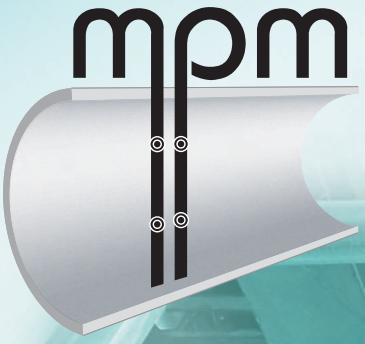
Simply a question of
better measurement

SCHMIDT® Technology

SCHMIDT® InLine Volume Flow Sensor

Shortest inlet and outlet distances due to Multi-Point-Measurement



- Direct measurement of mass flow and medium temperature
- Low pressure loss
- Additional modules to increase functionality
- Simple installation with integrated measuring distance
- **High measuring accuracy** even in installations with a **poor flow profile**

Perfect for use in air consumption and air and gases flow measurement, as well as for compressed air operated tools and machines.

Multi-**P**oint-**M**easurement – Principle of Operation

The well-known and time proven measuring principle of thermal anemometry has been integrated into the new **SCHMIDT® InLine Volume Flow Sensor**, now with 4-point measurement.

The **SCHMIDT® MPM Technology** generates four measuring values in parallel. Processing these values by intelligent algorithms it is possible to achieve greatly improved and reliable measurements, even with insufficient inlet and outlet distances.

Four well-protected and streamlined mass flow elements have been strategically positioned inside the measuring section. The radial arrangement of the four measuring points combined with the associated signal processing means that even poor flow profiles can be reliably and more accurately measured.

Two parallel positioned sensor carriers integrated into the measuring section of the sensor carry the four high precision and fully independent flow sensor elements. A temperature sensor element, used to determine the air/gas temperature, has been placed on a third carrier positioned between them.
Each of the four flow sensor elements are electrically heated to a distinct fixed temperature above the temperature of the medium. The power required to maintain this positive temperature differential ("over temperature") is processed to determine the mass flow and the sensor sends out a linear current / pulse signal proportionate to the flow. The great advantage of this measuring principle is that no additional pressure or temperature measurement of the medium is required.

The "true professional" for industrial processes and compressed air technology

The **SCHMIDT® InLine Volume Flow Sensor** is the perfect solution for demanding and tough industrial applications. It can be used for a diverse range of applications, such as compressed air and gas monitoring on process burners (not for applications with explosion protection/ATEX or flammable gases), compressed air consumption, air and gases flow measurement, compressed air measurement to air operated tools and machines. In addition to volume flow, the sensor also measures the medium temperature in the range from -20 °C to +60 °C.

The **SCHMIDT® InLine Volume Flow Sensor** comes with four integrated dual LEDs to indicate the flow range as well as the operating status of the sensor itself. The measuring values for volume flow and temperature are supplied via two independent outputs. A second plug-in connector enables the connection of accessory modules to give additional features to the device.

The sensor can be supplied with or without the available and optional extended measuring section. It is very easy to install … screw in the sensor into the pipework installation, connect it electrically, and the job is done!
The sensor operates without any moving parts and due to the measuring principle without any drift or signs of ageing. Maintenance cost and effort for the sensor is reduced to a minimum.

Sensor	Outer diameter	Measuring range
IL 30.005	DN 15 / 0.5"	0.15 … 76.3 Norm-m³/h [1]
IL 30.010 MPM	DN 25 / 1"	0.50 … 229 Norm-m³/h [1]
IL 30.015 MPM	DN 40 / 1.5"	1.00 … 417 Norm-m³/h [1]
IL 30.020 MPM	DN 50 / 2"	2.00 … 712 Norm-m³/h [1]

[1] Based on standard conditions: T_N = 20 °C and p_N = 1,013.25 hPa

Operating temperature	-20 … +60 °C
Measuring accuracy flow [1]	±(3 % of measured value + 0.3 % fmr)
Measuring accuracy temperature	≤ ±2 °C (at mass flow > 2 % fmr)
Output 1 (OUT 1)	4 … 20 mA volume flow
Output 2 (OUT 2)	4 ... 20 mA temperature of medium
Impulse output	connection for consumption meter
Maximum pressure	16 barg
Medium	clean compressed air, nitrogen, other gases on request (not appropriate for ATEX applications); non-condensing (up to 95 % rH)

fmr = final measuring range

Want to learn more about **SCHMIDT® MPM Technology**? Further information are available on our website **www.schmidt-sensors.com** or by e-mail at **sensors@schmidttechnology.de**

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Order information SCHMIDT® InLine Volume Flow Sensor

Type	Article no.	Measuring range	Thread	Length
SCHMIDT IL 30.005	550 250	0.15 … 76.3 Norm-m³/h	DN 15 / G ½	100 mm
SCHMIDT IL 30.010 MPM	550 251	0.50 … 229 Norm-m³/h	DN 25 / G 1	100 mm
SCHMIDT IL 30.015 MPM	550 252	1.00 … 417 Norm-m³/h	DN 40 / G 1½	100 mm
SCHMIDT IL 30.020 MPM	550 253	2.00 … 712 Norm-m³/h	DN 50 / G 2	100 mm
Accessories	523 565	Connection cable 5-pin, length 5 m, with coupler socket and open cable ends		
	523 566	Connection cable 5-pin, selectable length (2 … 100 m; one-meter-steps), with coupler socket and cable end sleeves, halogen free		
	523 562	Coupler socket 5-pin, with screw terminals, for cable Ø 4 ... 6 mm		
	535 282	Power supply, output 24 V DC 1 A, 115 / 230 V AC		
	556 954	Extended measuring sections DN 15 (1 set of 2 pcs.)		
	556 955	Extended measuring sections DN 25 (1 set of 2 pcs.)		
	556 956	Extended measuring sections DN 40 (1 set of 2 pcs.)		
	556 957	Extended measuring sections DN 50 (1 set of 2 pcs.)		
	559 340	Replacement pipes DN 15 to replace previous model SS 30.300 (2 pcs.)		
	559 341	Replacement pipes DN 25 to replace previous model SS 30.301 (2 pcs.)		
	559 550	Replacement pipes DN 40 to replace previous model SS 30.302 (2 pcs.)		
	559 551	Replacement pipes DN 50 to replace previous model SS 30.303 (2 pcs.)		
	554 900	Measuring value module MD 10.020, 7-Segment-Display, incl. 0.6 m connection cable to connect to the module plug		
	560 500	SCHMIDT® *Bluetooth*® Module BT 10.010 to adjust sensor parameters (pre-settings), for sensor analysis as well as for displaying and recording of real-time data from SCHMIDT® Flow Sensors being equipped with an integrated module interface (via *Bluetooth*® transmission)		
	564 710	PC Programming Kit (cable adapter) to adjust sensor parameters (pre-settings), for sensor analysis as well as for displaying and recording of real-time data from SCHMIDT® Flow Sensors being equipped with an integrated module interface (for PC, Laptop, Tablet; Windows)		
	527 320	SCHMIDT® LED display MD 10.010 in wall housing to show volume flow and flow velocity, 85 … 250 V AC and sensor power supply		
	528 240	SCHMIDT® LED display MD 10.010, similar to 527 320 but with 24 V DC voltage supply		
	527 330	SCHMIDT® LED display MD 10.015, similar to 527 320 but with an additional sum function and a second measuring input		
	528 250	SCHMIDT® LED display MD 10.015, similar to 527 330 but with 24 V DC voltage supply		
	531 394	Assembly kit for pipe assembly suitable for MD 10.010 / MD 10.015, including pipe clamps and collar for adjustment to the pipe diameter		
Factory calibration certificate	556 958-1	IL 30.005 / 76.3 Norm-m³/h		4 calibration points
	556 959-1	IL 30.010 MPM / 229 Norm-m³/h		4 calibration points
	556 960-1	IL 30.015 MPM / 417 Norm-m³/h		4 calibration points
	556 961-1	IL 30.020 MPM / 712 Norm-m³/h		4 calibration points