

# 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
- Enameling 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"

### Suitable 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

### Fill fluid

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



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

## 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

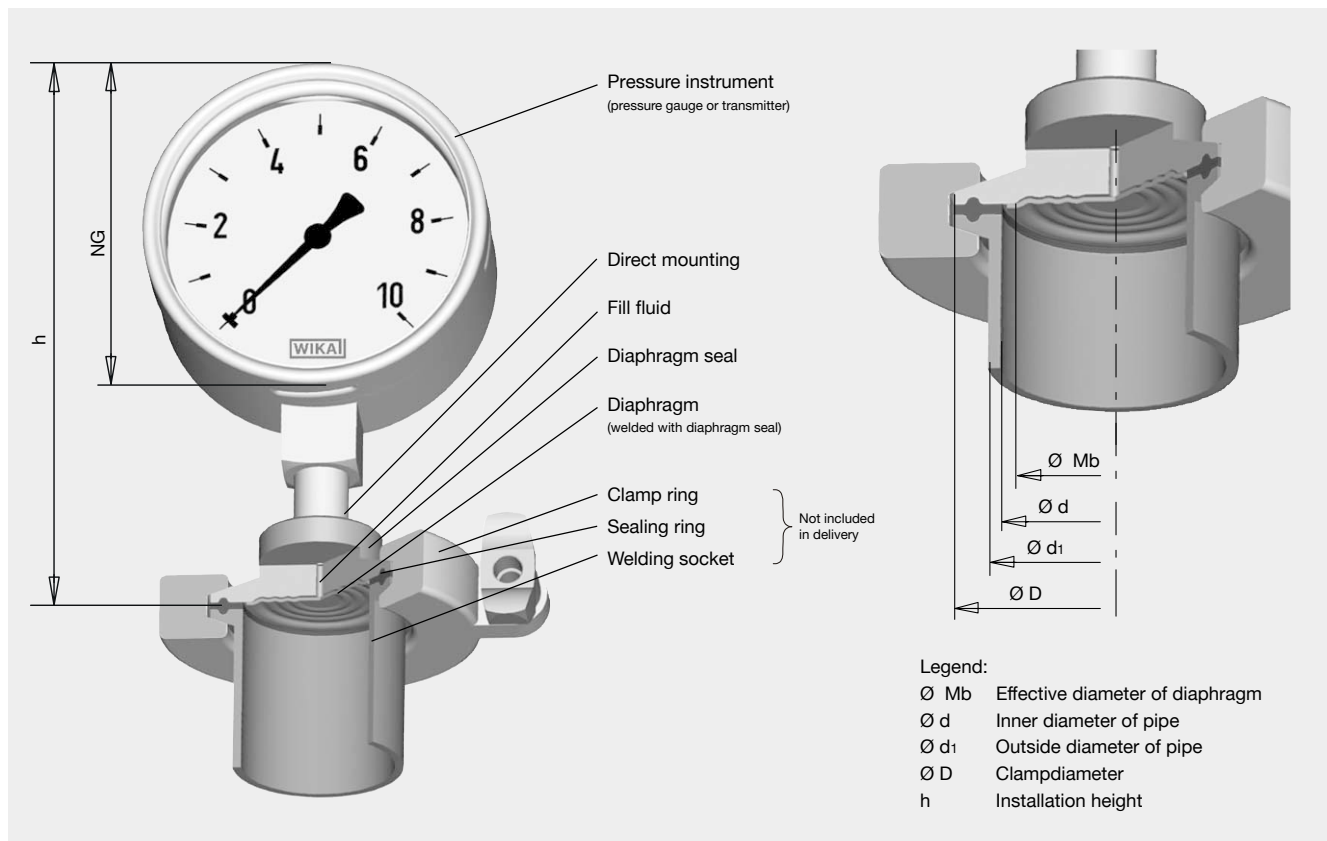
### Pressure instrument assembly

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

### Fill fluid

- KN 7 Glycerine, FDA approved
- KN 12 Glycerine/water, FDA 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 range of clamp-ring.

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 range of clamp-ring.

### 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 range of clamp-ring.

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 range of clamp-ring.

### 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 range of clamp-ring.

## 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
Lowest 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") ...
Lowest measuring range	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 / Material / Assembly, if necessary length of capillary / Fill fluid / Pressure gauge model / Process conditions as per questionnaire / Optional extras resp. special version required

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