

## All stainless steel differential pressure gauges

with electrical alarm contacts or current outputs  
with or without liquid filling  
Accuracy class 1.6

Nominal size ND 100, 160



### Description

The process medium chambers (+) and (-) are separated by a diaphragm (see functional diagram). The difference in pressure between the (+) and (-) -medium chambers deflects the diaphragm. This deflection (measured travel) is transmitted to the pointer via a push rod causing a pointer deflection in proportion to the difference in pressure.

Metal bellows seal the two pressure chambers off from the gauge case.

Metal supporting elements guarantee overload protection.

The two downward outgoing process connections (G1/4 i) are made of corrosion resistant solid materials.

For mounting purposes, it should be noted that:

(+) represents high pressure and (-) low pressure.

The pressure connection position may be varied according to the installation conditions DT-GM 8608 176.

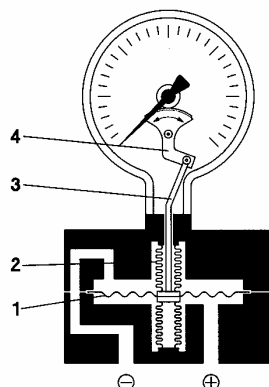
The measuring element is tamper proof.

The gauges can be used:

with gaseous, liquid and also chemically aggressive media as well as in aggressive environments. In case of highly viscous or crystallizing media. Please consult us for recommendation.

### Funktionsbeschreibung

1. Measuring diaphragm
2. Metal bellows
3. Connecting rod
4. Movement



### Special features

- o Corrosion resistant to aggressive media and environment
- o High overload protection
- o Solid front design
- o Alarm contact or current output
- o Precise display resulting from liquid dampening
- o Flushing and vent connection for the measuring chamber

### Measuring ranges

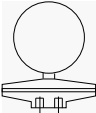
0 ... 16 mbar up to 0 ... 25 bar

### Applications

Level measurement,  
Filter monitoring,  
Flow measurement,  
Chemical and process engineering,  
Food industry.

Models : P2700, P2710

## Technical data

	-- with alarm contact <sup>1)</sup> with current outputs <sup>2)</sup>		Options
Models	P2700	P2710	Alarm contact and current outputs
Nominal size	100	160	
symbol			
Liquid filling	Without Glycerine Oil		Silicone oil
Contact type (Contact function)	none magnetic snap action (1.1 <sup>3)</sup> ) inductive (3.2 <sup>3)</sup> ) current output (4 ... 20 mA or 0 ... 20 mA)		Alarm contacts: for further contact functions "Mounting options" table
Accuracy class	1,6 acc. to EN 837-3 1,0		
Ranges	0 ... 16 mbar up to 0 ... 25 bar negative or positive / negative and positive gauge pressure		
Overload capacity	(+) and (-) side: 10 x full scale value, but only up to max. total pressure (static pressure) see also table		
Max. total gauge pressure (static pressure)	Range 0 ... 16 mbar to 0 ... 250 mbar: max. 2.5 / 6 bar Range 0 ... 400 mbar to 0 ... 25 bar: max. 25 bar		max. 10 bar max. 40 bar
Application	Constant load: up to full scale value Alternating load: up to 0.9 x full scale value		
Case	Stainless steel 1.4301 with pressure relief opening		Solid front version
Bezel	Bayonet ring, stainless steel 1.4301, bright		
Mounting	Rigid measuring tube		Measuring gauge holder for wall or pipe mounting dia. 2" or mounting bore in flange
Window	Laminated safety glass		
Dial	Aluminium, white, scale and imprint black		
Pointer	Adjustable pointer, Aluminium black		
Movement	Stainless steel		Zero-point adjustment
Measuring element	≤ 250 mbar: Stainless steel 1.4571, > 250 mbar NiCrCo alloy (Duratherm)		
Measuring chamber connection	Stainless steel 1.4571		Connection position: left, right, rear
- Position	bottom		
- thread	2 x G 1/4 f		Pressure connection, male thread
Temperatures			
- Media	Tmin. -20°C, Tmax. 100°C		Medium 130°C
- Ambient	Tmin. -20°C, Tmax. 60°C		
Temperature drift	0.3%/10K if deviation from normal temperature 20°C		
Protection	IP 54 to EN 60 529 / EC 529		<b>Filled</b> pressure gauges: IP 65 to EN 60 529 / EC 529
Accessories			Manifold valves. Attachment of diaphragm seal on request.
Electrical connection	none Cable connector right hand side 6 screw terminals + PE, cross section of the conducting wire 2.5 mm <sup>2</sup> . Screw type conduit fitting M20x1.5, outgoing downwards		

1) electrical alarm contact, see separate data sheet

**Note for installation: (-) low pressure; (+) high pressure**

2) electrical current outputs: see separate data sheet

3) **switching function for inductive and magnetic snap action contact**

## Maximum total gauge pressure/ overload protection

range	Maximum total gauge pressure (static pressure)	Option	Overload protection max.	Options
0 ... 16 mbar to 0 ... 40 mbar	2,5 bar	10 bar	2,5 bar	6 bar
0 ... 60 mbar to 0 ... 250 mbar	6 bar	10 bar	2,5 bar	6 bar
0 ... 400 mbar	25 bar	40 bar	4 bar	40 bar
0 ... 0,6 bar	25 bar	40 bar	6 bar	40 bar
0 ... 1 bar	25 bar	40 bar	10 bar	40 bar
0 ... 1,6 bar	25 bar	40 bar	16 bar	40 bar
0 ... 2,5 bar to 0 ... 25 bar	25 bar	40 bar	25 bar	40 bar

### Clockwise pointer motion: open or close:

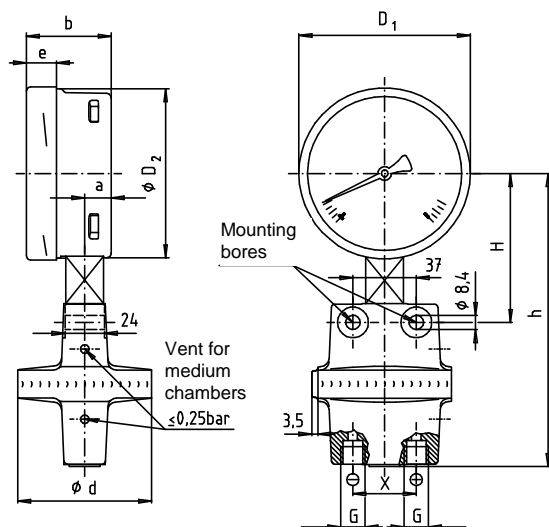
- Code number **before** the dot of the contact designation
  - 1.---: magnetic snap-action contact
  - 3.---: inductive contact
- Code number **after** the dot indicates the switching operation
  - 1: close
  - 2: open
  - 3: simultaneous opening and closing ( changeover)
- **Number of code numbers after the dot indicates the number of contacts**

## Dimensions

Standard version:

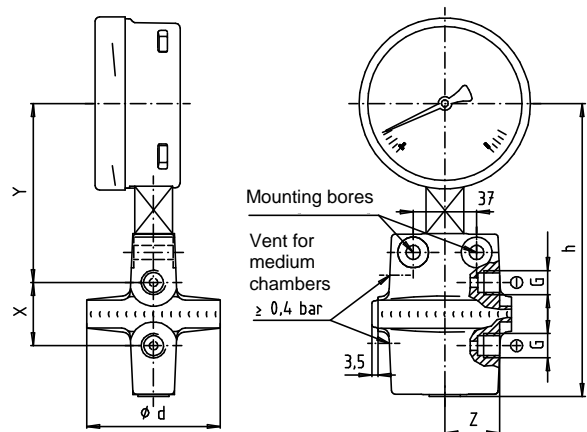
Model P2700, P2710

Connection 2 x G 1/4 female threads, below



Option:

Connection 2 x G 1/4 female threads, right



ND	ranges [ bar ]	Dimensions mm											Weight [ kg ]	
		a	b	D <sub>1</sub>	D <sub>2</sub>	d	e	G	h ± 1	H	X	Y		Z
100	≤ 0,25	15,5	49,5	101	99	140	17,5	G1/4	171	90	37	104	69	2,70
	78					87				32				
160	≤ 0,25	15,5	49,5	161	15	140	17,5	G1/4	201	120	37	134	69	3,40
	9				78	117				32			2,40	

## Installation options for alarm contacts

Pressure gauge		Alarm contact							
Model	Nominal size	magnetic snap action contact ( slow action contact) <sup>4)</sup>				inductive contact			
		Number of contacts							
		1	2	3	4 <sup>5)</sup>	1	2	3 <sup>6)</sup>	--
		full scale from ... bar							
P2700/P271 0	100 160	0,025	0,025	0,040	0,040				
	100 160					0,025	0,025	0,025	
	100 160	0,025	0,025	0,040	0,040				
	100 160					0,025	0,025	0,025	

<sup>4)</sup> only on request    <sup>5)</sup> possible only as a special version    <sup>6)</sup> possible only as a special version

## Installation options for current outputs

Pressure gauge		Current output		Current output and alarm contact			
Model	Nominal size	Standard	EX- certified	current output			
				Standard		EX- certified	
				Magnetic snap action			
				magnetic snap action	inductive	magnetic snap action	inductive
P2700/P271 0	100 160	X	X	X	X	--	X
	100 160	X	X	X	X	--	X

Subject to technical changes