

ACCESSORIES MANOMETER FOR PRESSURE $P_{MAX} \leq 1$ BAR • DATA SHEET



Suitable for: RITTER Drum-type Gas Meters $500 \text{ mbar} \leq p_{max} \leq 1 \text{ bar}$

Type	Capsule pressure gauge	
Measuring Range	0 to 600 mbar	0 to 1 bar
Resolution	20 mbar	50 mbar

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:

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

V_N = Norm Volume in [ltr]

V_i = indicated Volumen in [ltr]

p_N = Norm Pressure in [mbar-absolut]

p_a = actual Pressure in [mbar-absolut]

T_N	=	Norm Temperature in	[Kelvin]
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T_i	=	indicated Temperature in	[Kelvin]
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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 (pa) 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 capsule pressure gauge

Source: WIKA Alexander Wiegand SE & Co. KG, 63911 Klingenberg/Germany, Data sheet PM 06.03 . 04/2017

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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-1-bar/>

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