

DATA SHEET

P3IC / P3 ICP Absolute pressure transducer “Industrial Class”

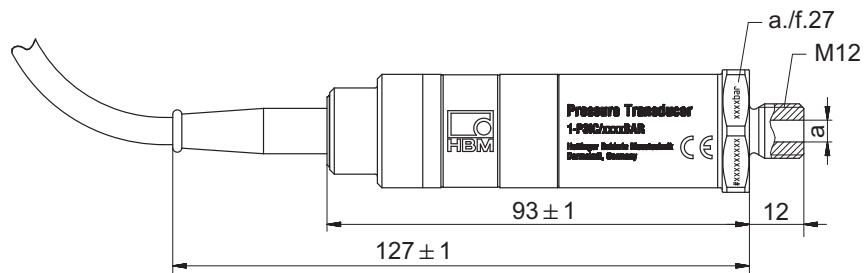
SPECIAL FEATURES

- For static and dynamic pressure variance, pressure peaks and pressure oscillations
- Nominal (rated) pressure 10 bar to 3,000 bar
- Strain gage measurement principle
- Corrosion resistant
- PT100 for temperature compensation in two-wire circuit

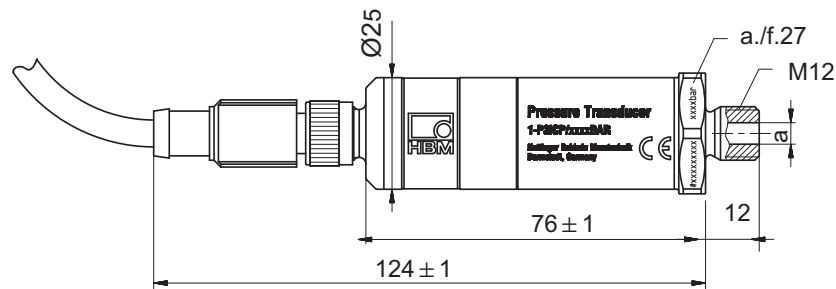


DIMENSIONS

P3IC 10-2,500 bar



P3ICP 10-2,500 bar



Drawings for measuring range 3,000 bar, see page 5

Dimensions (in mm)

Measuring range, 0 bar...	Order code	
	Cable connection 5 m cable, free ends	M12, 8-pin (sensor plug)
10 bar	1-P3IC/10BAR	1-P3ICP/10BAR
20 bar	1-P3IC/20BAR	1-P3ICP/20BAR
50 bar	1-P3IC/50BAR	1-P3ICP/50BAR
100 bar	1-P3IC/100BAR	1-P3ICP/100BAR
200 bar	1-P3IC/200BAR	1-P3ICP/200BAR
500 bar	1-P3IC/500BAR	1-P3ICP/500BAR
750 bar	1-P3IC/750BAR	1-P3ICP/750BAR
1 000 bar	1-P3IC/1000BAR	1-P3ICP/1000BAR
2 000 bar	1-P3IC/2000BAR	1-P3ICP/2000BAR
2 500 bar	1-P3IC/2500BAR	1-P3ICP/2500BAR
3 000 bar	1-P3IC/3000BAR	1-P3ICP/3000BAR

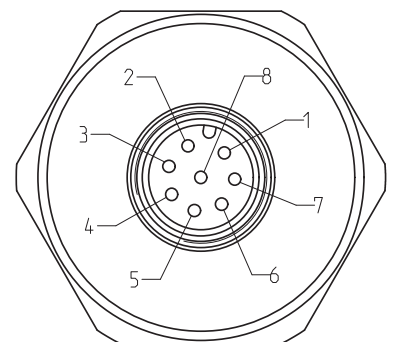
PIN ASSIGNMENT

Connection cable assignment

Color code	Connection
white	Measurement signal (+)
yellow	Measurement signal (-)
green	Bridge excitation voltage (+)
rose	Sense lead (+)
brown	Bridge excitation voltage (-)
blue	Sense lead (-)
red	Pt 100
gray	Pt 100

Plug assignment

Plug contact	Color code	Connection
1	white	Measurement signal (+)
4	yellow	Measurement signal (-)
3	green	Bridge excitation voltage (+)
6	rose	Sense lead (+)
2	brown	Bridge excitation voltage (-)
7	blue	Sense lead (-)
8	red	Pt 100
5	gray	Pt 100



SPECIFICATIONS PER DIN 16086

Type		1-P3IC / P3ICP												
Accuracy class		0.2	0.15	0.2	0.15		0.1			0.2				
Mechanical input quantities														
Pressure type		absolute pressure												
Measuring range, 0 bar ...	bar	10	20	50	100	200	500	750	1000	2000	2500	3000		
Initial value	bar	0												
Mechanical values per VDI/VDE 2600 , related to full scale value														
	Operating range at reference temperature	%	0 ... 200					0 ... 150						
	Overload limit at reference temperature	%	250					200						
	Test pressure	%	250					200			150			
	Permissible pressure at dyn. load	%						100						
Permissible oscillation width at dyn. load per DIN 50 100	%						70							
Dead volume	mm ³	2000					800					900		
Control volume	mm ³	9	7					1.5						
Output characteristics														
Output signal span	mV/V	2											1,5	
Characteristic curve deviation (initial point)	%	0.20	0.15	0.20	0.15		0.10					0.20		
Repeatability per DIN 1319	%	<±0.05												
Fundamental resonance frequency	kHz	13	15	26	38	67	100							
Input resistance at reference temperature	Ω						350 ±5							
Output resistance at reference temperature	Ω						350 ±5							
Insulation resistance	MΩ						5000							
Electrical strength	V	90												
Sensitivity tolerance	%	<±0.2	<±0.15											
Creep upon unloading 15 min.	%	0.2	0.1		±0.05		±0.03							
Effect of temperature on sensitivity in the nominal (rated) excitation voltage range per 10K, rel. to actual value														
	in the nominal (rated) temperature range	%	±0.1											
	in the operating temperature range	%	±0.2											
Effect of temperature on zero signal in the nominal (rated) excitation voltage range per 10K, rel. to nominal (rated) sensitivity														
	in the nominal (rated) temperature range	%	±0.1											
	in the operating temperature range	%	±0.15											
Excitation voltage														
Reference excitation voltage	V	5												
Nominal (rated) excitation voltage	V	0.5 ... 7.5												
Operating range	V	0.5 ... 12												
Ambient conditions														
Permissible voltage between measuring circuit and transducer ground at reference temperature	V	50												
Material														
	of parts in contact with the measurement medium	1.4542 / 1.4301					1.4542		1.4548					
of parts in contact with the environment		1.4301 / 1.454 / 1.4542, chloroprene / silicone												
Reference temperature	°C	23												
Nominal (rated) temperature range	°C	-10 ... +80												
Limiting temperature range	°C	-40 ... +100 (... 120°C up to 24 hours; accumulated)												

Measuring range, 0 bar ...	bar	10	20	50	100	200	500	750	1000	2000	2500	3000
Storage temperature range	°C	-50 ... +100										
Impact resistance (tested according to DIN EN 600 68-2-29)												
Impact acceleration	m/s ²	1000										
Impact duration	ms	4										
Impact form	-	Half sine wave										
Acceleration sensitivity per 10 m/s2 for exciting frequencies of 20% of natural frequency	%	< ± 0.001										
Mechanical specifications												
Degree of protection (per DIN 40050, IEC 529)		IP67										
Pressure connection		M12x1.5										M20x1.5
Tightening torque	N·m	30										
Mounting position		any										
Electrical connection P3IC/10 ... 3000 bar		PUR cable, 5 m long, free ends M12 sensor plug, 8 pins										
Weight without cable approx.	g	200										

ACCESSORIES

P3ICP accessories	Order number
M12 x 1.5 to M20 x 1.5 external thread adapter (up to 500 bar)	1-P3M/500/M20
M12 x 1.5 to G1/2 external thread adapter (up to 500 bar)	1-P3M/500/R1/2
Double-cone seal, 90° (for nominal (rated) measuring range up to 3000 bar), Scope of supply: 2 pieces per pack ¹⁾	2-9278.0376
Connection cable with M12 plug, 5 m long, free ends	1-KAB168-5
Connection cable with M12 plug, 20 m long, free ends	1-KAB168-20

¹⁾ A double-cone seal is included in the scop of supply of all P3 with measuring ranges of 500 bar and higher. The parts specified above are accessories for replacement.

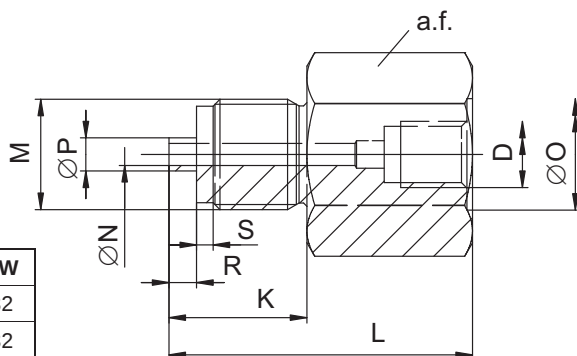
Mounting of plug	Order number
MS3106PEMV plug, mounted to transducer cable	D-MS/MONT
15-pin D plug, mounted to transducer cable	D-15D/MONT

To be ordered separately

Connecting branches

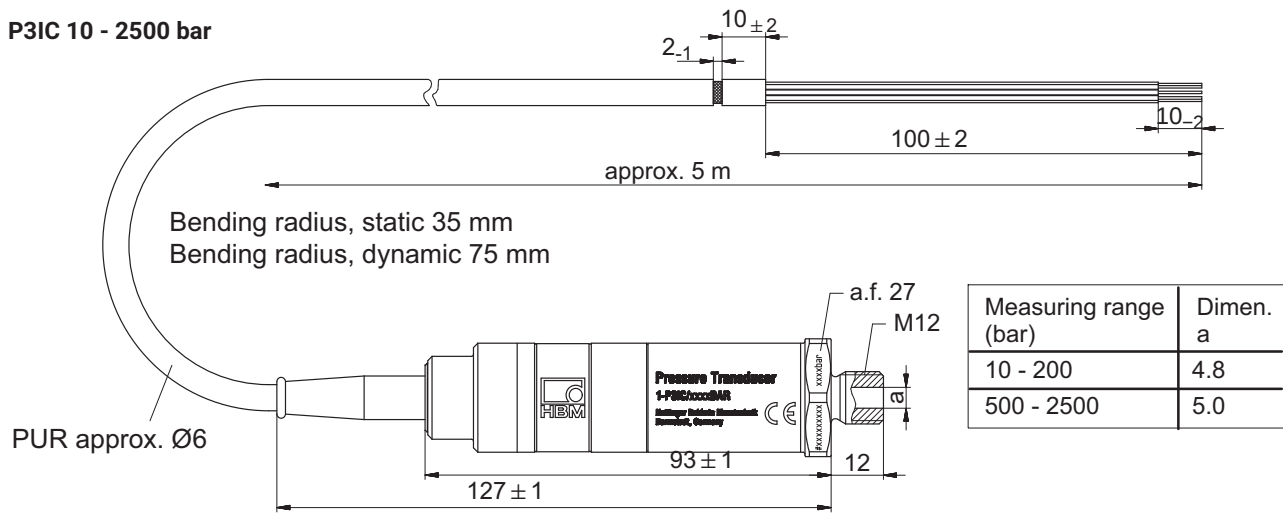
for measuring ranges to 500 bar
Material: stainless steel 1.4305

Type	D	K	L	M	N	O	P	R	S	SW
P3M/500/M20	M12x1.5	25	50	M20x1.5	4	20.2	5	5	3	32
P3M/500/R1/2	M12x1.5	20	50	G1/2	4	20.2	5	5	3	32



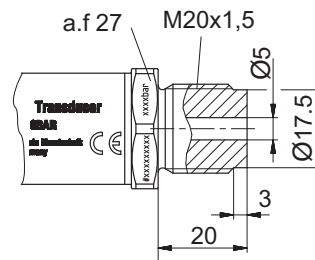
All dimensions in mm

P3IC 10 - 2500 bar

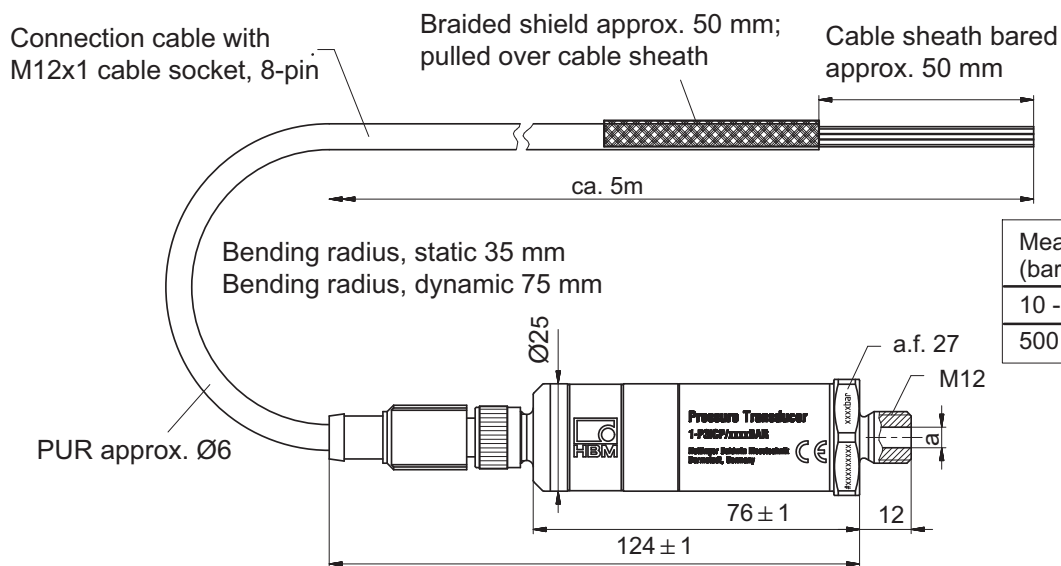


Differing detail:

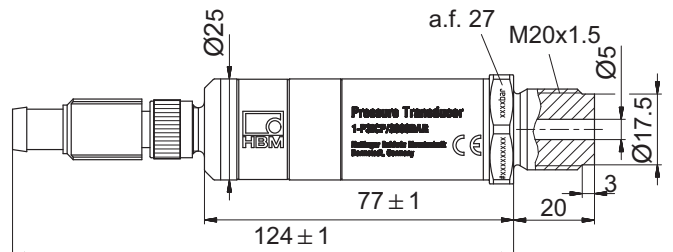
P3IC 3000 bar



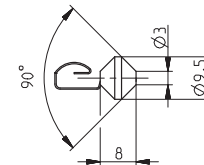
P3ICP 10 - 2500 bar



P3ICP 3000 bar

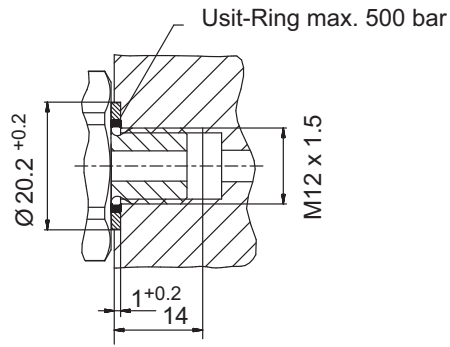


Conical seal
500 - 3000 bar

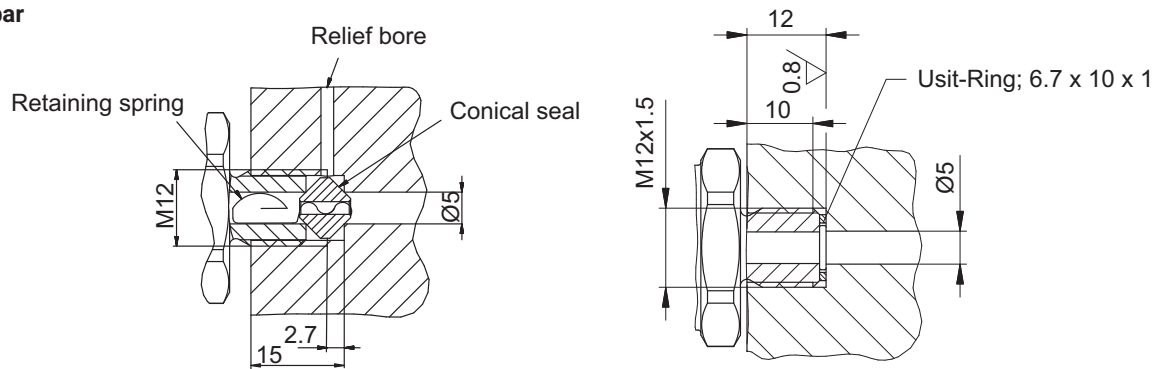


MOUNTING OPTIONS

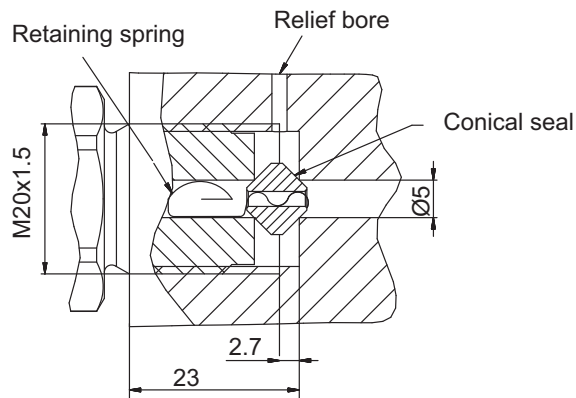
10 - 500 bar



500 - 2500 bar



3000 bar



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