

Diaphragm pressure gauge, flush For sanitary applications Model PG43SA-C, compact version, NS 63

WIKA data sheet PM 04.15



for further approvals
see page 4

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 environments

Special features

- Compact, robust, easily cleanable design (patent, property right: DE102008042455)
- Dry measuring cell, no transmission fluid
- Flush, welded diaphragm
- Suitable for SIP and CIP, autoclavable version available
- Large selection of process connections



Model PG43SA-C, compact version, NS 63

Description

The model PG43SA-C diaphragm pressure gauge has been specifically designed for the requirements of sanitary applications.

The purely mechanical pressure transmission, using the diaphragm-element measurement principle, and the high overload safety ensure a safe pressure measurement. As a result of the dry measuring cell, the risk of contamination of the product by transmission fluid is eliminated. The flush welded diaphragm element in conjunction with the aseptic process connections (e.g. clamp, threaded, VARINLINE®, BioControl®) enables a dead-space free connection to the process.

The very compact and robust PG43SA-C measuring instrument is particularly suited for vertical pipelines, small plants and mobile containers. The patented design with integrated process connection at the back of the case enables space-saving installation.

The measuring instrument finds applications, for example, in systems for ultrapure steam generation or as an independent pressure display, without the need for an external power supply, on portable tanks.

The PG43SA-C in hygienic design can be used for CIP (cleaning in place) and SIP (sterilisation in place) and in wash-down areas. The measuring instrument can thus be cleaned reliably and time-efficiently.

Based on a third party verification, the model PG43SA-C corresponds to the 3-A Sanitary Standard.

A variety of 3.1 and 2.2 certificates are available for GMP-compliant documentation, such as a material certificate or the list of single measured values.

Specifications

Nominal size in mm

63

Accuracy class

2.5

Scale ranges

bar	-1 ... +2	-1 ... +4	-1 ... +9
	0 ... 3	0 ... 5	0 ... 10
psi	-30 inHg ... +30	-30 inHg ... +60	-30 inHg ... +130
	0 ... 45	0 ... 70	0 ... 150

The given scale ranges are also available in other units, e.g. in kPa, MPa and kg/cm².

Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request

Pressure limitation

Steady: 3/4 x full scale value

Fluctuating: 2/3 x full scale value

Overload safety

5 x full scale value, max. 40 bar or max. pressure rating (PN) of the process connection

See tables from page 5

Vacuum resistance

Vacuum-resistant to -1 bar

Permissible temperature

Ambient: -20 ... +60 °C

Medium: -20 ... +150 °C

CIP and SIP: 150 °C continuously for wetted parts

Autoclavable version, max. 134 °C, ≤ 20 minutes

For further details on this version, see page 3

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. ±0.8 %/10 K of full scale value

Ingress protection per IEC/EN 60529

IP66

Process connection

Stainless steel 1.4435 (316L), UNS S31603, centre back mount

- Clamp connection per DIN 32676 / BS4825 part 3
- Aseptic connection per DIN 11864-1 /-3
- Milk thread fitting per DIN 11851
- VARINLINE®
- NEUMO BioControl®
- others on request

For exact designs and nominal widths see tables from page 5

Pressure element

Diaphragm element, welded to the process connection, NiCr alloy 2.4668 (Inconel® 718), UNS N07718

Surface roughness of wetted parts

- Ra ≤ 0.76 µm (30 µin) per ASME BPE SF3
- Ra ≤ 0.38 µm (15 µin), weld seam: Ra ≤ 0.76 µm (30 µin)
- Electropolished, Ra ≤ 0.38 µm (15 µin) per ASME BPE SF4, weld seam: Ra ≤ 0.76 µm (30 µin)

Level of cleanliness of wetted parts

ASTM G93 level C / ISO 15001 (residual content of non-volatile hydrocarbons ≤ 66 mg/m²)

Movement

Copper alloy

Dial

Aluminium, white, black lettering

Pointer

Aluminium, black

Case

Stainless steel 1.4435 (316L)

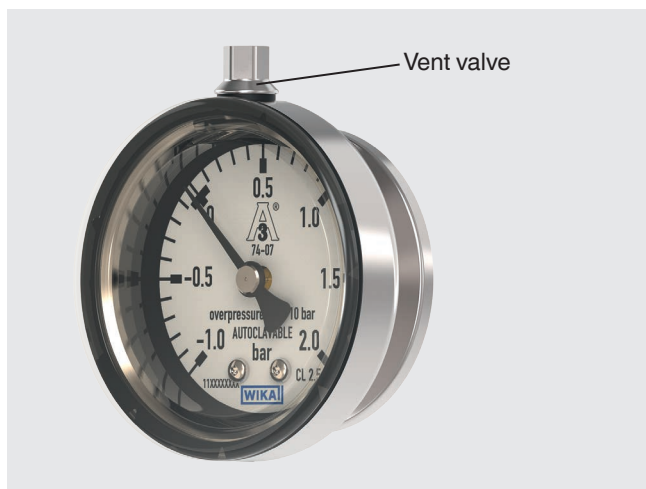
Surface roughness Ra ≤ 0.8 µm

Window

Polysulfone, high-temperature resistant

VARINLINE® is a registered trademark of the company GEA Tuchenhagen GmbH.
BioControl® is a registered trademark of the company NEUMO.

Autoclavable version







By opening or closing the vent valve, the case will be vented to or sealed from the atmosphere.

Before the start of the autoclaving process, the vent valve has to be closed.

For dimensions see page 11.

Approvals

Logo	Description	Country
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
	Uzstandard (option) Metrology, measurement technology	Uzbekistan
	3-A Sanitary Standard This instrument is 3-A marked, based on a third party verification for conformance to the 3-A standard number 74.	USA
	EHEDG Hygienic Equipment Design	European Community
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

Manufacturer's information and certificates

Manufacturer's declaration regarding regulation (EC) no. 1935/2004

Certificates (option)

- 2.2 test report per EN 10204
(e.g. state-of-the-art manufacturing, material proof, indication accuracy, free from substances of animal origin)
- 3.1 inspection certificate per EN 10204
(e.g. material proof for wetted metal parts, indication accuracy)
- Others on request

Patents, property rights

Compact diaphragm pressure gauge with integrated process connection (DE102008042455)

Approvals and certificates, see website

Dimensions in mm

Type of process connection: Clamp connection per DIN 32676

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

DN	For pipe	PN ¹⁾	Dimensions in mm
	Outer Ø x wall thickness		D
1 ½"	38.1 x 1.65	40	50.5
2"	50.8 x 1.65	40	64

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	PN ¹⁾	Dimensions in mm
	Outer Ø x wall thickness		D
26.9	26.9 x 1.6	40	50.5
33.7	33.7 x 2	40	50.5
42.4	42.4 x 2	40	64
48.3	48.3 x 2	40	64

Type of process connection: Clamp connection per BS4825 part 3

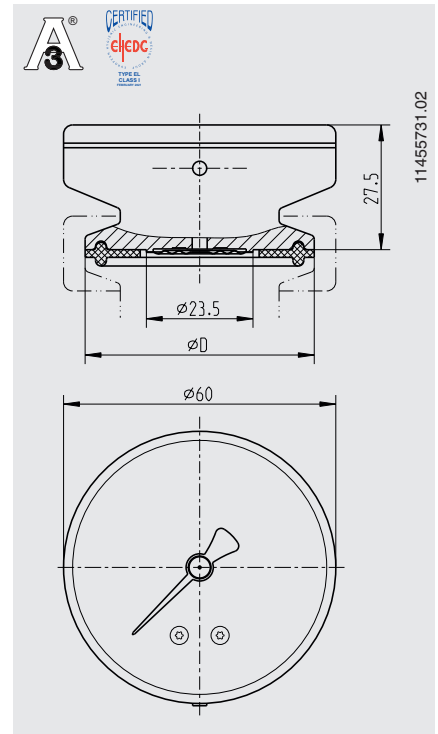
Pipe standard: Pipes per BS4825 part 1 and O.D. tube

DN	For pipe	PN ¹⁾	Dimensions in mm
	Outer Ø x wall thickness		D
1 ½"	38.1 x 1.6	40	50.5
2"	50.8 x 1.6	40	64

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	PN ¹⁾	Dimensions in mm
	Outer Ø x wall thickness		D
25	29 x 1.5	40	50.5
32	35 x 1.5	40	50.5
40	41 x 1.5	40	50.5
50	53 x 1.5	40	64



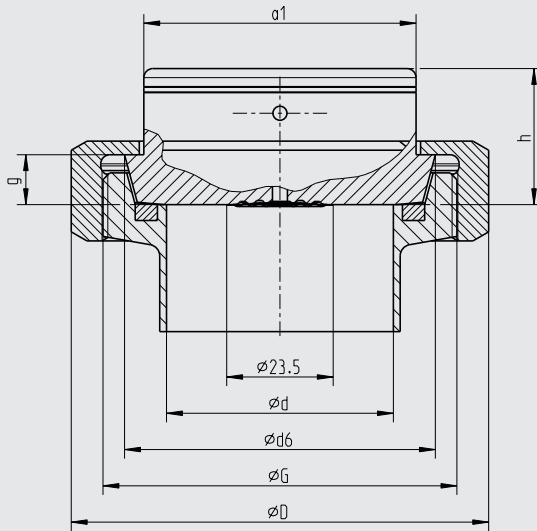
1) For maximum pressure range consider pressure rating of clamp.

EHEDG conformity only in combination with TRI-CLAMP® sealings from Combifit International B.V.

Type of process connection: Threaded connection per DIN 11851

Pipe standard: Pipes per DIN 11850 row 2

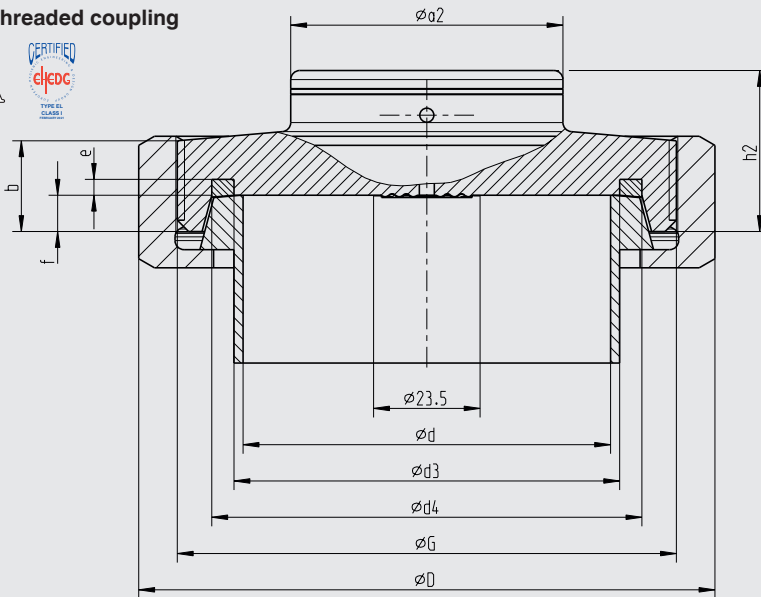
with grooved union nut



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DN	For pipe Outer Ø x wall thickness	PN	Dimensions in mm							
			G	d	D	d6	f	g	h	a1
50	53 x 1.5	25	Rd 78 x 1/6	50	92	68.5	7	11	30	60

with threaded coupling



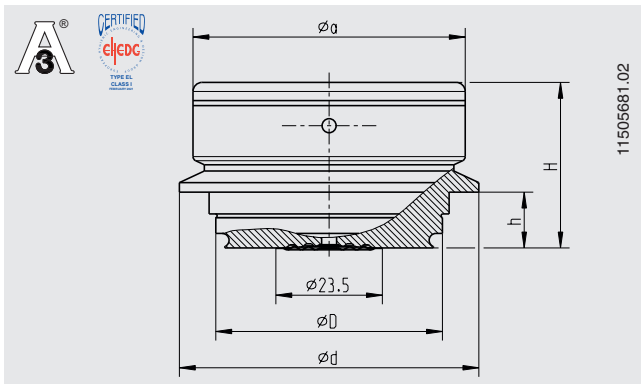
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DN	For pipe Outer Ø x wall thickness	PN	Dimensions in mm									
			G	b	d	D	d3	d4	e	f	h2	a2
25	29 x 1.5	40	Rd 52 x 1/6	-	26	63	30	39.8	3.5	7	34.5	60
32	35 x 1.5	40	Rd 58 x 1/6	-	32	70	36	45.8	3.5	7	34.5	60
40	41 x 1.5	40	Rd 65 x 1/6	14	38	78	42	51.8	3.5	7	34.5	60
50	53 x 1.5	25	Rd 78 x 1/6	14	50	92	54	63.8	3.5	7	34.5	60

For a 3-A-compliant connection of process connections with milk thread fittings per DIN 11851, profile sealings from SKS Komponenten BV or Kieselmann GmbH have to be used.

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

Type of process connection: VARINLINE®



VARINLINE® is a registered trademark of the company GEA Tuchenhagen GmbH.

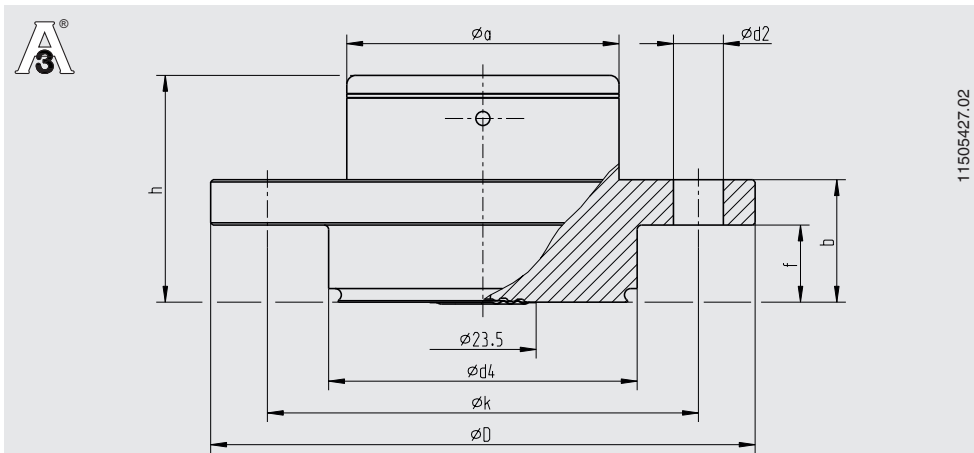
Size	PN ¹⁾	Dimensions in mm				
		D	d	H	h	a
Form F	25	50	66	36.5	12.3	60
Form N	25	68	84	36.5	12.3	60

1) Consider pressure rating of VARINLINE® component.

Suitable VARINLINE® component	EHEDG-compliant	
	Form F	Form N
Case	No	Yes
Type T case connecting flange	Yes	Yes
Type T-S case connecting flange	No	No
Type U case connecting flange	No	No
Type U-S case connecting flange	No	No
Type P tank connection flange	Yes	Yes

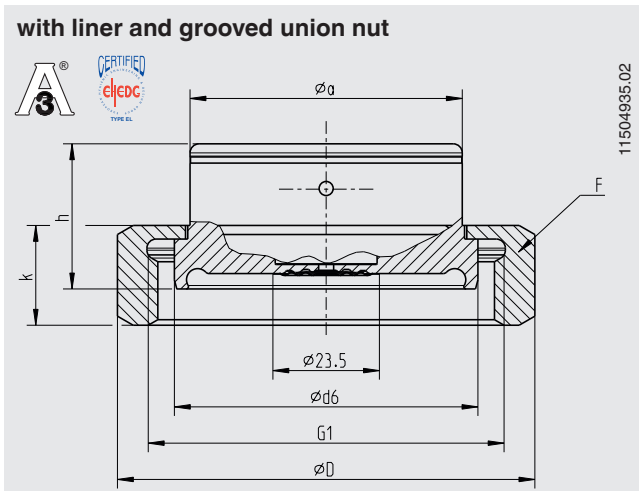
EHEDG-compliant only in combination with an EPDM O-ring

Type of process connection: NEUMO BioControl®



BioControl® connection	PN	Dimensions in mm							
		d2	d4	D	f	b	k	h	a
Size 65	16	4 x $\varnothing 11$	68	120	17	27	95	50	60

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	PN ¹⁾	Dimensions in mm							
	Outer Ø x wall thickness		d6	G1	h	F	D	k	a	Aseptic O-ring
50	53 x 1.5	25	66.9	Rd 78 x 1/6	32	DN 50	92	22	60	52 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	PN ¹⁾	Dimensions in mm							
	Outer Ø x wall thickness		d6	G1	h	F	D	k	a	Aseptic O-ring
48.3	48.3 x 2.0	25	66.9	Rd 78 x 1/6	32	DN 50	92	22	60	46.5 x 5

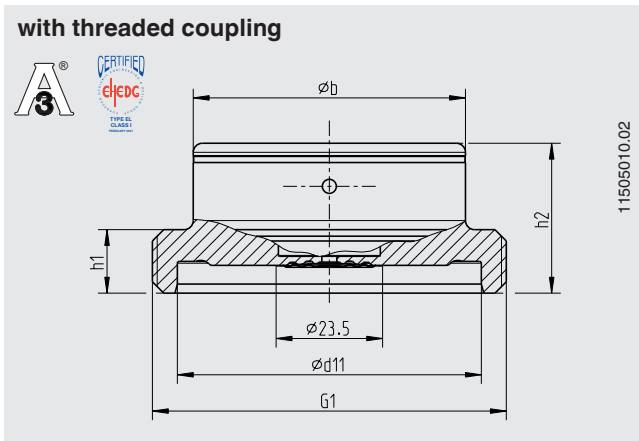
Type of process connection: Aseptic threaded pipe connection per DIN 11864-1 form A

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

DN	For pipe	PN ¹⁾	Dimensions in mm							
	Outer Ø x wall thickness		d6	G1	h	F	D	k	a	Aseptic O-ring
2"	50.8 x 1.65	25	66.9	Rd 65 x 1/6	32	DN 50	92	22	60	50 x 5

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

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 Ø x wall thickness	PN ¹⁾	Dimensions in mm					
			d11	G1	h1	h2	b	Aseptic O-ring
25	29 x 1.5	40	43	Rd 52 x 1/6	-	33	60	28 x 3.5
32	35 x 1.5	40	49	Rd 58 x 1/6	-	33	60	34 x 5
40	41 x 1.5	40	55	Rd 65 x 1/6	14	33	60	40 x 5
50	53 x 1.5	25	67	Rd 78 x 1/6	14	33	60	52 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 Ø x wall thickness	PN ¹⁾	Dimensions in mm					
			d11	G1	h1	h2	b	Aseptic O-ring
26.9	26.9 x 1.6	40	43	Rd 52 x 1/6	-	33	60	26 x 3.5
33.7	33.7 x 2.0	40	49	Rd 58 x 1/6	-	33	60	32 x 5
42.4	42.4 x 2.0	25	55	Rd 65 x 1/6	14	33	60	40.5 x 5
48.3	48.3 x 2.0	25	67	Rd 78 x 1/6	14	33	60	46.5 x 5

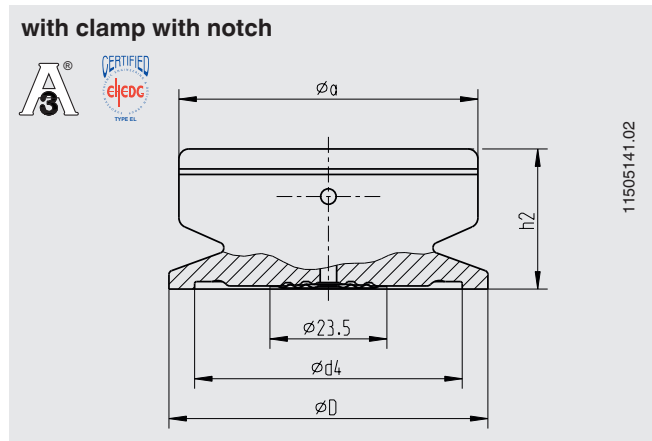
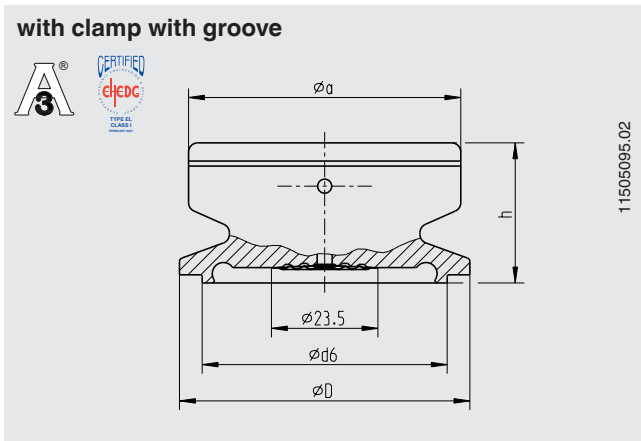
Type of process connection: Aseptic threaded pipe connection per DIN 11864-1 form A

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

DN	For pipe Outer Ø x wall thickness	PN ¹⁾	Dimensions in mm					
			d11	G1	h1	h2	b	Aseptic O-ring
1"	25.4 x 1.65	40	43	Rd 52 x 1/6	-	33	60	24 x 3.5
1 ½"	38.1 x 1.65	40	55	Rd 58 x 1/6	-	33	60	37 x 5
2"	50.8 x 1.65	25	67	Rd 65 x 1/6	14	33	60	50 x 5

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

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 \varnothing x wall thickness	PN 1)	Dimensions in mm						
			d6	d4	D	h	h2	a	Aseptic O-ring
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

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 \varnothing x wall thickness	PN 1)	Dimensions in mm						
			d6	d4	D	h	h2	a	Aseptic O-ring
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

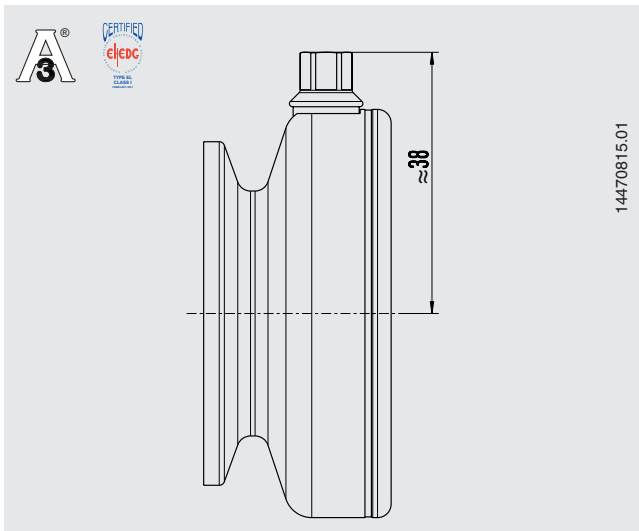
Type of process connection: Aseptic clamp connection per DIN 11864-3 form A

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

DN	For pipe Outer \varnothing x wall thickness	PN 1)	Dimensions in mm						
			d6	d4	D	h	h2	a	Aseptic O-ring
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

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

Autoclavable version



Ordering information

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

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