



**Microsystems**

A division of LEISTER Process Technologies

# Gas Flow Sensor **MFlow200**

The MFlow series is a range of compact mass flow sensors which provide a very accurate measurement of gas flows in the sub litre/min range with fast response time. The MFlow is a fully packaged, ready to use gas flow sensor with an LCD display and universal tube connectors. All sensors are fully calibrated, temperature compensated and deliver both a linearized analog (0-5V) and a digital (SPI or RS232) output.

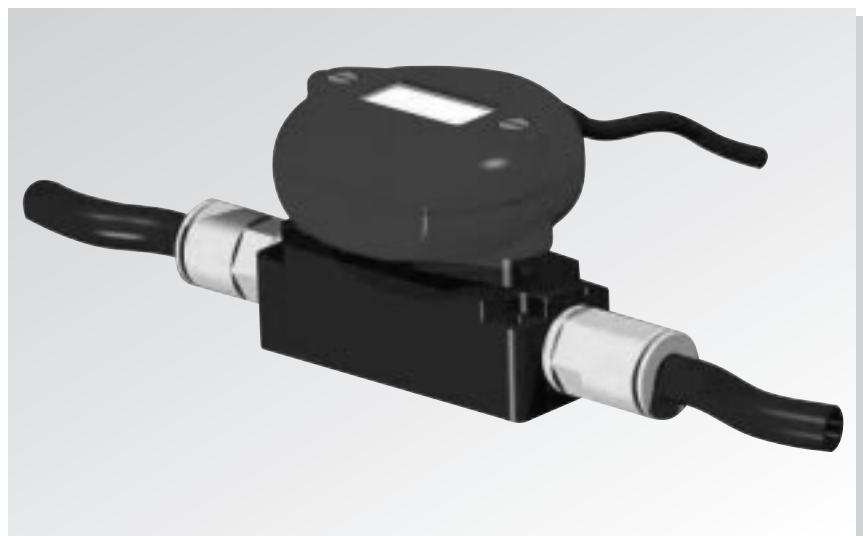
A modular housing concept makes the MFlow sensor suitable for customized OEM versions and allows bypass measurement solutions to accommodate larger flow ranges.

## **Features**

- Ready to use with LCD display
- Individually calibrated
- Fast response time
- Linear analog and digital output
- Temperature compensated
- No moving parts
- Modular housing
- Universal tube connections

## **Applications**

- Leakage measurements
- Process control
- Gas analysis
- Pneumatic applications
- Laboratory use





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## Principle of operation

The MFlow sensor utilizes a miniaturized adaptation of the well proven anemometric principle. The combination of an established detection principle with the benefits of micro-technology results in a sensor with a fast response time, excellent repeatability and reliability, high sensitivity, and an easy to use electrical output signal.

The sensor operates on the theory of heat transfer. An adapted housing with an integrated fluid channel directs the gas-flow across the sensing chip. The gas flow passes across a set of heaters and temperature sensors which are placed on a micro-machined membrane. The heat transport characteristics of the gas flow are measured electrically and are directly related to the mass gas flow of the calibration gas. Integrated electronics amplifies the measured signal and an onboard microprocessor compensates for temperature effects and the non-linearity of the signal.

### Technical data

Measurement range	0 ml/min to 200 ml/min. Customized versions with maximum flow range between 20 ml/min and 500 ml/min available. By-Pass solutions for larger flows possible.
Response time	< 5 ms
Calibration gas	N <sub>2</sub> , custom calibrations available.
Operating temperature	+ 10 °C to +65 °C
Storage temperature	- 20 °C to +90 °C
Power requirement	12 V to 24 V
Output	linearized and temperature compensated signal 3 digit LCD display Analog: 0-5 V Digital: RS232, SPI
Fluid connector	G 1/8 " thread for universal tube connection.
OEM versions available.	

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