Thin film deposition

Stable and precise control of gases during deposition processes

Thin films and coating processes require stable, repeatable conditions and precise control of precursor gases. This is crucial for many applications, including solar cell production, glass and lens coating, tool protection, and semiconductor device fabrication. Sensirion's SFC5500 are semiconductor-grade mass flow controllers that offer multi-gas calibration, high accuracy, and fast response times for controlling process gases.

Target customers:

- Surface coating system manufacturers (e.g. for glass, solar cell or semiconductors wafer)

Application challenges

1. Homogeneous and repeatable process to increase control and improve production yield
2. Advanced processes require switching between process gases at high speed
3. Several gases used in the same process

Sensirion's solutions

1. Unmatched repeatability – often 10x better than alternative solutions
2. The fastest settling time on the market
3. Multi-gas calibration (lista)

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 fitting and communication interface options
- Semiconductor-grade compatibility

Other applications

- Analytical instruments
- Process control
- FOUP

FAQs

- **Which fittings are compatible?**

  Downmount, Swagelock, Push-in, VCR, VCO

- **Which communication interfaces are available?**

  RS485, DeviceNet, IO-link

- **Do I need to periodically calibrate the mass flow controller?**

  No, unlike the traditional MFCs the CMOSense mass flow controllers do not drift and do not require re-calibration.

- **At which pressure range can the SFC5500 operate?**

  Depending on the flow range, up to 10 bar.

- **Which are the wetted materials?**

  Aluminium, brass valve, sealing polymer, silicon chip

- **Is the MFC temperature and pressure dependent?**

  The MFCs feature a temperature compensation. There is a slight pressure dependance, which is already included in the specifications.

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

SENSIRION