Bourdon tube pressure gauge for diaphragm seals and electrical contact device, Type Series BR42 . .

Features

- Small temperature error by means of reduced-volume measuring element
- Operating temperature up to 200 °C
- Process connection via diaphragm seal product group D5
- Case DN 100 and pressure element assembly of stainless steel
- Instrument connection welded with diaphragm seal
- Electrical contact device per DIN 16085:
  - slow acting contact
  - magnetic snap contact
  - inductive contact devices

Options

- Explosion protection
- Classification per SIL 2
- Material certificate per DIN EN 10204

Application area

· Food industry
· Pharmaceutical industry
· Biotechnology

Application

The pressure gauge type series BR42.. has been especially constructed for the operation with diaphragm seals. A custom bourdon tube that is reduced in volume produces a very slight temperature error. Diaphragm seals with reduced membrane surface areas may also be used. A large selection of diaphragm seals − D5 product category − is available for a variety of applications.

Technical Data

Case
high quality case with bayonet ring DN 100
material: st. steel mat.-no. 1.4301 (304)

Degree of protection (EN 60529)
IP 65 case with and without liquid filling

Pressure element assembly
bourdon tube and pressure connection
material: st. steel mat.-no. 1.4571 (316Ti)

Case filling
liquid filling Labofin

Process connection
via diaphragm seals, see product group D5

Movement
stainless steel segment

Scale
pure aluminium, white with black inscription.
Option: with red marking or with fixed reference pointer.
Special scale upon request

Pointer
pure aluminium, black with micro adjustment for zero-point correction

Window
non splintering laminated glass

Case seal
sealing ring: Perbunan
filling plug: Desmopan

Atmosperic pressure compensation
for cases with liquid filling:
≤ 16 bar with reclosable filling plug

Nominal ranges
per EN 837-1
-1...3 bar up to 0...400 bar
other measuring units can be supplied

Overload protection
standard: 1.3 times
higher overload protection see order details

Accuracy class
max. effect of contact devices on indication per DIN 16085

	DN 100	
nominal	no. of contacts	
range (bar)	1	2
1	class 1	class 1.6
≥ 1.6	class 1	class 1

Temperature ranges
operating temperature range (ambient)
without liquid filling -20...+60 °C
with liquid filling -20...+50 °C
process temperature (measured medium)
with welded diaphragm seal
without liquid filling max. +200 °C
min. -40 °C
with liquid filling max. +140 °C
min. -20 °C
The maximum values stated could be restricted due to:
- size of membrane
- meas. range
- diaphragm seal system filling
Other temperature ranges upon request.

Electrical connection
black terminal box with cable gland M 20 x 1.5 and removable test cover, mat. Macrolon

Electrical contact device
Touch contacts or inductive contact devices see order code.
Further technical details see operating instruction BTA-037.

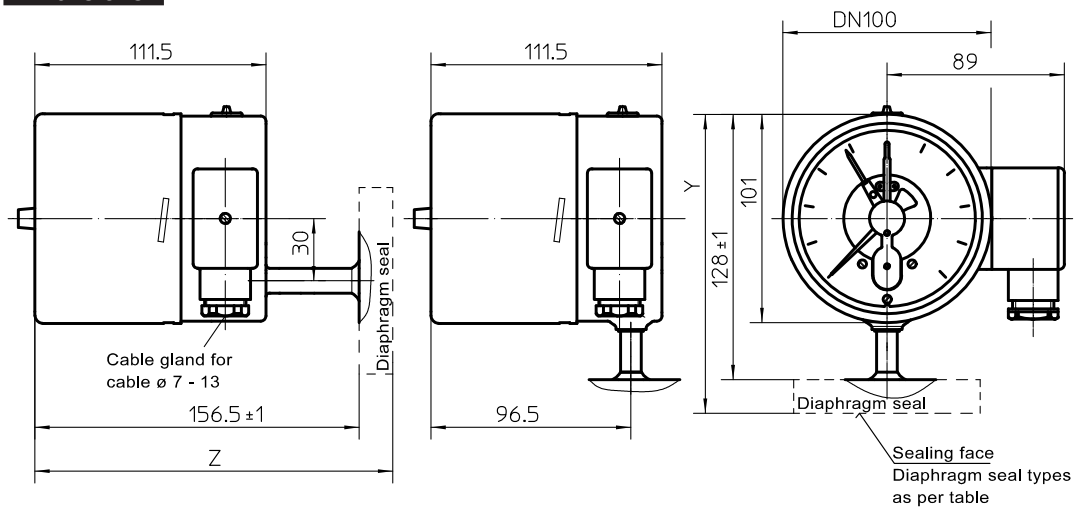
Explosion protection
magnet snap contact
Simple electrical apparatus per IEC/DIN EN 60079-11 suitable for intrinsically safe circuits Ex IIC T6.
inductive contact device
contact device suitable for intrinsically safe circuits
Ⓔx II 2G Ex ia/ib IIC T4/T5/T6
Reg.-no.: PTB 99 ATEX 2219X
PTB 00 ATEX 2049X
Further details see operating instruction BTA-037.

Functional safety
EN 61508, classification per SIL 2;
TÜV-Reg.-No. 44 799 09 555647 for gauges with inductive contact device only.

Temperature influence
A detailed calculation of accuracy can be submitted upon request.

Weights
· DN 100, without liquid filling approx. 1.0 kg + process conn. (diaphragm seal)
· DN 100, with liquid filling approx. 1.5 kg + process conn. (diaphragm seal)

Dimensions



Overall height "Y" and "Z"

diaphragm seal	type	see	Y				Y				Z				Z			
		data sheet	DN 25	DN 32	DN 40	DN 80	3/4"	1"	1 1/2"	2"	DN 25	DN 32	DN 40	DN 80	3/4"	1"	1 1/2"	2"
sanitary connection	DL1	D5-025	144	144	144	145	-	-	-	-	172,5	172,5	172,5	173,5	-	-	-	-
clamp connection	DL3	D5-026	-	-	-	-	-	-	140	142	-	-	-	-	-	-	117	119
screw-in thread	DE1	D5-032	-	-	-	-	143	143	146	146	-	-	-	-	120	120	123	123
flange connection	DA2	D5-030	148	-	-	149	-	-	-	-	125	-	-	126	-	-	-	-

Order Details

- please give additional specifications for models not listed -

Bourdon tube pressure gauge for diaphragm seals and electrical contact device																
case design	IP 65	process connection	· bottom	**BR420 .**												
			· at back	**BR421 .**												
	IP 65 with liquid filling		· bottom	**BR422 .**												
			· at back	**BR423 .**												
design	· standard				**0**											
	· ex-protection				**1**											
nominal range	· per table					**. . .**										
contact	*touch contact*															
	· slow acting contact						**L2 . . .**									
	· magnetic snap contact						**L4 . . .**									
	· slow acting contact, separated circuits						**M2 . . .**									
	· magnetic snap contact, separated circuits						**M4 . . .**									
	inductive contact device															
	· standard initiator						**N4 . . .**									
	· safety initiator SJ 2 - SN / SJ 3.5 - SN						**N1 . . .**									
	· safety initiator invers SJ 2 - S1N / SJ 3.5 - S1N [1]						**N2 . . .**									
	· with integrated switching amplifier [2]						**N6 . . .**									
switch function	· single contact (1st figure per table)						**.00**									
	· double contact (1st + 2nd figure per table)						**. .0**									
additional features (to be indicated in case of need, only):																
overload protected	· 2times (meas. range ≥ 25 bar)							**H2**								
	· 2.5times (meas. range ≤ 16 bar)							**H3**								
functional safety per EN 61508, classification per SIL 2									**W2603**							
Order code (example):					**BR4200**	**A56**	**L4100**									
process connection																
diaphragm seals as per product group D5 welded with measuring system connection							**D . . . . .**									

standard nominal ranges			
nominal range bar	**order-code**	nominal range bar	**order-code**
0...4	**A56**	0...160	**A64**
0...6	**A57**	0...250	**A65**
0...10	**A58**	0...400	**A66**
0...16	**A59**	-1...3	**A89**
0...25	**A60**	-1...5	**A90**
0...40	**A61**	-1...9	**A91**
0...60	**A62**	-1...15	**A92**
0...100	**A63**		

switch function	**fig.**
· increasing pressure makes contact	**1**
· increasing pressure breaks contact	**2**
· decreasing pressure makes contact	**4**
· decreasing pressure breaks contact	**5**
· change-over elements increasing pressure makes or breaks contact	**3**
· change-over elements decreasing pressure makes or breaks contact	**6**

[1] with DN 100: one contact device only
[2] not with ex-protection

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