Simply a question of
better measurement
Flow sensors for air and gases

SCHMIDT® Flow Sensors

Solutions for measuring technology in practice

SCHMIDT Technology is a specialist in the development and production of stationary flow sensors for air and gases. With more than 25 years of experience in the fields of compressed air, clean-room/pharma, industrial processes and air-conditioning, we can provide you with perfect solutions for a multitude of measuring tasks.

Precise, reliable, safe

Our sensors – Your benefits:

· Energy saving and energy efficiency by simple measurement of actual values
· Precise determination of volume and mass flow consumption data
· Quality assurance of processes
· Control of ventilators and dampers
· Functional monitoring of machines and manufacturing processes

The advantages of SCHMIDT® flow sensors:

· Stable measurement over years without any drift
· No wearing parts and thus no maintenance or follow-up costs
· Extreme measuring ranges – for both low and high flow applications
· Sturdy sensors, including versions for hazardous areas, high pressures and aggressive media
· Modern combined sensors, whereby one sensor can measure several parameters simultaneously
· Easy assembly and quick startup on site

Durability

High quality and sturdy design ensures that our sensors measure every single day and over many years without requiring any maintenance. "Fit and Forget".

Easy handling

Easy handling on-site ensures precise measurement and real "Plug and Play".

Acting locally on a global basis

Our global philosophy is based on competent consultation by regional employees or specialised partners who together work locally with you to find a suitable solution.

Competence and quality are not like stars from heaven

Our efficient and forward thinking research & development department using in house high precision reference wind tunnels leads to innovative products and complete customer satisfaction.

Customised sensors – tailor-made

We also develop and manufacture customised flow sensors specifically for your measurement tasks and measurement environment.

Individual and quick

SCHMIDT Technology provides a suitable sensors within days.

The right sensor for every application

The technology behind SCHMIDT® Flow Sensors

All **SCHMIDT® flow sensors** operate on the hot wire principle: The passing medium cools the temperature-controlled sensor head. The energy required to maintain the sensor temperature is proportional to the flow velocity of the medium. The benefit of this measurement principle is that it allows direct measurement of the actual volume or mass flow even at overpressure.

Pressure or temperature compensation requiring additional sensor cost in other measurement principles are not required with these sensors.

Depending on requirements and the measuring application, **SCHMIDT Technology** offers you a choice of different sensor types designed to specifically meet the relevant applications. Our sensors are divided into four main sensor types and are differentiated by their design:

The dumb-bell head sensor is dust and dirt resistant, the coated versions are also resistant to aggressive media. The wide measuring range and large inflow angles allow for flexible use.

The chamber head sensor is best suited for high flow velocities. The design provides excellent protection against mechanical forces and is extremely sturdy – also for use with media at high temperatures.

The thermopile sensor was developed specifically for low velocities: extremely quick response times and the extremely small design make this sensor a specialist for clean gases.

The inline sensor excels by quick response times and its small obstruction in pipe cross sections.

Dumb-bell head sensor

· Dust and dirt resistant
· Special coating for aggressive media (optional)
· Wide flow measuring range from 0.06 to 50 m/s
· Easy to clean
· Large inflow angle: 360° axial and ± 45° horizontal
· Temperature measurement
· For media temperatures from -40 to +85 °C
· Up to 10 bar overpressure (depending on model)
· For pipe diameters > DN 65 and open space applications
· Linear output signals from 4 to 20 mA or 0 to 10 V
· Special protective coating against aggressive gases
· Optional version for use in explosive atmospheres

Chamber head sensor

· Wide measuring range from 0.2 to 220 m/s
· Temperature measurement (optional)
· For normal air with low dust content
· Sturdy design up to 40 bar overpressure (depending on model)
· For media temperatures between -40 and +350 °C
· Reacts quickly to changes in flow and media temperature
· Cleaning with water or by blowing out
· Ideal for pipe diameters > DN 25
· Linear output signals from 4 to 20 mA or 0 to 10 V

Filter monitoring

Detection of overflow

Air intake/ gas ratios

Compressed air distribution

Detection of leakages

Exhaust velocities

Flow velocities

Measurement of air intake and exhaust   Determination of compressed air consumption

4 . 5

Drying air (gas) measurement

Determination of air volumes

Determination of gas volumes

Determination of air volumes and volume flows

Laminar flow measurement

Thermopile sensor

· Ideal for clean gases
· For low velocities between 0.05 to 20 m/s
· Precise determination of flow direction
· Extremely quick response times from 0.01 sec.
· For media temperatures from 0 to + 60 °C
· Sturdy all-metal housing
· Extremely small design of only 9 mm
  diameter allows easy installation
· Linear output signals from 4 to 20 mA or 0 to 10 V
· Optional bidirectional flow measurement

Inline sensor

· Integrated measuring tube allows for easy installation
· Direct measurement of norm flow volumes
  from 0.25 to 712 m³/h
· LED display of measured values
· Suitable for media temperatures from 0 to +60 °C
· Up to 16 bar overpressure
· Very fast response times
· Marginal obstruction of pipe cross section
· Temperature measurement (display)
· For pipe diameters from DN 15 to DN 50
· Linear output signals from 4 to 20 mA

Compressed air technology

Air measurement controls energy costs

Regardless of large or small compressed air units – be on the safe side with **SCHMIDT Technology flow sensors**. They are ideal for continuous consumption measurement, for any compressor controls required and to precisely detect any leakage during non-operation. Using **SCHMIDT® flow sensors** you will always be "in control" of compressed air costs.

SCHMIDT® LED
measured value display
MD 10.010 / 10.015

SS 20.650

SS 20.261

SS 20.600

SS 30.30X

SCHMIDT® Flow Sensors

SS 20.650 Chamber head sensor
· For measuring directly behind screw compressors
· Measuring range: air velocities from 0.2 to 60 m/s;
  temperatures up to +350 °C; up to 16 bar overpressure
· Very precise due to high precision adjustment with
  calibration certificate (optional)
· Installation length: standard up to 1000 mm,
  special lengths between 400 and 1000 mm available
· Robust construction with all-metal design
· Additional impulse output for easy determination of total
  volumes via a (consumption) meter
· Easy installation and replacement via through-bolt joint
· Also available as fieldbus version (PROFIBUS/DeviceNet)

SS 20.600 Chamber head sensor
· Measuring range: air velocities from
  0.2 to 220 m/s; up to 40 bar overpressure
· Robust construction with all-metal design
· Pipe diameters: DN 25 to DN 600
· Additional impulse output for easy
  determination of total volumes via a (consumption) meter
· Easy installation and replacement via ball valve
  and through-bolt joint
· Also available as fieldbus version (PROFIBUS/DeviceNet)
· Optional version for hazardous environments (ATEX,
  oxygen)

SS 30.30X Inline sensor
· Integrated measuring section
· Measuring range: volume flows up to 712 m³/h
· Integrated LED display for flow rates,
  total volume or temperature
· Analog or switching output
· Easy installation (plug and play)
· Pipe diameters: DN 15 to DN 50
· Up to 16 bar over pressure

SS 20.261 Chamber head sensor
· Inexpensive immersion sensor
· Measuring range: air velocities up to 90 m/s
· Temperatures up to +85 °C; up to 10 bar overpressure
· Pipe diameters: DN 25 to DN 600
· Easy installation with supplied through-bolt joint
· Very precise due to high precision adjustment with
  calibration certificate (optional)

MD 10.010/015 LED measured value display
· Display of flow velocity or flow volume
· Easy installation through sturdy wall housing (IP 65)
· Electrical supply via mains (i.e. 230 V) or 24 V DC
· Electrical supply of connected sensor
· Model with accumulator function and dual measuring signal input
· Automatic switching of current or voltage outputs
  depending on load
· Output signals freely scalable and 2 relay outputs
  (230 V, 2 A) with alarm function
· Can also be used for other sensors with standard outputs
  (i.e. pressure, temperature, humidity)
· Detection of flow direction (patented)

Industrial processes
Whatever the application, there is a suitable sensor

The field of industrial processes is extremely varied. **SCHMIDT Technology** offers suitable flow sensors for widely differing segments, such as chemicals, food & beverage, environmental technology, construction materials, semi-conductor production, paper/printing/textiles as well as plant and equipment engineering.

Flow sensors are used for functional monitoring, equipment control and quality assurance. **SCHMIDT® flow sensors** not only measure air precisely and quickly, but also numerous gases and gaseous mixtures.

SCHMIDT® LED
measured value display
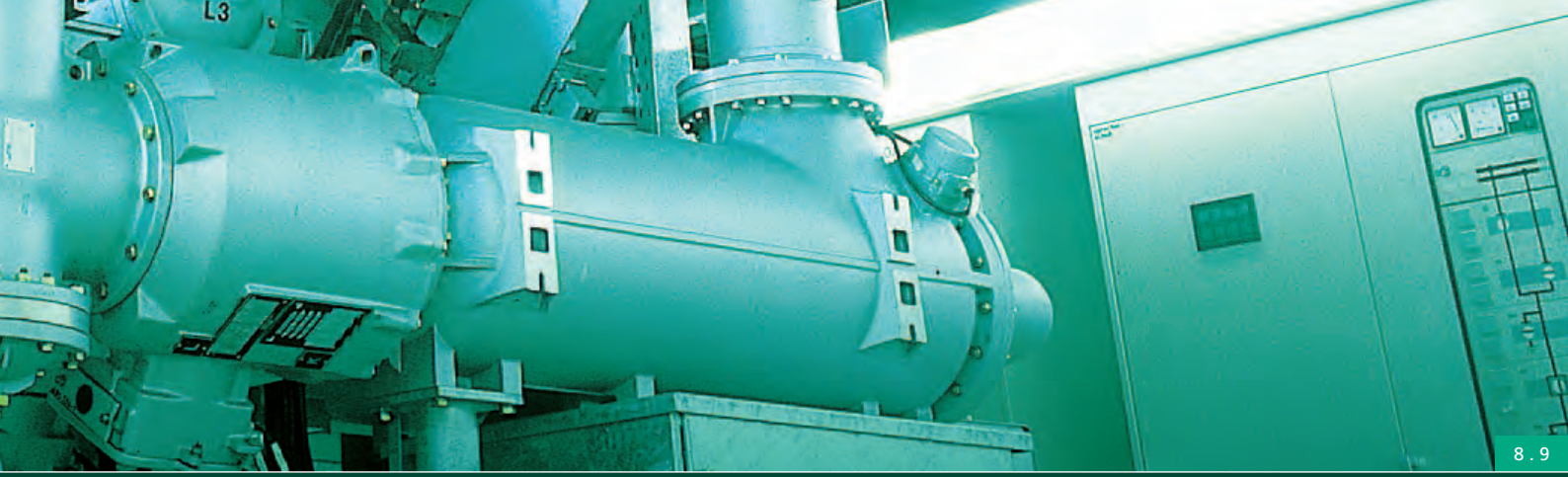MD 10.010 / 10.015

SS 20.650

SS 30.30X

SS 20.600

SS 20.500

SS 20.200

SS 20.260

SS 20.261

SCHMIDT® Flow Sensors

SS 20.650 Chamber head sensor
· For measuring directly behind screw compressors
· Measuring range: air velocities from 0.2 to 60 m/s;
· Temperatures up to +350 °C; up to 16 bar overpressure
· Very precise due to high precision adjustment with calibration certificate (optional)
· Installation length: standard up to 1000 mm, special lengths between 400 and 1000 mm available
· Robust construction with all-metal design
· Additional impulse and relays output
· Easy installation and replacement
· Also available as fieldbus version (PROFIBUS/DeviceNet)

SS 20.600 Chamber head sensor
· Measuring range: air velocities from 0.2 to 220 m/s; up to 40 bar overpressure
· Robust construction with all-metal design
· Pipe diameters: DN 25 to DN 600
· Additional impulse and relays output
· Easy installation and replacement
· Also available as ATEX version (Cat. 3, Zone 2)
· Easy to clean (blowing out our cleaning with water)
· Also available as fieldbus version (PROFIBUS/DeviceNet)

SS 20.500 Dumb-bell head sensor
· Measuring range: air velocities from 0.06 to 50 m/s
· Very precise due to high precision adjustment with calibration certificate (optional)
· Sturdy all-metal housing
· Also available as ATEX version (Cat. 3, Zone 2)
· Also available as separated version (sensor tube and electronics housing separated)
· Special coating against aggressive gases (optional)
· Easy installation through through-bolt joint or mounting flange

SS 20.200 Dumb-bell head sensor
· Flow monitors with switching output
· Switching range: flow velocities up to 20 m/s
· LED display if value exceeds or drops below switching point
· Switching point can be set with integrated potentiometer
· Temperature compensation prevents any influence on switching point in case of temperature changes
· Special protective coating against aggressive gases

SS 20.260 Chamber head sensor
· Flow and temperature measurement under atmospheric pressure
· Measuring range: flow velocities up to 50 m/s; temperatures up to +120 °C
· Easy installation due to compact design
· Installation lengths: 50 to 500 mm
· Very precise due to high precision adjustment with calibration certificate (optional)
· Integrated temperature measurement (optional)

SS 20.261 Chamber head sensor
· Inexpensive immersion sensor up to 10 bar overpressure of media
· Measuring range: air velocities up to 90 m/s
· Temperatures up to +85 °C
· Pipe diameters: DN 25 to DN 600
· Easy installation with supplied through-bolt joint
· Very precise due to high precision adjustment with calibration certificate (optional)

SS 30.30X Inline sensor
· Integrated measuring section
· Measuring range: flow volumes up to 712 m³/h
· Integrated LED display
· Analog or switching output
· Easy installation (plug and play)
· Pipe diameters: DN 15 to DN 50
· Up to 16 bar over pressure

MD 10.010/015 LED measured value display
· Display of flow velocity or flow volume
· Easy installation through sturdy wall housing (IP 65)
· Electrical supply via standard mains (i.e. 230 V)
· Electrical supply of connected sensor
· Model with accumulator function and 2. measuring signal input
· Automatic switching of current or voltage outputs depending on load
· Output signals freely scalable and 2 relay outputs (230 V, 2 A) with alarm function
· Can also be used for other sensors with standard outputs (i.e. pressure, temperature, humidity)
· Detection of flow direction (patented)

	SS 20.650	SS 20.600	SS 20.500	SS 20.200	SS 20.260	SS 20.261	SS 30.30X
Applications							
Meas. of air intake and exhaust							
Filter monitoring							
Determination of air volumes							
Drying air (gas) measurement							
Exhaust velocities							
Flow velocities							
Determination of gas volumes							
Air intake/gas ratios							

Clean room and pharma
Better safe than sorry

SCHMIDT® flow sensors are also of interest to both users and manufacturers of clean rooms and pharmaceutical equipment.

Our flow sensors will reliably register the predefined air flows required by different standards as well as provide energy-efficient measurement of overflow from clean room to clean room.
Our high quality standard is especially relevant for quality assurance. Of course, every sensor can be supplied with an ISO calibration certificate to document its precision in black and white.

SCHMIDT® LED
measured value display
MD 10.010 / 10.015

SS 20.250   SS 20.415   SS 20.515   SS 20.200   SS 20.420   SS 20.400   SS 23.400

SCHMIDT® Flow Sensors

SS 20.250 Dumb-bell head sensor
· Inexpensive immersion sensor
· Integrated temperature measurement
· Measuring range: flow velocities from 0.06 to 20 m/s
· Very precise due to high precision adjustment with
  calibration certificate (optional)
· Special coating against aggressive gases (optional)
· Easy installation due to compact tube design with
  through-bolt joint or mounting flange
· Easy to clean

SS 20.415 Thermopile sensor
· Measuring range: flow velocities from 0.05 to 20 m/s
· Also available in angled design
· Installation under ceiling vents
· Detection of flow direction (optional)
· Quick-fit technology suitable for different
  ceiling systems
· Easy installation due to compact tube design
· Can be configured via PC
· Self-monitoring of sensor function
· GMP-compatible materials
· Analog and switching outputs
· Easy output of flow direction via analog or
  switching signal

SS 20.200 Dumb-bell head sensor
· Flow monitors with switching output
· Switching range: flow velocities up to 20 m/s
· LED display if value exceeds or drops below switching point
· Switching point can be set with integrated potentiometer
· Temperature compensation prevents any influence on switching
  point in case of temperature changes
· Special protective coating against aggressive gases
· Easy to clean

SS 20.400 Thermopile Sensor
· Measuring range: flow velocities from 0.05 to 20 m/s
· Easy installation due to compact tube design
· Detection of flow direction (optional)
· Also available in ATEX version (SS 23.400)
· Can be configured via PC
· GMP-compatible materials
· Analog and switching outputs
· Easy output of flow direction via analog or
  switching signal
· Bidirectional measurement (optional)
· 2 switching outputs

SS 23.400 Thermopile sensor
· Measuring range: flow velocities from 0.05 to 20 m/s
· As SS 20.400, but in ATEX version:
  equipment category 3, zone 2

MD 10.010/015 LED measured value display
· Display of flow velocity or flow volume
· Easy installation through sturdy wall housing (IP 65)
· Electrical supply via mains (i.e. 230 V or 24 V DC)
· Electrical supply of connected sensor
· Model with accumulator function and
  2. measuring signal input
· Automatic switching of current or voltage outputs
  depending on load
· Output signals freely scalable and 2 relay outputs
  (230 V, 2 A) with alarm function
· Can also be used for other sensors with standard outputs
  (i.e. pressure, temperature, humidity)
· Detection of flow direction (patented)

	SS 20.250	SS 20.415	SS 20.515	SS 20.200	SS 20.400	SS 20.420	SS 23.400
Applications							
Laminar flow measurement							
Detection of overflow direction							
Measurement of turbulence							
Exhaust velocities							
Flow velocities							

Ventilation and air-conditioning

Energy efficiency for a secure future

In this field, the topics energy efficiency, CO_2 reduction and saving on operational costs play an especially important role and is largely dependent on the reliability of measured values. Considering the trend towards volume reduction in air conditioning and ventilation units, you can cover the entire measuring spectrum from "virtually zero" to extremely high flow velocities with a **SCHMIDT® flow sensor**.

Flow sensors by **SCHMIDT Technology** can help you in achieving maximum energy efficiency, monitoring and controlling measured values and in providing optimum operation on a continuous basis. The quick and easy installation of the sensors at the duct is also extremely helpful: drill the hole, fit the sensor using a mounting flange, wire the electrics – ready for operation.

SCHMIDT® LED
measured value display
MD 10.010 / 10.015

SS 20.250

SS 20.500

SS 20.200

SS 20.260

SCHMIDT® Flow Sensors

SS 20.250 Dumb-bell head sensor
· Inexpensive immersion sensor
· Integrated temperature measurement
· Measuring range: flow velocities from 0.06 to 20 m/s
· Very precise due to high precision adjustment with
  calibration certificate (optional)
· Special protective coating against aggressive gases (optional)
· Easy installation due to compact tube design with through-bolt
  joint or mounting flange
· Voltage supply: 24 V AC or DC
· Automatic switching of output signal depending on load
· Installation lengths: 300 and 500 mm

SS 20.500 Dumb-bell head sensor
· Integrated temperature measurement
· Measuring range: air flow from 0.06 to 50 m/s
· Very precise due to high precision adjustment with
  calibration certificate (optional)
· Sturdy all-metal housing
· Also available as ATEX version (Cat. 3, Zone 2)
· Also available as separated version
  (sensor tube and electronics housing separated)
· Special protective coating against aggressive gases (optional)
· Automatic switching of output signal depending on load
· Easy installation with through-bolt joint
  or mounting flange
· Voltage supply: 24 V AC or DC
· Installation lengths: available up to 1000 mm

SS 20.200 Dumb-bell head sensor
· Flow monitors with switching output
· Switching range: flow velocities up to 20 m/s
· LED display if value exceeds or drops below switching point
· Switching point can be set with integrated potentiometer
· Quick response time: less than 3 sec.
· Temperature compensation prevents any influence
  on switching point in case of temperature changes
· Special protective coating against aggressive gases (optional)

SS 20.260 Chamber head sensor
· Integrated temperature measurement (optional)
· Measuring range: flow velocities up to 50 m/s
· Temperatures from -20 °C to + 120 °C
· Easy installation due to compact design
· Installation lengths: 50 to 500 mm
· Very precise due to high precision adjustment with calibration
  certificate (optional)

MD 10.010/015 LED measured value display
· Display of flow velocity or flow volume
· Easy installation through sturdy wall housing (IP 65)
· Electrical supply via mains (i.e. 230 V) or 24 V DC
· Electrical supply of connected sensor
· Model with accumulator function and 2. measuring signal input
· Automatic switching of current or voltage outputs
  depending on load
· Output signals freely scalable and 2 relay outputs
  (230 V, 2 A) with alarm function
· Can also be used for other sensors with standard outputs
  (i.e. pressure, temperature, humidity)
· Detection of flow direction (patented)

	SS 20.250	SS 20.500	SS 20.200	SS 20.260
Applications				
Meas. of air intake and exhaust				
Filter monitoring				
Determination of air volumes and volume flows				
Control of ventilators				
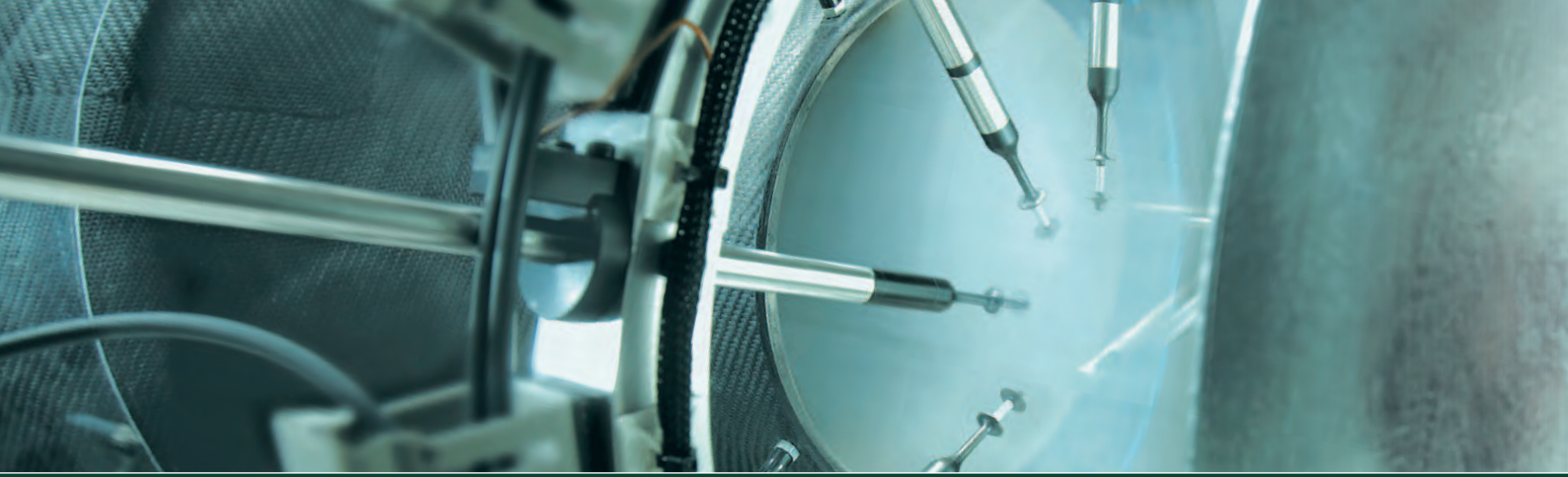
Competence from Research to Service

Research and Development

The employees of **SCHMIDT Technology** excel by their competence and knowledge in physics and technology.

Our large research and development department continuously works on creating cutting edge product innovations.

Hightech Calibration

We rely on high precision reference wind tunnels for the calibration of our flow sensors. Using these tunnels, we can operate under atmospheric pressure as well as under pressures up to 220 m/s and set and calibrate the sensors perfectly.

On request, we are happy to supply ISO calibration certificates, which document the precision of calibration.
Just ask us!

Consulting

Our competent application consultants are pleased to help you find the optimum technical and economical solution for your measuring requirements.

Aftersales Service

Should sensors malfunction, we offer a speedy and reliable repair service within a few working days!
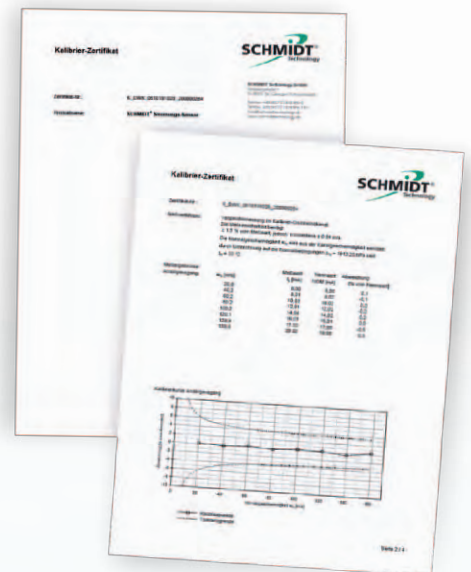
You require more flexibility?

Customised OEM solutions from **SCHMIDT Technology**

SCHMIDT Technology also develops and manufactures customised flow sensors and specifically addresses your demands and measuring requirements.

In order to supply you with the perfect product, we define the new product together to meet your requirements right from the beginning.
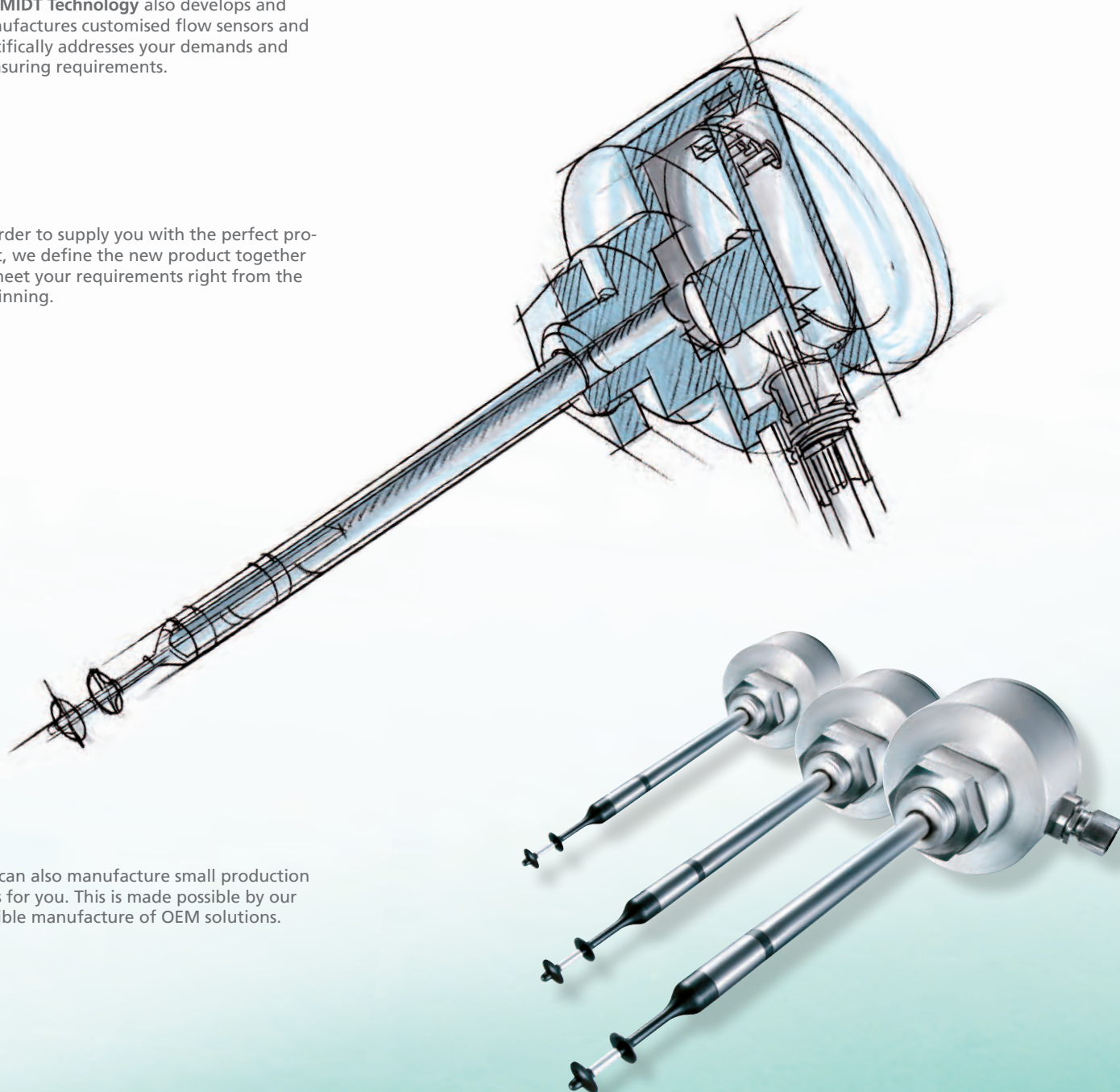
We can also manufacture small production runs for you. This is made possible by our flexible manufacture of OEM solutions.

SCHMIDT® **Technology**

Near you – worldwide.

Consultation and support on site are a matter of principle at **SCHMIDT Technology** – both prior to and after sales. We are represented by agencies in numerous industrial markets worldwide.
Our well trained local employees or specialised partners will give you optimum support in the selection and practical use of **SCHMIDT®** **flow sensors**.

Our website offers you further information, data sheets, documentation as well as national and international contact data.

A visit certainly pays off:
www.schmidttechnology.com