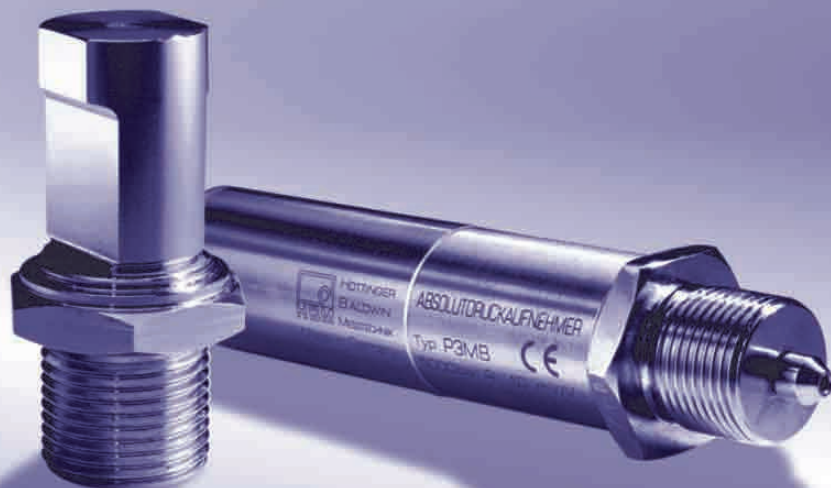
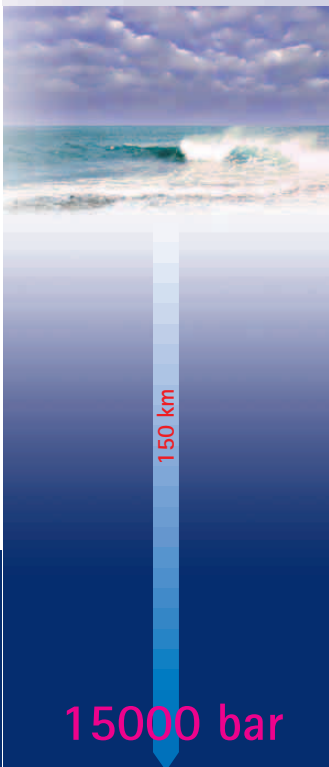




Competence up to 15 000 bar

Pressure measurement technology from HBM



Pressure transducers, pressure 500 bar ... up

Ask about our product line of pressure transducers and pressure transmitters for measuring absolute and relative pressure, as well as for our extensive line of analog and digital amplifiers with measurement software.

We have everything you need for the entire measurement chain, and we can create customized solutions for your measurement applications.

High quality – our standard. Many customers trust in the precision and reliability of our high-end components and systems for measurement. Our devices are used in countless applications and in extreme conditions.

Our measurement amplifiers provide a flexible interface and - if combined with catman®, our range of software for measurement applications - enable measured results to be quickly processed, visualized, evaluated and documented. Rely on complete solutions made by HBM – measurement with confidence.

1,000 bar
2,000 bar



Reliability

Our transducers meet the highest demands. They build on decades of experience in transducer construction using measuring elements based on steel diaphragms or monolithic steel measuring bodies. They also offer excellent overload stability and a long service life. Experience gained in all fields of application has shown that this technology exceeds expectations.



Robustness

Our transducers have been field-tested in harsh conditions. They prove their strengths wherever there are pressure peaks and vibrations, for example, in many hydraulics and also in "mobile weighing" applications (figure) where in addition you can benefit from HBM's competence in weighing technology. All HBM pressure transducers are corrosion resistant and IP67 protected.

transmitters... to ultra high pressures

5,000 bar
10,000 bar
15,000 bar



Dynamics

Today's manufacturing and automation processes require fast feedback loops. With strain gage based transducers these signals can be mapped reliably. Their design offers an excellent load cycle capability coupled with the robustness for which HBM transducers are well known.



Highest pressures

HBM provides standard transducers for up to 15,000 bar based on a patented construction principle. Such high pressures can only be measured because foil strain gage technology is used. During design, the geometry of the monolithic measuring body is optimized as required. The measuring grid is ultimately fitted in the final manufacturing stage. Please contact us for more information.

BlueLine
Ultra high pressure transducers

... Pressure transducers at a

The table below provides an overview of HBM's range of pressure transducers. Please visit our homepage www.hbm.com for downloads. Furthermore, we'll be glad to send you individual data sheets for more detailed information.



P3MB

Type/Property	Transducer		
	P3MB	P3MBP <i>BlueLine</i>	NEW P6A
Special features	robust/accurate	robust/excellent load cycle capability up to 15,000 bar	robust
Accuracy	0.1/0.15/0.2	0.2/0.3/0.5	0.2
Operating range	% 0...200/0...150	0...120	0...200/0...150
Nominal (rated) temperature range	°C -20...+80	-20...+80	-10...+80
Max. media temperature	°C +100	+100	+100
Options	yes		
Nominal (rated) range in bar 0...			
10	•		•
20	•		•
50	•		•
100	•		•
200	•		•
500	•		•
1000	•		
2000	•		
3000	•		
5000		•	
10000		•	
15000		•	

glance



P3MBP BlueLine



P6A



P8AP



P2V



PE300 "Digibar"

P8AP	Pressure transmitter* P2V	Digital measuring device PE300 "Digibar"
compact, low weight	analog output 0.5...10V	complete measuring chain with multi-function display, battery/external supply
0.3	0.2	0.2
0..150	0...105	-10...+110
-10...+70	0...+70	-20...+70
+100/+140*	+100	+110
yes		yes
•		•
•		•
•		•
•		•
•		•
•	•	•
	•	•
	•	•
	•	•
	•	
	•	

*... for the P8AP high temperature version

**... available from 2005, release date depends on measuring range

...Benefit

- from our comprehensive product line

1. "robust, accurate and reliable"

HBM meets the challenges of new technological processes in mechanical engineering, manufacturing technology and other industrial applications. We provide the right solution for laboratory and harsh industrial conditions.

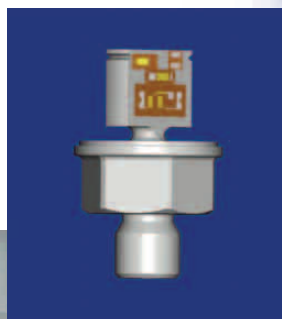
HBM transducers offer excellent properties even in the highest pressure ranges. The result is an extremely high load cycle capability coupled with the robustness for which HBM transducers are well known.

The entire product range of pressure transducers benefits from our competence in the field of ultra high pressures. Our experience has been incorporated into the transducer design which brings about further increases in accuracy, robustness and service life. For example, one-piece robust measuring bodies from the field of high pressure technology, where their sealing and assembly was improved, are used in the development of new transducers over a wide nominal (rated) measuring range.

2. Complete measurement solutions from a single source ... including signal conditioning and software

Ask us about solutions to your special requirements for pressure transducers and pressure transmitters as well as about our comprehensive range of analog and digital measurement amplifiers such as MGCplus and PME, plus our range of measurement software.

Upon request we can complement your transducer with a high-precision amplifier, such as MGCplus ML30 with 0.03 accuracy, or MGCplus ML38 with 0.0025 accuracy. You can get everything you need for the entire measurement chain from us, and we will create customized solutions for your measurement application.





3. Pressure calibration by HBM experts

In 1977, HBM was the first company in Germany to be accredited as an official DKD (German Calibration Service) calibration laboratory. The DKD laboratory for pressure was accredited in 1979.

- Large range of calibration steps in the DKD (0.1 bar to 3,600 bar gage pressure)
- Extreme accuracy because of the use of piston manometers, force generated directly by the applied mass in the earth's gravitational field

DKD – German Calibration Service

- Amalgamation of calibration laboratories with protected quality
- Each laboratory is accredited by the German Metrology Institute (PTB)

Working standard calibration

- Calibration at the responsibility of the calibration laboratory carrying out the testing
- Traceability must be explicitly documented. At HBM this is done by reference to DIN 10012-1
- For special applications, the HBM service team can carry out the calibration on site.

Pressure							
	External*		DKD calibration		Working standard		
	Absolute pressure		possible steps		Absolute pressure	possible steps	
			Gage pressure	$\frac{10}{A}$		Gage pressure	$\frac{6}{B}$
0,05 bar					X	X	<input type="checkbox"/>
0,1 bar					X	X	<input type="checkbox"/>
0,2 bar					X	X	<input type="checkbox"/>
0,25 bar					X	X	<input type="checkbox"/>
0,5 bar					X	X	<input type="checkbox"/>
1 bar			X	<input type="checkbox"/>	X	X	<input type="checkbox"/>
2 bar			X	<input type="checkbox"/>	X	X	<input type="checkbox"/>
5 bar			X	<input type="checkbox"/>	X	X	<input type="checkbox"/>
7 bar			X	<input type="checkbox"/>	X	X	<input type="checkbox"/>
10 bar	X	<input type="checkbox"/>			X	X	<input type="checkbox"/>
20 bar			X	<input type="checkbox"/>	X	X	<input type="checkbox"/>
50 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
100 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
200 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
500 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
1000 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
2000 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
3000 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
3600 bar			X	<input type="checkbox"/>		X	<input type="checkbox"/>
5000 bar	X	<input type="checkbox"/>				X	<input type="checkbox"/>
10000 bar	X	<input type="checkbox"/>					
15000 bar	X	<input type="checkbox"/>					
			Best measurement capability: >0.008%				

Standard offer
 Not available

A 2+2 increasing/decreasing series, test procedure acc. to DKD-R 6-1
 B 1+1 increasing/decreasing series

* by accredited laboratory, possible steps and number of meas. series on request





From Sensor to Software

Benefit from our strength: not only transducer technology to the highest pressures but also signal conditioning, amplifiers, software and calibration – the complete solution from HBM – your competent measurement partner.

www.hbm.com



measurement with confidence

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