG	27	56,5	165	102	50	3	125	M16	4	70
50	25...40	TSG	27	56,5	165	102	50	3	125	M16	4	70
50	64	TTG	45	74,5	180	95(102)	50	3	135	M20	4	70
50	100	TUG	45	74,5	195	95 (102)	50	3	145	M24	4	70

1) suitable for 150% of flange rating at 20...30 °C and 100% of flange rating at 340 °C.

2) N° threaded holes;

3) studs length (option P15).

FLANGED CONNECTION AS PER ANSI : DIMENSIONS (mm.)

DN	PN-psi (1)	Cod.	h	H	E	b	d	g	c	F	N (2)	L (3)
1/2"	150	4AA	34	63,5	89	34,9	15	1,6	60,3	1/2" 13UNC	4	85
1/2"	300	4BA	27	56,5	95	34,9	15	1,6	66,7	1/2" 13UNC	4	85
1/2"	600	4DA	48,5	78	95	34,9	15	6,3	66,7	1/2" 13UNC	4	85
1/2"	900	4EA	48,5	78	120,5	34,9	15	6,3	82,5	3/4" 10UNC	4	125
1/2"	1500	4FA	48,5	78	120,5	34,9	15	6,3	82,5	3/4" 10UNC	4	125
3/4"	150	5AA	27	56,5	98,5	42,9	20	1,6	69,8	1/2" 13UNC	4	85
3/4"	300	5BA	38	67,5	117,5	42,9	20	1,6	82,5	5/8" 11UNC	4	115
3/4"	600	5DA	48,5	78	117,5	42,9	20	6,3	82,5	5/8" 11UNC	4	115
3/4"	900	5EA	48,5	78	130	42,9	20	6,3	88,9	3/4" 10UNC	4	125
3/4"	1500	5FA	48,5	78	130	42,9	20	6,3	88,9	3/4" 10UNC	4	125
1"	150	6AA	27	56,5	108	50,8	25	1,6	79,4	1/2" 13UNC	4	85
1"	300	6BA	38	67,5	124	50,8	25	1,6	88,9	5/8" 11UNC	4	115
1"	600	6DA	48,5	78	124	50,8	25	6,3	88,9	5/8" 11UNC	4	115
1"	900	6EA	48,5	78	149	50,8	25	6,3	101,6	7/8" 9UNC	4	155
1"	1500	6FA	48,5	78	149	50,8	25	6,3	101,6	7/8" 9UNC	4	155
1" 1/2"	150	AAA	27	56,5	127	73	40	1,6	98,4	1/2" 13UNC	4	85
1" 1/2"	300	ABA	27	56,5	155,5	73	40	1,6	114,3	3/4" 10UNC	4	125
1" 1/2"	600	ADA	48,5	78	155,5	73	40	6,3	114,3	3/4" 10UNC	4	125
1" 1/2"	900	AEA	48,5	78	178	73	40	6,3	123,8	1" 8UNC	4	150
1" 1/2"	1500	AFA	48,5	78	178	73	40	6,3	123,8	1" 8UNC	4	150
2"	150	BAA	27	56,5	152,5	92,1	50	1,6	120,6	5/8" 11UNC	4	115
2" (4)	300	BBA	27	56,5	165	92,1	50	1,6	127	5/8" 11UNC	8	115
2" (4)	600	BDA	48,5	78	165	92,1	50	6,3	127	5/8" 11UNC	8	115
2" (4)	900	BEA	44,5	74	216	92,1	50	6,3	165,1	ø 26 (x 7/8" 9UNC)	8	155
2" (4)	1500	BFA	44,5	74	216	92,1	50	6,3	165,1	ø 26 (x 7/8" 9UNC)	8	155

1) suitable for 150% of flange rating at 20...30 °C and 100% of flange rating at 340 °C.

2) N° threaded holes;

3) studs length (option P15);

4) Flushing connection not available.



diaphragm seals,
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Types 04.6W0 and 04.6WF

threaded connection **04.6W0**

flanged connection **04.6WF**

FLANGE SHAPE AND FINISHING

Cod.	Form UNI	Finishing (turning made)	Cod.	Form DIN	Finishing (turning made)	Cod.	Form ANSI B16.5	Finishing
LM1	2225 SM	Ra 3,2 µm max	LM2	2513 V13	Rz 63 µm max	LM3	LM	AARH 125÷250 µin (grooves)
LF1	2225 SF	Ra 3,2 µm max	LF2	2513 R13	Rz 63 µm max	LF3	LF	AARH 125÷250 µin (grooves)
LT1	2226 DM	Ra 3,2 µm max	LT2	2512 F	Rz 40 µm max	LT3	LT	AARH 125 µin max (turning made)
LG1	2226 DF	Ra 3,2 µm max	LG2	2512 N	Rz 40 µm max	LG3	LG	AARH 125 µin max (turning made)
CM1	2227 CM	Ra 12,5 µm max	CM2	2514 V	Rz 160 µm max	ST3	ST	AARH 125 µin max (turning made)
CF1	2227 CF	Ra 12,5 µm max	CF2	2514 R	Rz 160 µm max	SG3	SG	AARH 125 µin max (turning made)
LN1	6078	Ra 0,8 µm max	LN2	2696 L	Rz 4 µm max	RJ3	RJ	AARH 63 µin max (turning made)
FF1	2229 piana	Ra 12,5 µm max	FF2	2526 A/B	Rz 40÷160 µm	FF3	FF	AARH 125÷250 µin (grooves)
RF1	2229 gradino	Ra 12,5 µm max	RF2	2526 C	Rz 40÷160 µm	RF3	RF	AARH 125÷250 µin (grooves)
			RF4	2526 D	Rz 40 µm max	SM3	SM	AARH 125 µin max (turning made)
			RF5	2526 E	Rz 16 µm max	SF3	SF	AARH 125 µin max (turning made)
						RFS	RF (smooth)	AARH 125 µin max (turning made)
						RF6	Stock	AARH 500 µin max (grooves)

HOW TO ORDER

	DESCRIPTION & CODE
04	04 - diaphragm seals
6W0	6W0 - threaded connection 6WF - flanged connection
5	Process connection material 4 - AISI 316 st.st. 5 - AISI 316 L st.st. 6 - MONEL 400 9 - HASTELLOY C 276 1 - HASTELLOY B 2
9	Diaphragm material 4 - AISI 316 L st.st. 6 - MONEL 400 9 - HASTELLOY C 276 1 - HASTELLOY B 2 B - TANTALIO
63F	Process connection 43F - 1/2" NPT F 53F - 3/4" NPT F 63F - 1" NPT F 41M - 1/2" BSP M 43M - 1/2" NPT M see flanged connection table to code
41F	Instrument connection 41F - 1/2" BSP F 43F - 1/2" NPT F (1) (2) 23F - 1/4" NPT F (1)
9	Capillary type 0 - without capillary See capillary type table
1000	capillary length (mm.)
RF1	Flange shape and finishing (flanged connection only - see table)
C05	see options table

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Ra (µm)	0,8	1,6	3,2	6,3	12,5	25	50
Rz (µm)	3,2	6,3	12,5	25	50	100	200
AARH (µin)	32	63	125	250	500	1000	2000

OPTIONS

DESCRIPTION	Code	6W0	6WF
Helium Test	C05	◆	◆
AISI 316 st.st. top housing	CS4	◆	◆
MONEL 400 top housing	CS6	◆	◆
High temperature version 250...340°C	E10	◆	◆
NACE MR 01.75 version	E30	◆	◆
Dye penetrant test	P04	◆	◆
Studs, nuts and washers	P15		◆
"Fluorolube" type "E" filling	R15	◆	◆
Oil for food industry type "G" filling	R16	◆	◆
"Fluorolube" type "F" filling	R18	◆	◆
AISI adaptor 1/2" BSP M x 1/4" NPT M	R21	◆	◆
Without bottom housing	S10	◆	
Without instrument, alone	S20	◆	◆
Special overpressure	S40	◆	◆
Cooling tower for process fluid temp. > 100°C	TOR	◆	◆
AISI 316 st.st. flushing connections, 1/4" NPT M	TS4	◆	◆

- (1) supply without instrument, with 5/16" UNC filling hole, without ball and screw.
(2) available with M5 threaded filling hole and ball and screw.



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