

Sterile Process Connection, Diaphragm Seals For Food, Biochemical and Pharmaceutical Industry Clamp Model 990.22, 990.52 and 990.53

WIKA Data Sheet DS 99.41



Applications

- Food and beverage industry
- Biochemical and pharmaceutical industry, production of active ingredients
- Painting lines

Special Features

- For cleaning easy to open
- Quick measuring point cleaning without residues
- Suitable for SIP and CIP
- 3A certified and FDA conformity
- Flush welded diaphragm

Description

Process connection

Model 990.22: Tri-clamp
 Model 990.52: Clamp acc. to DIN 32 676
 Model 990.53: Clamp acc. to ISO 2852
 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"

Pressure ranges

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

Material of wetted parts

Stainless steel 1.4435 (316L)

Instrument connection

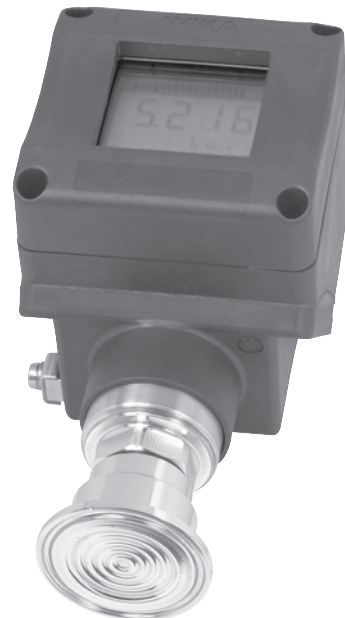
Gauges directly welded, transmitter with adaptor screwed

System fill fluid

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



Diaphragm Seal, Clamp Connection Model 990.52 with Pressure Gauge Model 232.50 NS 100



Diaphragm Seal, Tri-Clamp Connection Model 990.22 with Universal Transmitter Model UT-10

Options

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

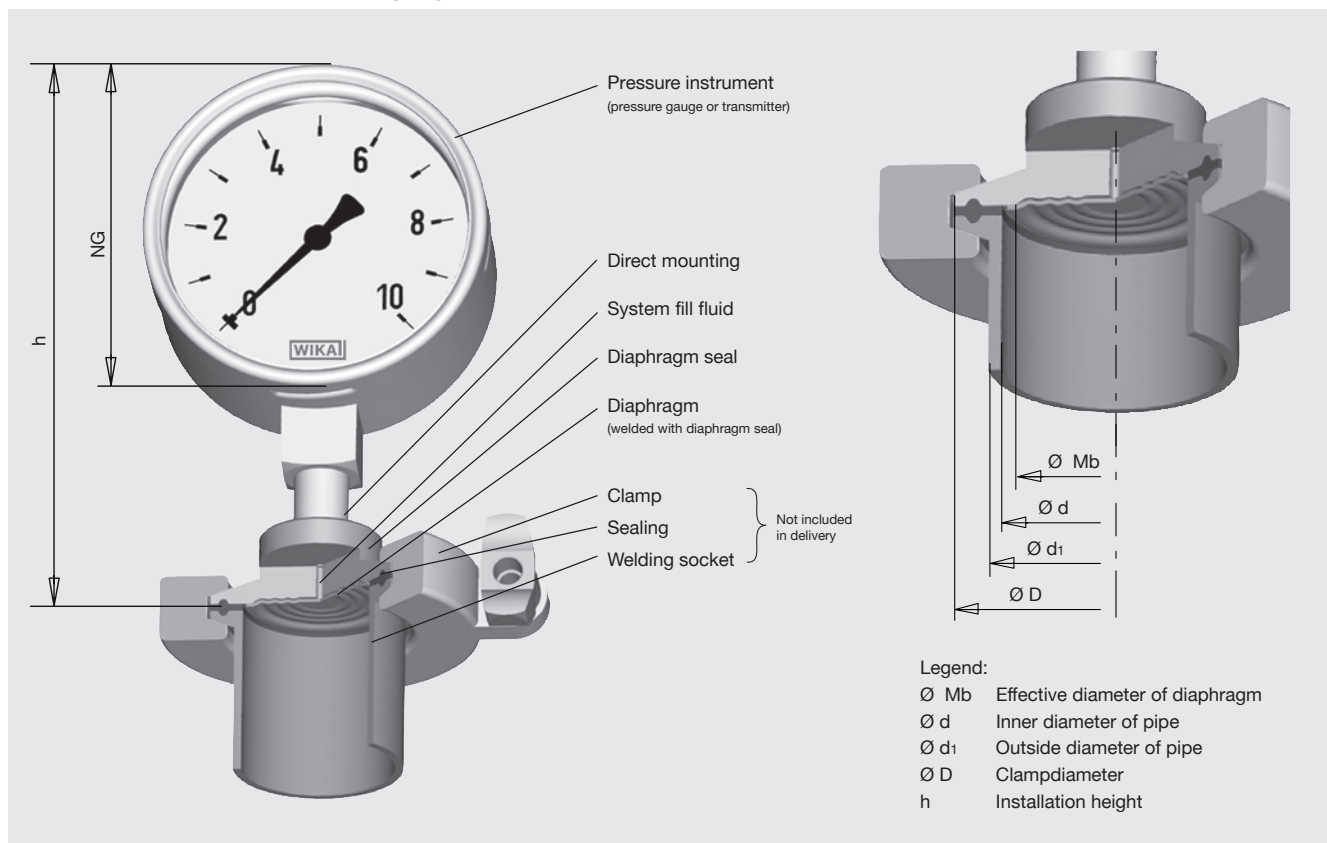
Pressure instrument assembly

- Assembly via cooling tower
- Assembly via capillary, when ordering please specify: length of capillary

System fill fluid

- KN 12 Glycerine/water, FDA approved
- KN 59 Neobee® M-20, FDA approved
- KN 92 Medicinal white mineral oil, FDA and USP approved

Example for mounting at a pipe socket of a diaphragm seal model 990.22 directly connected with pressure gauge



Pressure instrument Nominal size	Dimensions in mm h
NS 63	approx. 105
NS 100	approx. 156

Dimensions in mm

Model 990.22

Tri-clamp for pipes per ISO 1127

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			D	d	Mb
20	26.9 x 1.6	40	50.5	23.7	22
25	33.7 x 2	40	50.5	29.7	25
32	42.4 x 2	40	50.5	38.4	32
40	48.3 x 2	40	64	44.3	40
50	60.3 x 2	40	77.5	56.3	52
65	76.1 x 2	25	91	72.1	72

1) For max. pressure range consider pressure rating of clamp.

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

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			D	d	Mb
1"	25.4 x 1.6	40	50.5	22.2	22
1 1/2"	38.1 x 1.6	40	50.5	34.9	32
2"	50.8 x 1.6	40	64	47.6	40
2 1/2"	63.5 x 1.6	25	77.5	60.3	52
3"	76.2 x 1.6	25	91	73.0	72

1) For max. pressure range consider pressure rating of clamp.

Model 990.52

Clamp DIN 32 676 for pipes per DIN 11850

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			D	d	Mb
25	28 x 1	40	50.5	26	25
32	34 x 1	40	50.5	32	29
40	40 x 1	40	50.5	38	32
50	52 x 1	40	64	50	40
65	70 x 2	25	91	66	60
80	85 x 2	25	106	81	72
100	104 x 2	25	119	100	90

1) For max. pressure range consider pressure rating of clamp.

Tri-clamp for pipes per ASME BPE

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			D	d	Mb
1"	25.4 x 1.65	40	50.5	22.2	22
1 1/2"	38.1 x 1.65	40	50.5	34.8	32
2"	50.8 x 1.65	40	64	47.5	40
2 1/2"	63.5 x 1.65	25	77.5	60.2	52
3"	76.2 x 1.65	25	91	72.9	72

1) For max. pressure range consider pressure rating of clamp.

Model 990.53

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

DN	For pipe Outside Ø x thickness	PN 1)	Dimensions in mm		
			D	d	Mb
25	25 x 1.2	40	50.5	22.6	22
28	28 x 1.2	40	50.5	25.6	22
33.7	33.7 x 1.2	25	50.5	31.3	25
38	38 x 1.2	25	50.5	35.6	32
40	40 x 1.2	25	64	37.6	35
51	51 x 1.2	25	64	48.6	40
63.5	63.5 x 1.6	25	77.5	60.3	52
70	70 x 1.6	25	91	66.8	60
76.1	76.1 x 1.6	25	91	72.9	72
88.9	88.9 x 2	25	106	84.9	72
101.6	101.6 x 2	25	119	97.6	90

1) For max. pressure range consider pressure rating of clamp.

Possible combinations

Bourdon tube pressure gauges

Diaphragm seal Model 990.22, 990.52 or 990.53 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)			
		20 ... 28 (1")	32 (1 1/2") ... 51 (2")	63,5 ... 70 (2 1/2")	76,1 (3") ...
Pressure gauge		23x.50.63 23x.50.100	23x.50.63 23x.50.100	23x.50.63 23x.50/30.100	23x.50.63 23x.50/30.100
Minimum measuring range		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 990.22, 990.52 or 990.53 can be combined with a pressure transmitter Model S-10 and 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)			
	20 ... 28 (1")	32 (1 1/2") ... 51 (2")	63,5 ... 70 (2 1/2")	76,1 (3") ...
Minimum measuring range	0 ... 2.5 bar	0 ... 1 bar	0 ... 600 mbar	0 ... 400 mbar

Further versions of instruments 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 / Material / Assembly, if necessary length of capillary / System fill fluid / Pressure gauge model / Process conditions as per questionnaire / Options or special versions

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.

