



**Features**

- Case with blow-out device
- Case and pressure element assembly of stainless steel
- Highly overload protected
- Nominal range 0...6 mbar abs up to 0...2500 mbar abs
- Accuracy class per DIN 16085
- Electrical contact device per DIN 16085:
  - slow acting contact
  - magnetic snap contacts
  - inductive contact devices

**Options**

- Explosion protection
- Safety pattern gauge with solid baffle wall and blow out back
- Case with liquid filling and degree of protection IP 66
- Connection to Zone 0
- Material certificate per DIN EN 10204

**Application area**

- Chemical and petrochemical industry
- Shipping
- Machinery construction

**Application**

Can be used as an excess pressure gauge with electrical contact device for universal use in measurement and control systems for indicating and monitoring pre-selectable minimum and/or maximum pressure values. Suitable for measuring liquids and gases; with open measuring flange also designed for viscous media and media containing solids. Because of its robust design, it is suitable for use in tough environments.

**Technical Data**

**Case**

standard  
 · high quality case with bayonet ring  
 DN 100/160, with blow-out device  
 material: st. steel mat.-no. 1.4301 (304)  
 option:  
 · safety case with baffle wall and blow-out  
 back per EN 837-1 S3

**Degree of protection (EN60529)**

IP 65  
 IP 66 case with liquid filling

**Pressure element assembly**

diaphragm material: Duratherm; similar  
 resistance as mat.-no. 1.4571 (316Ti)  
 Measuring flange mat.-no. 1.4571 (316Ti)  
 Gasket to pressure chamber: Perbunan,  
 option: PTFE

**Case filling (option)**

liquid filling Labofin

**Process connection**

pressure connection G 1/2 B, option: 1/2"  
 NPT or open measuring flange (see order  
 details)

**Movement**

stainless steel segment

**Scale**

pure aluminium, white with black inscription.  
 Option: with marking.  
 Special scale upon request

**Pointer**

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

**Window**

non splintering laminated glass.  
 Option:  
 non splintering plastic (Macrolon)

**Case seal**

sealing ring: Perbunan  
 filling plug: Desmopan

**Pressure compensation membrane**

Silicon  
 (for system with filling in safety case only)

**Nominal ranges**

see order details, others upon request

**Overload protection**

nominal ranges up to 250 mbar abs:  
 overload protection up to 5 bar  
 nominal ranges  $\geq$  250 mbar abs:  
 overload protection up to 10 bar

**Accuracy class**

max. effect of contact devices on  
 indication per DIN 16085

nominal range [mbar]	DN 100 / DN 160 no. of contacts		
	1	2	3
$\geq 60$	class 1.6	class 2.5	-
$\geq 160$	class 1.6	class 1.6	-
$\geq 400$	class 1.6	class 1.6	class 2.5

**Temperature ranges**

	without filling	with filling
Ambient:	-20...70 °C	-20...70 °C (60 °C) <sup>2</sup>
Media:	-20...110 °C	-20...70 °C (60 °C) <sup>2</sup>
Storage:	-40...70 °C	-40...70 °C -20...60 °C <sup>2</sup>

Extended temperature range (optional):<sup>1</sup>

	without filling	with filling
Ambient:	-40...100 °C	-40...80 °C (60 °C) <sup>2</sup>
Media:	-40...150 °C	-40...150 °C <sup>3</sup>

Devices with classification per SIL 2:

	without filling	with filling
Ambient:	-20...60 °C	-20...60 °C (40 °C) <sup>2</sup>
Media:	-20...60 °C	-20...60 °C (40 °C) <sup>2</sup>

<sup>1</sup> Inductive safety initiator necessary

<sup>2</sup> Safety case S3 (IP66)

<sup>3</sup> Limitation:  $P_n \leq 1$  bar up to 110 °C

**Electrical connection**

connection plug 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

Ex II 2G Ex ia IIC T4/T5/T6 Gb

Reg.-no.: PTB 99 ATEX 2219X

PTB 00 ATEX 2049X

Further details see operating instruction  
 BTA-037.

**Technical Data****Mounting**

self-supporting mounting

**Weights**

DN 100:

flange Ø 100, without filling: approx. 3.1 kg

flange Ø 160, without filling: approx. 4.7 kg

flange Ø 100, with filling: approx. 4.0 kg

flange Ø 160, with filling: approx. 5.6 kg

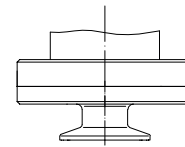
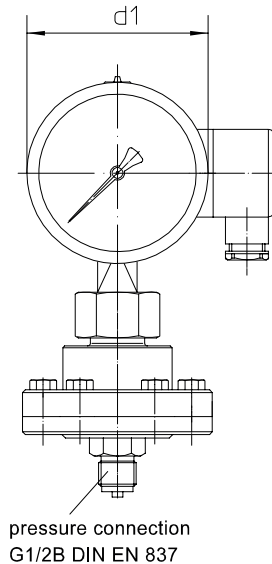
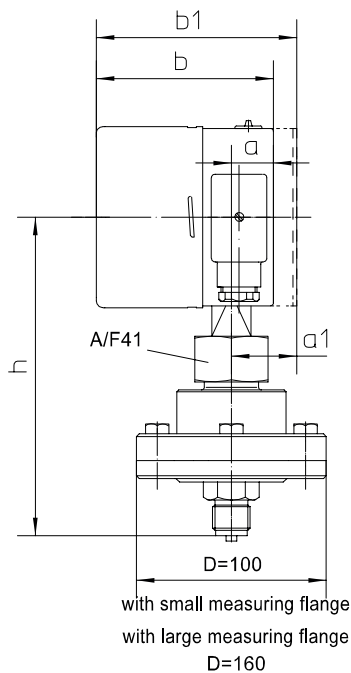
DN 160:

flange Ø 100, without filling: approx. 3.4 kg

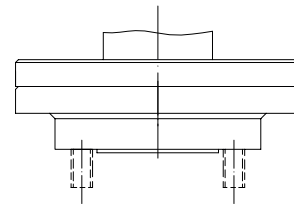
flange Ø 160, without filling: approx. 6.0 kg

flange Ø 100, with filling: approx. 5.5 kg

flange Ø 160, with filling: approx. 7.1 kg

**Dimensions**

special design  
small measuring flange DIN 28403  
from nominal width 10 to nominal width 50  
upon request



special design  
open measuring flange per DIN or ASME  
other versions upon request

dimensions (mm)						
case	f	d1	a	b	b1	h
DN 100	89	100	19	108	112	178
DN 160	119	160	19	109	113	208

**Order Details**

- please give additional specifications for models not listed -

**Absolute pressure gauges with diaphragm and electrical contact device**

case IP 65, standard	· DN 100		<b>BF220</b>	.	
	· DN 160		<b>BF230</b>	.	
safety case IP 66 per EN 837-S3	· DN 100 with liquid filling		<b>BF254</b>	.	
	· DN 160 with liquid filling		<b>BF264</b>	.	
design	· standard		<b>0</b>		
	· ex-protection		<b>1</b>		
nominal range	meas. flange Ø 160 mm	0...60 mbar abs	<b>A70</b>		
		0...100 mbar abs	<b>A80</b>		
		0...160 mbar abs	<b>A90</b>		
		0...250 mbar abs	<b>A100</b>		
	meas. flange Ø 100 mm	0...400 mbar abs	<b>A110</b>		
		0...600 mbar abs	<b>A120</b>		
		0...1000 mbar abs	<b>A130</b>		
		0...1600 mbar abs	<b>A140</b>		
		0...2500 mbar abs	<b>A150</b>		
overload protected	meas. flange Ø 100 mm	· 10 bar		<b>D . . .</b>	
	meas. flange Ø 160 mm	· 5 bar		<b>E . . .</b>	
process connection	G 1/2 B, mat. 1.4571 (316Ti)			<b>1001</b>	
	1/2" NPT, mat. 1.4571 (316Ti)			<b>1011</b>	
	open meas. flange PN 10...40, mat. 1.4571(316Ti)	· DN 25 for studbolts	meas.flange 100 mm		<b>1041</b>
			meas.flange 160 mm		
	sealing surface DIN EN 1092-1 model B1 (DIN 2526 model C)	· DN 50 for studbolts	meas.flange 160 mm		<b>1081</b>
· DN 50 for drilled holes			meas.flange 100 mm	<b>1061</b>	
contact	<i>touch contact</i>				
	· slow acting contact			<b>L2 . . .</b>	
	· magnetic snap contact			<b>L4 . . .</b>	
	· slow acting contact, separated circuits			<b>M2 . . .</b>	
	· magnetic snap contact, separated circuits			<b>M4 . . .</b>	
	<i>inductive contact device</i>				
	· standard initiator			<b>N4 . . .</b>	
	· safety initiator SJ 2 - SN / SJ 3.5 - SN			<b>N1 . . .</b>	
	· safety initiator invers SJ 2 - S1N / SJ 3.5 - S1N <sup>2</sup>			<b>N2 . . .</b>	
· with integrated switching amplifier <sup>1</sup>			<b>N6 . . .</b>		
switch function	· single contact (1st figure per table)			<b>.00</b> ←	
	· double contact (1st + 2nd figure per table)			<b>.0</b> ←	
	· triple contact (1st - 3rd figure per table)			<b>. . .</b> ←	

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

**additional features (to be indicated in case of need, only):**

marking	· on scale (pls specify)								<b>T2</b>
connection to zone 0	· with zone 0 adapter (coupler element KF6) <sup>3</sup>								<b>Z1</b>

**Order code (example):****BF2300 A80 E1001 L2400**<sup>1</sup> not with ex-protection<sup>2</sup> with DN 100 one contact device, only<sup>3</sup> with threaded connection G 1/2 B, mat. 1.4571 (316Ti), only