

Sterile Process Connection, Diaphragm In-line Seals for Food, Biochemical and Pharmaceutical Industry Threaded Coupling Model 981.18 ... 981.21

WIKA Data Sheet DS 98.40



Applications

- For direct, fast installation and removal in pipelines
- For flowing, pure media
- Food and beverage industry

Special Features

- Completely round diaphragm (Europ. Pat. No. 0609846) to avoid dead spaces
- Self-draining in all mounting positions
- Quick measuring point cleaning without residues
- Suitable for CIP
- EHEDG tested

Description

Process connection

Male thread, on both sides

- Model 981.18: threaded coupling DIN 11 851
 - Model 981.19: threaded coupling SMS standard
 - Model 981.20: threaded coupling IDF standard
 - Model 981.21: threaded coupling APV-RJT standard
- Nominal sizes (DN) see dimensions overleaf

Pressure rating

PN 40 bar for DN 20 ... DN 50 resp. DN 1" ... DN 2"
 PN 25 bar from DN 65 resp. DN 2½"

Suitable pressure ranges

0 ... 1 bar to 0 ... 25 resp. 40 bar

Material of wetted parts

Stainless steel 1.4435 (316L)

Instrument connection

Gauges directly welded, transmitter with adaptor screwed

Fill fluid

KN 7 Glycerine, food compatible, FDA approved, according to standard US Pharmacopoeia XXIV and European Pharmacopoeia (1998)



Diaphragm In-line Seal Model 981.18 with Male Thread and Pressure Gauge Model 232.50 NS 100



Diaphragm In-line Seal Model 981.18 with Male Thread and Pressure Transmitter Model S-10

Optional extras

Process connection

- Other nominal sizes (DN) and connections on inquiry

Pressure rating

- Higher pressure ratings on inquiry

Material of wetted parts

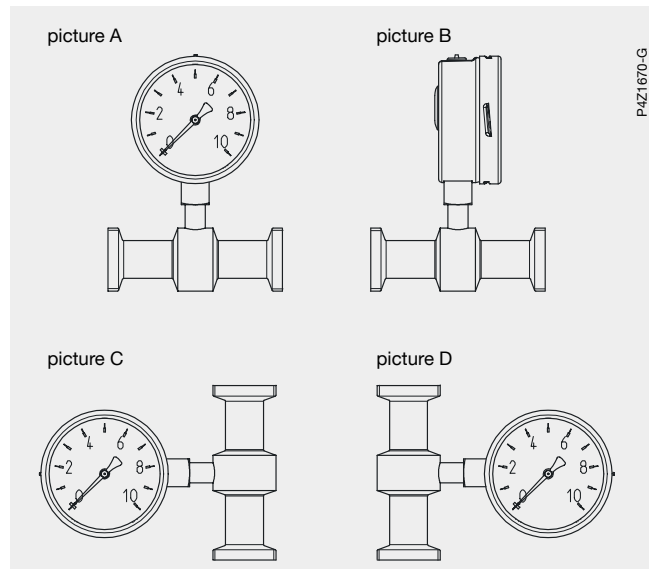
- Stainless steel 1.4435 electropolished
- Special materials on inquiry

Sealing ring

- Material NBR, PTFE or EPDM

Pressure instrument assembly

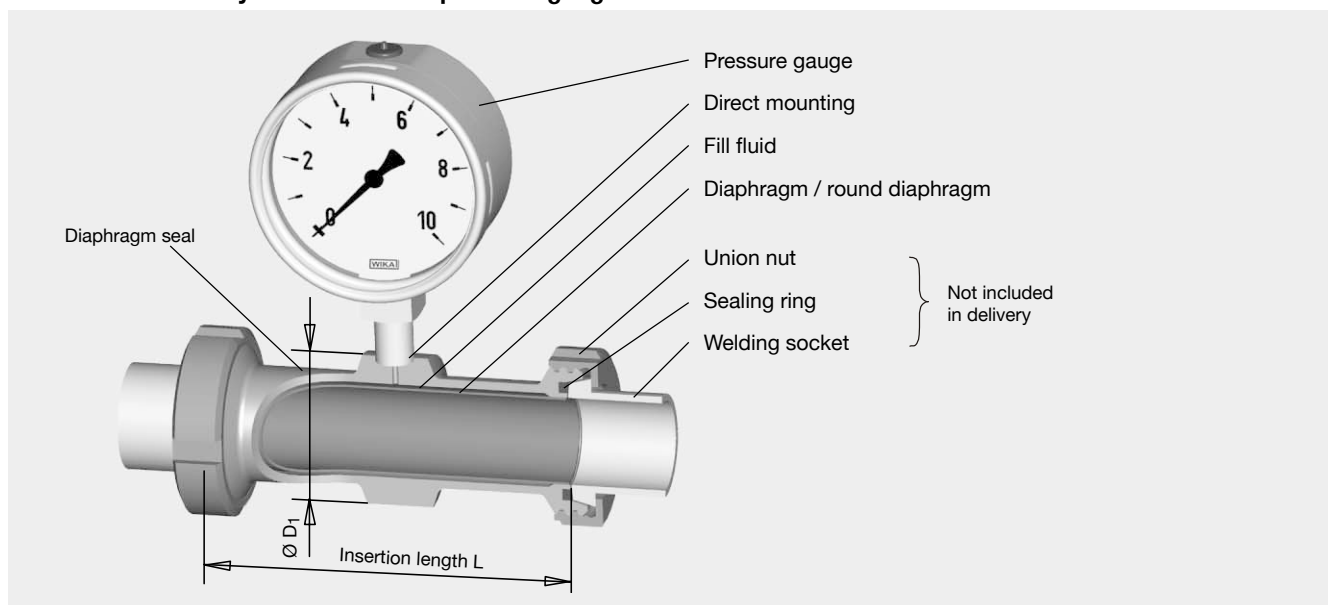
- Direct mounting of pressure transmitter
- Pressure gauge direct mounting, horizontal pipe, please specify: pointer axis crosswise to flow direction (picture A) or in flow direction (picture B)
- Pressure gauge direct mounting, vertical pipe, please specify: instrument on the left side (picture C) or on the right side of pipe (picture D)
- Assembly to pressure transmitter via cooling tower
- Pressure gauge mounting via cooling tower, horizontal pipe, please specify: pointer axis crosswise to flow direction (picture A) or in flow direction (picture B)
- Pressure gauge mounting via cooling tower, vertical pipe, please specify: instrument on the left side (picture C) or on the right side of pipe (picture D)
- Assembly via capillary, when ordering please specify: length of capillary



Fill fluid

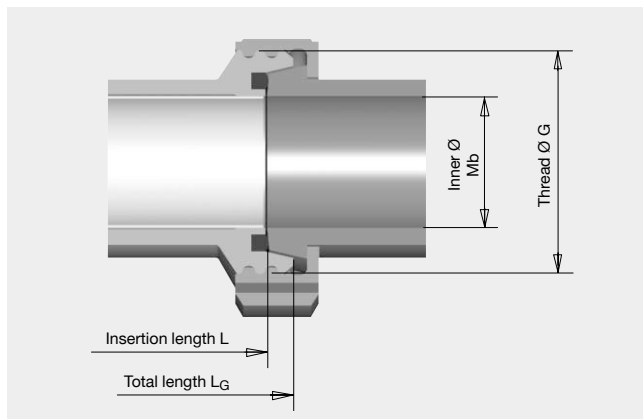
- KN 62 Liquid Paraffin (medical white oil), pharmaceutical compatible, FDA approved,
- KN 12 Glycerine/water, FDA approved

Example for mounting in a pipework of a diaphragm seal model 981.18 directly connected with pressure gauge



Dimensions in mm

Model 981.18 thread DIN 11 851

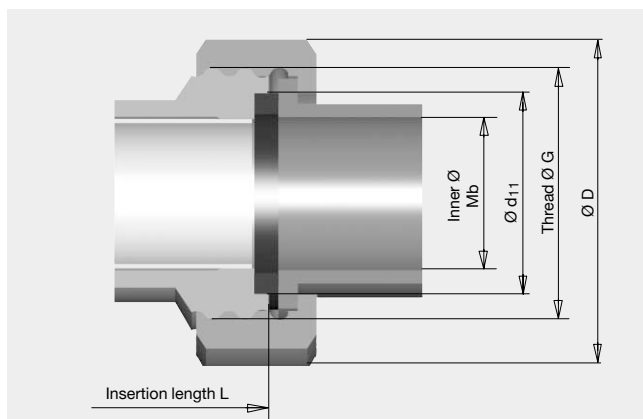


Thread per DIN 11 851 for pipes acc. to DIN 11 850 column 2

DN	For pipe Outside Ø x thickness	PN	Dimensions in mm					Weight in kg
			G	L	D1	Mb	LG	
15	19 x 1.5	40	Rd 34 x 1/8	96	34	16	104	0.4
20	23 x 1.5	40	Rd 44 x 1/8	106	44	20	118	0.6
25	29 x 1.5	40	Rd 52 x 1/8	114	52	26	128	1.0
32	35 x 1.5	40	Rd 58 x 1/8	126	58	32	140	1.3
40	41 x 1.5	40	Rd 65 x 1/8	146	65	38	160	1.9
50	53 x 1.5	25	Rd 78 x 1/8	156	78	50	170	2.8
65	70 x 2	25	Rd 95 x 1/8	166	95	66	182	3.7
80	85 x 2	25	Rd 110 x 1/4	166	110	81	182	4.4
100	104 x 2	25	Rd 130 x 1/4	162	130	100	182	5.8

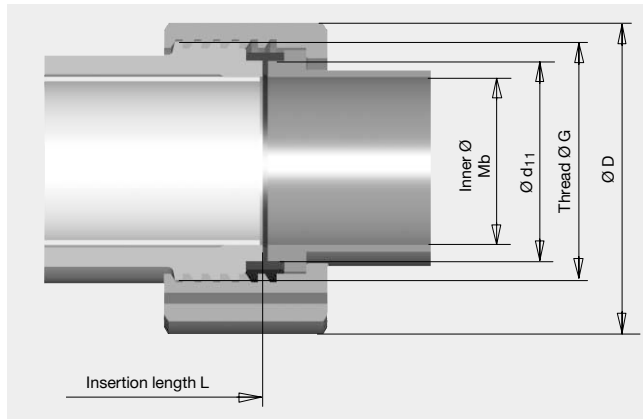
The measuring instruments with model 981.18 can also be used for tubes acc. to DIN 11 850 column 3.

Model 981.19 thread SMS



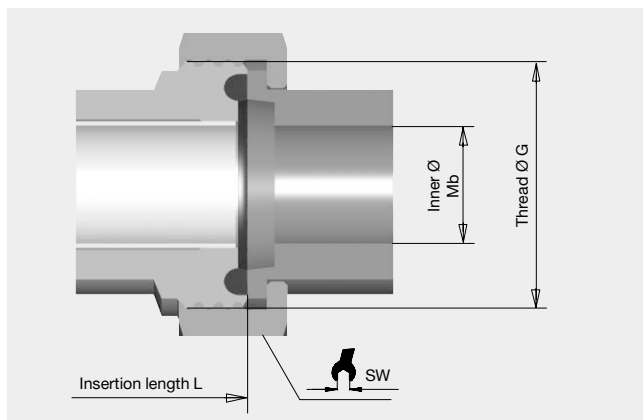
DN	For pipe Outside Ø x thickness	PN	Dimensions in mm						Weight in kg
			G	L	D1	Mb	D	d11	
1"	25.6 x 1.5	40	Rd 40 x 1/8	120	40	22.6	51	32	0.6
1 1/2"	38.6 x 1.5	40	Rd 60 x 1/8	152	60	35.6	74	48	1.6
2"	51.6 x 1.5	40	Rd 70 x 1/8	162	70	48.6	84	61	1.9
2 1/2"	64.1 x 1.9	25	Rd 85 x 1/8	162	85	60.3	100	73.5	2.7
3"	89.8 x 2.5	25	Rd 98 x 1/8	162	98	73	114	86	3.2

Model 981.20 thread IDF



DN	For pipe Outside Ø x thickness	PN	Dimensions in mm						Weight in kg
			G	L	D ₁	Mb	D	d ₁₁	
1"	25.6 x 1.5	40	1"IDF	114	40	22.6	48	29.2	0.5
1½"	38.6 x 1.5	40	1½"IDF	146	55	35.6	64	42.7	1.0
2"	51.6 x 1.5	40	2"IDF	156	68	48.6	77	56.2	1.3
2½"	64.1 x 1.9	25	2½"IDF	156	80	60.3	91	69.9	2.4
3"	89.8 x 2.5	25	3"IDF	156	95	73	106	82.6	2.9

Model 981.21 thread APV RJT



DN	For pipe Outside Ø x thickness	PN	Dimensions in mm					Weight in kg
			G	L	D ₁	Mb	SW	
1"	25.4 x 1.6	40	1 13/16 x 8"	123.4	47	22.2	50	0.7
1½"	38.1 x 1.6	40	2 5/16 x 8"	155.4	59	34.9	65	1.2
2"	50.8 x 1.6	40	2 7/8 x 6"	165.4	74	47.6	80	1.7
2½"	63.5 x 1.6	25	3 3/8 x 6"	165.4	86	60.3	92	2.3
3"	76.2 x 1.6	25	3 7/8 x 6"	165.4	99	73	105	3.1

Possible combinations

Bourdon tube pressure gauges

Diaphragm seal Model 981.18, 981.19, 981.20 or 981.21 can be combined with a pressure gauge with bourdon tube if the following application conditions are taken into account:

- Pressure gauge directly combined with diaphragm seal
- Temperature range
 - process: +10 ... +150 °C
 - ambient: +10 ... +40 °C

Choice	Model	Process connection with nominal sizes (DN)				
		... 15	25 (1")	32 (1 1/2") ... 50 (2")	65 (2 1/2")	80 (3") ...
Pressure gauge		23x.50.63	23x.50.63 23x.50.100	23x.50.63 23x.50.100	23x.50.100 23x.30.100	23x.50.100 23x.30.100
Lowest measuring range		0 ... 6 bar -1 ... 5 bar	0 ... 4 bar -1 ... 3 bar	0 ... 2 bar -1 ... 3 bar	0 ... 1 bar -1 ... 1.5 bar	0 ... 0.6 bar -1 ... 1.5 bar
Overpressure safety (optional)		-	-	2 x full scale value	2 x full scale value	2 x full scale value
Inductive alarm sensors (optional), suitable in zone 1 and zone 2 (Model 831)		-	-	possible	possible	possible

Pressure transmitters

Diaphragm seal Model 981.18, 981.19, 981.20 or 981.21 can be combined with a pressure transmitter Model S-10 or universal transmitter Model UT-10 if the following application conditions are taken into account:

- Pressure transmitter directly combined with diaphragm seal
- Temperature range
 - process: +10 ... +150 °C
 - ambient: +10 ... +40 °C

Choice	Process connection with nominal sizes (DN)				
	... 15	25 (1")	32 (1 1/2") ... 50 (2")	65 (2 1/2")	80 (3") ...
Lowest measuring range	0 ... 6 bar	0 ... 2.5 bar	0 ... 1 bar	0 ... 600 mbar	0 ... 400 mbar

Further gauge variants and lower pressure ranges can be supplied after technical verification and clarification by WIKA.

Ordering information

Model / Process connection type / Process connection, inner diameter / Insertion length / Material of wetted parts /
Assembly, if necessary length of capillary / Fill fluid / Pressure gauge model / Process conditions as per questionnaire /
Optional extras resp. special version required

Modifications may take place and materials specified may be replaced by others without prior notice.
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.



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