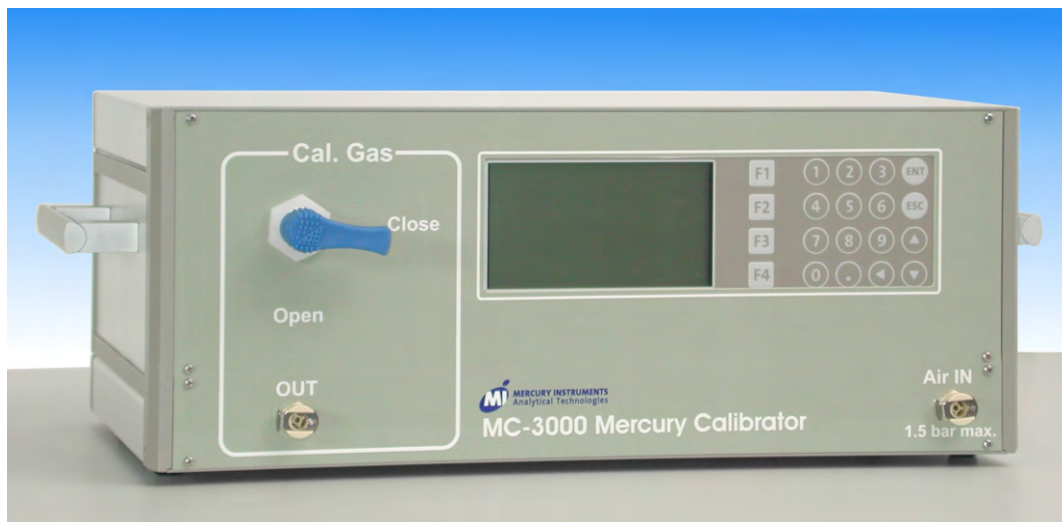


Mercury Calibrator MC-3000

Calibration Gas Generator for Mercury Vapor



- Generates elemental mercury vapor
- 15 ... 500 $\mu\text{g}/\text{m}^3$ Hg° concentration range
- Microprocessor controlled
- Compact sized and portable
- Based on mercury vapor saturation of air
- Vapor pressure calculation according to NIST recommendation

Applications

The MC-3000 is used for generating a continuous stream of a mercury vapor loaded gas stream in order to check or calibrate mercury analyzers. It is also suitable for all those applications where a gas stream with a preset and constant mercury concentration is needed.

After having been saturated with mercury the gas is diluted to get lower mercury concentrations as needed for calibration of instruments. The dilution ratio is continuously controlled by a microprocessor in order to obtain a flow of calibration gas with a constant mercury concentration.

Principle of Operation

A carrier gas stream (air) is charged with mercury vapor in a first step. In the following step the gas is mercury saturated by cooling. Excess mercury is condensing in a special cell and equilibrium is achieved.

Construction

Keypad and display are mounted on the front panel and are easily accessible. For mobile use the aluminium case has two carrying handles. The mercury containers are mounted inside of the case. The quantity of mercury is sufficient for the whole life time of the calibrator.

Mercury Calibrator MC-3000

Operation

Using the MC-3000 is easy:

The device is placed on a flat surface and connected to instrument air. A portable air compressor with a tank is available as an accessory. The MC-3000 is switched on and the desired calibration gas concentration is set. The total calibration gas flow can also be set. After allowing the instrument to stabilize for about 30 minutes the MC-3000 delivers a constant flow of calibration gas with exactly the concentration of elemental mercury that has been set before.

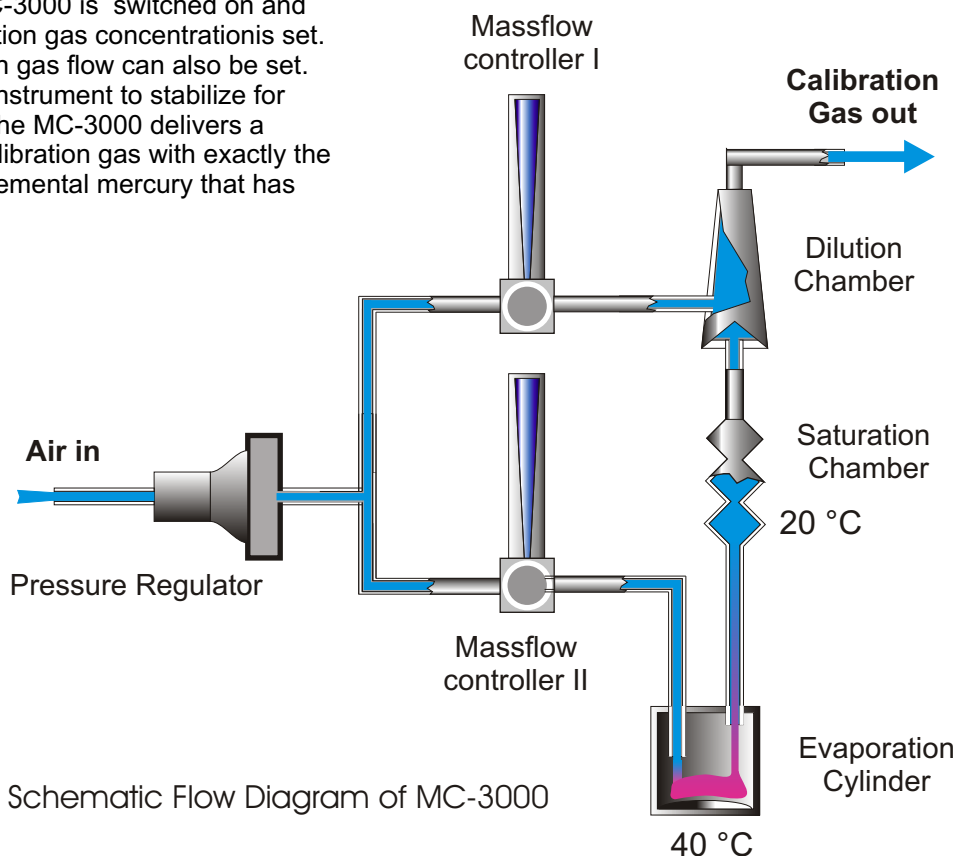


Figure: Schematic Flow Diagram of MC-3000

Specifications MC-3000

Concentrations created:	approx. 15 ... 500 $\mu\text{g} / \text{m}^3 \text{Hg}^\circ$ others optional
Generated calibration gas flow:	1 ... 9 L / min
Carrier gas:	air
Carrier gas flow:	max. 12,5 L / min
Carrier gas pressure:	1 ... 2bar (8 ... 15 psi)
Particulate filter:	built-in; 0.2 μm
Mercury absorption filter:	sulphur doted activated carbon
Temperature sensors:	Pt-100 with 1 / 10° accuracy
Flow controllers:	mass flow, electronic, 1 % precision
Connectors:	for tubing 4mm i.d. / 6 mm o.d.
Power supply:	110VAC to 230VAC / 50/60 Hz
Power consumption:	max. 125 W
Dimensions:	45 x 15 x 35 cm (w x h x d)
Weight:	ca. 7 kg
Accessories:	air compressor



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