

Pressure gauge with flush mounted diaphragm for hygienic applications

Type series BC4200



Application area

- Pharmaceutical industry
- Food industry
- Biotechnology

Features

- Pressure gauge with flush mounted diaphragm for hygienic applications
- Dry measuring system
- Nominal range 0...1.6 up to 0...6 bar, -1...0.6 up to -1...5 bar
- All wetted parts of stainless steel 316L
- Various process connections for hygienic applications
- Suitable for CIP and SIP cleaning
- Degree of protection IP 65
- Accuracy class 1.6 per EN 837-1 resp. accuracy 2 %

Options

- Accuracy class 1.0 per EN 837-1
- Approvals/Certificates
 - Material certificate per EN 10204-3.1
 - Calibration certificate per EN 10204-3.1
 - Roughness height rating with inspection certificate acc. to EN 10204-3.1
- Various hygienic designs according to EHEDG and ASME BPE
- Scale with fine division
- Free of oil and grease
- Wetted parts electropolished

Application

The pressure gauge with flush mounted diaphragm is particularly suitable for hygienic process engineering. It is suitable for CIP and SIP cleaning and all wetted parts are made of stainless steel 1.4435 (316L) and are completely welded.

Technical data

Constructional design / case

Design: High quality case with bayonet ring per EN 837-1 S1, material: stainless steel mat.-no.-1.4301 (304) ; with blow-out device, material: PUR, ventilation valve, material: PUR

Nominal size: NS 100

Degree of protection per EN 60529: IP 65

Atmosph. pressure compensation: Via ventilation valve.

Case seal: Material gasket: NBR

Window: Non-splintering laminated glass.
Option: Non-splintering plastic (Macro-lon)

Measuring element: Diaphragm

Movement: Stainless steel segment

Scale: Pure aluminium, white with black inscription
Option: Scale with fine division
Option: with red marking or with fixed reference pointer, special scale upon request

Pointer: Pure aluminium, black, with micro adjustment for zero point correction
Option: knife edge pointer with micro adjustment for zero point correction

Process connection

- Design:
- Tapered coupling with groove union nut per DIN 11851
 - Clamp connection per ISO 2852
 - Clamp connection per DIN 32676
 - Collar connection with groove union nut per DIN 11864-1
 - Flange connection per DIN 11864-2
 - Clamp connection per DIN 11864-3
 - VARIVENT® connection

Material wetted parts

Process connection and diaphragm: Stainless steel mat.-no. 1.4435 (316L)
Option:
- Delta ferrite content $\leq 3\%$
- Delta ferrite content $\leq 1\%$

Nominal range

See order details, further information upon request

Measuring accuracy and overload protection

Nominal range	Accuracy class per EN 837-1		Overload limit
	Standard	Optional	
0...1.6 bar	Kl. 1.6	-	1.1 times
0...2.5 bar	2 %	-	
0...4 bar	Kl. 1.6	-	
0...6 bar	Kl. 1.6	-	1.3 times
-1...0.6 bar	Kl. 1.6	-	
-1...1.5 bar	Kl. 1.6	-	
-1...3 bar	Kl. 1.6	Kl. 1	
-1...5 bar	Kl. 1.6	Kl. 1	

Temperature influence: Max. $\pm 0.8\%$ / 10K of measuring span per EN 837-3.

Hygienic design

The surface roughness of the wetted parts made of stainless steel are executed according to EHEDG Doc.8 and ASME BPE SFx.

In case of choosing the additional feature, we guarantee the following surface roughness values:

Wetted parts	SF3	SF1	SF4
Diaphragm	$Ra \leq 0.38 \mu\text{m}$	$Ra \leq 0.38 \mu\text{m}$	$Ra \leq 0.38 \mu\text{m}$ + E-poliert
Laser welds	$Ra \leq 0.76 \mu\text{m}$	$Ra \leq 0.76 \mu\text{m}$	$Ra \leq 0.76 \mu\text{m}$ + E-poliert
Turned parts	$Ra \leq 0.76 \mu\text{m}$	$Ra \leq 0.51 \mu\text{m}$	$Ra \leq 0.38 \mu\text{m}$ + E-poliert

Temperature ranges

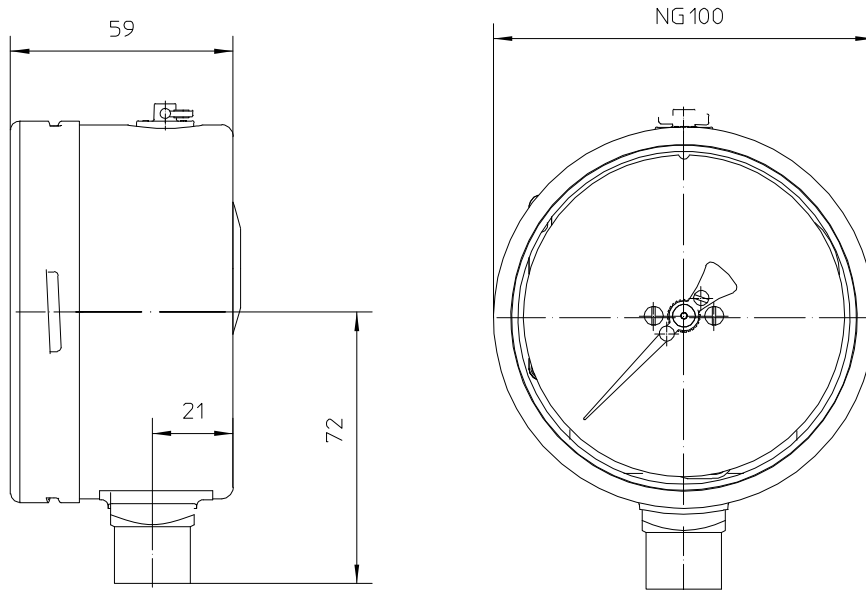
Ambient: -20...70 °C

Media: -20...150 °C

Storage: -40...70 °C

Dimensions

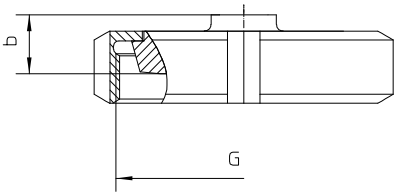
Case



All dimensions are in mm.

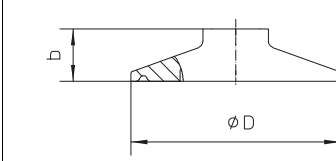
Process connections

Tapered coupling with groove union nut per DIN 11851 for pipes per DIN 11866



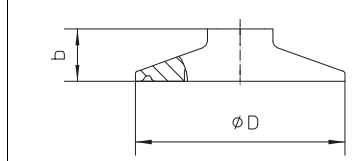
DN	G	b
40	Rd.65x1/6"	18
50	Rd.78x1/6"	18

Clamp connection per ISO 2852 for pipes per ISO 2037



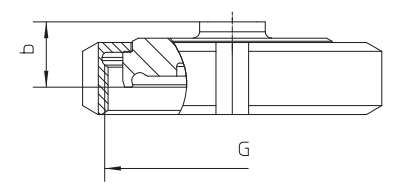
DN	$\varnothing D$	b
38	50,5	13
40	64	16
51	64	16

Clamp connection per DIN 32676 for pipes per DIN 11866



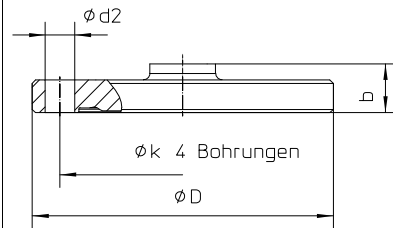
DN	$\varnothing D$	b
model A		
40	50,5	13
50	64	16
model B		
42,4	64	16
48,3	64	16
model C		
1 1/2"	50,5	13
2"	64	16

Collar connection with groove union nut per DIN 11864-1 for pipes per DIN 11866



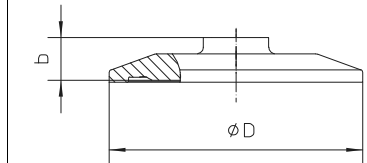
DN	G	b
model A		
40	Rd.65x1/6"	20
50	Rd.78x1/6"	20
model B		
42,4	Rd.65x1/6"	20
48,3	Rd.78x1/6"	21
model C		
2"	Rd.78x1/6"	21

Flange connection per DIN11864-2 aseptic collar flange for pipes per DIN 11866,



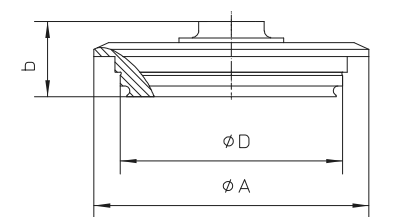
DN	$\varnothing D$	$\varnothing k$	$\varnothing d2$	b
model A				
40	82	65	9	15
50	94	77	9	15
model B				
42,4	82	65	9	15
48,3	88	71	9	15
model C				
2"	92	75	9	15

Clamp connection per DIN 11864-3 aseptic collar side for pipes per DIN 11866



DN	$\varnothing D$	b
model A		
DN 40	64	13
DN 50	77,5	13
model B		
DN 42,4	64	13
DN 48,3	64	13
model C		
2"	77,5	13

VARIVENT® connection for VARINLINE® case



connection	$\varnothing D$	$\varnothing A$	b
Form F	50	66	24
Form N	68	84	23

Order details

Pressure gauge NG 100 with flush mounted diaphragm				
BC4200	case design	degree of protection IP 65, process connection bottom		
A54	nominal range	0...1.6 bar		
A55		0...2.5 bar ¹		
A56		0...4 bar		
A57		0...6 bar		
A87		-1...0.6 bar		
A88		-1...1.5 bar ¹		
A89		-1...3 bar		
A90		-1...5 bar		
Q22		accuracy	class 1 ²	
Q23	class 1.6			
Q24	2 % ³			
D104	process connection ⁴	Tapered coupling with groove union nut per DIN 11851 for pipes per DIN 11866, model A	DN 40	
D105			DN 50	
D126		Clamp connection per ISO 2852 for pipes per ISO 2037	DN 38	
D128			DN 40	
D127		Clamp connection per DIN 32676 for pipes per DIN 11866, model A	DN 51	
D147			DN 40	
D148		Clamp connection per DIN 32676 for pipes per DIN 11866, model B	DN 50	
D215			DN 42,4	
D216		Clamp connection per DIN 32676 for pipes per DIN 11866, model C	DN 48,3	
D137			DN 1 1/2"	
D138		Collar connection with groove union nut per DIN 11864-1 for pipes per DIN 11866, model A	DN 2"	
D165			DN 40	
D166		Collar connection with groove union nut per DIN 11864-1 for pipes per DIN 11866, model B	DN 50	
D228			DN 42,4	
D229		Collar connection with groove union nut per DIN 11864-1 for pipes per DIN 11866, model C	DN 48,3	
D234			DN 2"	
D240		Flange connection per DIN 11864-2 aseptic collar flange for pipes per DIN 11866, model A	DN 40	
D241			DN 50	
D246		Flange connection per DIN 11864-2 aseptic collar flange for pipes per DIN 11866, model B	DN 42,4	
D247			DN 48,3	
D252		Flange connection per DIN 11864-2 aseptic collar flange for pipes per DIN 11866, model C	DN 2"	
D258			DN 40	
D259		Clamp connection per DIN 11864-3 aseptic collar side for pipes per DIN 11866, model A	DN 50	
D264			DN 42,4	
D265		Clamp connection per DIN 11864-3 aseptic collar side for pipes per DIN 11866, model B	DN 48,3	
D270			DN 2"	
D152		VARIVENT® connection	Form F (D=50) for VARINLINE® case	
D153			Form N (D=68) for VARINLINE® case	
G7		material wetted parts	stainless steel material-no. 1.4435 (316L)	
G7.9			stainless steel material-no. 1.4435 (316L), Delta ferrite content ≤ 3 %	
G7.7	stainless steel material-no. 1.4435 (316L), Delta ferrite content ≤ 1 %			
R1	material window	non-splintering glass		
R11		Macrolon		

Additional features (to be indicated if required)		
HY		Hygienic design per EHEDG and ASME BPE SF3 (see table under Hygienic design)
HY06	surface roughness wetted parts	Hygienic design per EHEDG and ASME BPE SF1 (see table under Hygienic design)
HY04		Hygienic design per EHEDG and ASME BPE SF4 (see table under Hygienic design)
I3	pointer	knife edge pointer with micro adjustment
T2	marking	on scale (please specify)
T3		fixed reference pointer (please specify)
W1020	material certificate ⁵	per EN 10204-3.1, wetted parts
W1223	inspection certificate	per EN 10204-3.1, Roughness height rating Ra
W1204	calibration certificate	per EN 10204-3.1, 3 measuring points
W1201		per EN 10204-3.1, 5 measuring points
W1202		per EN 10204-3.1, 10 measuring points
W4002	free of oil and grease	
W4035	wetted parts electropolished	
W4127	scale with fine division	
PL1100	output signal 4...20 mA (20...4 mA) with electronic angle-of-rotation sensor (see data sheet DB_D6-020) ⁶	

Order code (example): **BC4200 – A56 – D126 - G7 - R1...**

¹ material certificate (order code W1020) not possible

² optionally only possible for the nominal ranges -1...3 bar and -1...5 bar

³ for nominal range 0...2,5 bar only

⁴ EHEDG certified only in connection with hygienic design (order code option HY / HY06 / HY04). EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper"

⁵ not possible for the nominal ranges 0...2,5 bar and -1...1,5 bar

⁶ not possible with accuracy class 1