

Sterile Process Connection, Diaphragm Seals for Food, Biochemical and Pharmaceutical Industry Screwed Coupling Model 990.18 ... 990.21

WIKA Data Sheet DS 99.40



Applications

- Food and beverage industry
- For dairies, dairy-products, breweries

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

Thread with union nut

Model 990.18: screwed coupling DIN 11 851
 Model 990.19: screwed coupling SMS standard
 Model 990.20: screwed coupling IDF standard
 Model 990.21: screwed 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 Seal, Model 990.18 with Union Nut and Pressure Gauge Model 232.50 NS 100



Diaphragm Seal with Union Nut according to standards SMS, IDF and APV-RJT

Optional extras

Process connection

- Male thread
- 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

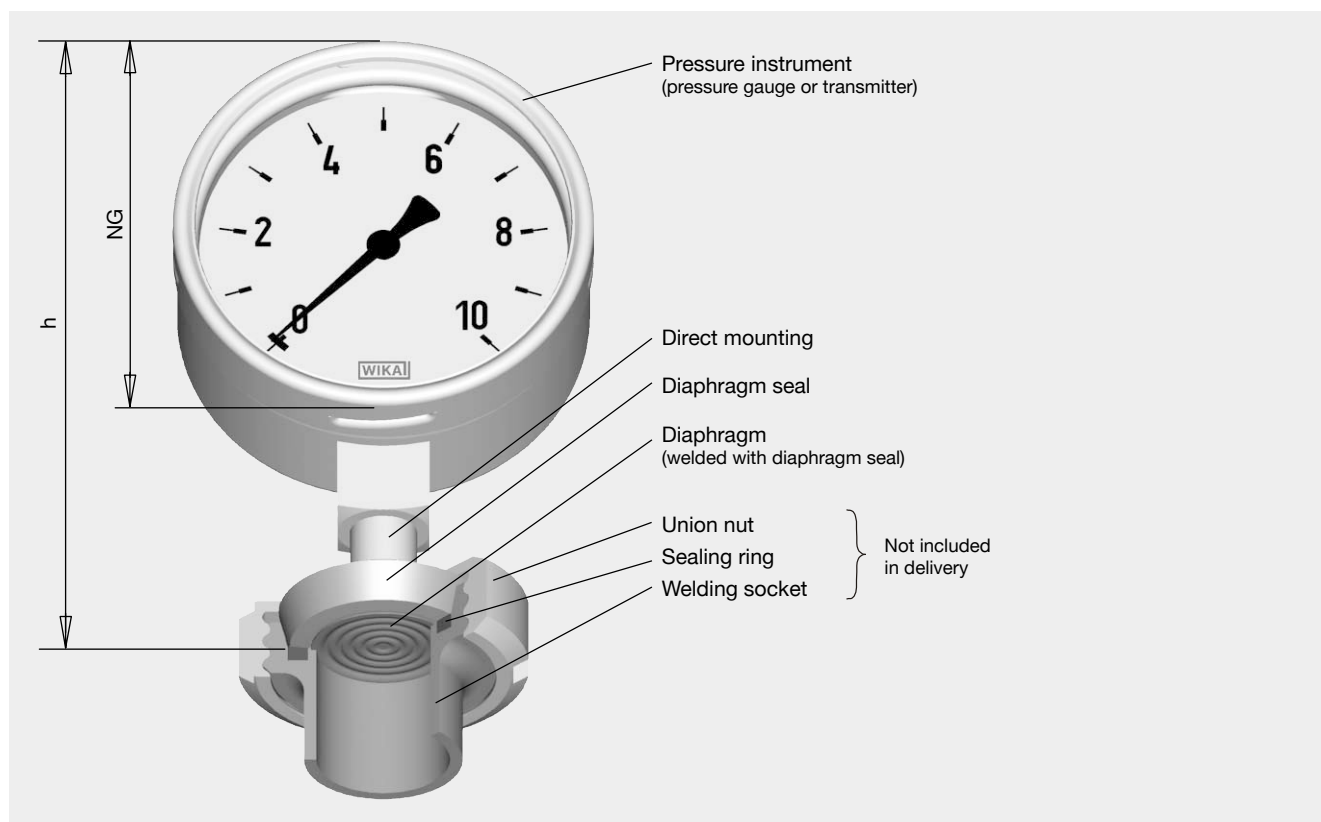
Pressure instrument assembly

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

Fill fluid

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

Installation example for a diaphragm seal model 990.18 with union nut with direct mounted pressure gauge to a tube fitting with a corresponding male-thread

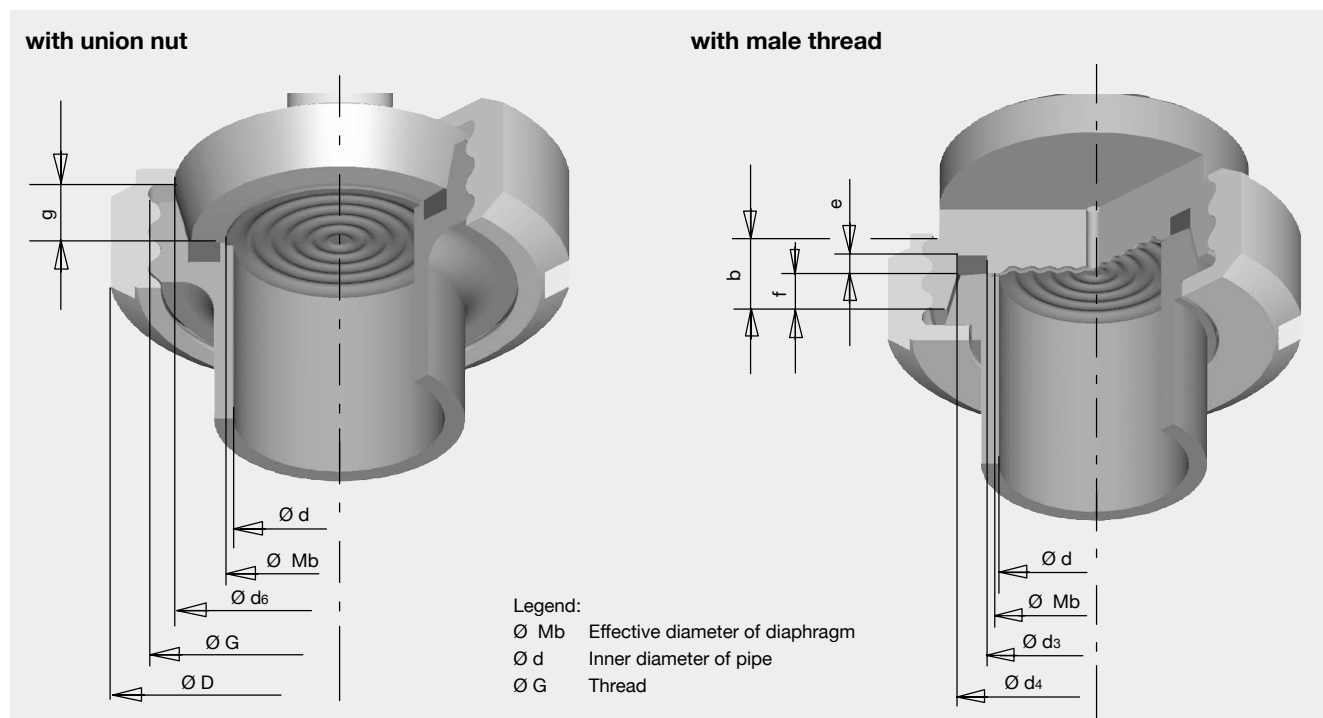


Pressure gauge Nominal size	Dimensions in mm Installation height h
NS 63	approx. 105
NS 100	approx. 156

The installation height is also valid for models 990.19, 990.20 and 990.21

Dimensions in mm

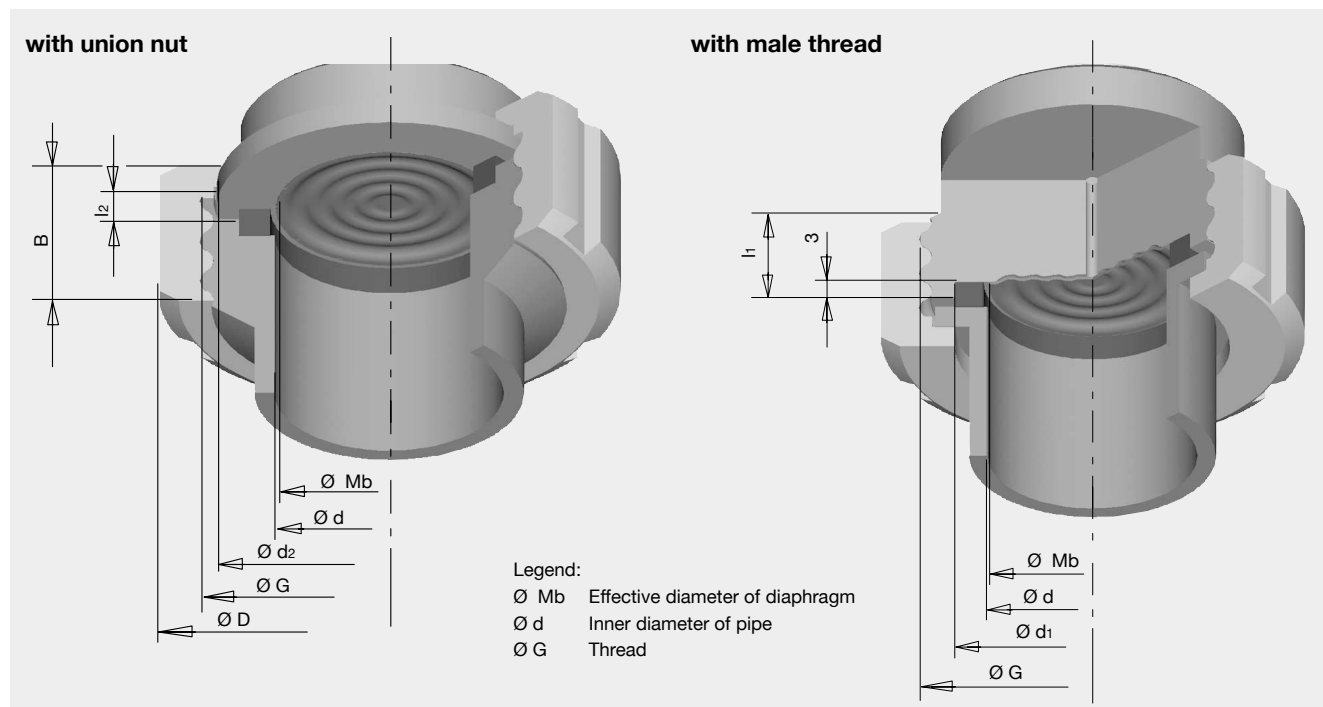
Model 990.18 thread DIN 11 851



DN	For pipe Outside Ø x thickness	PN	Dimensions in mm											Weight in kg
			G	b	d	Mb	D	d ₃	d ₄	d ₆	e	f	g	
20	23 x 1.5	40	Rd 44 x 1/8	14	20	22	54	23	32.8	36,5	3	6	8	0.4
25	29 x 1.5	40	Rd 52 x 1/8	14	26	25	63	30	39.8	44	3.5	7	10	0.4
32	35 x 1.5	40	Rd 58 x 1/8	14	32	32	70	36	45.8	50	3.5	7	10	0.5
40	41 x 1.5	40	Rd 65 x 1/8	14	38	40	78	42	51.8	56	3.5	7	10	0.75
50	53 x 1.5	25	Rd 78 x 1/8	14	50	52	92	54	63.8	68,5	3.5	7	11	0.8
80	85 x 2	25	Rd 110 x 1/4	20	81	71	127	85	94.8	100	3.5	8	12	1.25

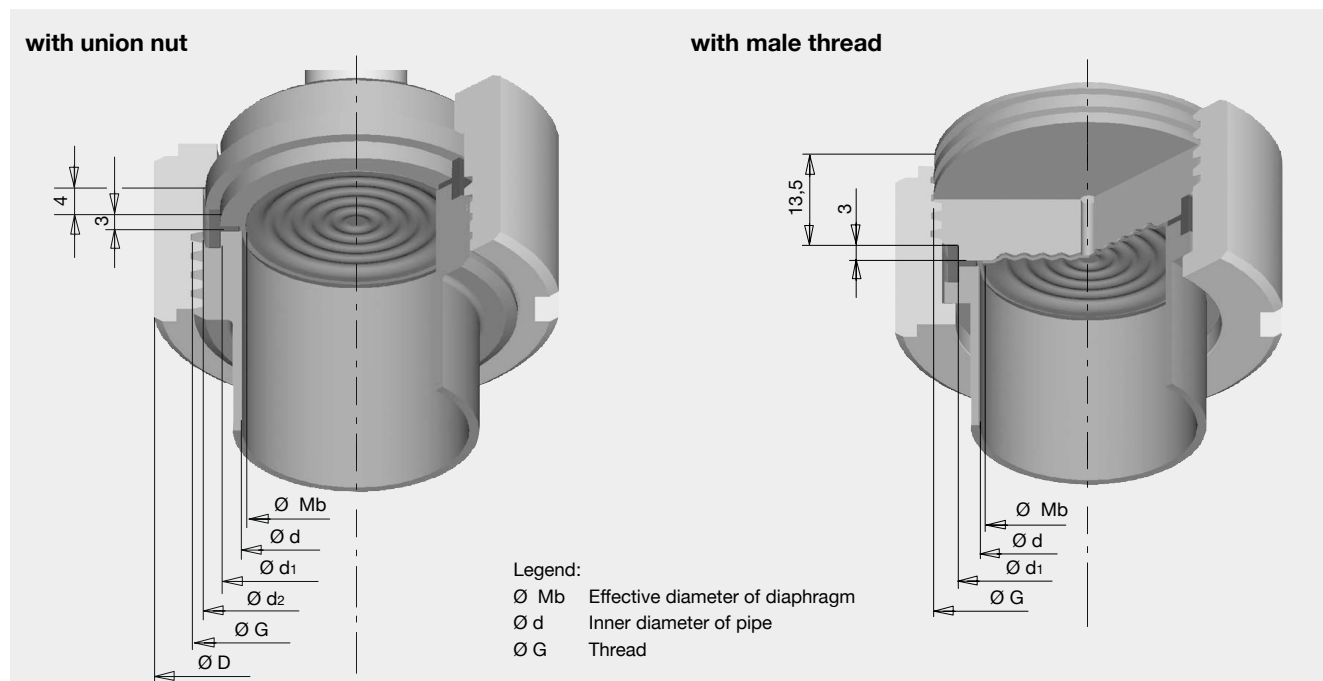
The measuring instruments with model 990.18 can also be used for tubes acc. to DIN 11850 column 1 ... 3.

Model 990.19 thread SMS



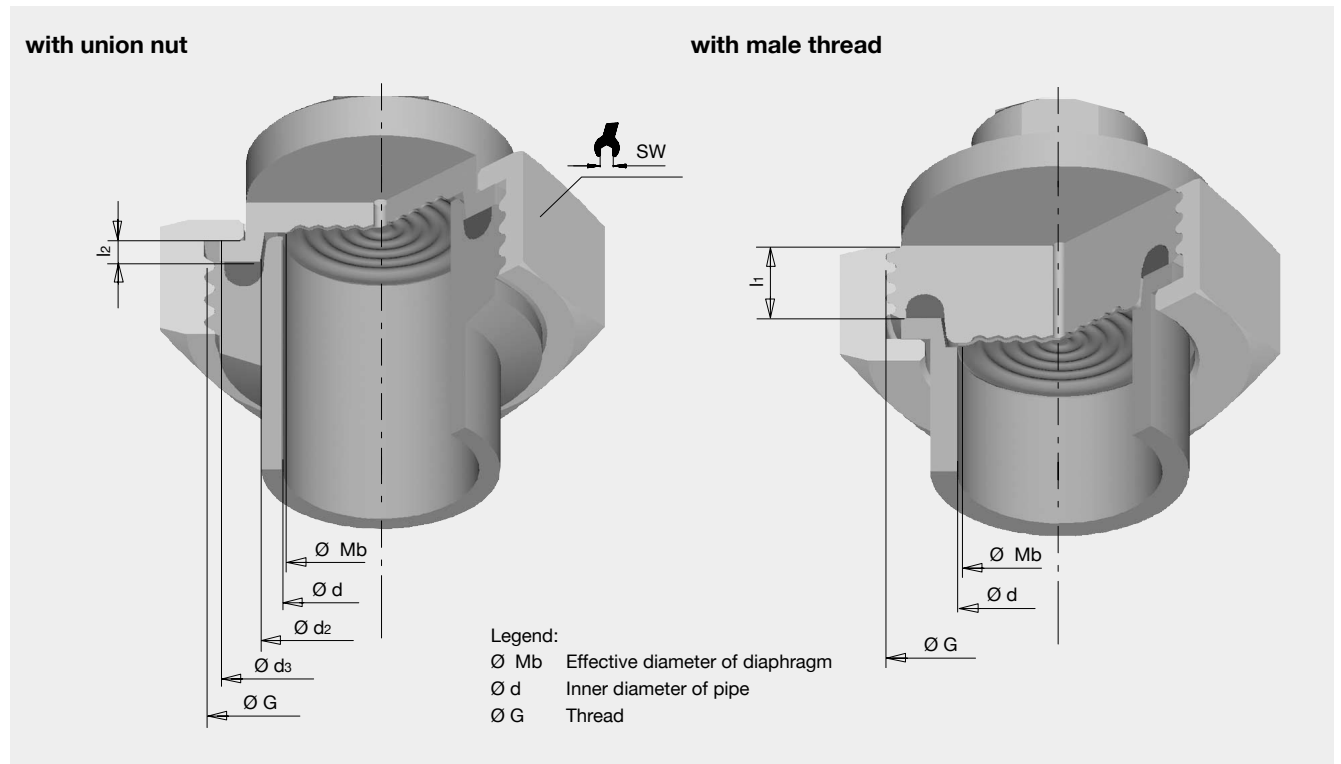
DN	For pipe Outside Ø x thickness	PN	Dimensions in mm									Weight in kg
			G	d	Mb	d ₁	d ₂	D	B	l ₁	l ₂	
1½"	38 x 1.2	40	Rd 60 x ¼	35.6	35	48	55	74	25	15	4	0.8
2"	51 x 1.2	40	Rd 70 x ¼	48.6	45	61	65	84	26	15	4	1.0

Model 990.20 thread IDF



DN	For pipe Outside Ø x thickness	PN	Dimensions in mm						Weight in kg
			G	d	Mb	D	d ₁	d ₂	
1½"	38,6 x 1.5	40	1½" IDF	35.6	32	64	42.7	47	0.7
2"	51,6 x 1.5	40	2" IDF	48.6	45	79	56.2	60.5	0.9

Model 990.21 thread APV-RJT



DN	For pipe Outside Ø x thickness	PN	Dimensions in mm									Weight in kg	
			G	d	Mb	d ₂	d ₃	D	l ₁	l ₂	SW		
1½"	38.1 x 1.6	40	2 5/16 x 8"	34.9	32	40.5	54	25	14.3	2.4 ... 4	65	0.9	
2"	50.8 x 1.6	40	2 7/8 x 6"	47.6	40	53.2	66.7	84	14.3	2.4 ... 4	80	1.1	

Possible combinations

Bourdon tube pressure gauges

Diaphragm seal Model 990.18, 990.19, 990.20 or 990.21 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)		
		20 ... 32 (1½")	40 ... 50 (2")	80 (3") ...
Pressure gauge		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 ... 0.6 bar -1 ... 1.5 bar
Overpressure safety (optional)		-	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

Pressure transmitters

Diaphragm seal Model 990.18, 990.19, 990.20 or 990.21 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)		
	20 ... 25 (1")	32 (1 ½") ... 50 (2")	80 (3") ...
Lowest measuring range	0 ... 2.5 bar	0 ... 1 bar	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 (with union nut or male thread) / Nominal sizes (DN) / 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.

