

RITTER bellows-type gas meters are applicable for measuring the volume of flowing inert and dry gases and are particularly effective at high gas flows.

Please note that gases containing aggressive components may reduce the life span of bellows-type gas meters, if the casing of the measuring unit (tinplate), the valve/control elements (polyamide) or the bellows (Perbunan) should be attacked. For more details regarding the materials used which are in contact with the gas, please refer to data sheet 02.02.

The desired measurement range can be selected from among 6 magnitudes (types) extending together as a whole from 40 ltr/h to 160 m³/h at a gas temperature ranging from -20° to +50° Celsius. The solidly soldered casing on the standard model is designed to withstand a maximum overpressure of 50 – 500 mbar depending on the meter type.

The measurement of **RITTER** bellows-type gas meters works on the principle of displacement. The gas meters employ a twin-chamber measuring unit with a deformable bellow within each chamber. Thus, a compulsory measurement of the gas flow is possible by periodically filling and emptying these chambers.

The design of the measuring chamber is such that the measuring volume per cycle of the

**BG 10**

(Fig. with "Adding Roller Counter")

**BG 40**

(Fig. with "Adding Roller Counter")

bellows is constant. Among other advantages, this design of the measuring unit enables a measuring accuracy of +/- 2% .

The major advantage and the superiority of volumetric Gas Meter (like Bellows-type Gas Meters) over other measurement principles, which determine gas volume using secondary measurable variables such as speed, heat capacity, hot-wire resistance or similar, is that the volume is **directly** measured. That means that the condition and the composition of the gas has no influence on the measurement accuracy.

Correcting factors which take into account gas type, temperature, humidity etc are therefore **not necessary**. It should be noted that with other, non-volumetric measurement processes, the measurement accuracy given for that process can only be achieved if the correcting factors for the immediate condition of the gas are exactly known.

Equipment: All RITTER bellows-type gas meters include the following as standard equipment: twin-chamber measuring unit; 8-digit totalizing counter; large, one-needle dial; and magnetic coupling (between the measuring drum and counting mechanism); gas pipe connection: inch thread.

Performance Data:

- Measuring accuracy: +/- 2% at standard flow and 20° Celsius (exact value is stated in individual Calibration Certificate)
 - Maximum gas inlet pressure (overpressure):
 - BG4, BG6: 300 mbar
 - BG10, BG16:50 mbar
 - BG 40, BG100:500 mbar
 - Temperature range: -20 to +50° Celsius
- Flow rate (measuring range) and meter indication:

Model	Flow Rate			Minimum Dial Division [ltr]	Maximum Value [ltr]
	Minimum [ltr/h]	Maximum [ltr/h]	Standard [ltr/h]		
BG 4	40	6,000	3,000	0.1	99,999,999
BG 6	60	10,000	5,000	0.2	999,999,990
BG 10	100	16,000	10,000	0.5	999,999,990
BG 16	160	25,000	15,000	0.4	999,999,990
BG 40	400	65,000	39,000	0.4	999,999,990
BG 100	1,000	160,000	95,000	0.4	999,999,990

- Materials:**
- Casing:
 - BG4 – BG16: zinc-coated steel sheet (soldered) with outside also lacquered
 - BG40 – BG100: powder-coated steel sheet with outside also lacquered
 - Measuring unit: tinplate
 - Bellows (within measuring unit): textile-reinforced Perbunan
 - Rod linkage: BG 4: polyamide; all others: polyamide/brass
 - Slide gate: Bakelite

Accessories: Thermometer, range 0° to +60°C
Manometer, range 60 mbar differential pressure
Nozzles for flexible tube connection
Electronic Display Unit, including Interface RS 232 and Analog Output (requires Pulse Generator)

**Built-in Options:**

Resettable Roller Counter, 6-digit (substitutes Totalizing Roller Counter)
Pulse Generator (for connection of Electronic Display Unit or Computer)