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 packaging machines
- Monitoring of condensation pressures and determination of vapour pressure in liquids

Special features

- High overload safety
- Long service life due to metal media chamber sealing and the extremely gas-tight material of the reference chamber
- Instruments compatible with switch contacts
- Scale ranges from 0 ... 25 mbar absolute pressure

Description

The model 532.52, 532.53 and 532.54 absolute pressure gauges are used when the pressure measurement needs to be carried out independently of fluctuations in the atmospheric pressure.

Based on the diaphragm element measurement principle, extremely low scale ranges from 0 ... 25 mbar absolute pressure are available. These measuring instruments, made entirely of stainless steel, are suitable for gaseous, liquid and aggressive media.

The instruments owe their high long-term stability and subsequent long service life to the special, extremely gas-tight material of the reference chamber.

Thus, the required vacuum can be maintained in the reference chamber for a long time. A metal media chamber sealing also contributes to this.

In addition, depending on the scale range, this instrument features an overload safety of at least 1 bar absolute pressure. Depending on the version, the overload safety can be up to 10 times the full scale value, but a maximum of 25 bar absolute pressure.

For applications with shock or vibration loads, absolute pressure gauges with liquid filling can be used.

The qualification and production of the instruments is carried out in accordance with DIN 16002, which was developed with the cooperation of WIKA.
Specifications

Dial
Aluminium, white, black lettering

Pointer
- Adjustable pointer, aluminium, black
- Standard pointer, aluminium, black (for models with liquid filling)

Case
Stainless steel, safety level "S1" per EN 837: With blow-out device
Instruments with liquid filling with compensating valve to vent case

Window
Laminated safety glass

Ring
Bayonet ring, stainless steel

Fill fluid (for models 533.52, 533.53, 533.54)
Glycerine-water mixture

Dial
Aluminium, white, black lettering

Nominal size in mm
100, 160

Accuracy class
- 1.0 for model 532.52
- 1.6 for model 532.53
- 2.5 for model 532.54
The 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
At least 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
Storage: -40 ... +70 °C

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

Ingress protection per IEC/EN 60529
- IP4
- IP65 (with liquid filling)

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

Pressure element (wetted)
Diaphragm element
Stainless steel 1.4571 for scale range ≤ 0 ... 0.25 bar absolute pressure
NiCr alloy (Inconel) for scale range > 0 ... 0.25 bar absolute pressure

Media chamber (wetted)
Stainless steel 1.4571

Movement
Stainless steel
### Functionality

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

### Other versions

- Other process connection
- Safety level “S3” per EN 837: With solid baffle wall and blow-out back, models 533.32, 533.33, 533.34
- Overload safety: 10 x full scale value
- Max. medium temperature +200 °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)
- Wetted parts from Monel, models 56x.3x, 56x.5x, application test required
- Absolute pressure gauge with switch contacts; see data sheet PV 25.02
- Absolute pressure gauge with electrical output signal, model APGT43; see 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

### Accessories

- Sealings, model 910.17; see data sheet AC 09.08
- Panel or surface mounting flange
  (consider measuring cell!)
- Instrument mounting bracket for wall or pipe mounting;
  see data sheet AC 09.07
### Approvals

<table>
<thead>
<tr>
<th>Logo</th>
<th>Description</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="ce.png" alt="CE" /></td>
<td><strong>EU declaration of conformity</strong>&lt;br&gt;ATEX directive (option)&lt;br&gt;Hazardous areas&lt;br&gt;- Ex c Gas II 2 G c IIC TX X&lt;br&gt;Dust II 2 D c TX X</td>
<td>European Union</td>
</tr>
<tr>
<td><img src="eac.png" alt="EAC" /></td>
<td><strong>EAC (option)</strong>&lt;br&gt;Hazardous areas</td>
<td>Eurasian Economic Community</td>
</tr>
<tr>
<td><img src="gost.png" alt="GOST" /></td>
<td><strong>GOST (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Russia</td>
</tr>
<tr>
<td><img src="kazinmet.png" alt="KazinMet" /></td>
<td><strong>KazInMet (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td><img src="mtschs.png" alt="MTSCHS" /></td>
<td><strong>MTSCHS (option)</strong>&lt;br&gt;Permission for commissioning</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td><img src="belgim.png" alt="BelGIM" /></td>
<td><strong>BelGIM (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Belarus</td>
</tr>
<tr>
<td><img src="ukrsepro.png" alt="UkrSEPRO" /></td>
<td><strong>UkrSEPRO (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Ukraine</td>
</tr>
<tr>
<td><img src="ex_ukraine.png" alt="Ex Ukraine" /></td>
<td><strong>Ex Ukraine (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Ukraine</td>
</tr>
<tr>
<td><img src="uzstandard.png" alt="Uzstandard" /></td>
<td><strong>Uzstandard (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>Uzbekistan</td>
</tr>
<tr>
<td><img src="cpa.png" alt="CPA" /></td>
<td><strong>CPA (option)</strong>&lt;br&gt;Metrology, measurement technology</td>
<td>China</td>
</tr>
<tr>
<td><img src="crn.png" alt="CRN" /></td>
<td><strong>CRN</strong>&lt;br&gt;Safety (e.g. electr. safety, overpressure, ...)</td>
<td>Canada</td>
</tr>
</tbody>
</table>

### Certificates (option)

- 2.2 test report per EN 10204<br>  (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204<br>  (e.g. material proof for wetted metal parts, indication accuracy)
- Others on request

Approvals and certificates, see website
Dimensions in mm
Standard version

<table>
<thead>
<tr>
<th>NS</th>
<th>Scale range in bar</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>100≤ 0 ... 0.25</td>
<td>15.5</td>
<td>49.5</td>
<td>101</td>
</tr>
<tr>
<td>100&gt; 0 ... 0.25</td>
<td>15.5</td>
<td>49.5</td>
<td>101</td>
</tr>
<tr>
<td>160≤ 0 ... 0.25</td>
<td>15.5</td>
<td>49.5</td>
<td>161</td>
</tr>
<tr>
<td>160&gt; 0 ... 0.25</td>
<td>15.5</td>
<td>49.5</td>
<td>161</td>
</tr>
</tbody>
</table>

Process connection per EN 837-3/7.3

Connecting flanges

Open connecting flange, DN 15 ... 50, PN 6/40
Connection dimensions per DIN 2501

Small flange for vacuum applications, DN 10 ... 32
Connection dimensions per DIN 28403
Ordering information
Model / Nominal size / Scale range / Process connection / Options