

HovaGAS

High Versatile Gas Mixer



HovaGAS is a new concept for precise gas mixing. It combines the approved mass flow technology with up-to-date microprocessor technology.

Technical Advantages

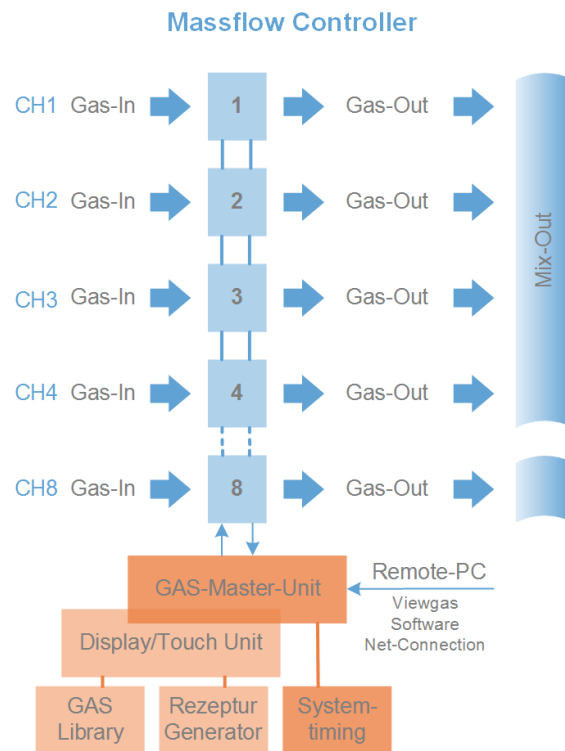
- ✓ Automatic concentration control
- ✓ Automatic flow control
- ✓ Independent of pressure and flow
- ✓ Internal gas library
- ✓ High accuracy due to polynomial fitting
- ✓ Multiple mixing of up to eight gases
- ✓ Customized total flow ranges
- ✓ Remote control by PC via RS232
- ✓ Time-oriented sequential control
- ✓ User-friendly calibration menu

What is HovaGAS?

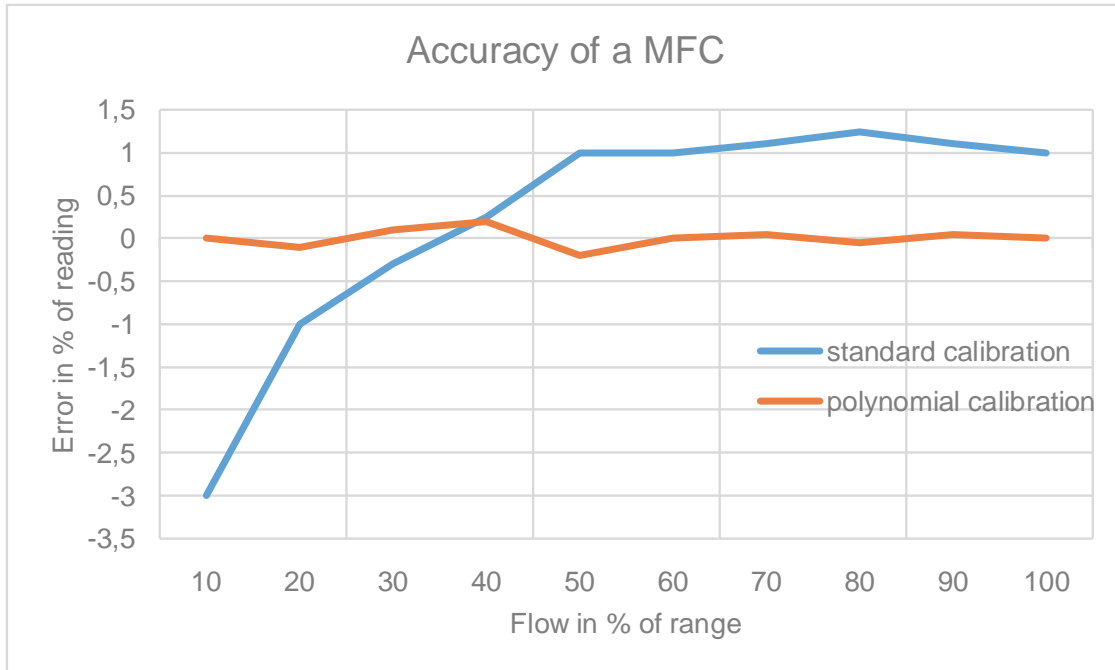
Thermal mass flow controllers (MFC) are able to measure and regulate the gas flow in a wide range independent of temperature and the pressure of the gas. The operation principle is based on the measurement of the transport of heat and therefore based on the measurement of mass flow.

The conception of the gas mixer HovaGAS combines the advantages of mass flow controllers with an intelligent user interface. This is a touch sensitive display (Touch-Screen) that permits manual operation.

The heart of HovaGAS is the digital Gas Master Unit (GMU), a microprocessor, especially designed for the task of gas mixing. Besides visualization and user dialog, the run-time software controls the mass flow.



Overview Massflow Controller



Accuracy of a Massflow Controller

What can HovaGAS do?

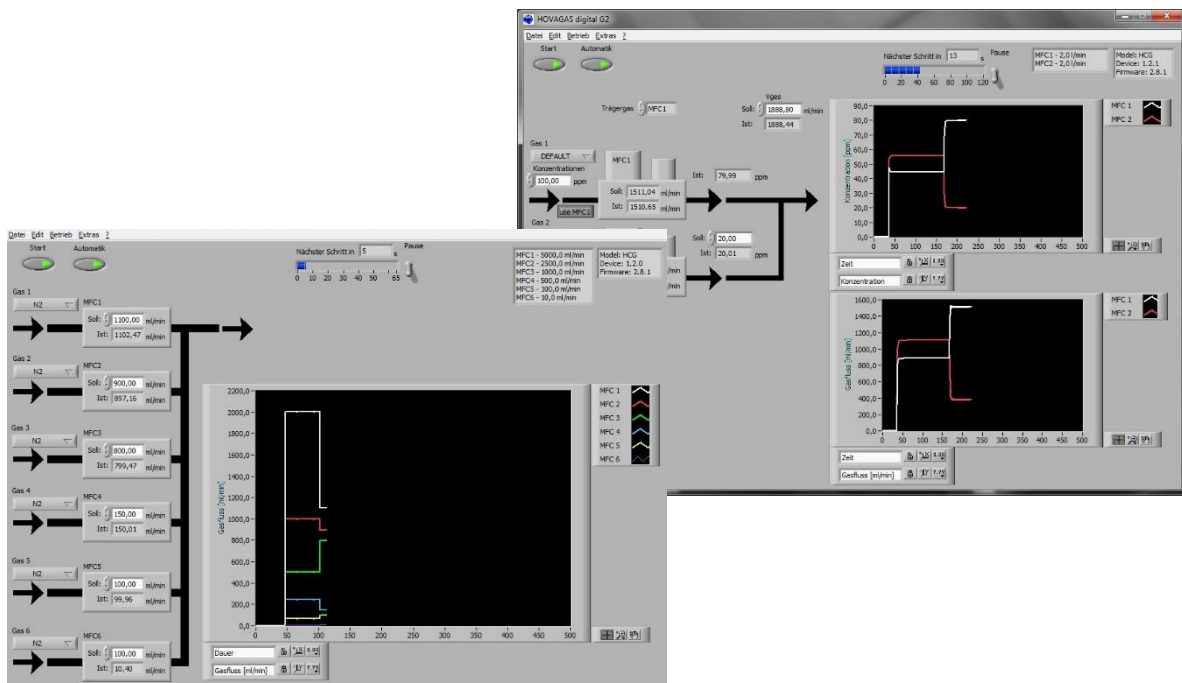
HovaGAS permits remote operation by an external PC via RS232 serial data interface with the Windows-Software viewGAS. On the PC screen viewGAS shows the HOVAGAS device as a flow chart. All functions of HOVAGAS can be operated by entering the desired values. User specific configurations and the readings can be stored in a file. The automatic mode permits unattended automatic operation via time-dependent concentration scripts.

These scripts can be stored in the library of the device which opens up the possibility of creating recipes for the stand alone operation. Gas flows and concentrations are shown in a trend diagram.

In the calibration mode, the user is able to create his own polynomial fits and expand the gas library corresponding to his own demand.

Specification

Number of gas channels	Up to 8
Range of mass flow controllers: (user-configurable)	min.: 3 mln/min max.: 1000 ln/min (based on standard conditions for nitrogen)
Range of regulation	5 to 100 % of flow
Dilution ratio (dependent on MFC range and total flow)	Approx. 1: 1 000 000
Accuracy (with polynomial fit)	better than 0.5 % of adjusted output
Reproducibility	better than 0.1 % of range
Surface wetted materials	PTFE, SS 316, Viton® Option: Kalrez®
Input pressure range	0.5 – 5.0 bar (others on request)
Output pressure	100 mbar less than input pressure
Pressure dependence	negligible
Gas connections	6 mm Swagelok® (others on request)
Mix zone	External, Optional internal
Warm up time	30 min
Display	LCD blue/white 240 x 128 dot Background illuminated 6 x 10 Touch-Pads
Supply voltage	110 – 240 V
Housing	Portable or desktop
Dimensions	53 x 21 x 44 cm (W x H x D) (for max. 5 MFC)



User Interface viewGAS