PAUL-GOTHE-GmbH Bochum

Wittener Straße 82
D-44789 Bochum

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Manual
for flowmeter

The flowmeter should use always in a upright position and without high pressure or vacuum.

The indicated value must corrected by correction factors.

More information and the Declaration of Conformity can be found at service and support.

Reading of the flowmeter: read the measured value at the top edge of the float.

$$Volume(gasmeter) = scale(rotameter) \bullet K_\delta \bullet K_t \bullet K_p$$

$$scale(rotameter) = \frac{volume(gasmeter)}{K_\delta \bullet K_t \bullet K_p}$$

δ_B: gas density NPT [kg/m³]
δ_E: calibrate density NPT [kg/m³]
b: atmospheric pressure [mbar]
p: operating pressure [mbar]
p_N: NPT-pressure (1013 mbar)
T: NPT temperature (273 K)
t: operating temperature [°C]

Calculation of the factor[1]

$$K_\delta = \sqrt{\frac{\delta_E}{\delta_B}}, \quad K_t = \sqrt{\frac{293}{(273+t)}}, \quad K_p = \sqrt{\frac{p}{1000}}$$

Respect: Disturbances in the ad (dead loss) can happen through pumps in front of the flowmeter (rotary vane- and membrane-pumps). To avoid this, use a pulsation dumper in front of the flowmeter! Calibrate the flowmeter with the gas meter.

Working medium:

Inert and corrosive gas which have no negative impact on the physical and chemical properties of the tube , float, seal and union materials.

Operating pressure: tubes with plastic unions: 10 bar.

Accuracy class: 4 according to VDE/VDI 3513, part 2, ± 1% from final value and ± 3% from measured value.

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[1]   For the calculation of the volume flow rate see the guideline:
VDI/VDE 3513 part 1:2014-03: Variable-area flowmeters - Calculation methods, Beuth-Verlag