

Flush diaphragm pressure gauge For sanitary applications Model 432.55, stainless steel version

WIKA data sheet PM 04.09



for further approvals
see page 7

Applications

- Process industry: Biotechnology and pharmaceutical industries, cosmetics manufacturing, food industry
- Quick cleaning of measuring point, without residue
- For gaseous and liquid aggressive media that are highly viscous or crystallising, also in aggressive ambience

Special features

- Dry measuring cell, no transmission fluid
- Flush, welded diaphragm
- Suitable for SIP and CIP
- Wetted parts and enclosing metallic components from stainless steel
- Scale ranges from 0 ... 0.6 bar

Description

The model 432.55 pressure gauge is designed to meet special demands on the process connections in the food and beverage, biotechnology and pharmaceutical industries.

Due to the design of the gauge it is possible to use an absolutely dry measuring cell, thus excluding a contamination of the medium with transmission fluids that may, for example, occur on diaphragm seal systems in the case of a damage to the diaphragm.

The complete instrument is made of high-grade stainless steel. Due to the flush welded diaphragm element the connection to the process is free of dead space.

Design

EN 837-3

Nominal size in mm

100, 160



Flush diaphragm pressure gauge model 432.55

Accuracy class

1.6

Scale ranges

0 ... 0.6 to 0 ... 10 bar (0 ... 10 to 0 ... 150 psi)
or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: Full scale value
Fluctuating: 0.9 x full scale value
Short time: 1.5 x full scale value

Permissible temperature

Ambient: -20 ... +60 °C
Medium: -20 ... +150 °C

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

IP 54 per EN 60529 / IEC 529

Standard version

Process connection

Stainless steel 1.4435 (316L), lower mount (LM)

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

For exact designs and nominal widths see tables on page 2 and 3

Pressure element

Diaphragm element, welded to the process connection,

≤ 6 bar: Stainless steel 1.4435 (316L)

> 6 bar: Stainless steel 1.4568

Surface roughness Ra ≤ 0.4 µm (except for weld seam)

Movement

Stainless steel

Dial

Aluminium, white, black lettering

Pointer

Aluminium, black

Case

Stainless steel

Window

Laminated safety glass

Bezel ring

Cam ring (bayonet type), stainless steel

Options

- Other process connection, such as:
 - Threaded connection per DIN 11851 with grooved union nut or threaded coupling
 - VARIVENT®
 - 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
 - others on request
- Wetted parts electropolished
- Case and ring polished
- Window from polycarbonate
- Higher overpressure safety
- Connection location at 3, 9 or 12 o'clock
- Switch contacts (data sheet AC 08.01)

Dimensions in mm

Standard version

Type of process connection: Clamp connection per DIN 32676

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

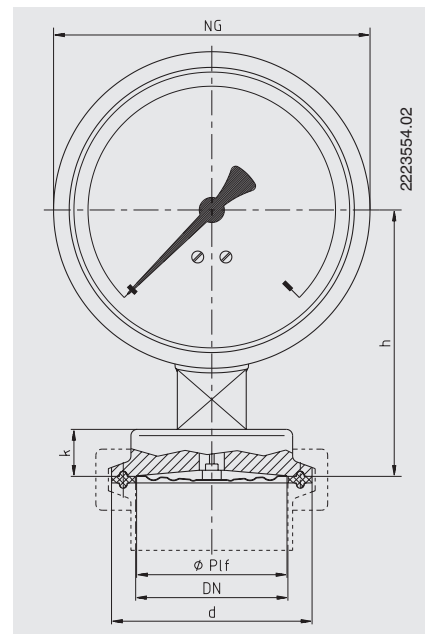
DN	For pipe Outer Ø x wall thickness	PN 1)	Dimensions in mm				
			NS	h	Ø Plf	d	k
60.3 (or DN 50)	60.3 x 2	40	100	85	48	77.5	15
			160	115			
76.1 (or DN 65) (option)	76.1 x 2	25	100	85		91	
			160	115			

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				
			NS	h	Ø Plf	d	k
2"	50.8 x 1.65	40	100	85	48	64	15
			160	115			
2 ½" (option)	63.5 x 1.65	25	100	85		77.5	
			160	115			
3" (option)	76.2 x 1.65		100	85		91	
			160	115			

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				
			NS	h	Ø P1f	d	k
2"	50.8 x 1.6	40	100	85	48	64	15
			160	115			
2 ½" (option)	63.5 x 1.6	25	100	85		77.5	
			160	115			
3" (option)	76.2 x 1.6		100	85		91	
			160	115			

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				
			NS	h	Ø P1f	d	k
50	53 x 1.5	40	100	85	48	64	15
			160	115			
65 (option)	70 x 2	25	100	85		91	
			160	115			

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				
			NS	h	Ø P1f	d	k
51	51 x 1.2	25	100	85	48	64	15
			160	115			
63.5 (option)	63.5 x 1.6		100	85		77.5	
			160	115			
70 (option)	70 x 1.6		100	85		91	
			160	115			
76.1 (option)	76.1 x 1.6		100	85		91	
			160	115			

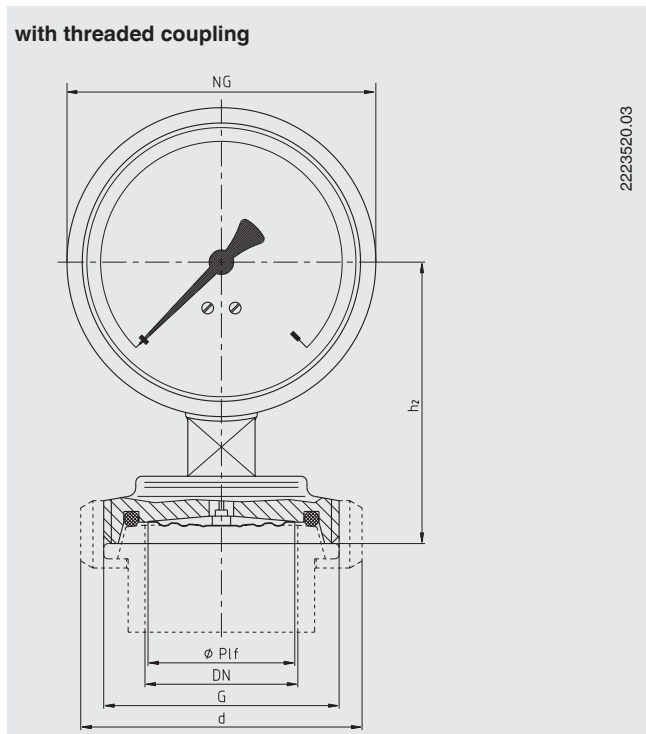
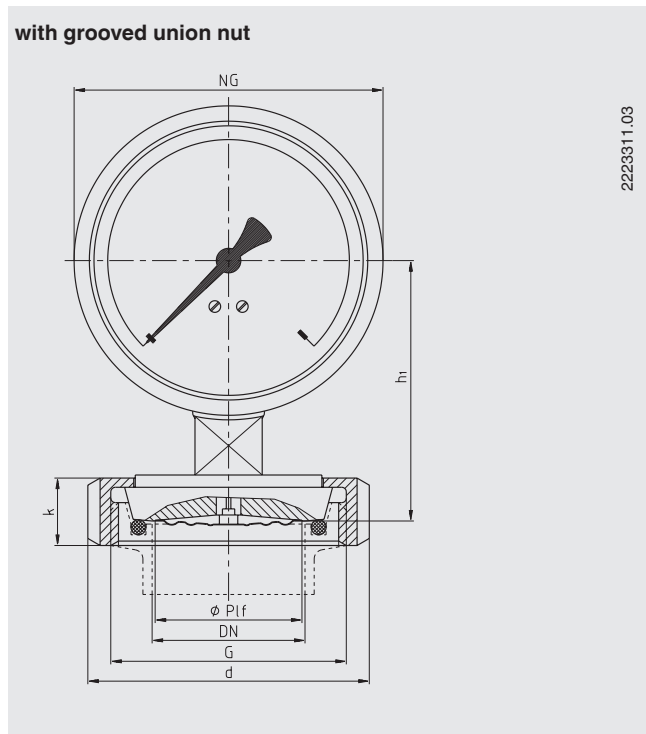
EHEDG conformity only in combination with a Kalrez® stainless steel gasket from Dupont de Nemours or with a T-ring seal from Combifit International B.V.

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 Ø x wall thickness	Dimensions in mm						
		D	h ₁	h ₂	Ø P1f	G	d	k
50	53 x 1.5	100	85	92	48	Rd 78 x 1/6	92	22
		160	115	122				
80	85 x 2	100	92	98	48	Rd 110 x 1/4	127	29
		160	122	128				

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.

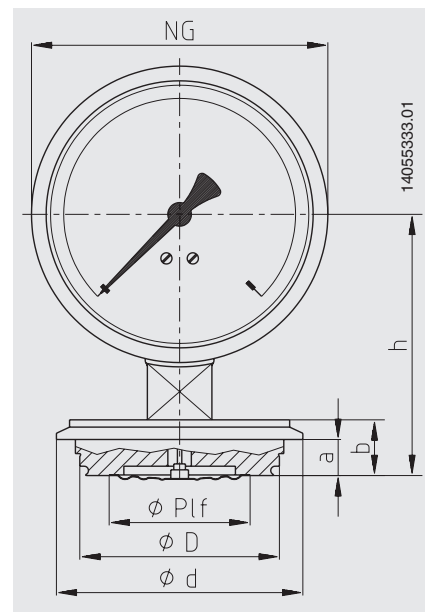
Option

Type of process connection: VARIVENT®

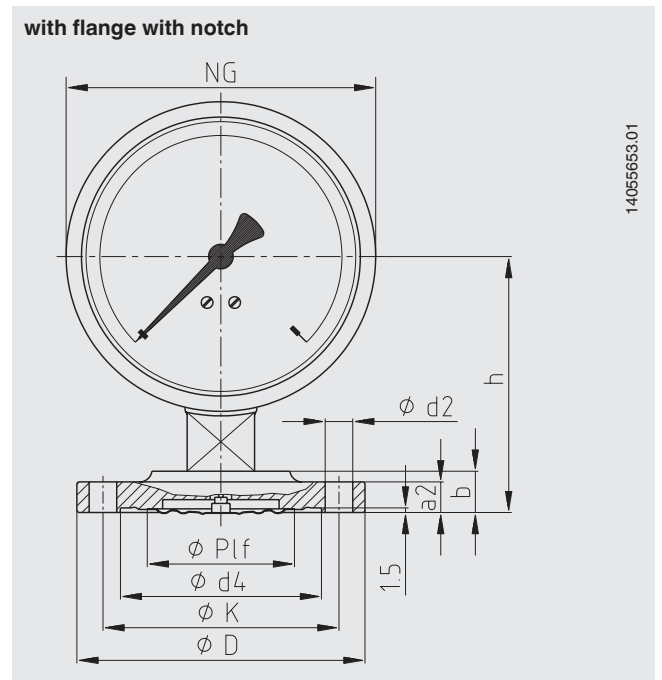
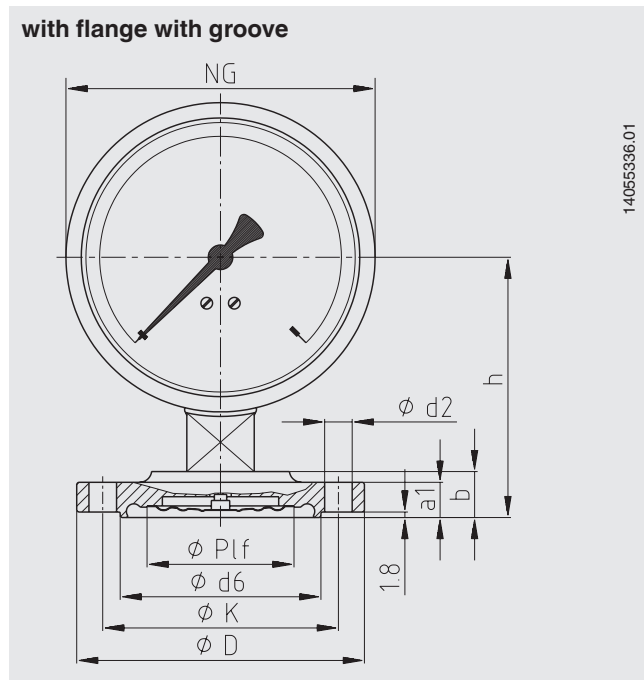
Access unit connection	DN	Dimensions in mm					
		NS	h	Ø P1f	d	a	b
Form N	40/50	100	89	48	84	12.3	19
		160	119				

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: 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											
			NS	h	Ø P1f	d6	d4	K	D	a1	a2	b	d2	Aseptic O-ring
50	53 x 1.5	16	100	85	48	65.6	65.7	77	94	11.5	10	15	4 x Ø 9	52 x 5
			160	115										
65	70 x 2.0	16	100	85	48	81.6	81.7	95	113	11.5	10	15	8 x Ø 9	68 x 5
			160	115										
80	85 x 2.0	16	100	85	48	97.6	97.7	112	133	13.5	12	15	8 x Ø 11	83 x 5
			160	115										

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											
			NS	h	Ø P1f	d6	d4	K	D	a1	a2	b	d2	Aseptic O-ring
60.3	60.3 x 2.0	16	100	85	48	71.9	72	85	103	11.5	10	15	4 x Ø 9	58 x 5
			160	115										
76.1	76.1 x 2.0	16	100	85	48	88	88.1	104	125	13.5	12	15	8 x Ø 11	73.5 x 5
			160	115										

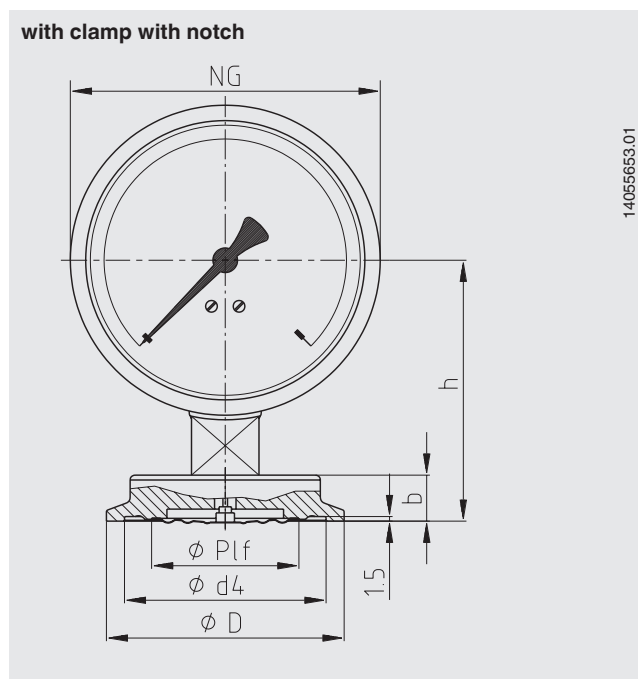
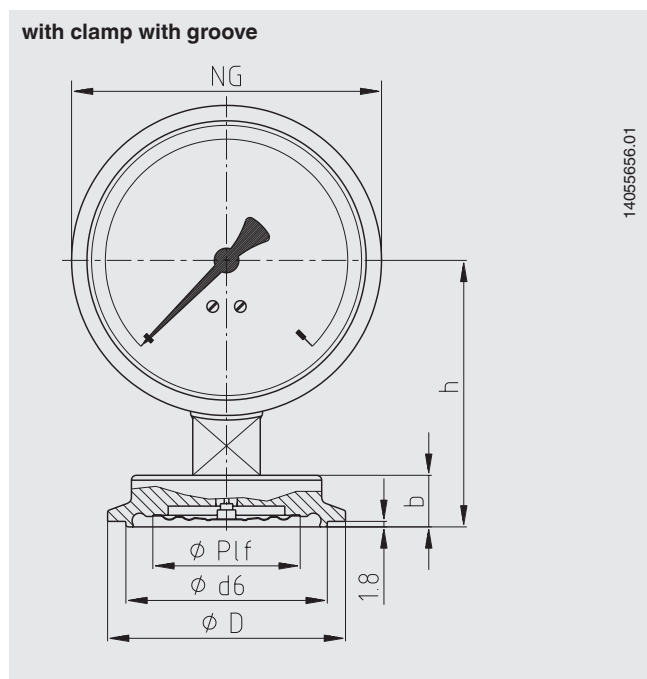
Type of process connection: Aseptic flange connection per DIN 11864-2 form A

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											
			NS	h	Ø P1f	d6	d4	K	D	a1	a2	b	d2	Aseptic O-ring
2"	50.8 x 1.65	16	100	85	48	63.4	63.5	75	92	11.5	10	15	4 x Ø 9	50 x 5
			160	115										
2 ½"	63.5 x 1.65	16	100	85	48	75.8	75.9	89	107	11.5	10	15	4 x Ø 9	62 x 5
			160	115										
3"	76.2 x 1.65	16	100	85	48	89.5	89.6	104	125	13.5	12	15	8 x Ø 11	75 x 5
			160	115										

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 Ø x wall thickness	PN 1)	Dimensions in mm							Aseptic O-ring
			NS	h	Ø P1f	d6	d4	D	b	
50	53 x 1.5	25	100	85	48	65.6	65.7	77.5	15	52 x 5
			160	115						
65	70 x 2.0	25	100	85	48	81.6	81.7	91	15	68 x 5
			160	115						
80	85 x 2.0	16	100	85	48	97.6	97.7	106	15	83 x 5
			160	115						

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 Ø x wall thickness	PN 1)	Dimensions in mm							Aseptic O-ring
			NS	h	Ø P1f	d6	d4	D	b	
60.3	60.3 x 2.0	25	100	85	48	71.9	72	91	15	58 x 5
			160	115						
76.1	76.1 x 2.0	16	100	85	48	88	88.1	106	15	73.5 x 5
			160	115						

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 Ø x wall thickness	PN 1)	Dimensions in mm							Aseptic O-ring
			NS	h	Ø P1f	d6	d4	D	b	
2"	50.8 x 1.65	25	100	85	48	63.4	63.5	77.5	15	50 x 5
			160	115						
2 ½"	63.5 x 1.65	25	100	85	48	75.8	75.9	91	15	62 x 5
			160	115						
3"	76.2 x 1.65	16	100	85	48	89.5	89.6	106	15	75 x 5
			160	115						

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.

Approvals

- **GOST-R**, import certificate, Russia
- **GOST**, metrology, measurement technology, Russia
- **EHEDG**, food, European Community
- **3-A**, food, USA
- **CRN**, safety (e.g. electr. safety, overpressure, ...), Canada
- **KOSHA**, ignition protection type "i" - intrinsic safety, South Korea

Certificates ¹⁾

- 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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