

P8AP

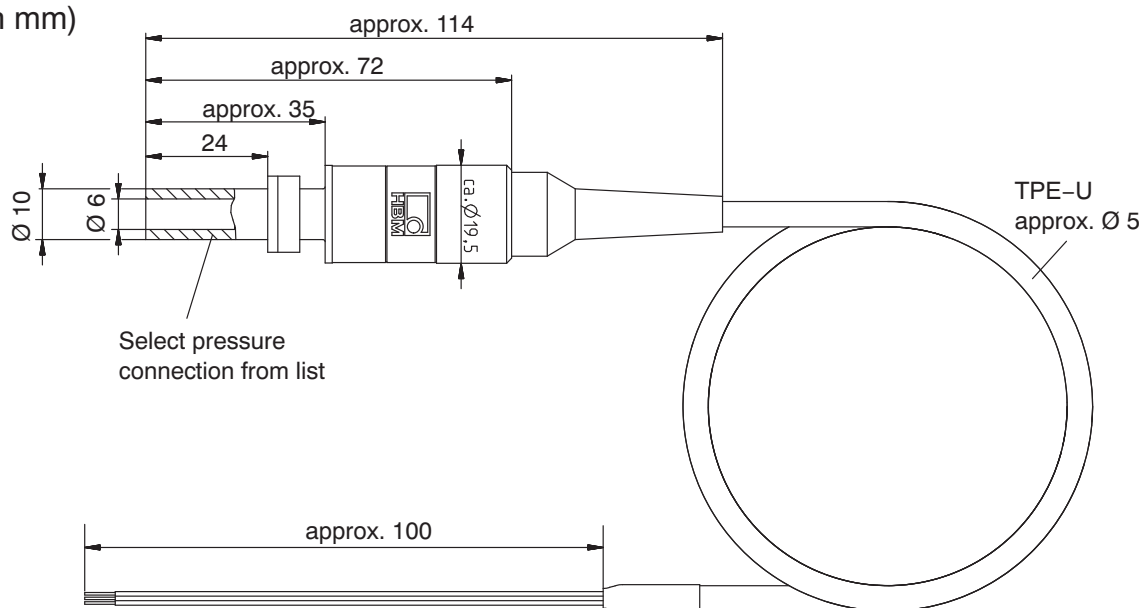
Absolute pressure transducer



Special features

- 2 mV/V strain gage sensor
- No sealing between pressure connection and strain gage sensor; no liquid filler
- Fast and economical installation
- Diverse pressure connection options
- Corrosion-resistant
- Mounting position as desired
- For static and dynamic pressures

Dimensions (in mm)



Pin assignment:

Excitation voltage (+)
Excitation voltage (-)
Output voltage (+)

blue
black
white

Output voltage (-)
Sense lead (+)
Sense lead (-)
Cable shield

red
green
gray
blank

Specifications

| Type | P8AP | | | | | | |
|---|------------------------------------|--|---------------|------------------|------------------|------------------|---------------|
| Accuracy class | 0,3 | | | | | | |
| Mechanical input quantities | | | | | | | |
| Measuring span | bar | 10 | 20 | 50 | 100 | 200 | 500 |
| Lower range value (abs.) | bar | 0 | | | | | |
| Natural frequency of the diaphragms | kHz | 12 | 16 | 29 | 60 | 86 | 134 |
| Attenuation of the diaphragms | 1 | 0,01 | | | | | |
| Operating range at 23 °C | % | 0...150 | | | | | |
| Overload limit at 23 °C | % | 175 | | | | | |
| Test pressure | % | 175 | | | | | |
| Destructive range | % | > 200 | | | | | |
| During dynamic loading maximum pressure | % | 100 | | | | | |
| permissible vibration bandwidth (as per DIN 50 100) | % | 70 | 70 | 85 | 95 | 95 | 60 |
| Material for parts which come into contact with the measurement medium: inner surface pressure connection | | stainless steel 1.4542 stainless steel 1.4301 | | | | | |
| Materials for parts which come into contact with the environment | | stainless steel 1.4301, polyethylene | | | | | |
| Dead volume with tube *) without pressure connection | mm ³ mm ³ | 1110 (410) | 1100 (400) | 1090 (390) | 1060 (360) | 1100 (400) | 1020 (320) |
| Control volume | mm ³ | 2 | | | 1.5 | 0.5 | 0.3 |
| Output characteristics | | | | | | | |
| Nominal (rated) sensitivity | mV/V | 2 ± 2% | | | | | |
| Input resistance at 23 °C | Ω | 420 (+180/-120) | | | | 370 (+130/-70) | |
| Output resistance at 23 °C | Ω | 330 (+90/-30) | | | | | |
| Nominal (rated) range of the excitation voltage (rms value) | V | 0.5...5 | | 0.5...12 | | | |
| Characteristic curve deviation (starting point setting) | % | 0,3 | | | | | |
| Repeatability as per DIN 1319 | % | ± 0,1 | | | | | |
| Temperature effect on the zero signal relative to the measuring span, per 10 K, in the nominal (rated) temperature rang | % | ± 0.3 | | | < ± 0.2 | | |
| Temperature effect on the sensitivity relative to the actual value, per 10 K, in the nominal (rated) temp. rang | % | ± 0.3 | | | | | |
| Ambient conditions | | Option A5 | | Option T2 | Option T9 | Option TH | |
| Nominal (rated) temperature range | °C | -10...+70 | | | -10...+70 | | |
| Operating temperature range | °C | -40...+80 | | | -40...+140 | | |
| Storage temperature range | °C | -50...+85 | | | -50...+140 | | |
| Impact resistance (type-tested to DIN IEC 68) | m/s ² | 800 | | | | | |
| Degree of protection (as per DIN 40050, IEC 68) | | IP 67 | | | | | |
| Connection cable length, free end **) | m | 5 | | | | | |
| Weight, approx. (incl. cable) | g | 250 | | | | | |

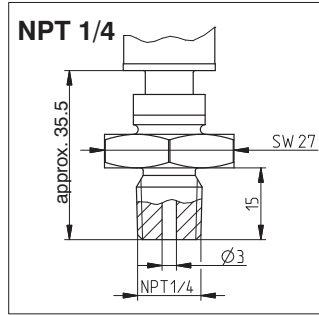
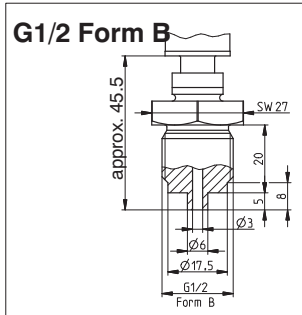
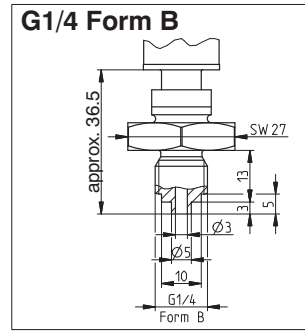
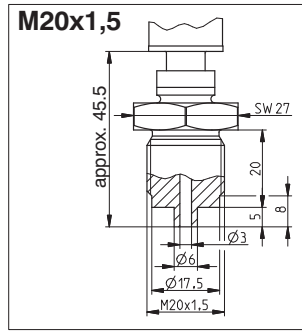
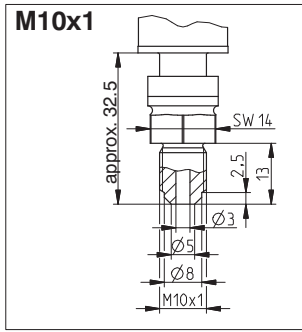
*) For the other pressure connections, see options; take the dead volume and the material from the "Connector elements" section on page 3.

**) For Option 3, Code T2: 1.5 m

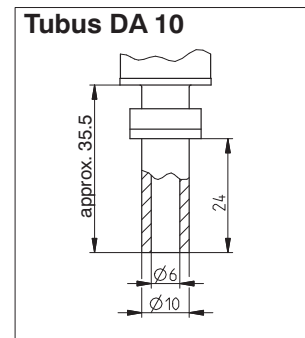
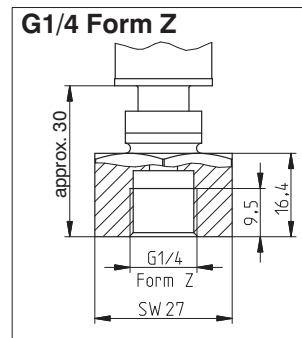
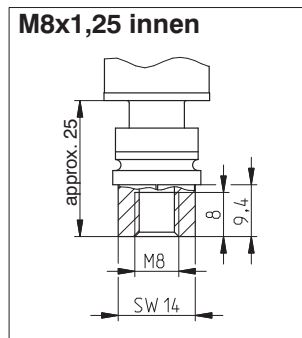
Economical standard versions with a tube (DA10) for pipe unions (see Options) can be supplied from stock at short notice.

| 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 |

Connector elements with external thread



Connector elements with internal thread and miscellaneous

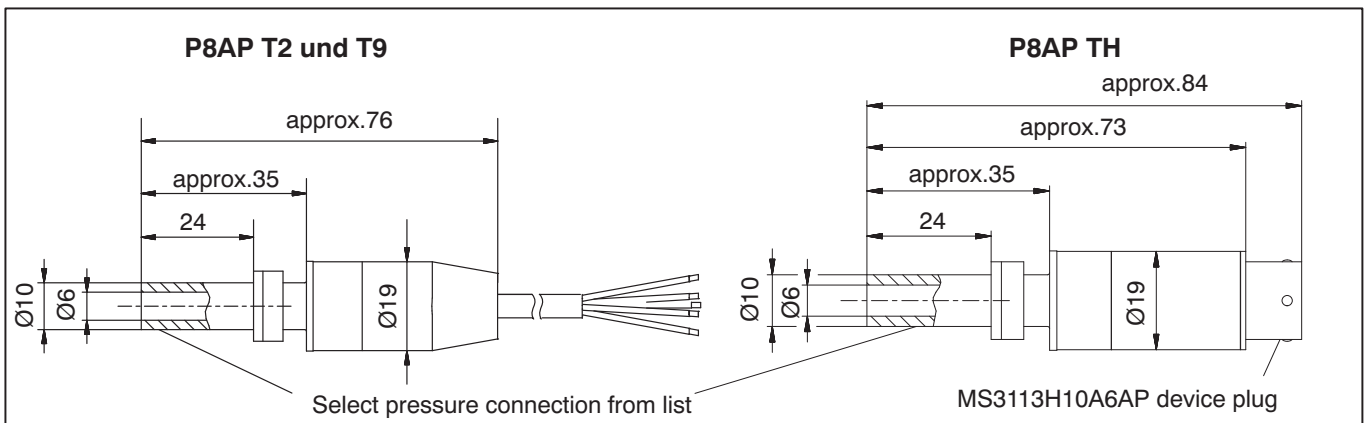


| | | External thread | | | | | Internal thread | | |
|------------------|-----------------|-----------------|---------|-------------|-------------|---------|-----------------|--------------|------------|
| | | M10x1 | M20x1.5 | G1/4 Form B | G1/2 Form B | NPT 1/4 | M8x1.25 | G 1/4 Form Z | Tube DA 10 |
| Dead volume *) | mm ³ | 170 | 260 | 190 | 260 | 190 | 180 | 100 | 700 |
| Full scale value | bar | 500 | 1600**) | 1000 | 1600**) | 1000 | 500 | 1000**) | 500 |
| Material | | 1.4542 | | | | | 1.4542 | | 1.4571 |

*) Add the dead volume of the connector element to the dead volume of the transducer

***) Data as per DIN 16288

High temperature versions:



Order code for options

| Code | Option 1: Measuring range selection 0 bar... |
|------|--|
| 218 | 10 bar |
| 221 | 20 bar |
| 225 | 50 bar |
| 228 | 100 bar |
| 231 | 200 bar |
| 235 | 500 bar |

| Code | Option 2: Pressure connection selection | |
|------|---|-----------------|
| 10 | M10x1 | External thread |
| 13 | M20x1.5 | |
| 14 | G1/4 Form B | |
| 15 | G1/2 Form B | |
| 17 | NPT 1/4 | |
| 51 | G1/4 Form Z | Internal thread |
| 50 | M8x1.25 | |
| 71 | DA10 screwed connection with cutting or clamping ring | |

| Code | Option 3: Version |
|------|--|
| A5 | Standard version |
| T2 | High temperature version (max. +140°C), with cable, 1.5 m, free ends |
| T9 | High temperature version (max. +140°C), with cable, 20 m, free ends |
| TH | High temperature version (max. +140°C), with HS6P connector *) |

| Code | Option 4: Special features |
|------|----------------------------|
| 1 | no |
| 2 | With pressure peak damping |

Ordering example

K-P8AP- 2 1 8 . 1 0 T 2 -0-K- 2

*) corresponds to PT06E-10-6S, from Bendix / UPT06J, from Cannon

Devices with can be supplied in the standard version from stock at short notice. These devices include all the accompanying options.

In addition, the following pressure connections are possible on request:

External thread: M12x1.5; M14x1.5; NPT1/8; NPT1/2; UNF 7/16-20; UNF 9/16-18; G1/2 Form D; G3/4Form D

Internal thread : NPT1/4; NPT1/2; G1/2 Form B

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