

# P8AP

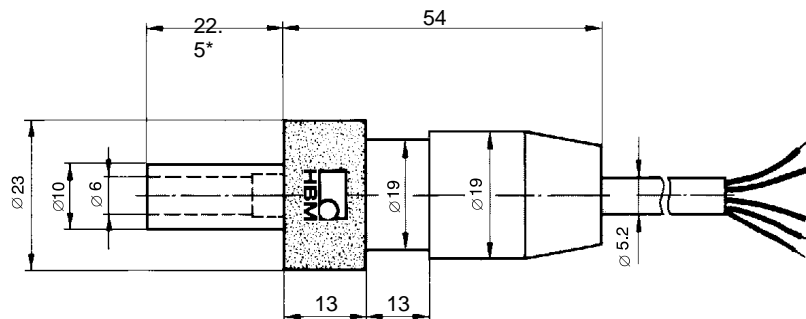
## Absolute Pressure Transducers

### Special features



- Strain-gauge sensor 2 mV/V, welded
- No sealing between pressure connection and strain-gauge sensor; no filling liquid
- Rapid and easy installation
- Various optional pressure
- Corrosion-resistant material
- Mounting position as desired
- For static and dynamic pressure
- Excellent price/performance ratio

Dimensions (in mm; 1 mm= 0.03937 inches)



#### Allocation of contacts:

Bridge excitation voltage $U_B$	(+)	black
Bridge excitation voltage $U_B$	(-)	blue
Output voltage $U_A$	(+)	white
Output voltage $U_A$	(-)	red
Screen	(ground)	yellow

\* With other pressure connections see section "Connection elements" on page 3.

## Specifications

Type	P8AP						
Accuracy class	0.3						
<b>Mechanical input characteristics</b>							
Measurement span	bar	10	20	50	100	200	500
Starting to measure	bar	0					
Fundamental resonance frequency of membrane	kHz	12	16	29	60	86	134
Attenuation ratio of membrane	1	0.01					
Operating range at 23 °C [+73.4 °F]	%	0...150					
Overload cutoff at 23 °C [+73.4 °F]	%	175					
Test pressure	%	175					
Destructive range	%	> 200					
With dynamic loading permitted pressure	%	100					
permitted oscillation bandwidth (in accordance with DIN 50 100)	%	70	70	85	95	95	60
<b>Material for parts in contact with the measurement medium:</b> internal surfaces pressure connector (tube)		Stainless steel 1.4542 Stainless steel 1.4301					
<b>Material for external surfaces</b>		Stainless steel 1.4301, Polyethylene					
Dead volume with tube <sup>*)</sup> without pressure connector	mm <sup>3</sup>	1110 (410)	1100 (400)	1090 (390)	1060 (360)	1100 (400)	1020 (320)
Control volume	mm <sup>3</sup>	2			1.5	0.5	0.3
<b>Output characteristics</b>							
Rated sensitivity	mV/V	2 ± 2%					
Input resistance at 23 °C [+73.4 °F]	Ω	420 (+180/-120)				370 (+130/-70)	
Output resistance at 23 °C [+73.4 °F]	Ω	330 (+90/-30)					
Rated range of the excitation voltage (effective value)	V	0.5...5		0.5...12			
Characteristic curve deviation (Starting point setting)	%	0.3					
Repeatability in accordance with DIN 1319	%	± 0.1					
Temperature coefficient of zero point, by reference to measurement span, per 10 K, in rated temperature range	%	± 0.3			< ± 0.2		
Temperature coefficient of sensitivity (measurement span), by reference to the actual value, per 10 K, in rated temperature range	%	± 0.3					
<b>Ambient conditions</b> Rated temperature range Service temperature range Storage temperature range	°C [°F]	-10...+70 [+14...+158] -40...+80 [-40...+176] -50...+85 [-58...+185]					
Impact resistance (in accordance with DIN IEC 68)	m/s <sup>2</sup>	800					
<b>Protection System</b> (in accordance with DIN 40050, IEC 68)		IP67					
Cable length, free ends <sup>**)</sup>	m	5					
Weight (with cable) approx.	g	250					

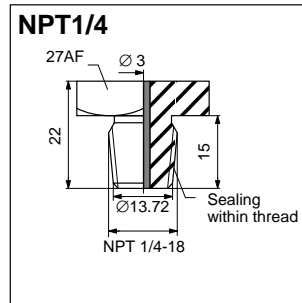
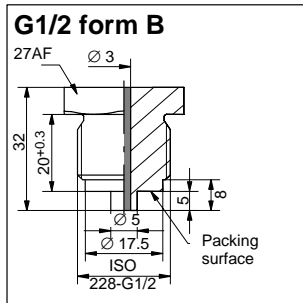
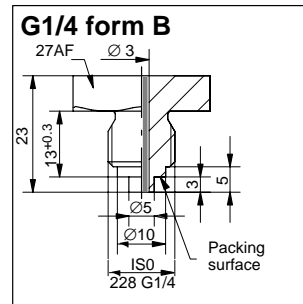
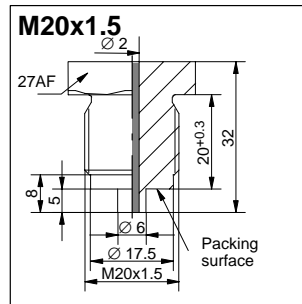
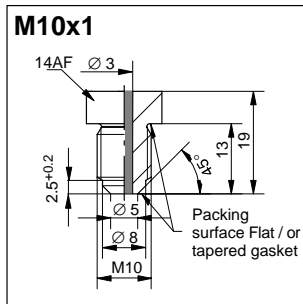
<sup>\*)</sup> With other pressure connections, see Options, the dead volume and material can be taken from the section "Connection elements" on page 3.

<sup>\*\*)</sup> With Option 3, Code T2: 1.5m

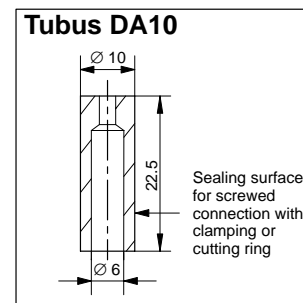
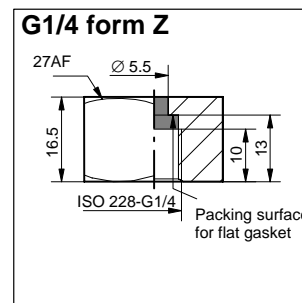
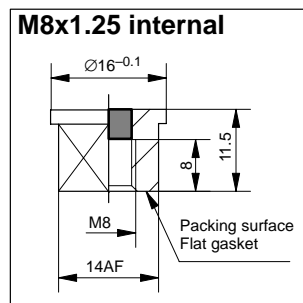
**Economic standard versions with tube body (DA10) for pipe unions (see Options) can be supplied at short notice from stock.**

Standard version	10 bar	20 bar	50 bar	100 bar	200 bar	500 bar
Order number	1-P8AP/10B-001	1-P8AP/20B-001	1-P8AP/50B-001	1-P8AP/100B-001	1-P8AP/200B-001	1-P8AP/500B-001

## Connecting elements with outer thread



## Connecting elements with inner thread and others



	External thread					Internal thread		Tubus DA 10	
	M10x1	M20x1.5	G1/4 form B	G1/2 form B	NPT 1/4	M8x1.25	G 1/4 form Z		
Dead volume <sup>*)</sup>	mm <sup>3</sup>	170	260	190	260	190	180	100	700
Final scale value	bar	500	1600 <sup>**)</sup>	1000	1600 <sup>**)</sup>	1000	500	1000 <sup>**)</sup>	500
Material	1.4542					1.4542		1.4571	

<sup>\*)</sup> Dead volume of connector element, to be added to dead volume of transducer

<sup>\*\*)</sup> Specifications in accordance with DIN 16 288

## Options for P8AP

P8AP basic option	
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Code	Option 1: Measuring range 0bar...
218	10 bar
221	20 bar
225	50 bar
228	100 bar
231	200 bar
235	500 bar

Code	Option 2: Pressure connection	
10	M10x1	Outer thread
13	M20x1.5	
14	G1/4 form B	
15	G1/2 form B	
17	NPT 1/4	
51	G1/4 form Z	Inner thread
50	M8x1.25	
71	Screwed conn. with cut. or clamp. ring DA10	

Code	Option 3: Version
A5	Standard version
T2	High temperature version (max. +140°C [+284°F])

### Ordering example

K-P8AP- 

2	1	8
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1	0
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T	2
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Units marked   are standard versions and can be supplied ex works at short terms of delivery. These devices include all marked options.

### Further possible pressure connections on request:

- Outer thread** : M12x1.5; M14x1.5; NPT1/8; NPT1/2; UNF 7/16-20; UNF 9/16-18; G1/2 form D; G3/4 form D
- Inner thread** : NPT1/4; NPT1/2; G1/2 form B
- Further** : Hose nozzle D8

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### Hottinger Baldwin Messtechnik GmbH

Postfach 10 01 51, D-64201 Darmstadt  
Im Tiefen See 45, D-64293 Darmstadt  
Tel.: +49/61 51/ 8 03-0; Fax: +49/61 51/ 8039100  
E-mail: support@hbm.com www.hbm.com



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