

Measurement technology | METPOINT® FLM

METPOINT® FLM: sensor technology for volume flow measurement

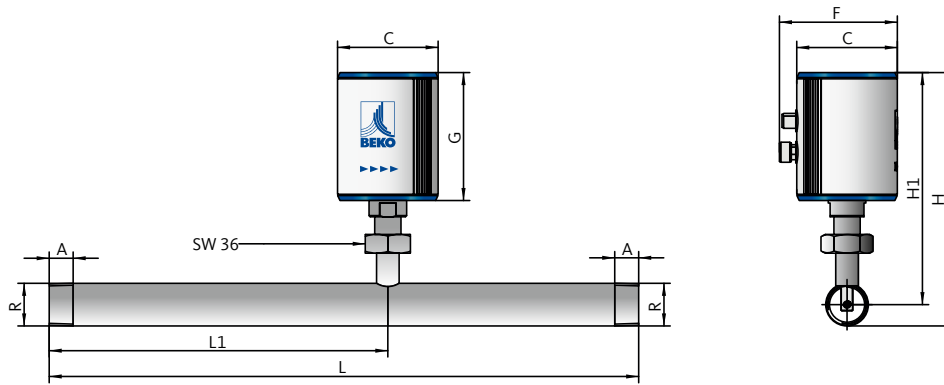
Sensor technology from BEKO TECHNOLOGIES enables you to accurately measure all relevant parameters at critical flow points in your compressed air system. This information is indispensable for users who want to save energy and minimise costs.

To evaluate whether your current production can be further optimised, you need accurate, up-to-date figures regarding compressed air volume flow rates and consumption volumes. These parameters can be monitored by the METPOINT® FLM sensor, this device provides you with the data you need for intelligent energy management. Identify potential savings, overloads and weak points in your system to improve its efficiency. By measuring the actual flow to the various production units, you are in a position to make decisions based on facts. At the same time, the METPOINT® FLM lets you know whether there are any leaks in your system. The METPOINT® FLM thus provides you with all the information you need to dimension and modify your system and its components for improved efficiency.



- › **Accurate monitoring of compressed air consumption**
- › **Display of volume flow, consumption and flow rate**
- › **Equipped with integrated display and service LEDs**
- › **Calorimetric measurement optimised for compressed air technology**
- › **Sound basis for proper system dimensioning and design**
- › **Accurate figures for intelligent energy management**
- › **Detects automatically overloads and malfunctions**

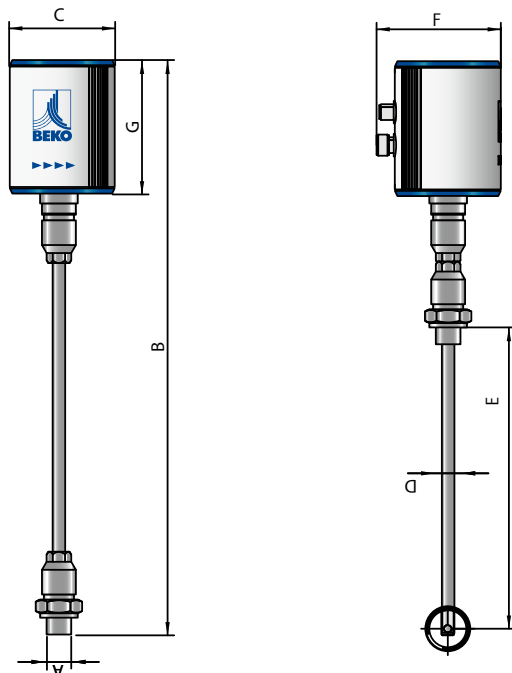
METPOINT® FLM SF53 flow sensor



Measuring line dimensions

	DN8	DN15	DN20	DN25	DN32	DN40	DN50
R	R¼"	R½"	R¾"	R1"	R1¼"	R1½"	R2"
H1	186.7	186.7	186.7	186.7	186.7	186.7	186.7
H	193.6	197.4	200.2	203.5	207.9	210.9	216.9
L1	137	210	275	275	275	275	275
L	194	300	475	475	475	475	475

METPOINT® FLM SF53 flow sensor



Housing dimensions

	Model with display	Model with LEDs
A	G ½" (ISO 228/1)	
B	415 mm (standard)	
C	80 mm	
D	ø11.7 mm	
E	220 mm (standard), optional: 400 mm	
F	94 mm	
G	102	105.5

METPOINT® FLM SF53 flow sensor

Volume flow metering

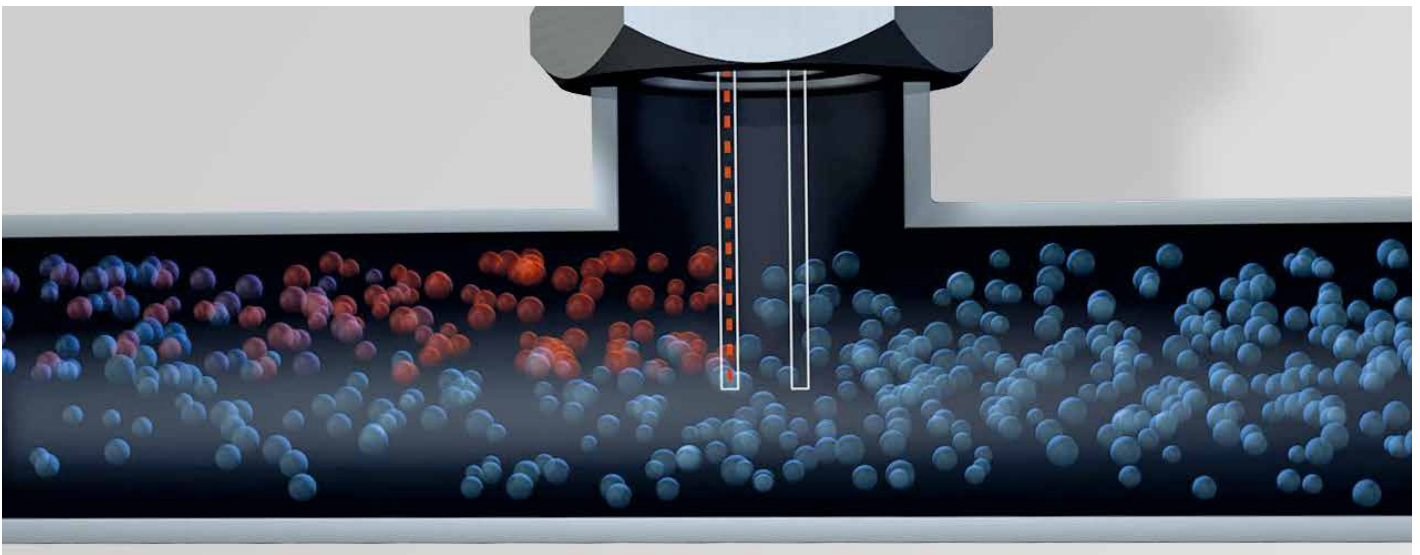
Technical data	
Measuring technique	Calorimetric
Measured parameters	Standard units: m ³ /h, m ³ and m/s
Display	Service LED or TFT 1.8" display
Accuracy	± 1,5 % v.M. ± 0,3 % v.E.
Power supply	18 bis 36 VDC
Output signal	4 ... 20 mA, RS485 (MODBUS RTU)
Pulse output	1 pulse per m ³ or per litre, floating pulse output
Operating pressure	max. 16 bar, optional up to 50 bar
Media	Air, gases
Sensor	Pt45; Pt1000
Screw fitting	G ½" (ISO 228/1)
Material of sensor tube and fittings	1.4301 stainless steel
Housing material	Powder-coated aluminium
IP class	IP 65
Operating temperature	-30 ... ± 140 °C for sensor tube -30 ... 80 °C for housing
Humidity of medium	max. 90 % rH (no droplets)

METPOINT® FLM SF13 compact

Volume flow metering

Technical data	
Measuring technique	Calorimetric
Measured parameters	Standard units: m ³ /h, m ³ and m/s
Display	Service LED or TFT 1.8" display
Accuracy	± 1,5 % v.M. ± 0,3 % v.E.
Power supply	18 bis 36 VDC
Output signal	4 ... 20 mA, RS485 (MODBUS RTU)
Pulse output	1 pulse per m ³ or per litre, floating pulse output
Operating pressure	max. 16 bar
Media	Air, gases
Sensor	Pt45; Pt1000
Measuring line material	Version with fitting thread: 1.4301 or 1.4404 stainless steel
Sensor tube material	1.4301 stainless steel
Housing material	Powder-coated aluminium
IP class	IP 65
Operating temperature	0 ... +50 °C
Humidity of medium	max. 90 % rH (no droplets)

Principle behind METPOINT® FLM



Two temperature sensors are installed in series in the direction of flow. The first temperature sensor measures the current process temperature of the compressed air, while the second sensor is electrically heated to a temperature that is 40 K higher than that of the first sensor.

Higher volume flows results in a quicker drop in temperature at the sensors, so that the electric heater of the second

sensor must increase its heat output.

The electric energy required to maintain the temperature difference is proportional to the volume flow. This energy consumption is converted to provide the relevant flow measurements. Taking into account the inside diameter of the pipe, the METPOINT® FLM determines the exact volume flow rate.

Our calibration service for your METPOINT® FLM

Transducers and transmitters are exposed to mechanical stress and temperature fluctuations. As a result, the measuring accuracy of the sensor technology drifts, which means that the results become unreliable, so that production and product quality might no longer be properly monitored. **BEKO TECHNOLOGIES** offers its customers a range of calibration services for volume flow sensors, dew point transmitters and pressure transducers.

All devices are calibrated in tailor-made processes developed by **BEKO TECHNOLOGIES**, approved to ISO standards. ISO calibration is based on reference measurements performed with externally provided test specimens and certified reference devices. All reference devices can be traced back to national standards. The relevant procedures and methods meet the requirements of the DIN EN ISO 9001 quality standard.



Do you have questions about the best way of processing compressed air?

We have the answers! We offer efficient solutions for any type of processing. Please contact us with all your queries.

We would be delighted to tell you more about our condensate treatment, filtration, drying, measuring technology and process technology, as well as our extensive services.

Visit us at



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