Absolute pressure gauge, stainless steel
High overload safety
Models 532.52, 532.53 and 532.54

Applications

- Pressure measurement independent of fluctuations in the atmospheric pressure
- For gaseous, liquid and aggressive media, also in aggressive environments
- Monitoring of vacuum pumps
- Control of vacuum packing machines
- Monitoring of condensation pressures and determination of vapour pressure in liquids

Special features

- High overload safety
- Long service life due to metallic media chamber sealing
- Media chamber protected against unauthorised intervention, DT-GM 86 08 176
- Gauges compatible with switch contacts
- Scale ranges from 0 ... 25 mbar absolute pressure

Description

Design
DIN 16002

Nominal size in mm
100, 160

Accuracy class
Model 532.52: 1.0
Model 532.53: 1.6
Model 532.54: 2.5

The measurement accuracy is ensured for ambient pressure fluctuations between 955 and 1,065 mbar (min. and max. of atmospheric pressure).

Scale ranges
0 ... 25 mbar to 0 ... 25 bar absolute pressure

Pressure limitation
Steady: Full scale value
Fluctuating: 0.9 x full scale value

Overload safety
Minimum 1 bar absolute pressure (atmospheric pressure), in addition 10 x full scale value, max. 25 bar absolute pressure

Permissible temperature
Ambient: -20 ... +60 °C
Medium: +100 °C maximum

Temperature effect
When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. ±0.8 %/10 K of full scale value

Ingress protection
IP54 per IEC/EN 60529

for further approvals see page 3

Data sheets showing similar products:
Absolute pressure gauge, compact design; model 516.11; see data sheet PM 05.01
**Standard version**

**Process connection (wetted)**
Stainless steel 1.4571, lower mount
G ½ B (male), SW 22

**Pressure element (wetted)**
≤ 0.25 bar: Stainless steel 1.4571
> 0.25 bar: NiCr-alloy (Inconel)

**Measuring chamber (wetted)**
Stainless steel 1.4571

**Movement**
Stainless steel

**Dial**
Aluminium, white, black lettering

**Pointer**
Adjustable pointer, aluminium, black

**Case**
Stainless steel, with blow-out device
Instruments with liquid filling with compensating valve to vent case

**Window**
Laminated safety glass

**Bezel ring**
Bayonet ring, stainless steel

**Mounting by means of:**
- Rigid measuring lines
- Mounting bracket for wall or pipe mounting (option)
- Panel or surface mounting flange (option)

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**Options**

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Liquid filling (models 533.52, 533.53, 533.54)
- Safety version (models 532.3x, 533.32, 533.33, 533.34)
- Overload safety: 10 x full scale value
- Wetted parts from Monel (models 56x.3x, 56x.5x, application test required)
- Medium temperature stability > 100 °C
- Permissible ambient temperature -40 ... +60 °C (silicone oil filling, application test required)
- Open connecting flanges DN 15/50 PN 16/40 (wetted)
- Small flange for vacuum applications DN 10/32 DIN 28403 (wetted)
- Panel or surface mounting flange (consider measuring cell!)
- Instrument mounting bracket for wall or pipe mounting (data sheet AC 09.07)
- Absolute pressure gauge with switch contacts, see data sheet PV 25.02
- Absolute pressure gauge with electrical output signal, see model APGT43, data sheet PV 15.02

**Special versions**

Model 532.53 with expanded lower scale range
Scale range 0 ... 1,020 mbar absolute pressure, working range 0 ... 30 mbar in class 1.6 expanded to approx. 130 °C

**Working range**
Class 1.6

![Graph showing working range with scale and temperature marking](chart.png)
Design and operating principle

- The diaphragm (1) separates the media chamber (3) and the reference pressure chamber (2) with absolute pressure zero.
- Pressure differential between media chamber (3) and reference pressure chamber (2) will deflect the diaphragm (1).
- In case of an overpressure overload the pressure element will be protected by a contoured metal bolster.
- The deflection is transferred from the pressure chambers through bellows or corrugated tubes (4), transmitted to the movement via the link (5) and indicated.

Illustration of the principle

Approvals

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<th>Logo</th>
<th>Description</th>
<th>Country</th>
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<td>Safety (e.g. electr. safety, overpressure, …)</td>
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Certificates (option)

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, indication accuracy)

Approvals and certificates, see website
### Dimensions in mm

#### Standard version

<table>
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<th>NS</th>
<th>Scale range</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
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<tr>
<td></td>
<td>in bar</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>100</td>
<td>≤ 0.25</td>
<td>15.5</td>
<td>49.5</td>
</tr>
<tr>
<td>100</td>
<td>&gt; 0.25</td>
<td>15.5</td>
<td>49.5</td>
</tr>
<tr>
<td>160</td>
<td>≤ 0.25</td>
<td>15.5</td>
<td>49.5</td>
</tr>
<tr>
<td>160</td>
<td>&gt; 0.25</td>
<td>15.5</td>
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Process connection per EN 837-3/7.3

### Option connecting flange

- **Open connecting flange, DN 15 … 50, PN 6/40**
- **Small flange for vacuum applications, DN 10 ... 32**

Connection dimensions per DIN 2501

Connection dimensions per DIN 28403
Ordering information
Model / Nominal size / Scale range / Process connection / Options