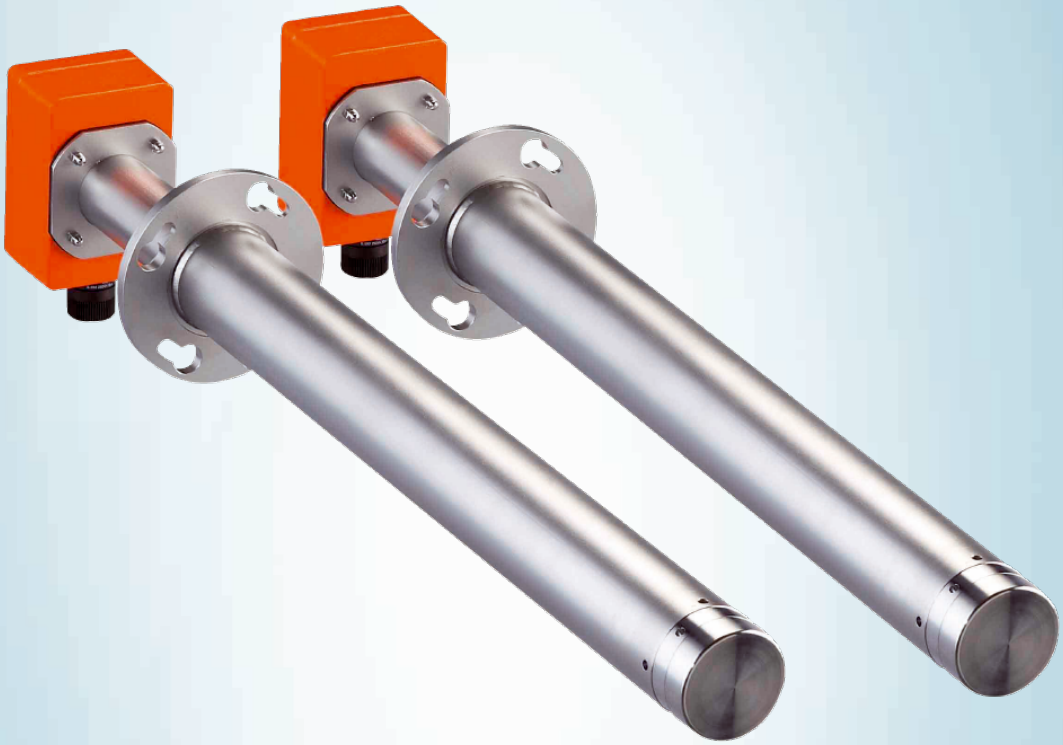
Product family overview



FLOWSIC100

Volume flow measuring devices for continuous emission monitoring

SICK
Sensor Intelligence.

Advantages

Exact and reliable emission monitoring - compliant with legal regulations

Monitoring gaseous emissions in plants requiring a permit is an important part of environmental protection. Pollutant emissions can be continuously measured and limit values observed through the use of modern and reliable emission measuring technology. The measuring technology used must comply with the minimum requirements of international standards (e.g. EN 15267 and EPA Performance Specification 6) and prove its suitability by means of an EU type examination. FLOWSIC100 gas flow measuring instrument from SICK meet all these requirements: they combine the advantages of modern ultrasonic measurement with outstanding resistance properties and minimum maintenance.

Exact, reliable, consistent.

Easy installation in measurement channels

SOPAS ET – easy parameterization, configuration and self-diagnosis as well as comprehensive support

Low maintenance costs as there are no moving parts

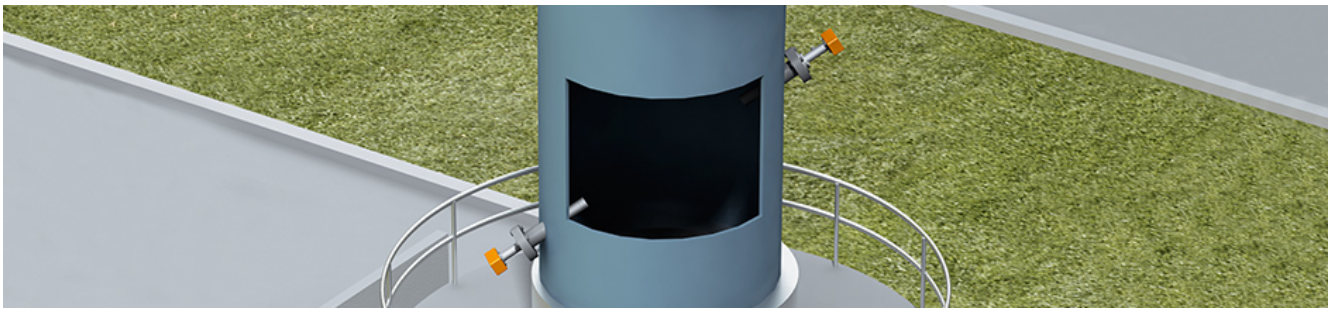
Easy installation, fully-automated self-monitoring and low maintenance costs - the optimal solution for challenging emission measurements.

FLOWSIC100 variants

FLOWSIC100 H
Ideal for large stacks with diameters from 3 to 13 m with high switching capacity
Suitable for applications with high dust levels

FLOWSIC100 M
Ideal for small stacks with diameters up to 3.5 m with medium switching capacity

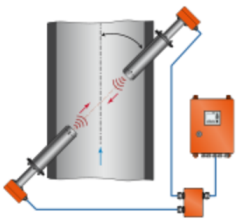
FLOWSIC100 PR
Ideal for one-sided installation with stack diameters from 1 m



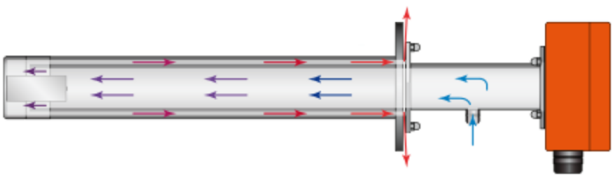
Consistent measurement results even under extreme conditions

Fluctuations in the gas composition, pressure, temperature and humidity have no influence on the measurement result. Measurement takes place continuously across the entire duct diameter and supplies representative results. The fully automated gain control function of the FLOWSIC100 guarantees signal transmission. The device periodically validates its functions using the check cycle integrated in the FLOWSIC100, while the integrated self-diagnosis continuously monitors all important function parameters. In the event of impermissible deviations that could affect the measurement result, warning messages are generated.

Powerful and precise.

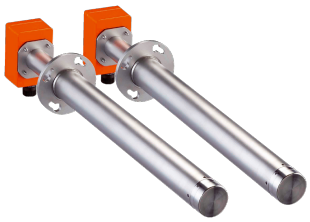


Measurements without purge air, plug and play from –40 °C to 260 °C.



Innovative integrating cooling for very high gas temperatures of up to +450 °C.

RELIABLE EMISSION MEASUREMENT - COMPLIANT WITH LEGAL REGULATIONS



Technical data overview

Measured values	Volumetric flow a. c., volumetric flow s. c., gas velocity, sound velocity, gas temperature
Measurement principle	Ultrasonic transit time difference measurement
Gas temperature	–40 °C ... +450 °C Depending on device version
Operating pressure	–100 hPa ... 100 hPa
Nominal pipe size	0.15 m ... 13 m Depending on device version
Conformities	2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV 30. BImSchV TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 EN 16911-2 MCERTS GOST
USB	✓
Function	Connection to SOPAS ET software
Serial **Serial**	✓, ✓
Type of fieldbus integration	RS-232 RS-485
Function	Connection to SOPAS ET software Internal system bus
Ethernet	✓
Type of fieldbus integration	Via optional interface module
Modbus **Modbus** **Modbus**	✓, ✓, ✓
Type of fieldbus integration	ASCII RS-485 (via optional interface module) RTU RS-485 (via optional interface module) TCP (via optional interface module)
PROFIBUS DP	✓
Type of fieldbus integration	Via optional interface module
Diagnostics functions	Automatic check cycle for zero and span point Extended device diagnosis via SOPAS ET software

Product description

The product family FLOWSIC100 was designed for emission monitoring tasks. The "H" versions are suitable for stacks with large diameters and applications with high dust content. The "M" versions are especially suited for stacks with medium diameter. The ultrasonic transducers of the "PR" probe type are mounted with fixed path length on one sender/receiver unit (measuring probe). The "AC" versions have an innovative internal cooling and are suitable for gas temperatures up to 450 °C. The purged "Px" versions are used for gases with high concentrations of sticky or wet dust.
Rugged titanium transducers are standard and suitable under difficult conditions. The measuring system consists of 2 sender/receiver units or a measuring probe and a MCU control unit. The MCU is used for input and output of signals, for calculation of volume flow to reference conditions (standardization) as well as user-friendly LCD interface.

At a glance

- Rugged titanium converters for long service life
- Corrosion-resistant material for use with aggressive gases (option)
- Integrated measurement via duct diameter for types H, M, and S
- Probe version PR for cost-saving, single-sided installation in duct
- Automated operational check with zero and reference point test

Your benefits

- Reliable flow measurement for ducts with small up to very large diameters
- High durability of the device
- No purge air required for applications with gas temperatures up to 260 °C
- Minimum operating and maintenance costs
- Accurate measuring results under difficult measuring conditions
- Measurement without pressure loss, therefore no influences on the process
- User-friendly operation via SOPAS ET software
- Reliable function monitoring due to enhanced diagnosis

Fields of application

- Continuous emission measurement during power generation
- Emission monitoring in waste incineration plants
- Emission measurement in the processing industry (cement, iron and steel, glass)
- Emission monitoring in the chemical and hydrocarbon processing (HPI) industry
- Emission monitoring in the paper and textiles industry
- Flow measurements and process control in e. g., heating and ventilation systems

Ordering information

Other models and accessories ➜ www.sick.com/FLOWSIC100

- **Product segment:** Flow measurement instruments
- **Product group:** Flow measurement instruments
- **Product family:** FLOWSIC100
- **Measurement principle:** Ultrasonic transit time difference measurement
- **Measured values:** volumetric flow a. c., volumetric flow s. c., gas velocity, sound velocity, gas temperature
- **Nominal pipe size min.:** ≥ 0.15 m
- **Nominal pipe size max.:** ≤ 13 m
- **Conformities:** 2001/80/EC (13. BImSchV), 2000/76/EC (17. BImSchV), 27. BImSchV, 30. BImSchV, TA-Luft (Prevention of Air Pollution), EN 15267, EN 14181, EN 16911-2, MCERTS, GOST
- **Communication interface:** USB, Serial, Serial, Ethernet, Modbus, Modbus, Modbus, PROFIBUS DP
- **Communication Interface detail:** RS-232, RS-485, ASCII RS-485, RTU RS-485, TCP

Process temperature min.	Process temperature max.	Operating pressure min.	Operating pressure max.	Type	Part no.
≥ –40 °C	≤ +450 °C	≥ –100 hPa	≤ 100 hPa	FLOWSIC100	On request

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com