Gas chromatography

Real-time monitoring and control to provide optimal solutions

From clinical research to forensics, separating the different compounds of a gas mixture is a key step in various processes. Gas chromatography is a major method for such applications, providing fast, precise, and versatile operation. Sensirion's mass flow controllers offer accurate measurements with unmatched repeatability down to a few liters/hour.

Target customers:

- Lab analysis instrument manufacturers (for industrial, environmental, forensic, and clinical analysis)

Application challenges

1. Accurate mixing of the carrier and sample is vital for a precise result
2. Various carrier gases can be used, and the system requires lengthy factory calibration
3. Repeatability is crucial to ensure a reliable measurement

Sensirion's solutions

1. High accuracy, repeatability, and fast response time
2. Factory-calibrated digital sensor for multiple gases and temperatures
3. Unmatched repeatability down to subml/min

SENSIRION

Sensirion sensor solution:

SFC5500 versatile mass flow controller with best-in-class performance

Size (LxWxH): 105 x 38.5 x 90.5 mm^3

Additional sensor features

- Both mass flow meter and mass flow controller versions available
- Several communication interfaces and fittings available

Other applications

- Thermal analysis
- Mass spectrometry
- Semiconductor manufacturing

FAQs

- **What gases can the sensor be calibrated for?**
  Standard calibration gases: Air/N_2, H_2, O_2, He, Ar, CO_2.

  On request we calibrate by gas conversion for: SF_6, C_4F_8, CF_4, NH_3, SiH_4, N_2O, O_3, CO, CH_4, CH_3F, Xe, Ne, Kr (+ other gases on request, not compatible with aggressive gases)
- **What are the wetted materials?**
  Body: Aluminum; On request: Stainless steel or plastic

  Sensor: Silicon (Si), Silicon oxide (SiOx), Silicon nitride (Si_3N_4), Stainless steel, Glass, glob top

  Sealing: FKM; On request: EPDM/FFKM

  Valve: Brass, FKM; On request: Stainless steel, EPDM/FFKM
- **Which fittings can be used?**
  Downmount fittings with manifold.
- **Which communication interfaces are available?**
  RS485, DeviceNet, IO-Link, SHDLC, Modbus.
- **Is the sensor's response compensated for temperature and pressure?**
  The sensor is temperature compensated.

Getting started

EK-F5x evaluation kit

Useful documents

Datasheets, application notes, handling instructions, samples codes, step files, certificates

Related sensors

↗ SFM5xxx gas flow sensor
↗ SFM6xxx gas flow sensor
↗ SFC6xxx mass flow controller

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