"in line" diaphragm seal
Type 04.R00

04.R00

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 "in-line" diaphragm position enables deep cleaning of their surfaces. Flange clamping with metallic sealing guarantees the system against leakage at high process fluid temperatures and pressures.

Functional and constructive characteristics

Ranges: 0...6/0...250 bar.
Process temperature: -45°C...+150°C.
Accuracy*: (add to instrument accuracy) ±0,5% for direct mounting; ± 1% for capillary mounting.
Instrument connecion: AISI 316 st.st.; 1/2"BSP F.
Bolts and lock ring: AISI 304 st.st.
Diaphragm: AISI 316L, welded.
Process connection, AISI316 st.st. welded type:
- **saddle**, for pipe size DN 2"...4"; (05.7RC);
-**"in line**", for pipe size 1/2"...1"; (05.7MS);
-**"in line"**, for pipe size 1" 1/2...4". (05.7MT).

Process connection, AISI316 st.st. flanged type: (05.7FL)
-**"in line"**, for flange size 1"1/2...2", 150...900 RF;
-**"in line"**, for flange size DN 40...50, PN 10...40 step seal.
Filling liquide: silicon oil type "A".
Capillary (remote mounting, max length 6 mt.):
-AISI 304 st.st. Ø3x1;
-AISI 304 st.st. covered with AISI 304 st. st. armour Ø6.

Special Versions

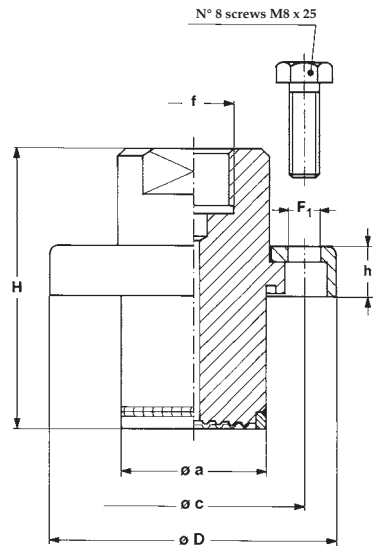
Filling liquids: special filling fluids are available for special process conditions (see table FILLING LIQUIDS).
Capillary (remote mounting, max length 6 mt.):
-AISI 316 st.st. covered with AISI 304 st. st. armour Ø6;
-AISI 304 st.st. covered with AISI 304 st. st. armour Ø6, PVC coated.

FILLING LIQUIDS

Liquid type	Limit of process temperature
Silicon oil type "A"	-45 ... +150 °C
Silicon oil type "B"	-20 ... +250 °C
Silicon oil type "C"	+20 ... +340 °C
"Fluorolube"	-60 ... +150 °C

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

"IN LINE" DIAPHRAGM SEAL, TYPE R00



Type	h	H	a	c	D	F_1
R00	13	74	38	58	75	8,5

(dimensions : mm.)

REMOTE MOUNTING

CAPILLARY TYPE - max length 6 mt.

CAPILLARY TYPE	CODE
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").

HOW TO ORDER

	CODE & DESCRIPTIONS
04	04 - diaphragm seals
R00	R00 - "in-line" diaphragm seal
4	Process connection 4 - AISI 316 st.st.
4	Diaphragm material 4 - AISI 316 L st.st.
000	
41F	Instrument connection 41F - 1/2" BSP F
9	Capillary type 0 - without capillary See capillary type table
1000	capillary length (mm.)
R15	see options table

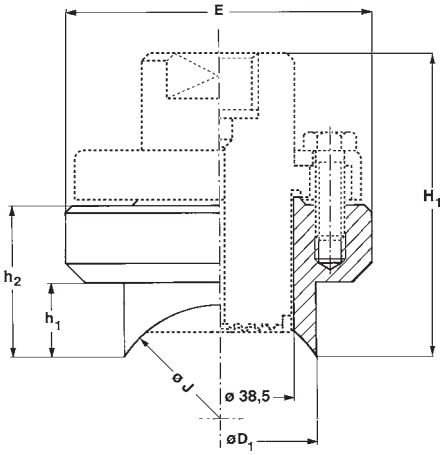
OPTIONS

Description	Code
Helium Test	C05
Dye penetration test	P04
"Fluorolube" filling	R15
AISI 316 st.st. adaptor 1/2" BSP M x 1/4" NPT M	R21
Without instrument, seal only	S20

SADDLE WELDED

7RC - saddle welded for pipes DN 2"...04".

Working pressure: max permitted 250 bar, in accordance with used pipe schedule.
Process connection: shaped, suitable for outside pipe welding, DN 2" - 3" - 4".
Body: AISI 316 st.st.



Dimensions (mm.)

DN	Code	h_1	h_2	H_1	D_1	E	J*
2" (50)	L00	28,5	48,5	87,5	55	80	60,3
3" (80)	I00	23,5	43,5	82,5	65	80	88,9
4" (100)	H00	23	43	82	75	80	114,3

*tube SCH 40S dimensions, as per ANSI B31.1

How to order

Section	Model	Material	Process connection (1)
5	7RC	4	H00

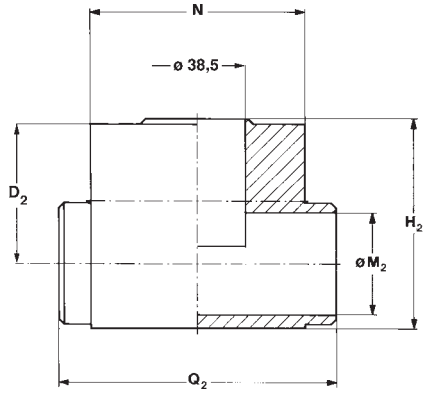
(1) see dimensions table above, to code.

piping welded connections,
for "in-line" diaphragm seal type 04.R00

05.7RC - 7MT - 7MS

7MS - "in-line" welded for pipes DN 1/2"...1".

Working pressure: max. permitted 250 bar, and in accordance with used pipe schedule.
Process connection: "head" welded, for pipes DN 1/2" - 3/4" - 1".
Body: AISI 316 st.st.



Dimensions (mm.)

DN	Code	H_2	Q_2	N	D_2	M_2*
1/2" (15)	**400**	83	110	85	43	15,8
3/4" (20)	**500**	83	110	85	45,5	20,9
1" (25)	**600**	83	110	85	48,5	26,6

*tube SCH 40S dimensions, as per ANSI B31.1

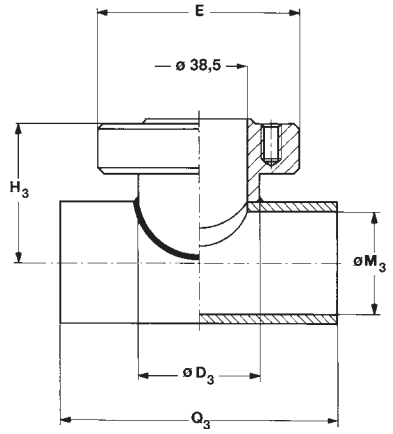
How to order

Section	Model	Material	Process connection (1)
5	**7MS**	4	400

(1) see dimensions table above, to code.

7MT - "in-line" welded for pipes DN 1" 1/2...4".

Working pressure: max. permitted 250 bar, and in accordance with used pipe schedule.
Process connection: "head" welded, for pipes DN 1" 1/2 - 2" -3" -4".
Body: AISI 316 st.st.



Dimensions (mm.)

DN	Code	H_3	Q_3	E	D_3	M_3*
1" 1/2 (40)	**A00**	55,5	110	80	48	40,9
2" (50)	**B00**	61	110	80	55	52,5
3" (80)	**E00**	74	110	80	65	77,9
4" (100)	**F00**	86	110	80	75	102,3

*tube SCH 40S dimensions, as per ANSI B31.1

How to order

Section	Model	Material	Process connection (1)
5	**7MT**	4	A00

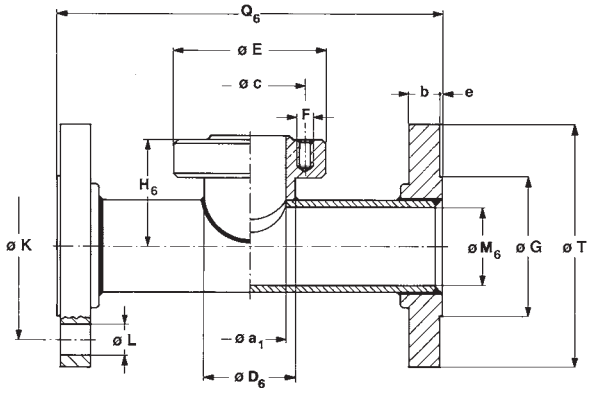
(1) see dimensions table above, to code.

"IN-LINE" FLANGED

7FL - flanged side to be in line mounted.

Working pressure: max. permitted 100 bar, and in accordance with used pipe schedule.
Flanged process connection:
- DN 40...50, PN 10...100 UNI-DIN step seal;
- 1" 1/2...2", 150...900 RF ANSI B16.5.

Body, tube and flanges: AISI 316 st.st.



Dimensions (mm.)*

E	c	a_1	F (n° 8 holes)
80	58	38,5	M8

*see flange dimensions table on pag. 4.

How to order

Section	Model	Material	Process connection (1)	Flange shape and finishing (1)
5	**7FL**	4	AAA	RF3

(1) see dimensions and flange shape and finishing tables on page 4, to code .

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FLANGED CONNECTION AS PER UNI - DIN : DIMENSIONS (mm.)

dimensions as per DIN, in bracket

DN	PN-bar (1)	Code	T	G	M_6(3)	K	L	b	e	H_6	D_6	N (2)	Q_6
40	10÷16	**SQG**	150	88	40,9	110	18	13	3	55,5	48	4	210
40	25÷40	**SSG**	150	88	40,9	110	18	15	3	55,5	48	4	210
40	64÷100	**SUG**	170	85 (88)	38,1	125	22	23	3	55,5	48	4	260
50	10÷16	**TQA**	165	102	52,5	125	18	15	3	61	55	4	210
50	25÷40	**TSG**	165	102	52,5	125	18	17	3	61	55	4	210
50	64	**TTG**	180	95 (102)	49,3	135	22	23	3	61	55	4	260
50	100	**TUG**	195	95 (102)	49,3	145	26	25	3	61	55	4	260

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

2) N° threaded holes.

3) tube SCH 40S dimensions, as per ANSI B31.1.

FLANGED CONNECTION AS PER ANSI : DIMENSIONS (mm.)

DN	PN-psi (1)	Cod.	T	G	M_6(3)	K	L	b	e	H_6	D_6	N (2)	Q_6
1" 1/2	150	**AAA**	127	73	40,9	98,4	16	16	1,6	55,5	48	4	210
1" 1/2	300	**ABA**	155,5	73	40,9	114,3	22	19	1,6	55,5	48	4	210
1" 1/2	600	**ADA**	155,5	73	40,9	114,3	22	22,5	6,3	55,5	48	4	210
1" 1/2	900	**AEA**	178	73	38,1	123,8	28,5	32	6,3	55,5	48	4	260
2"	150	**BAA**	152,5	92,1	52,5	120,6	19	17,5	1,6	61	55	4	210
2"	300	**BBA**	165	92,1	52,5	127	19	21	1,6	61	55	8	210
2"	600	**BDA**	165	92,1	52,5	127	19	25,5	6,3	61	55	8	210
2"	900	**BEA**	216	92,1	49,3	165,1	25,5	38,5	6,3	61	55	8	260

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

2) N° threaded holes.

3) tube SCH 40S dimensions, as per ANSI B31.1.

FLANGE SHAPE AND FINISHING

Code	Form UNI	Finishing (turning made)	Code	Form DIN	Finishing (turning made)	Code	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)

	□□□		□□		□		
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

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