



Suitable for: RITTER Bellows-type Gas Meters
Measuring Range: 0 to 60 mbar
Resolution: 2 mbar
Type of manometer: Capsule pressure gauge

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:

$$V_N = V_i \times \frac{P_a}{P_N} \times \frac{T_N}{T_i} \quad \text{where} \quad \begin{array}{ll} V_N = & \text{Norm Volume in [ltr]} \\ V_i = & \text{indicated Volume in [ltr]} \\ p_N = & \text{Norm Pressure in [mbar]} \\ p_a = & \text{actual Pressure in [mbar]} \\ T_N = & \text{Norm Temperature in [Kelvin]} \\ T_i = & \text{indicated Temperature in [Kelvin]} \end{array}$$

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:

Unpack the Manometer which is mounted into a T-piece. According to the rules for calibration and measurement with gas meters, the Manometer must be positioned at the gas inlet of the meter (see right picture above). The gas inlet nozzle is labelled accordingly.

Mount the Manometer onto the gas inlet nozzle by tightly screwing the union nut which is attached to the Thermometer. Thus, the Manometer is ready for use.

Suitable for	RITTER Gas Meters			
Measuring Range	0 ... 600 mbar	0 ... 1 bar	0 ... 6 bar	0 ... 10 bar
Resolution	20 mbar	50 mbar	0.2 bar	0.5 bar
Type	Bourdon tube pressure gauge			
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)

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

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

V_N	=	Norm Volume in	[ltr]
V_i	=	indicated Volume in	[ltr]
p_N	=	Norm Pressure in	[mbar]
p_a	=	actual Pressure in	[mbar]
T_N	=	Norm Temperature in	[Kelvin]
T_i	=	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.