ACCESSORIES MANOMETER FOR PRESSURE PMAX ≤ 10 BAR • DATA SHEET

Suitable for: RITTER Drum-type Gas Meters $p_{\text{max}} > 1$ bar

<table>
<thead>
<tr>
<th>Type</th>
<th>Bourdon tube pressure gauge</th>
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</thead>
<tbody>
<tr>
<td>Measuring Range</td>
<td>0 to 6 bar 0 to 10 bar available for higher pressure ranges</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.2 bar 0.5 bar</td>
</tr>
</tbody>
</table>

Material: Stainless steel (Cr-Ni)

Application

The Manometer can be used for measurement of the gas pressure while measuring the gas flow. Among other reasons, this is necessary if the measured and indicated actual volume of gas must be recalculated into the norm volume. The actual volume is the volume at the actual temperature and the actual pressure.

The norm volume of a gas is the volume at norm conditions which are (in Germany):

- Norm temperature = 273.15 Kelvin (= 0 °C)
- Norm pressure = 1.013,25 mbar

The formula for converting the actual volume into norm volume is:

$$ V_N = V_i \times \frac{P_N}{P_i} \times \frac{T_N}{T_i} $$

| $V_N$ | Norm Volume in [ltr] |
| $V_i$ | indicated Volume in [ltr] |
| $P_N$ | Norm Pressure in [mbar-absolut] |
\[ p_a = \text{actual Pressure in mbar-absolute} \]

\[ T_N = \text{Norm Temperature in Kelvin} \]

\[ T_i = \text{indicated Temperature in Kelvin} \]

**Note:** The indicated gas pressure at the manometer is the differential pressure between the gas pressure at the gas inlet and the actual atmospheric air pressure. Thus, the actual gas pressure (\( p_a \)) of the above formula equals the **indicated gas pressure** at the Manometer plus the **actual atmospheric air pressure** in [mbar].

**Installation**

The Manometer is pre-mounted to the gas meter (positioned at the gas inlet nozzle). The gas inlet nozzle is labelled accordingly. Therefore, the manometer is ready for use and no further installation is to be performed by the user.

**Please note:** The manometer screw connection to the gas meter is sealed by Teflon® tape. When disassembling the manometer from the gas meter, the Teflon® tape cannot be used again and must be replaced by a new Teflon® tape.

Image bourdon tube pressure gauge

Source: WIKA Alexander Wiegand SE & Co. KG, 63911 Klingenberg/Germany, Data sheet PM 02.02, 03/2017

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The most recent version of this data-sheet can be found at [https://www.ritter.de/en/data-sheet/manometer-up-to-10-bar/](https://www.ritter.de/en/data-sheet/manometer-up-to-10-bar/)

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