

# Sterile Process Connection, Diaphragm In-line Seals Clamp, Models 981.22, 981.52 and 981.53

WIKA Data Sheet DS 98.52



## Applications

- For direct, fast installation and removal in pipelines
- For flowing, pure media
- Food and beverage industry
- Biochemical and pharmaceutical industry, production of active ingredients
- Enameling lines

## Special Features

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

## Description

### Process connection

Model 981.22: Tri-clamp  
 Model 981.52: Clamp acc. to DIN 32 676  
 Model 981.53: Clamp acc. to ISO 2852  
 Nominal sizes (DN) see table page 3

### Pressure rating

PN 40 bar for DN 8 ... DN 50 resp. DN 1/2" ... DN 2"  
 PN 25 from DN 65 resp. DN 2 1/2"

### Suitable pressure ranges

0 ... 0.6 bar to 0 ... 25 resp. 40 bar

### Material of wetted parts

Stainless steel 1.4435 (AISI 316L)

### Instrument connection

Gauges directly welded, transmitter with adaptor screwed

### Fill fluid

KN 62 Liquid Paraffin (medical white oil), pharma-compatible, FDA approved, according to standard US Pharmacopoeia XXIII and European Pharmacopoeia (1993)



Diaphragm In-line Seal, Clamp Connection Model 981.22 with Pressure Gauge Model 232.50 NS 100



Diaphragm In-line Seal, Clamp Connection Model 981.52 with Pressure Transmitter Model S-10

## Optional extras

### Process connection

- Other nominal sizes (DN) and connections as per Südmo, BBS and further hygienic process 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

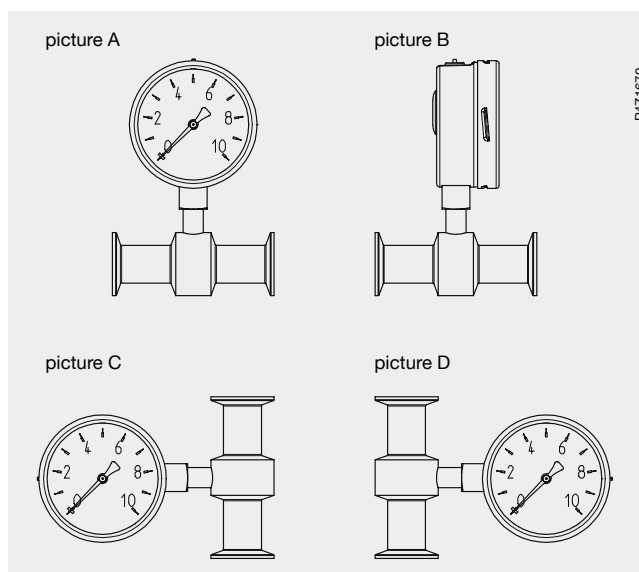
- Direct mounting of pressure transmitter
- Pressure gauge direct mounting, horizontal pipe, please specify: pointer axis crosswise to flow direction (picture A) or in flow direction (picture B)
- Pressure gauge direct mounting, vertical pipe, please specify: instrument on the left side (picture C) or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

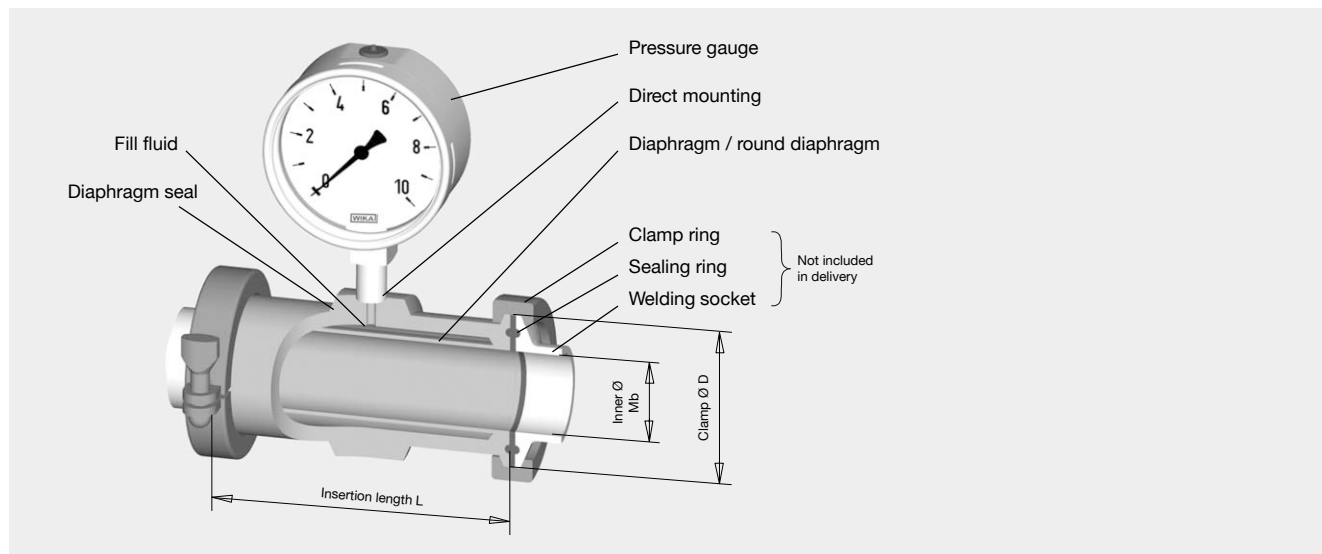
- KN 7 Glycerine, FDA approved
- KN 12 Glycerine/water, FDA approved

### Special version

- Complete measuring system suitable for autoclaving, on inquiry



**Example for mounting in a pipework of a diaphragm seal model 981.22 directly connected with pressure gauge**



**Dimensions in mm**

**Model 981.22**

Tri-clamp for pipes per ISO 1127

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			L	D	Mb
8	13.5 x 1.6	40	114	25	10.3
10	17.2 x 1.6	40	114	25	14.0
15	21.3 x 1.6	40	114	34	18.1
20	26.9 x 1.6	40	114	50.5	23.7
25	33.7 x 2	40	114	50.5	29.7
32	42.4 x 2	40	146	50.5	38.4
40	48.3 x 2	40	146	64	44.3
50	60.3 x 2	40	156	77.5	56.3
65	76.1 x 2	25	156	91	72.1

Tri-clamp for pipes per BS4825 Part 3 and O.D.-tube

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			L	D	Mb
½"	12.7 x 1.6	40	114	25	9.55
¾"	19.05 x 1.6	40	114	25	15.7
1"	25.4 x 1.6	40	114	50.5	22.2
1 ½"	38.1 x 1.6	40	146	50.5	34.9
2"	50.8 x 1.6	40	156	64	47.6
2 ½"	63.5 x 1.6	25	156	77.5	60.3
3"	76.2 x 1.6	25	156	91	73.0

Tri-clamp for pipes per ASME BPE

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			L	D	Mb
1"	25.4 x 1.65	40	114	50.5	22.1
1 ½"	38.1 x 1.65	40	146	50.5	34.8
2"	50.8 x 1.65	40	156	64	47.5
2 ½"	63.5 x 1.65	25	156	77.5	60.2
3"	76.2 x 1.65	25	156	91	72.9

1) For max. pressure range consider pressure range of clamp-ring.

**Model 981.52**

Clamp DIN 32 676 for pipes per DIN 11850

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			L	D	Mb
25	28 x 1	40	114	50.5	26
32	34 x 1	40	146	50.5	32
40	40 x 1	40	146	50.5	38
50	52 x 1	40	156	64	50
65	70 x 2	25	156	91	66
80	85 x 2	25	156	106	81
100	104 x 2	25	156	119	100

**Model 981.53**

Clamp ISO 2852 for pipes per ISO 2037 and BS 4825 Part1

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			L	D	Mb
25	25 x 1.2	40	114	50.5	22.6
28	28 x 1.2	40	114	50.5	25.6
33.7	33.7 x 1.2	25	146	50.5	31.3
38	38 x 1.2	25	146	50.5	35.6
40	40 x 1.2	25	146	64	37.6
51	51 x 1.2	25	156	64	48.6
63.5	63.5 x 1.6	25	156	77.5	60.3
70	70 x 1.6	25	156	91	66.8
76.1	76.1 x 1.6	25	156	91	72.9
88.9	88.9 x 2	25	156	106	84.9
101.6	101.6 x 2	25	156	119	97.6

1) For max. pressure range consider pressure range of clamp-ring.

## Possible combinations

### Bourdon tube pressure gauges

Diaphragm seal Model 981.22, 981.52 or 981.53 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	Clamp connection with nominal sizes (DN)				
		... 15 (3/4")	20 ... 28 (1")	32 (1 1/2") ... 51 (2")	63.5 ... 70 (2 1/2")	76.1 (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 981.22, 981.52 or 981.53 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	Clamp connection with nominal sizes (DN)				
	... 15 (3/4")	20 ... 28 (1")	32 (1 1/2") ... 51 (2")	63.5 ... 70 (2 1/2")	76.1 (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 / Pressure rating (PN) / Standard of pipe / Dimension of pipe / Inner diameter / Clamp diameter / Insertion length / Material / Sealing ring / 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.

