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At-line Analog CO₂ meter for beer and carbonated beverages (CO₂ GEHALTEMETER) Type GMA

Application:

The analog CO₂ meter type GMA enables the determination of CO₂ content in beer, carbonated beverages and sparkling wines in cylindroconical tanks, conditioning tanks or KEG casks, expressed in volumes and g/L.

Measurement Principle:

The instrument uses Henry's law. The CO₂ content is determined by measuring the temperature and the partial pressure of CO₂ in equilibrium after mechanical shaking of the beverage. A piston allows carbon dioxide to be released very quickly, eliminating the need to shake the device. This allows measurements to be taken more quickly and minimises temperature variations.





Working Procedure:

The inlet valve of the device is connected using a silicone hose to the sampling valve on the pipeline or tank. The measuring chamber is filled with sample. The beverage flow through the measuring chamber can be finely regulated using a screw discharge valve to prevent foam formation during filling. Once the measuring chamber is filled, the outlet valve is closed first, followed by the inlet valve. Then the pressure in the measuring chamber is zeroed by brief opening and closing of the outlet valve. Dissolved CO₂ is released by repeatedly pulling and pressing a piston in the upper part of the measuring chamber, increasing the pressure inside the chamber.

Then the partial pressure in equilibrium is read on the manometer and the temperature on the digital thermometer. The CO₂ content is read from the nomogram in g/L and in volumes.

Technical data:

Parameter	Range / Value	Accuracy
CO ₂ measurement	2 to 7.8 g/L (1 to 4 vol)	0.2 g/L or 0.1 vol
Temperature	-3 to +30 °C	0.5 °C
Pressure	0–400 kPa (0–4 bar)	1.6 %
CO ₂ Reading	Nomogram	—
Dimensions (H×W×D)	270 x 200 x 140 mm	—
Weight	1.8 kg	—

Scope of Delivery:

CO₂ meter type GMA, inlet and outlet silicone hoses, operation manual.

Accessories (optional):

Sampling head for KEG casks (not included in standard delivery, available on request).

Advantages & Benefits:

- Fast & reproducible CO₂ release using pressure pulse generated by piston.
- 25+ years of manufacturing experience, thousands of units in operation worldwide.
- Repairable, spare parts available.
- Excellent price-to-performance ratio.

FAQ :**Differences between GMAS, GMA and GMD models?**

- GMAS & GMA are analog with nomogram-based CO₂ reading.
- GMD measures pressure & temperature automatically and displays CO₂ in g/L and volumes.
- GMD & GMA release CO₂ via piston pressure pulse (fast & reproducible).
- GMAS requires manual shaking until steady pressure (slower, less reproducible, cheapest).

Here is an overview table of the differences and characteristics of the individual types:

Function / Feature	GMAS	GMA	GMD
Measurement Type	Analog (manometer)	Analog (manometer)	Digital (display)
CO ₂ Release Method	Manual shaking	Pressure impulse by piston	Pressure impulse by piston
Result Determination	Nomogram	Nomogram	Automatic calculation
Speed and Accuracy	Lower (operator dependent)	High (reproducible)	Highest (automated)
Price Level	Most affordable	Mid-range (excellent price/performance ratio)	Premium

Who is the GMA suitable for?

- The GMA is suitable for smaller carbonated beverage producers and microbreweries.

