

LABORATORY GAS METER

Wet version

Low-volumetric flow meter



Applications

- **Media:**

Non-aggressive gases, inhaled air, ethylene, boron chloride, butane, CO, dry CO₂, hydrogen chloride, inert gases, sewer gases, forming gases, gaseous sulphurous acid*, isobutyl exhaust gases, methane, ozone, propane, oxygen, city gas, nitrogen, hydrogen.

Additional gases for stainless steel models: acetylene, acetone, acrylonitrile, NH₃.

- **Branches**

Physical and chemical laboratories, analyses and environmental technologies, engine benches for exhaust gas

- **Functions:**

Registration, controlling, monitoring, analysis

* without any guarantee

Brief information

Laboratory gas meters are particularly suitable for the exact measurement of low volumes of gas (2l/h). By adjusting the sealing liquid and with the help of a pressure gauge (10 and 50 mbar) and a thermometer, they can be individually adapted to suit the ambient and measurement conditions (atmospheric operating pressure / gas temperature). This means they fulfil the highest requirements when it comes to accuracy. On request, all devices can be fitted with a pulse generator (10 Imp. /360°C)

Operating principle

Wet gas meters operate in accordance with the displacement principle and are filled with a sealing liquid (water or oil). The intake and outlet of the gas is separated from each other by means of the sealing liquid. The gas enters in the centre of the drum. On account of the removal of the gas at the exit side, a pressure drop occurs which causes the drum to rotate after overcoming the inertia and internal friction. The drum is equipped with five measuring chambers. During the rotation of the drum, the measuring chambers are filled with gas until they are totally immersed in the sealing liquid. That way they are separated from the opening of the gas intake. When the drum continues to rotate, the exit will be released, and the gas leaves the measuring instrument via the exit.

The number of the measuring chambers multiplied by the number of rotations of the drum is equal to the measured volume.

The instrument dial has a scale in litres and can depending upon size of the counter be read to an accuracy between 1/10 to 10 litres. A further scale allows the user to read the consumption in litres per hour. The five-digit roller counter, which can be reset, displays the gas volume in cubic meters. On request, the meter can be fitted with a Namur pulser or a rotary pulser. It is recommended the rotary pulser is used with 100 or 1000 pulses/360°. Special versions up to 1500 pulses/360° are also available.

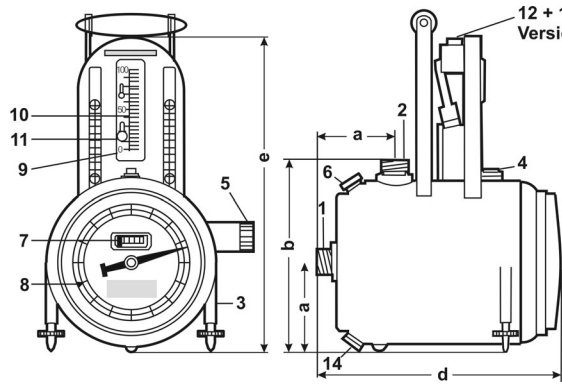
Ordering

In order to process your order quickly and efficiently, we need information on the pressure range and the type of gas to be measured.

Main Features

- **Adjustable and highly accurate flow meter for lab and analytical tests**
- **Low decimal measurement error**
- **Highly accurate readout**
- **Maintenance free**
- **Flow range in standard, special and high-pressure versions from 2l/h to 15m³/h**
- **Measuring range 1:100**
- **Measuring error 0.5 to 1%**
- **Operating pressure standard, special version 10 mbar and 50 mbar, high-pressure version 25 bar, further versions on request**
- **Low-pressure range**
- **Housing and drum material: brass plate**
- **Special version in PVC or stainless steel; further material combinations on request**
- **High pressure range**
 - housing: welded steel
 - drum: PVC or stainless steel, further versions on request, flange in accordance with DIN certificate in accordance with EN 10204 3.1B or C on request

Dimensions



12 + 13
Version: Standard
+ stainless steel

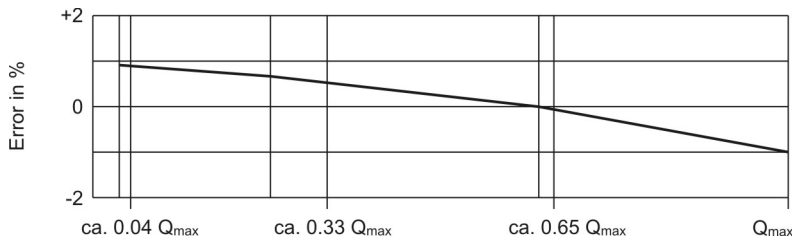
- 1 Inlet
- 2 Outlet
- 3 Screw legs
- 4 Bubble level
- 5 Overflow channel
- 6 Filling pipe
- 7 Push-button for resetting the counter
- 8 Mark for forward run
- 9 Manometer zero point
- 10 Pressure manometer scale
- 11 Thumb wheel for adjustment of manometer scale
- 12 Filler neck for manometer liquid
- 13 Hood with breather boring
- 14 Outlet nozzle

Technical Data

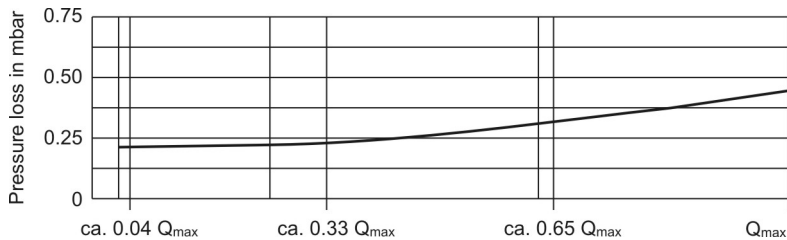
Size	Load range $Q_{min} - Q_{max}$	Measuring chamber volume dm^3	Volume per revolution of needle dm^3	Connection		Dimensions					Sealing liquid dm^3	Weight** Kg
				DN	thread	a	b	c	d	e		
00	2 - 200	1	1	8	*	110	270	100	290	420	3	4,8
0	6 - 625	2,5	10	20	R 3/4"	125	265	110	320	450	5	6,8
1	12 - 1250	5	100	20	R 3/4"	160	350	120	370	530	11	9
2	25 - 2500	10	100	25	R 1"	200	415	120	410	590	18	14
3	60 - 6000	20	100	32	R 1 1/4"	255	490	180	530	670	37	25
4	100 - 10000	30	100	40	R 1 1/2"	300	580	160	585	755	54	37
5	150 - 15000	50	1000	40	R 1 1/2"	360	690	160	745	880	114	50

*Hose liner connection with stopcock **Without sealing liquid (standard version)

Typical error curve



Pressure loss curve

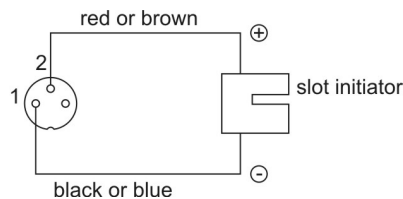


Pulser (Option)

MF-sensor (Namur)

Switch characteristics -N
in accordance to DIN EN 50227
rated voltage: $U_n = 8 \text{ V DC}$ ($R_v = 100 \Omega \pm 20\%$)

Current consumption:
aktive area free $I \geq 3 \text{ mA}$
aktive area covered $I \leq 1 \text{ mA}$



Incremental pulser MOZ 30

Characteristic values:
rated voltage: +5 V DC
optionally: +24 V DC (+/-5%)
Power input: < 50 mA
Outputs: open Collector or npn $R_a = 2K \Omega$
Signal generator: $H = U_B - 1 \text{ V}$
 $L = < 0.5 \text{ V}$ at max. 20 mA
Output signal: rectangle

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