

PRODUCT DATA SHEET

MGB1000 Micro Gas Blender

The best way to calibrate gas analyzers at sub-parts-per-million (ppm) concentrations

The AMETEK MGB1000 Micro Gas Blender generates consistent and reliable fixed-point gas concentrations at blend ratios up to 4545:1.

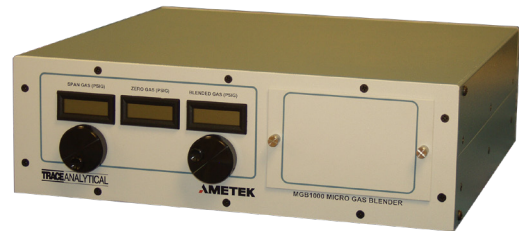
The MGB1000 is ideal for calibrating gas analyzers, such as the ta3000 and ta5000, with ppm or parts-per-billion (ppb) mixes of a single or mixed-component gas standard. The micro volume flow path enables single-step blends quickly and reliably, without consuming large quantities of zero gas.

Contamination prevention

Regulators and gauges are located downstream of the primary flow path for both the calibration and zero gases, which prevents contamination of the blended stream due to minor leakage or outgassing at joints, gaskets, or welds.

Long-term stability

All tubing and interconnecting fittings in the primary flow path of the MGB1000 are constructed from 316 stainless steel. Electronic pressure gauges are stable to within 0.1% of full-scale reading per year. As an extra precaution, each gas inlet line is protected from particulate matter by a 2-micrometer particle filter. The pressure to flow relationship of the capillary restrictors does not change with time, providing stability over the lifetime of the unit.



KEY BENEFITS

- Blended gas flow rates up to 25 L/min or 1.5 L/min
- Single-step dilution up to 4545:1
- Compact design
- Micro volume flow path for fast equilibration time
- Low-cost operation
- Low zero gas consumption
- Extremely low internal volume
- Total shut-off of CAL-gas for blank runs
- Bench-top or 19" rack mountable



APPLICATIONS

- Calibration and certification of gas analysis instruments



KEY MARKETS

- Air separation
- Semiconductor
- LCD/LED display manufacturing
- Polyethylene/polypropylene
- Environmental

PERFORMANCE SPECIFICATIONS

Front panel	CAL-gas pressure adjustments and display Blended gas pressure adjustment and display Zero gas pressure display Calibration gas restrictor compartment												
CAL-gas restrictor flow (mL/min), typical	<table border="1"> <thead> <tr> <th>@ Inlet Pressure</th> <th>Low</th> <th>Med</th> <th>High</th> </tr> </thead> <tbody> <tr> <td>20 psig (1.4 bar)</td> <td>0.05</td> <td>0.025</td> <td>2.0</td> </tr> <tr> <td>100 psig (6.9 bar)</td> <td>0.5</td> <td>2.5</td> <td>20</td> </tr> </tbody> </table>	@ Inlet Pressure	Low	Med	High	20 psig (1.4 bar)	0.05	0.025	2.0	100 psig (6.9 bar)	0.5	2.5	20
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Back-pressure regulators	CAL-gas pressure 100 psig (6.9 bar) max Blend gas pressure 15 psig (1 bar) max												
Pressure gauges	Maximum operating pressure 100 psig (6.9 bar) Linearity ± 0.025 psig (0.0017 bar) Temperature effect (22-28°C) $\pm 0.5\%$ of reading Repeatability ± 0.05 psig (0.0035 bar) 1-year stability ± 0.1 psig (0.0069 bar) Readout ± 0.1 psig (0.0069 bar) Construction, diaphragm and housing 316 stainless steel												
Flow rate reproducibility over 1 year	Flow rate < 0.1 mL/min $\pm 2\%$ of reading Flow rate > 0.1 mL/min $\pm 1\%$ of reading												
Electrical	Standard: 100 VAC, 50-60Hz Optional: 230 VAC, 50-60Hz												
Mechanical	Internal piping, primary flow path 316 stainless steel Internal volume, primary flow path < 0.5 mL Rear Panel gas ports 1/16" compression												
Physical dimensions (W x H x D)	427 x 133 x 356 mm (16.8 x 5.3 x 14.0 in.)												
Weight	Net: 6.8 kg (15.5 lb.) Shipping: 8.2 kg (18.0 lb.)												

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