

# Flush diaphragm pressure gauge For sanitary applications Typ PG43SA, compact design

WIKA data sheet PM 04.15



for further approvals  
see page 10

## Applications

- Process industry: Biotechnology and pharmaceutical industries, cosmetics manufacturing, food industry, particularly tank and vessel construction
- For gaseous and liquid aggressive media that are highly viscous or crystallising, also in aggressive ambience

## Special features

- Compact, easily cleanable design (patent applied for, among others European Patent No. DE 102008042455)
- Dry measuring cell, no transmission fluid
- Flush, welded diaphragm
- Suitable for SIP and CIP, autoclavable
- Large selection of process connections



Flush diaphragm pressure gauge model PG43SA  
Fig. top: NS 63, bottom: NS 40

## Description

**Nominal size in mm**  
40, 63

**Accuracy class**  
NS 40: 2.5 %  
NS 63: 1.6 %

**Scale ranges**

-1 ... 2 bar	0 ... 3 bar
-1 ... 4 bar	0 ... 5 bar
-1 ... 9 bar	0 ... 10 bar

**Pressure limitation**  
Steady: 3/4 x full scale value  
Fluctuating: 2/3 x full scale value

### Overpressure safety

5 x full scale value,  
however max. nominal pressure (see PN in the tables from  
page 3)

### Permissible temperature

Ambient: -20 ... +60 °C  
Medium: +150 °C maximum  
When autoclaving: max. 134 °C, 20 minutes

### Temperature effect

When the temperature of the measuring system deviates  
from the reference temperature (+20 °C):  
max. ±2 %/10 K of full scale value  
(typically ±1 %/10 K of full scale value)

### Ingress protection

IP 68 per EN 60529 / IEC 529

## Standard version

### Process connection

Stainless steel 1.4435 (316L), centre back mount

- Clamp connection
- Clamp connection per DIN 32676
- Clamp connection per ISO 2852

For exact designs and nominal widths see tables on page 3

### Pressure element

Diaphragm element, NiCr-alloy (Inconel 718)

Surface roughness  $R_a \leq 0.4 \mu\text{m}$  (except for weld seam)

### Movement

Copper alloy

### Dial

Aluminium, white, black lettering

### Pointer

Aluminium, black

### Case

Stainless steel 316L (1.4435),

Surface roughness  $R_a \leq 0.8 \mu\text{m}$

### Window

Polysulfone, high temperature resistant

## Options

### ■ Other process connection, such as:

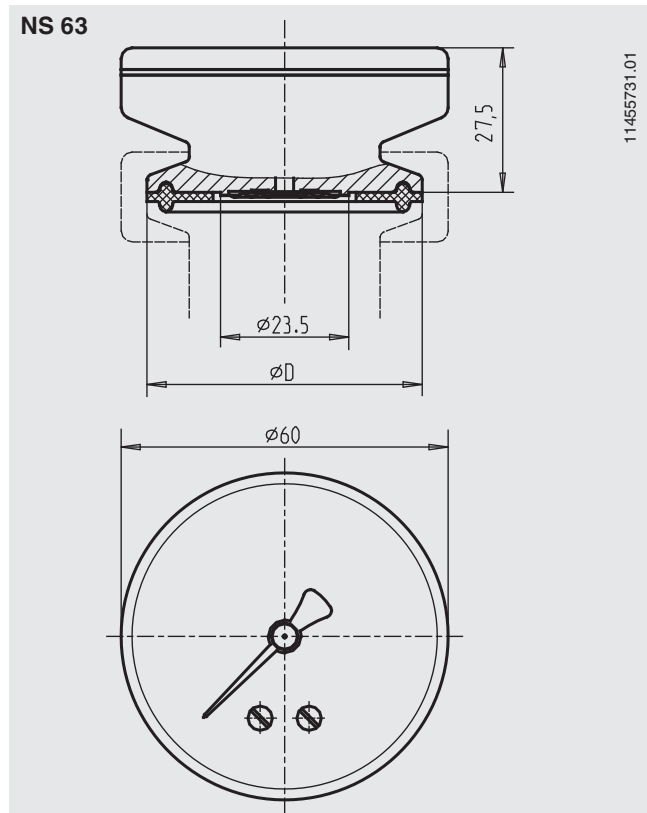
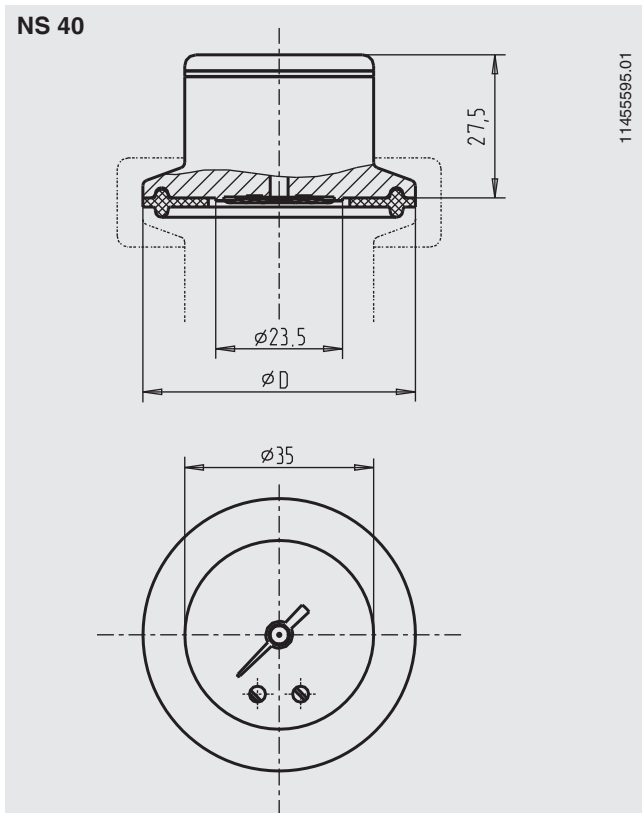
- Threaded connection per DIN 11851 with grooved union nut or threaded coupling
- VARIVENT®
- NEUMO BioControl®
- Aseptic threaded pipe connection per DIN 11864-1 form A with grooved union nut or threaded coupling
- Aseptic flange connection per DIN 11864-2 form A with flange with groove or flange with notch
- Aseptic clamp connection per DIN 11864-3 form A with clamp with groove or clamp with notch
- Threaded connection with grooved union nut or threaded coupling <sup>1)</sup>
- IDF-threaded connection with grooved union nut or threaded coupling <sup>1)</sup>
- APV-RJT-threaded connection with grooved union nut or threaded coupling <sup>1)</sup>
- others on request

### ■ Instrument autoclaved and packed under sterile conditions

1) 3-A certification and EHEDG not for instruments with process connection SMS, IDF and APV-RJT

## Dimensions in mm

### Standard version: clamp connection



## Dimensions in mm

Type of process connection: Clamp connection per  
DIN 32676

Pipe standard: Pipes per DIN 11866 row B or ISO 1127 row 1

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm Ø D
<b>26.9</b> (DN 20)	26.9 x 1.6	40	50.5
<b>33.7</b> (DN 25)	33.7 x 2	40	50.5
<b>42.4</b> (DN 32)	42.4 x 2	40	50.5
<b>48.3</b> (DN 40)	48.3 x 2	40	64
<b>60.3</b> (DN 50)	60.3 x 2	40	77.5
<b>76.1</b> (DN 65)	76.1 x 2	25	91

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

Type of process connection: Clamp connection

Pipe standard: Pipes per BS4825 part 3 and O.D.-tube

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm Ø D
<b>1 ½"</b>	38.1 x 1.6	40	50.5
<b>2"</b>	50.8 x 1.6	40	64
<b>2 ½"</b>	63.5 x 1.6	25	77.5
<b>3"</b>	76.2 x 1.6	25	91

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

Type of process connection: Clamp connection per  
DIN 32676

Pipe standard: Pipes per DIN 11866 row A or  
DIN 11850 row 2

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm Ø D
<b>25</b>	28 x 1	40	50.5
<b>32</b>	34 x 1	40	50.5
<b>40</b>	40 x 1	40	50.5
<b>50</b>	52 x 1	40	64
<b>65</b>	70 x 2	25	91

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

Type of process connection: Clamp connection per  
DIN 32676

Pipe standard: Pipes per DIN 11866 row C or ASME BPE

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm Ø D
<b>1 ½"</b>	38.1 x 1.65	40	50.5
<b>2"</b>	50.8 x 1.65	40	64
<b>2 ½"</b>	63.5 x 1.65	25	77.5
<b>3"</b>	76.2 x 1.65	25	91

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

Type of process connection: Clamp connection per  
ISO 2852

Pipe standard: Pipes per ISO 2037 and BS 4825 part 1

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm Ø D
<b>28</b>	28 x 1.2	40	50.5
<b>33.7</b>	33.7 x 1.2	25	50.5
<b>38</b>	38 x 1.2	25	50.5
<b>40</b>	40 x 1.2	25	64
<b>51</b>	51 x 1.2	25	64
<b>63.5</b>	63.5 x 1.6	25	77.5
<b>70</b>	70 x 1.6	25	91
<b>76.1</b>	76.1 x 1.6	25	91

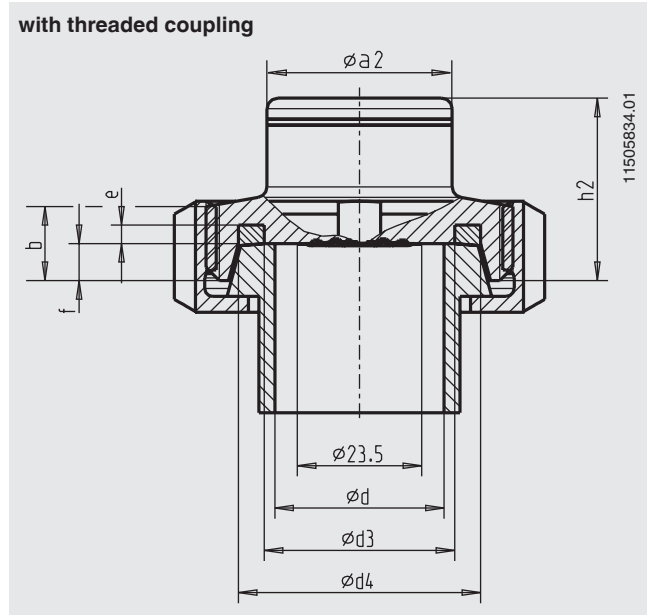
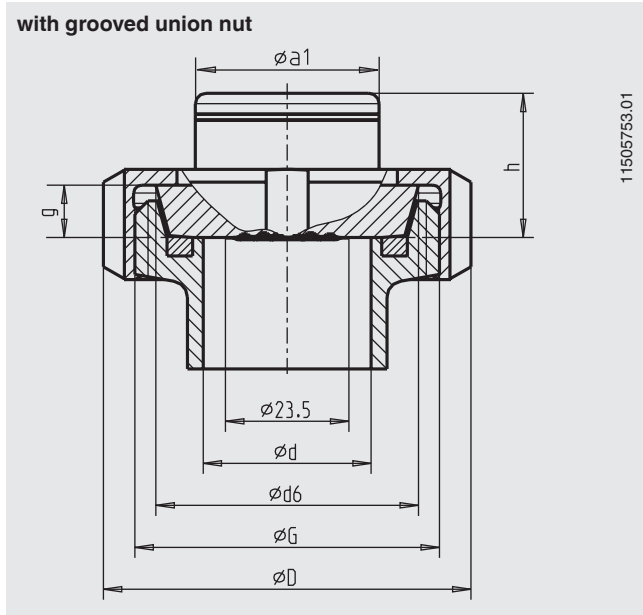
EHEDG conformity only in combination with a Kalrez®  
stainless steel gasket from Dupont de Nemours or with  
a T-ring seal from Combifit International B.V.

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

## Option

Type of process connection: Threaded connection per DIN 11851

Pipe standard: Pipes per DIN 11850 row 2



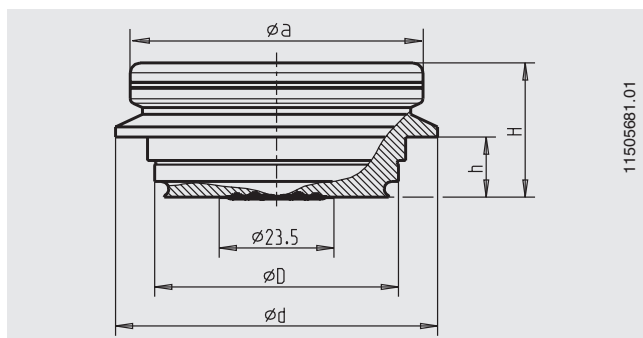
DN	For pipe Outer $\phi$ x wall thickness	PN	Dimensions in mm													
			G	b	d	D	d3	d4	d6	e	f	g	h	h2	a1	a2
25	29 x 1.5	40	Rd 52 x 1/6	14	26	63	30	39.8	44	3.5	7	10	27.5	34.5	35	35
32	35 x 1.5	40	Rd 58 x 1/6	14	32	70	36	45.8	50	3.5	7	10	27.5	34.5	35	35
40	41 x 1.5	40	Rd 65 x 1/6	14	38	78	42	51.8	56	3.5	7	10	27.5	34.5	35	35
50	53 x 1.5	25	Rd 78 x 1/6	14	50	92	54	63.8	68.5	3.5	7	11	27.5	34.5	35	60
80	85 x 2	25	Rd 110 x 1/4	20	20	127	85	94.8	100	3.5	8	12	27.5	35.5	60	60

EHEDG conformity only in combination with ASEPTO-STAR k-flex upgrade, sealing from Kieselmann GmbH.

3-A conformity only in combination with profile sealing from SKS Komponenten BV or Kieselmann GmbH.

## Option

Type of process connection: VARIVENT®



Access unit connection	PN 1)	Dimensions in mm				
		D	d	H	h	a
Form F	25	50	66	27.5	12.3	60
Form N	25	68	84	27.5	12.3	60

1) Pay attention to the pressure rating of the VARINLINE® access unit.

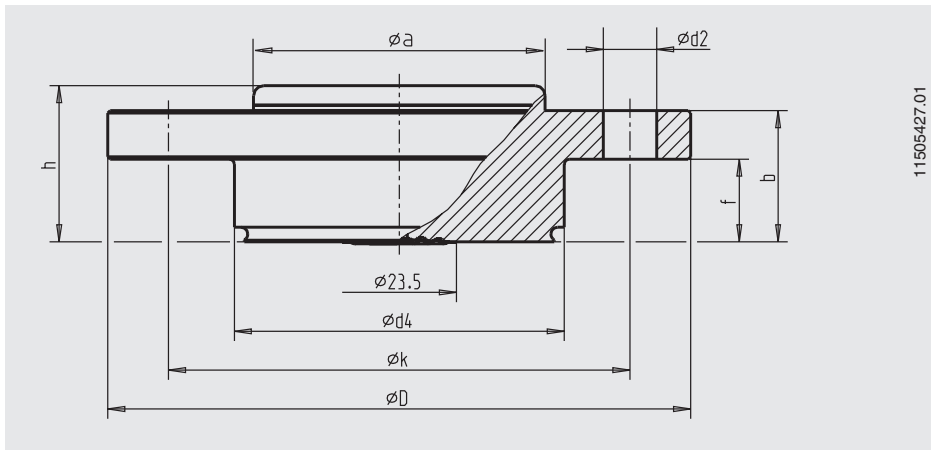
Note:

Suitable for installation into the VARINLINE® access unit from GEA Tuchenhagen. EHEDG conformity only in combination with EPDM O-ring from GEA Tuchenhagen GmbH.

VARIVENT® and VARINLINE® are registered trademarks of the company GEA Tuchenhagen GmbH.

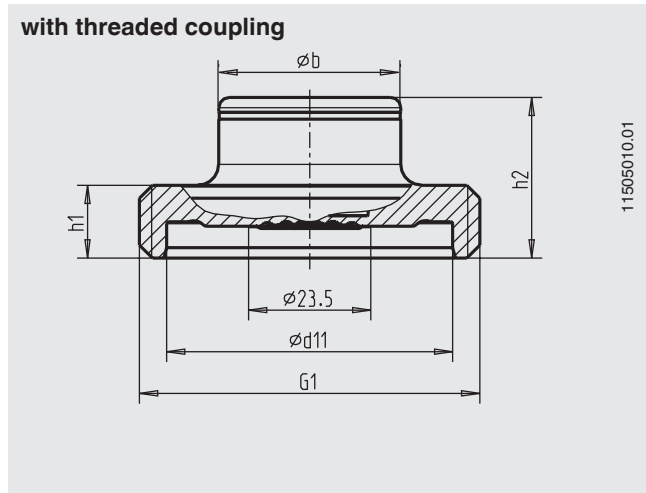
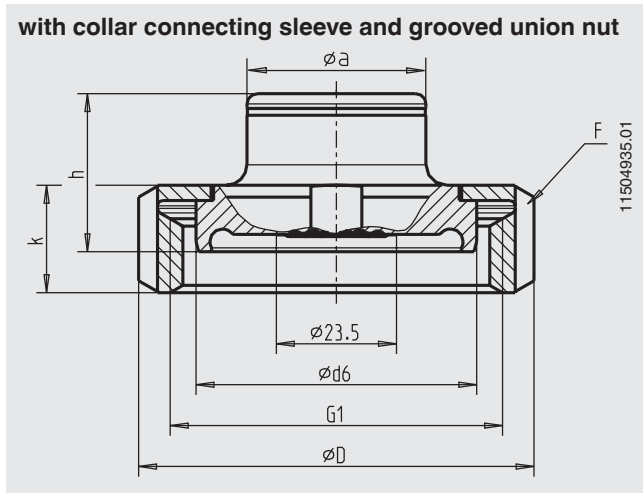
## Option

Type of process connection: NEUMO BioControl®



BioControl® connection	PN	Dimensions in mm							
		d2	d4	D	f	b	k	h	a
Size 25	25	4 x Ø 7	30.5	64	11	20	50	27.5	35
Size 50	16	4 x Ø 9	50	90	17	27	70	31	35
Size 65	16	4 x Ø 11	68	120	17	27	95	31	60
Size 80	16	4 x Ø 11	87.5	140	25	37	115	41	60

**Option: Aseptic threaded pipe connection DIN 11864-1 form A**



Type of process connection: Aseptic threaded pipe connection per DIN 11864-1 form A

Pipe standard: Pipes per DIN 11866 row A or DIN 11850 row 2

DN	For pipe Outer $\varnothing$ x wall thickness	PN 1)	Dimensions in mm			h1	h2	h	F	D	k	a	b	Aseptic O-ring
			d6	d11	G1									
25	29 x 1.5	40	42.9	43	Rd 52 x 1/6	20	32.8	30	DN 25	63	21	35	35	28 x 3.5
32	35 x 1.5	40	48.9	49	Rd 58 x 1/6	20	33.5	31	DN 32	70	21	35	35	34 x 5
40	41 x 1.5	40	54.9	55	Rd 65 x 1/6	20	33.5	31	DN 40	78	21	35	35	40 x 5
50	53 x 1.5	25	66.9	67	Rd 78 x 1/6	20	33.5	31	DN 50	92	22	60	35	52 x 5
65	70 x 2.0	25	84.9	85	Rd 95 x 1/6	20	34.5	31	DN 65	112	25	60	60	68 x 5

Type of process connection: Aseptic threaded pipe connection per DIN 11864-1 form A

Pipe standard: Pipes per DIN 11866 row B or DIN ISO 1127 row 1

DN	For pipe Outer $\varnothing$ x wall thickness	PN 1)	Dimensions in mm			h1	h2	h	F	D	k	a	b	Aseptic O-ring
			d6	d11	G1									
26.9	26.9 x 1.6	40	42.9	43	Rd 52 x 1/6	20	32.8	30	DN 25	63	21	35	35	26 x 3.5
33.7	33.7 x 2.0	40	48.9	49	Rd 58 x 1/6	20	33.5	31	DN 32	70	21	35	35	32 x 5
42.4	42.4 x 2.0	25	54.9	55	Rd 65 x 1/6	20	33.5	31	DN 40	78	21	35	35	40.5 x 5
48.3	48.3 x 2.0	25	66.9	67	Rd 78 x 1/6	20	33.5	31	DN 50	92	22	60	35	46.5 x 5
60.3	60.3 x 2.0	25	84.9	85	Rd 95 x 1/6	20	34.5	31	DN 65	112	25	60	60	58.5 x 5
76.1	76.1 x 2.0	25	98.9	99	Rd 110 x 1/4	20	34.5	31	DN 80	127	29	60	60	73.5 x 5

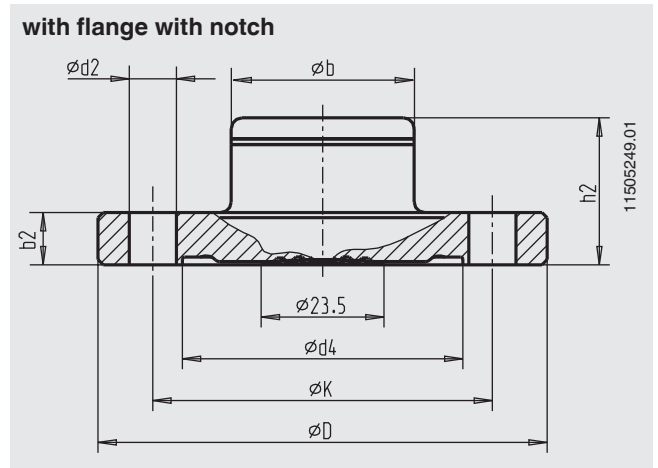
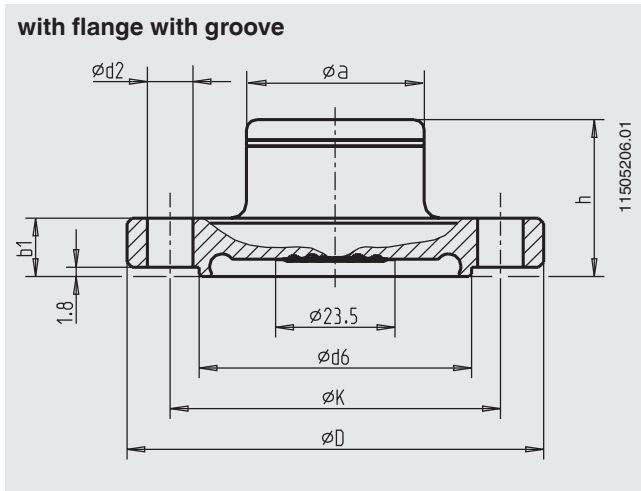
Type of process connection: Aseptic threaded pipe connection per DIN 11864-1 form A

Pipe standard: Pipes per DIN 11866 row C or ASME BPE 1997

DN	For pipe Outer $\varnothing$ x wall thickness	PN 1)	Dimensions in mm			h1	h2	h	F	D	k	a	b	Aseptic O-ring
			d6	d11	G1									
1"	25.4 x 1.65	40	42.9	43	Rd 52 x 1/6	20	32.8	30	DN 25	63	21	35	35	24 x 3.5
1 1/2"	38.1 x 1.65	40	48.9	49	Rd 58 x 1/6	20	33.5	31	DN 40	70	21	35	35	37 x 5
2"	50.8 x 1.65	25	54.9	55	Rd 65 x 1/6	20	33.5	31	DN 50	78	21	60	35	50 x 5
2 1/2"	63.5 x 1.65	25	66.9	67	Rd 78 x 1/6	20	33.5	31	DN 65	92	22	60	60	62 x 5
3"	76.2 x 1.65	25	84.9	85	Rd 95 x 1/6	20	34.5	31	DN 80	112	25	60	60	75 x 5

1) Permissible pressure in bar; these pressures may only be applied when using suitable sealing materials up to a temperature from -10 to +140 °C.

**Option: Aseptic flange connection DIN 11864-2 form A**



Type of process connection: Aseptic flange connection per DIN 11864-2 form A

Pipe standard: Pipes per DIN 11866 row A or DIN 11850 row 2

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm					h	h2	b1	b2	d2	a	b	Aseptic O-ring
			d6	d4	K	D	K								
25	29 x 1.5	25	38.3	38.4	53	70	30	28.5	11.5	10	4 x Ø 9	35	35	28 x 3.5	
32	35 x 1.5	25	47.6	47.7	59	76	31	28.1	11.5	10	4 x Ø 9	35	35	34 x 5	
40	41 x 1.5	25	53.6	53.7	65	82	31	28.1	11.5	10	4 x Ø 9	35	35	40 x 5	
50	53 x 1.5	16	65.6	65.7	77	94	31	28.1	11.5	10	4 x Ø 9	35	35	52 x 5	
65	70 x 2.0	16	81.6	81.7	95	113	31	28.1	11.5	10	8 x Ø 9	60	60	68 x 5	
80	85 x 2.0	16	97.6	97.7	112	133	31	28.1	13.5	12	8 x Ø 11	60	60	83 x 5	

Type of process connection: Aseptic flange connection per DIN 11864-2 form A

Pipe standard: Pipes per DIN 11866 row B or DIN ISO 1127 row 1

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm					h	h2	b1	b2	d2	a	b	Aseptic O-ring
			d6	d4	K	D	K								
26.9	26.9 x 1.6	25	36	36.1	52	69	30	28.5	11.5	10	4 x Ø 9	35	35	26 x 3.5	
33.7	33.7 x 2.0	25	45.3	45.4	57	74	31	28.1	11.5	10	4 x Ø 9	35	35	32 x 5	
42.4	42.4 x 2.0	16	54	54.1	65	82	31	28.1	11.5	10	4 x Ø 9	35	35	40.5 x 5	
48.3	48.3 x 2.0	16	59.9	60	71	88	31	28.1	11.5	10	4 x Ø 9	35	35	46.5 x 5	
60.3	60.3 x 2.0	16	71.9	72	85	103	31	28.1	11.5	10	8 x Ø 9	60	60	58.5 x 5	
76.1	76.1 x 2.0	16	88.1	88.1	104	125	31	28.1	13.5	12	8 x Ø 11	60	60	73.5 x 5	

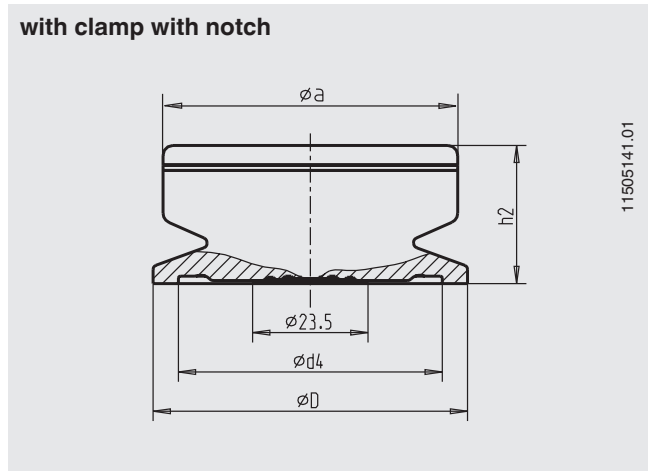
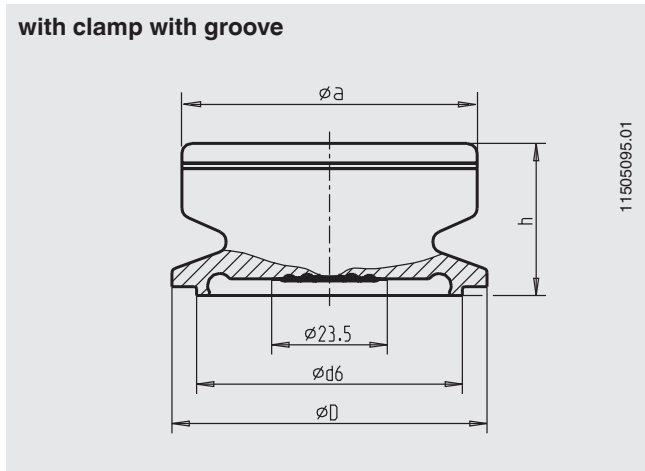
Type of process connection: Aseptic flange connection per DIN 11864-2 form A

Pipe standard: Pipes per DIN 11866 row C or ASME BPE 1997

DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm					h	h2	b1	b2	d2	a	b	Aseptic O-ring
			d6	d4	K	D	K								
1 ½"	38.1 x 1.65	25	50.4	50.4	62	79	31	28.1	11.5	10	4 x Ø 9	60	35	37 x 5	
2"	50.8 x 1.65	16	63.4	63.5	75	92	31	28.1	11.5	10	4 x Ø 9	60	35	50 x 5	
2 ½"	63.5 x 1.65	16	75.8	75.9	89	107	31	28.1	11.5	10	4 x Ø 9	60	60	62 x 5	
3"	76.2 x 1.65	16	89.5	89.6	104	125	31	28.1	13.5	12	8 x Ø 11	60	60	75 x 5	

1) Permissible pressure in bar; these pressures may only be applied when using suitable sealing materials up to a temperature from -10 to +140 °C.

**Option: Aseptic clamp connection DIN 11864-3 form A**



Type of process connection: Aseptic clamp connection per DIN 11864-3 form A

Pipe standard: Pipes per DIN 11866 row A or DIN 11850 row 2

DN	For pipe Outer $\phi$ x wall thickness	PN 1)	Dimensions in mm			h	h2	a	Aseptic O-ring
			d6	d4	D				
25	29 x 1.5	40	38.3	38.4	50.5	30	28.3	60	28 x 3.5
32	35 x 1.5	40	47.6	47.7	50.5	31	28	60	34 x 5
40	41 x 1.5	40	53.6	53.7	64	31	28	60	40 x 5
50	53 x 1.5	25	65.6	65.7	77.5	31	28	60	52 x 5
65	70 x 2.0	25	81.6	81.7	91	31	28	60	68 x 5
80	85 x 2.0	25	97.6	97.7	106	31	28	60	83 x 5

Type of process connection: Aseptic clamp connection per DIN 11864-3 form A

Pipe standard: Pipes per DIN 11866 row B or DIN ISO 1127 row 1

DN	For pipe Outer $\phi$ x wall thickness	PN 1)	Dimensions in mm			h	h2	a	Aseptic O-ring
			d6	d4	D				
26.9	26.9 x 1.6	40	36	36.1	50.5	30	28.3	60	26 x 3.5
33.7	33.7 x 2.0	40	45.3	45.3	50.5	31	28	60	32 x 5
42.4	42.4 x 2.0	25	54	54.1	64	31	28	60	40.5 x 5
48.3	48.3 x 2.0	25	59.9	60	64	31	28	60	46.5 x 5
60.3	60.3 x 2.0	25	71.9	72	91	31	28	60	58.5 x 5
76.1	76.1 x 2.0	16	88.1	88.2	106	31	28	60	73.5 x 5

Type of process connection: Aseptic clamp connection per DIN 11864-3 form A

Pipe standard: Pipes per DIN 11866 row C or ASME BPE 1997

DN	For pipe Outer $\phi$ x wall thickness	PN 1)	Dimensions in mm			h	h2	a	Aseptic O-ring
			d6	d4	D				
1"	25.4 x 1.65	40	34.3	34.4	50.5	30	28.3	60	24 x 3.5
1 1/2"	38.1 x 1.65	40	50.4	50.5	64	31	28	60	37 x 5
2"	50.8 x 1.65	25	63.4	63.5	77.5	31	28	60	50 x 5
2 1/2"	63.5 x 1.65	25	75.8	75.9	91	31	28	60	62 x 5
3"	76.2 x 1.65	16	89.5	89.6	106	31	28	60	75 x 5

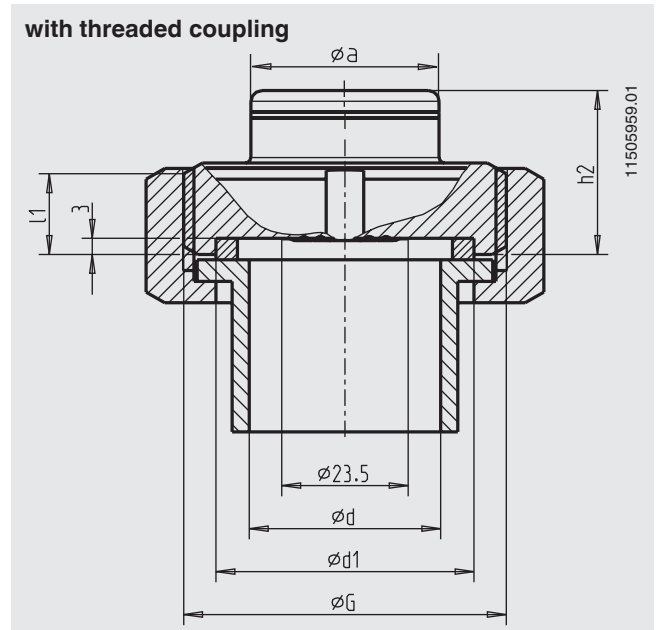
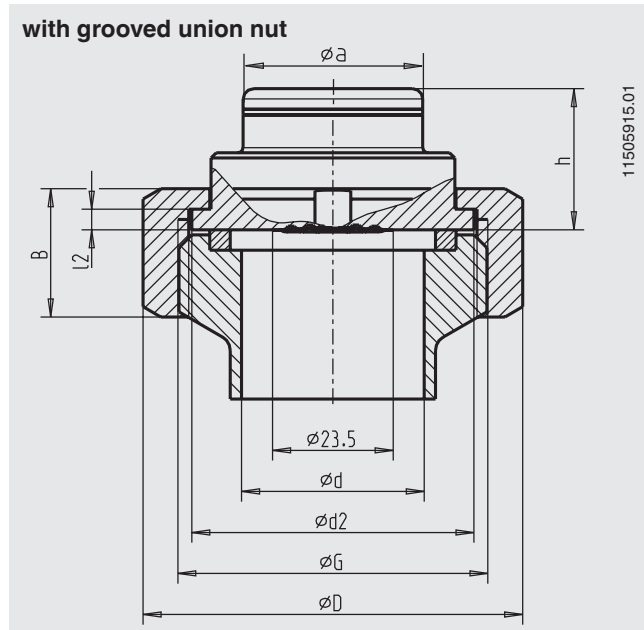
1) Permissible pressure in bar; these pressures may only be applied when using suitable sealing materials up to a temperature from -10 to +140 °C.



### Option

Type of process connection: Threaded connection per SMS standard 1)

Pipe standard: Pipes per ISO 1127 row 2 or ISO 2037/1992

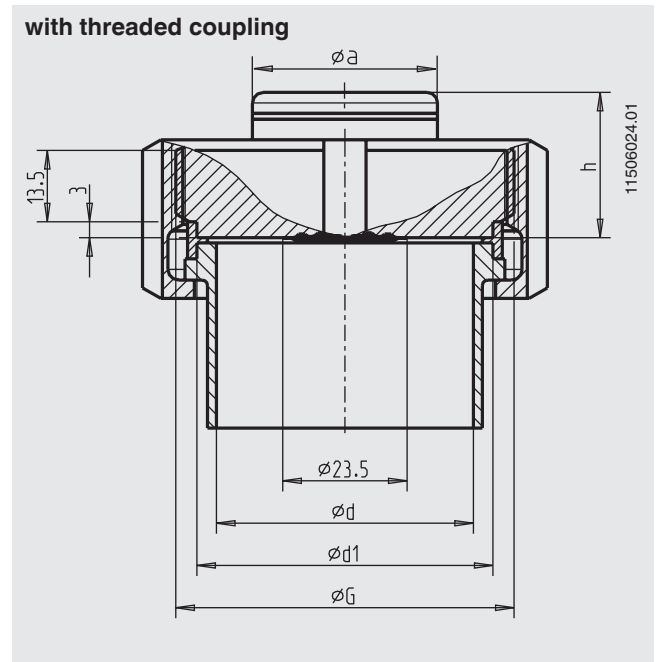
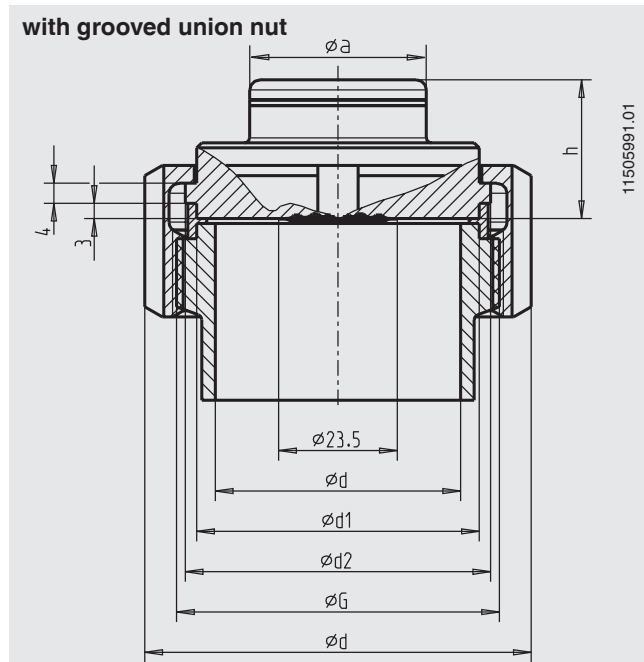


DN	For pipe Outer $\phi$ x wall thickness	PN G	Dimensions in mm										
			d	d1	d2	D	B	l1	l2	a	h	h2	
1 1/2"	38 x 1.2	40	Rd 60 x 1/6	35.6	48	55	74	25	15	4	35	27.5	30.5
2"	51 x 1.2	40	Rd 70 x 1/4	48.6	61	65	84	26	15	4	60	27.5	30.5

### Option

Type of process connection: Threaded connection per IDF standard 1)

Pipe standard: Pipes per ISO 1127 row 2 or ISO 2037/1992



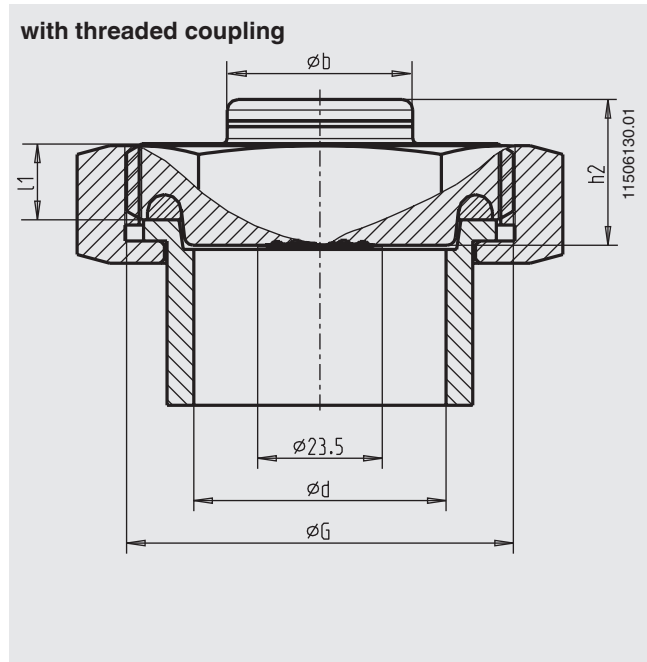
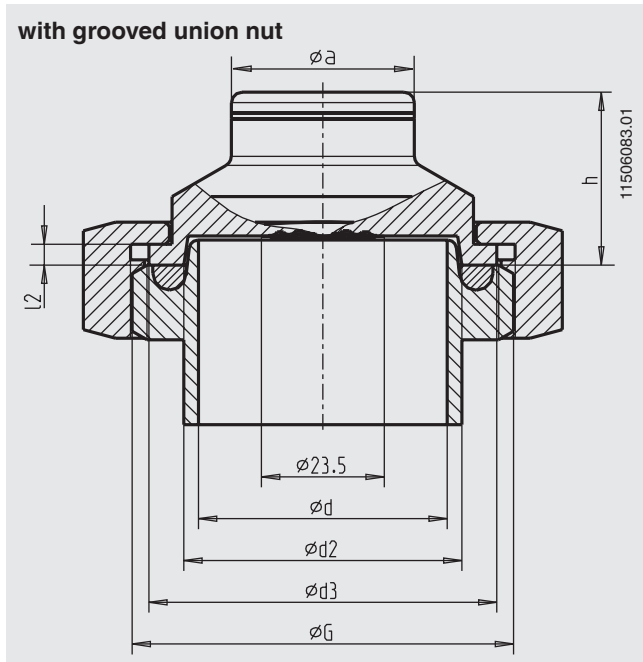
DN	For pipe Outer $\phi$ x wall thickness	PN G	Dimensions in mm						
			d	D	d1	d2	a	h	
1 1/2"	38.6 x 1.5	40	1 1/2" IDF	35.6	64	42.7	47	35	27.5
2"	51.6 x 1.5	40	2" IDF	48.6	79	56.2	60.5	35	27.5

1) 3-A certification and EHEDG not for instruments with process connection SMS, IDF and APV-RJT

## Option

Type of process connection: Threaded connection per APV-RJT-standard <sup>1)</sup>

Pipe standard: Pipes per BS 4825 part 1 or O.D.-tube



DN	For pipe Outer $\varnothing$ x wall thickness	PN	Dimensions in mm										
		G	d	d2	d3	l1	l2	a	b	h	h2		
1 1/2"	38.1 x 1.6	40	2 5/8 x 8"	34.9	40.5	54	14.3	2.4 ... 4	35	35	33	27.5	
2"	50.8 x 1.6	40	2 7/8 x 6"	47.6	53.2	66.7	14.3	2.4 ... 4	35	60	33	27.5	

1) 3-A certification and EHEDG not for instruments with process connection SMS, IDF and APV-RJT

## Approvals

- EHEDG, food, European Community
- 3-A, food, USA
- CRN, safety (e.g. electr. safety, overpressure, ...), Canada

## Certificates <sup>1)</sup>

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, indication accuracy)

1) Option

Approvals and certificates, see website

## Ordering information

Model / Nominal size / Scale range / Process connection (type of process connection, pipe standard, size) / Options

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