

Best Solutions for Your Flow Measurement

M E C  N
FLOW-CONTROL-SYSTEMS

• Sustainable • Innovative • Customized

Our mission

MECON provides excellent long-term stability and customized products for our customers.

100% Superior Quality manufacture



For further verifications please visit our website: www.mecon.de



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About MECON

Our Tradition Determines Who We Are Today

After one of the oldest flow measurement manufacturer in Germany, the well-known “Turbo Werk Messtechnik GmbH” founded in 1931 stopped operations in 2002, MECON was established to carry on the art of engineering highly reliable flow meters. By taking over the most important Turbo Werk Messtechnik engineers, MECON acquired over 75 years of expertise and continues delivering customized flow control systems of the quality “Made in Germany”.

With the heritage of solid knowledge and experience, our mission is to deliver sustainable solutions to our customers instead of simply selling products. In pursue of this policy we work together with our customers to learn about their challenges to improve development of our products and services. We would be delighted to be your partner too.

Environmental Responsibility

Our TOP Priority

Environmental responsibility is one of our major concerns. MECON comply with strict regulations in developing and providing solutions to our customers to ensure environmental protection. Wherever possible, we seek to reduce the environmental impact of our manufacturing processes and products by using energy-efficient technologies and environmentally friendly materials.



High Quality Standards

Our diverse range of flow and level metering products are based on decades of dedication to the highest standards of research, development, and production. Our high quality service and workmanship has gained MECON great reliability on the marketplace. Our flow and level metering instruments are approved in accordance with ISO 9001, VdS and PED.



Customer Service

MECON is devoted to support customers before and after sales in order to guarantee that our products provide the best possible performance and our solutions thus meet the customers' specification.

To ensure you are choosing the right product we help you with:

- Advice on Material Selections
- Customized Calibrations
- On-site Installations

To ensure long-lasting performance we provide:

- Cleaning, Repair and Maintenance Services
- Spare Parts Support
- Explicit Error Diagnostic
- On-site Troubleshooting



For any special requirements please contact our customer service.

Solutions: Technology + Quality = Success²

Our products are utilized in a wide range of industrial applications such as:

- Water and Wastewater Treatment
- The Chemical Industry
- Food and Beverage Production
- Pharmaceutical Industry
- Mining
- Cement and Mineral Materials
- The Steel Industry
- Pulp and Paper Production
- Power and Distribution

Variable area flow meters: and reliable flow measurement of liquids and gases.

Flow meters based on the float principle consist of a conical measuring tube made of glass, metal or plastic. In most applications the medium to be measured flows from the bottom to the top and lifts the float to a level proportional to the flow. Standard scales are available for liquids with a density of 1 kg/l (62.43 lbs/cu.ft.), but individual calibrations can be performed according to your requirements.

With transparent glass or plastic cones, the flow value can be read directly from the scale on the float reading line. With metal flow tubes, the height of the float is displayed using a magnetic coupling system.

Features

- Excellent long-term stability and reliability
- Maintenance-free
- Low operating costs
- Fast delivery for standard versions

The F O Orifice Plate Flowmeters

Orifice plate flow meters create a pressure differential in the pipe, forcing a given amount of the total flow through a bypass where a tubular float flow meter is installed. By using the orifice plate for redirecting the measured flow, the direction of the flow to be measured is not restricted as with built-in tubular float flow meters.

Features

- Suitable for any mounting positions
- Excellent long-term stability and reliability
- Low maintenance
- Low operating costs

Flap Flow meters

Mechanical flap flow meters are designed for liquid flow measuring. The measuring flap is closed by gravity and the degree of opening is proportional to the flow. Applications typically are water treatment and other high volume flow installations.

Features

- Robust design and excellent long-term stability
- Suitable for chemical industry, water and wastewater treatment, and building installations

Baffle Plate Flow meters

The flow meters operate according to the deflection method. While the baffle plate is activated by the flow pressure the balance beam is deflected.

Level Indicators

The MECON Menkar level indicators are designed for fill level monitoring in open or closed containers. The indicator tubes consist of stainless steel, rubber coating, Halar® or PTFE which permit application in any kind of aggressive media. A metallic float indicates the phase boundary and can be used for magnetic detection of the filling level.

Features

- Maintenance-free
- Excellent visibility
- Simple assembling and installation
- Wide operation range in temperature and pressure
- Material resistant to aggressive media

Electromagnetic Flow Sensors

The MECON mag-flux electromagnetic flow sensors measure the flow of electrically conducting fluids with great accuracy. As there are no mechanical parts inside the pipe they do not create pressure drops and are capable of measuring flows of dispersions such as sludge, pulp, or paste without requiring maintenance. The measurement is independent of temperature, pressure, density or viscosity. All our electromagnetic flow sensors withstand harsh conditions.

Features

- Cost-effective
- Highly corrosion resistant
- Excellent long-term stability

Electromagnetic Flow Sensor Probes

As with electromagnetic flow sensors, the magnetic inductive probes use the electrical conductivity of the media for non-mechanical flow measurement. They can be easily integrated into existing installations without disassembly, making our flow sensor probes ideal for reliable temporary measurements. They can be used for flow rates up to 5 or 10 m/s (9.84 ft/s or 32.8 ft/s) and a minimum conductivity of 20 µS/cm.

Features

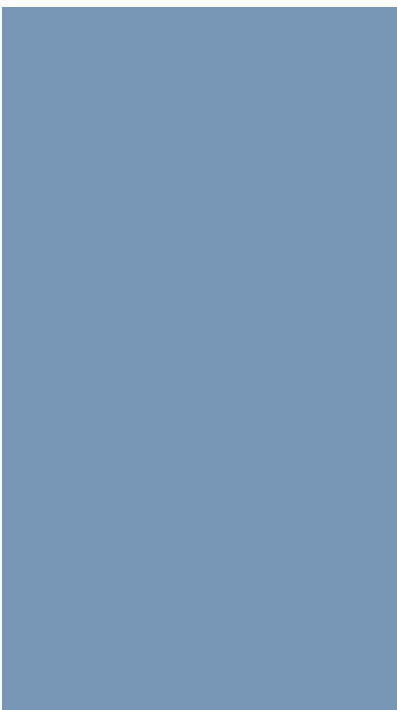
- Low maintenance
- Quick installation and replacement
- Chemically resistant
- Sensor body made of PVC or PVDF

Sustainable Customized Cost-effective



Cost effective solutions

MECON is committed to supplying customers with products of low cost yet possible best performance and long-term stability to ensure their sustainable industrial function. Our outstanding engineering, technology and quality allow our products to perform perfectly and functionally for over 40 years.





Variable Area Flow Meters



F VA Trogflux



F VA Tubux M30



F VA Unox



F VA Minix



F VA 250

Orifice Plate Flow Meters



F O N4



F O Turbo-Lux 2

Flap Flow Meters



F I Prima



F I Intra

Baffle Plate Flow Meters



F I Gardex



Level Indicators



Menkar K70



Menkar KK80

Magnetic Flow Sensors



mag-flux A



mag-flux F5



mag-flux S

Magnetic Flow Sensor Probes



MIS 1/D



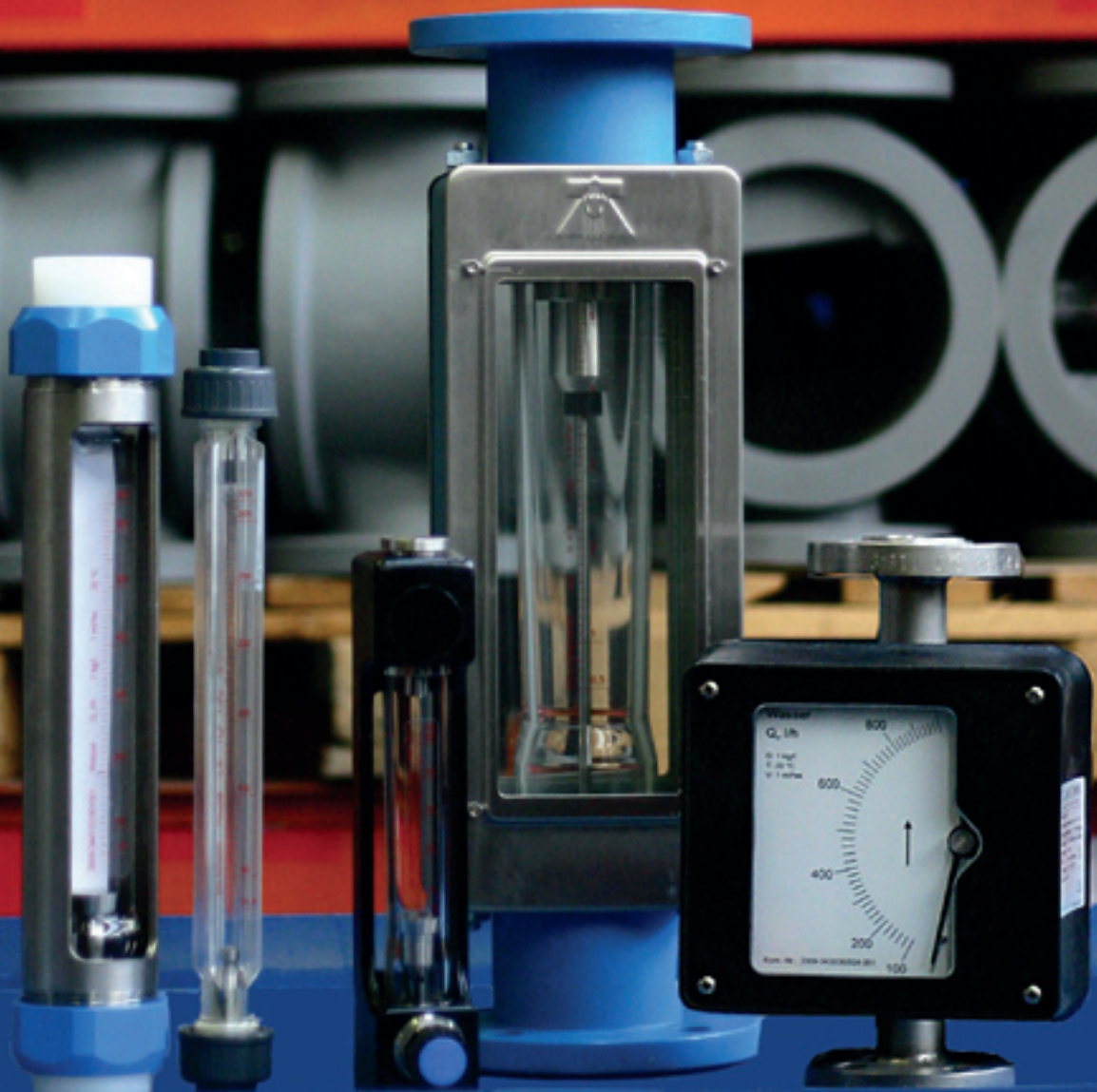
MIS 2/15

Electrically Conductive Transmitter



mag-flux M1

Technologically advanced, yet simple to operate



Reliable for liquid and gas measurement



F VA Trogflux

With plastic tubes, simple operating design and high accuracy performance means F VA Trogflux is the best choice for measuring gases and liquids easily.

Features

- Cost-effective
- No power connection
- Customized scales for different liquids and gases



F VA Tubux M30

For more demanding applications, the glass tube version can also be equipped with one or more switching contacts. The glass tube is protected by a metal casing with a viewing window. The scales are optionally available in percentage or 2 mm (0.078 inch) units.

Features

- Robust material
- Wide range of operating conditions
- Customized scales for different liquids and gases

Variable Area Flow Meters	F VA Trogflux	F VA Tubux M30
Measuring range	Water: 6.5 - 25.000 l/h; Air: 140- 480.000 l/h	Water: 3 - 10.000 l/h ; Air: 50 - 80.000 l/h
Accuracy class According to VDI/VDE 3513-2 (qG= 50%)	Liquids: 2.5 ; Gases: 4.0	Liquids: 1.6 ; Gases: 2.5
Pressure limits	Trogamid: max. 10 bar Polysulfone: max. 10 bar	max. 10 bar
Temperature limits	Trogamid: max. 60 °C Polysulfone: max. 90 °C	-10 °C — 150 °C
Float material	Stainless steel, PVC, aluminium, PVDF	
Flow Input	Vertically upwards	
Connection	DIN ISO 228: G ¼ - G 2 ANSI B1. 20. 1: NPT ½" – NPT 2" Adhesive bushing: 20 - 63 mm	DIN ISO 228: G ¼ - G 2 ANSI B1.20.1: NPT ¼" - NPT 2" Adhesive bushing: 20 mm – 63 mm Hose: 10 - 50 mm Flange DIN 2501: DN 10 - DN 80 Flange ANSI B16.5: ½" – 3"
Options	contact(s)	contact(s)



F VA Unox

The F VA Unox variable area flow meters feature a larger viewing window for direct reading of the flow and observation of the medium. The housing design allows the inside measuring tube to be changed easily, thus making the Unox very versatile.

Features

- Additional single pane safety glass for user protection
- Changeable measuring tubes with customized scales for different liquids and gases

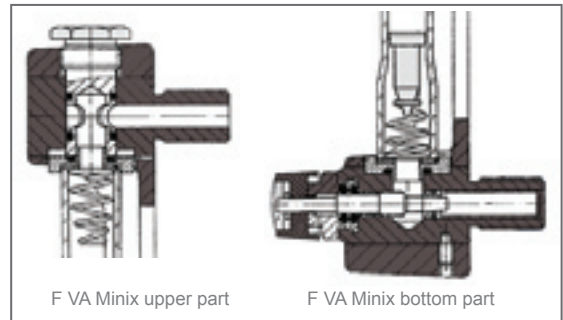


F VA Minix

The F VA Minix devices are glass tube flow meters with a sturdy stainless steel housing. They are equipped with a needle valve at the bottom and provide manual control of flow rates.

Features

- Flow control through built-in needle valve
- Suitable for panel mounting and row assembly
- Customized scales for different liquids and gases



Variable Area Flow Meters	F VA Unox	F VA Minix
Measuring range	Water: 0.1 - 25.000 l/h; Air: 1.6 - 450.000 l/h	Water: 0.1 - 500 l/h; Air: 2.0 - 8.000 l/h
Accuracy class According to VDI/VDE 3513-2 (qG= 50%)	Liquids: 1.6 ; Gases: 2.5	Liquids: 2,5 ; Gases: 2.5
Pressure limit	max.10 bar	max. 10 bar
Temperature limit	-10 °C — 150 °C	-10 °C — 70 °C
Float material	Stainless steel, PVC, PVDF, aluminium	Stainless steel, aluminium
Flow Input	Vertically upwards	
Connection	DIN ISO 228: G ¼ - G 2 ANSI B1.20.1: NPT ½" – NPT 2" Flange DIN 2501: DN 15 – DN 80 Flange ANSI B16.5: ½" – 3"	DIN ISO 228: G ¼ - G½ ANSI B1.20.1: NPT ¼" – NPT 2½" Hose: 10mm / 13mm
Options	contact(s) lasered scale	—



Solutions for the Pharmaceutical and Chemical Industries



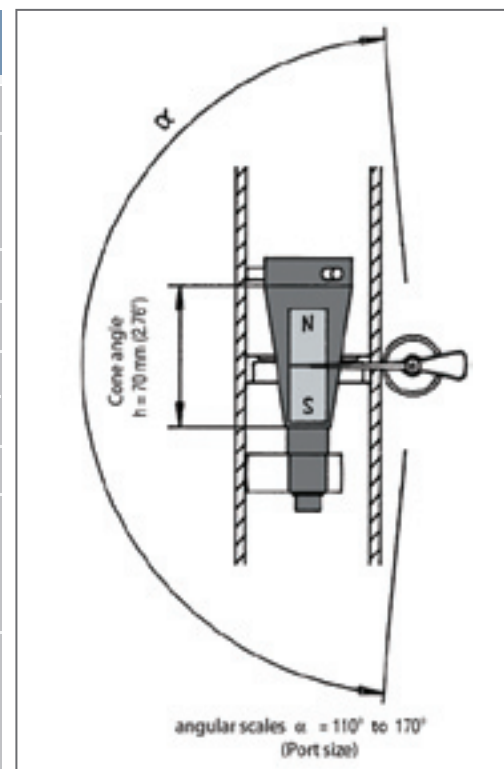
F VA 250

F VA 250 flowmeters with their all-metal design are excellent solutions for measuring flows under extreme conditions. They display high resistance to pressure and temperature and withstand corrosive media. The position of the float is magnetically transmitted to an analog indicator to display the measurement without auxiliary power. They are most frequently applied in the pharmaceutical and chemical industries.

Features

- All-metal design for optimal performance in hazardous areas
- Operating pressure up to 400 bar and temperature up to 300 °C
- Many different process connections
- Excellent long-term stability
- High resistance to acids and alkalis
- Direct flow indicator without power connection

Variable Area Flow Meters	F VA 250
Measuring range	Water: 1.6 - 100.000 l/h ; Air: 500 - 630.000 l/h
Accuracy class According to VDI/VDE 3513-2 (qG= 50%)	Liquids: 1.6 ; Gases: 2.5
Pressure limit	max. 400 bar
Temperature limit	max. 300 °C
Liner material	Stainless steel, PTFE, Hastelloy®
Float material	Stainless steel, PTFE, Hastelloy®
Flow input	Vertically upwards
Connection	DIN 2501: DN 15 - DN 100 ANSI B16.5: ½" - 4" DIN ISO 228: G ¼ - G3 ANSI B1.20.1: NPT ¼" - NPT 3"
Options	Magnet spring contact(s) Inductive contact(s) Current output 0/4-20mA Damping





Most commonly used for continuous measurement of liquid flow



F O N4

The F O N4 is suitable for mounting in any position and flow direction. As it is equipped with limit contacts the flow meters can also be applied in flow monitoring.

Features

- Suitable for any mounting position
- Special design for water treatment and swimming pools (DIN 19 643)
- Direct flow indicator



F O Turbo-Lux 2

The main application of the compact F O Turbo-Lux 2 is measuring liquid flow of sprinkler systems. A filter unit on the inlet ensures contamination resistance. Special inlet and outlet design allows the F O Turbo-Lux 2 to be combined with different pressure sensors.

Highlights

- In-built filter unit for excellent long-term reliability
- Special design for fire fighting systems (officially approved by the VdS)

Orifice Plate Flow Meters	F O N4	F O Turbo-Lux 2
Measuring range (Liquid)	Water: 1.2 m ³ /h – 1.600 m ³ /h	Water: 420 l/min. – 18.000 l/min.
Accuracy class	±2% of full-scale value	±2.5 of full-scale value
Pressure limit	max. 10 bar	max. 16 bar
Temperature limit	max. 60 °C	max. 50 °C
Flow input	Vertically upwards From left to right From right to left Vertically downwards	
Connection	DIN 2501: DN 40 - DN 400 ANSI B16.5: 1½" - 16"	DIN 2501: DN 80 - DN 250
Options	Contact(s) Orifice plate made of stainless steel Orifice plate and bypass made of PP	VdS - Guideline

Designed to withstand harsh conditions



F I Intra



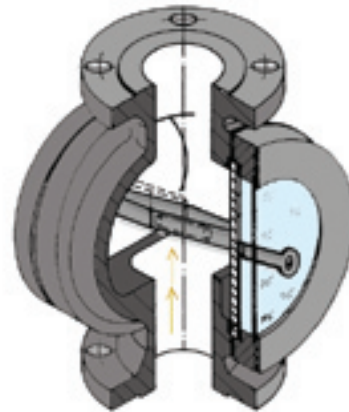
F I Prima

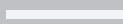
F I Intra and F I Prima

The F I Flap Flowmeters are specially designed for liquid flow measurement. They can be used for conductive contact with remote transmission. F I Intra is designed for transparent liquids and F I Prima is designed for turbid or opaque liquids with mechanical indicator.

Features

- Robust design and excellent long-term stability
- Suitable for the chemical industry, water and wastewater treatment, and building installations
- Suitable for transparent or turbid liquids
- Vertical or horizontal installation
- Simple installation and low maintenance
- Inductive contact for flow monitoring (optional)



Flap Flow Meters	F I Intra	F I Prima
Measuring range	Water: 0.5 – 160 m³/h	
Accuracy class	±5% of full-scale value	
Pressure limit	max. 16 bar	
Temperature limit	max. 150 °C	max. 250 °C
Flow input	Vertically upwards From left to right From right to left	
Connection	Flange DIN 2501: ANSI B16.5:	DN 25 - DN 150 1" - 6"
Options		Inductive contact

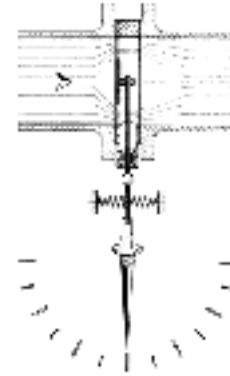
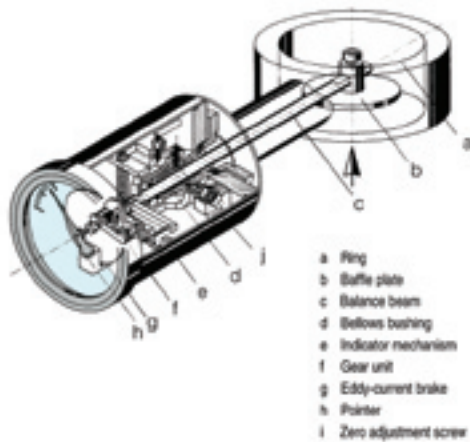


F I Gardex

The F I Gardex is an economical solution designed for easy and versatile liquid or gas flow measurement. The flow value is indicated directly on the viewing window. Standard scales are available for liquids with a density of 1 kg/l (62.43 lbs/cu.ft). When selecting the size of the flowmeter it is recommended to choose an operating flow approximately 75 % of the maximum flow.

Features

- Simple installation
- Low maintenance
- Low operating costs
- Fast delivery for standard versions
- Can be equipped with limit contacts and remote transmitter



Baffle Plate Flow Meters	F I Gardex	
Measuring range	Water: 0.2 – 1.350 m ³ /h; Gas: 60 – 40.500 m ³ /h	
Accuracy class	±3% of full-scale value	
Pressure limit	max. 16 bar	
Temperature limit	max. 250 °C	
Flow input	Vertically upwards From left to right From right to left Vertically downwards	
Connection	Flange DIN 2501: ANSI B16.5:	DN 25 - DN 300 1" - 12"
Option	Magnet spring contact(s) Inductive contact(s) Current output: 0/4 - 20mA	



Menkar KK80

The KK80 model with a plastic indicator tube, is mainly applied in water filling level measurement such as for boilers or de-ionized water reservoirs. The level indicator can be equipped with solenoid touch-sensitive switches..

Features

- Maintenance-free
- Simple assembly and universal application
- Cost-effective
- Excellent readability even from a long distance
- Optionally with magnetic transmission of measured value



Menkar K70

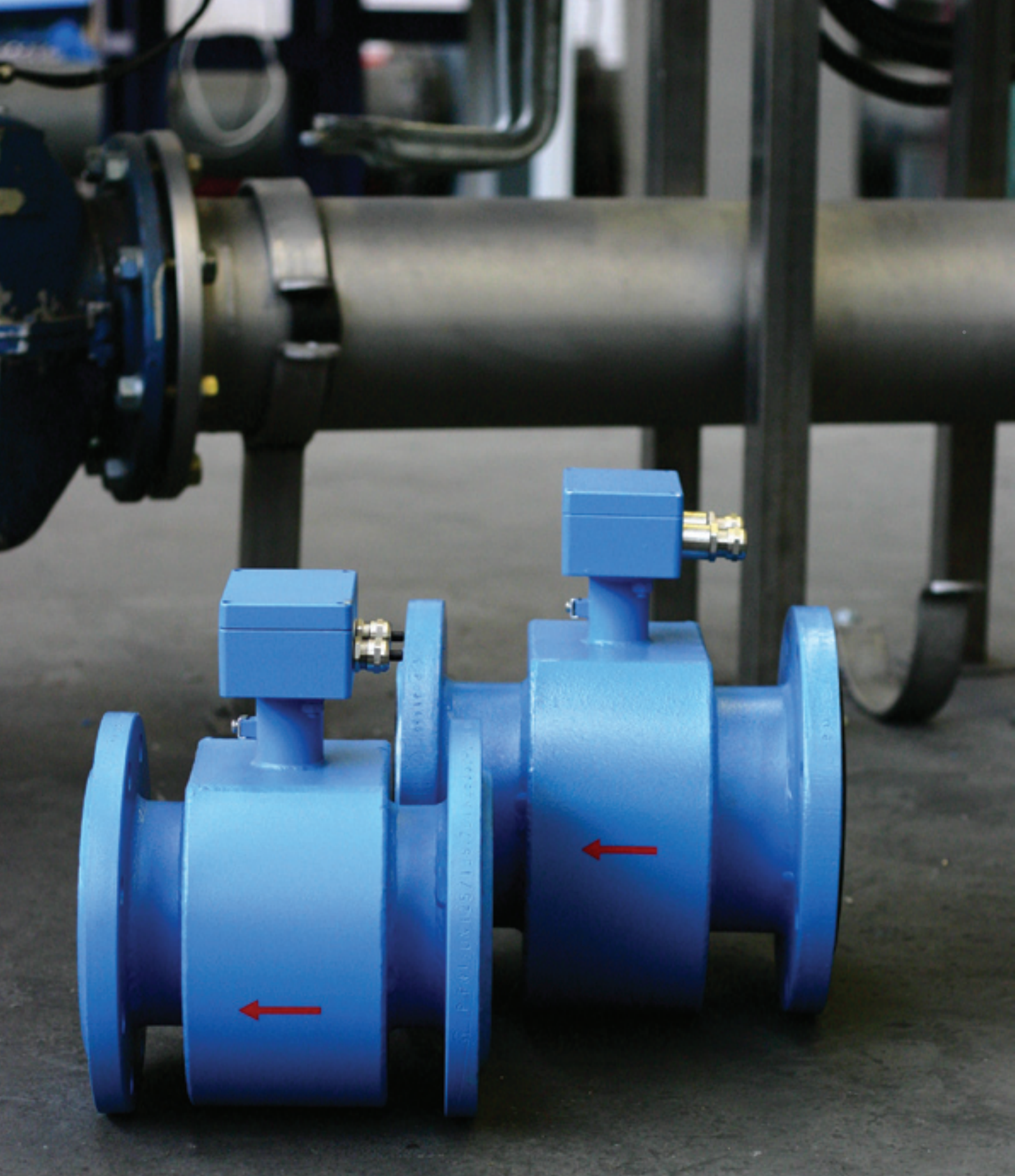
The Menkar K70 indicators consist of variable tube materials in a sturdy metal body. They are especially suitable for aggressive media fill level measurement used in the chemical industry and are available in four different versions:

- K 70: Indicating scale
- K 71: Indicating scale and contacts
- KM 70: Magnetic flapper type indicator
- KM 71: Magnetic flapper type indicator and contacts

Features

- Various materials available
- Suitable for high temperatures and pressures

Level Indicators	Menkar KK80	Menkar K70
Measuring range (water)	min. 300 mm; max 2.000 mm	min. 300 mm; max 5.000 mm
Connection	Flange DIN 2501: DN 25	Flange DIN 2501: DN15 + DN 40 ANSI B16.5: 1/2 - 2"
Accuracy class	Display tolerance: ±5 mm	Display tolerance: ±5 mm With magnet flapper type indicator: ±10 mm
Max. temperature	60 °C	350 °C
Pressure limit (Depends on the temperature)	max. 16 bar	max. 320 bar
Option	Magnet flapper type indicator Contact Electrical remote sensor	



Select the best Flow Measuring Solution for your task

MECON offers vast flexibility in its range of flowmeter systems. We can provide you with solutions based on various technologies, depending on your requirement. We will be happy to show you alternative solutions or customize our services to your needs wherever possible.



The MECON mag-flux electromagnetic flow sensors measurement is independent of temperature, pressure, density or viscosity. All our electromagnetic flow sensors withstand harsh conditions.

Fields of applications

- Water and sewage plants
- Chemical and pharmaceutical industry
- Food and beverage industry
- Mining, cement and mineral materials
- Pulp and paper industry
- Steel industry
- Power generation and distribution

mag-flux A

The mag-flux A sensors are suitable for flow rates up to 10 m/s (32.8 ft/s) at a minimum conductivity of 3 $\mu\text{S/cm}$ of the fluid to be measured.

Features

- Sturdy all-metal housing
- Wide range of materials available for maximal process compatibility
- Excellent long-term stability
- Transmitter available separately



Magnetic Flow Sensors	mag-flux A
Measuring principle	Pulsed constant field (DC)
Measuring accuracy	Error of measurement: $\pm 0.5\%$ of the reading (0.25 m/s to 10 m/s) Repeat accuracy: $\pm 0.15\%$ of the reading (0.25 m/s to 10 m/s)
Requirements on the media	Minimum conductivity: $>3\ \mu\text{S/cm}$ Max. flow rate: 10 m/s
Max. operating temperature	With soft rubber lining: 90 °C With hard rubber lining: 90 °C With PTFE (Teflon) lining: 180 °C (at 16 bar); 150 °C (at 25 bar); 100 °C (at 40 bar) With epoxy resin: 130 °C
Sensor material	Stainless steel mat. No. 1.4301 (or better)
Electrodes material	• Mat. No. 1.4571 (Standard) • Hastelloy® C4 • Titanium • Tantalum • Platinum • Monel®
Process connections	DIN 2501: DN 15 - DN 2000 ANSI B 16.5: 1/2" - 24" AWWA: 4" - 80" Table: DN 15 - DN 2000

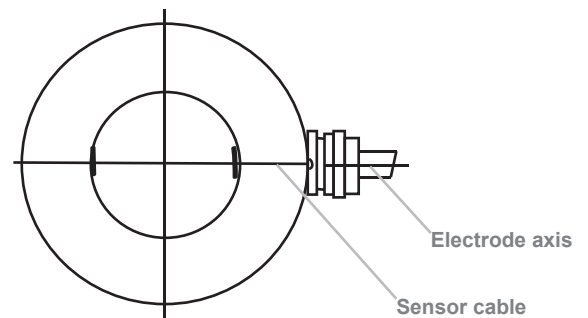
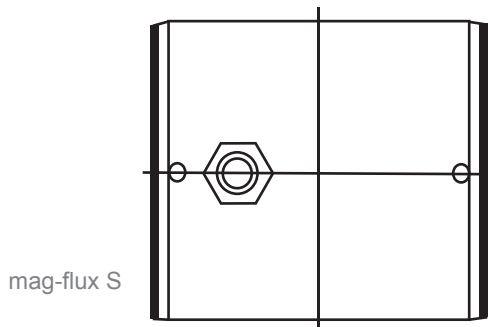


mag-flux S

The mag-flux S is a robust, lightweight, compact magnetic flow sensor.

Features

- Cost-effective
- Compact design
- Weight from only 1.4 to 6.2 kg
- Suitable for installing in plastic or steel pipes
- Sensor permanently connected with stainless steel rings



Magnetic Flow Sensors	mag-flux S
Measuring principle	Pulsed constant field (DC)
Measuring accuracy	Error of measurement: $\pm 0.5\%$ of measured value (0.25 m/s to 10 m/s) Repeat accuracy: $\pm 0.15\%$ of measured value (0.25 m/s to 10 m/s)
Requirements on the media	Minimum conductivity: $> 20 \mu\text{S/cm}$ with 5 m sensor cable length Flow rate: 0.25 - 12 m/s
Max. operating temperature	PVC connection: 60 °C (4 bar); 40 °C (10 bar); 10 °C (18 bar) PVDF connection: 60 °C(8 bar); 40 °C (11 bar); 10 °C (18 bar)
Cable inlet	Firmly installed, length 5 m
Metering tube material	PVC, PVDF, grounding washer: 1.4301
Electrodes material	Stainless steel mat. No. 1.4571, or other special materials
Connection	Flange-less connection (sandwich): DN 15 - DN 100

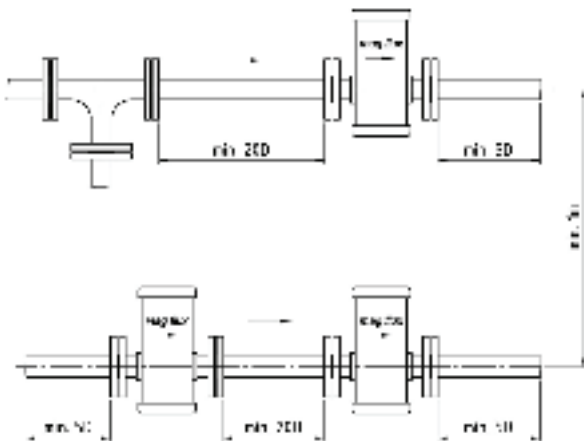


mag-flux F5

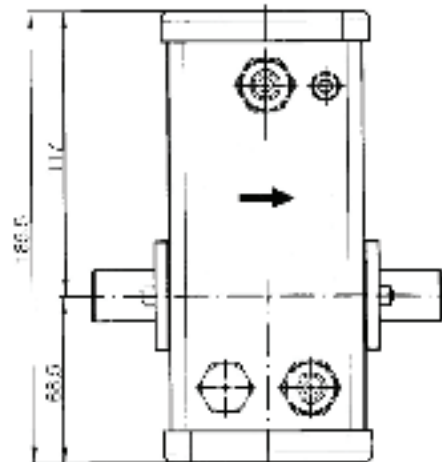
These sensors are specially designed for very low flow measurements as required for dosing applications. The metering tubes are made of zirconium oxide which ensures high resistance to corrosion.

Features

- Compact design
- Highly corrosion resistant
- Low minimum conductivity of only 0.1 $\mu\text{S}/\text{cm}$
- Flow range 0 – 3 l/h



Installation of several sensors, either in series or in parallel



mag-flux F5 (without wall mount), dimensions in mm

Magnetic Flow Sensors	mag-flux F5
Measuring principle	Pulsed constant field (DC)
Measuring accuracy	Error of measurement: $\pm 0.5\%$ of measured value (0.25 m/s to 10 m/s) Repeat accuracy: $\pm 0.15\%$ of measured value (0.25 m/s to 10 m/s)
Requirements on the media	Minimum conductivity: $>10\ \mu\text{S}/\text{cm}$ Max. flow rate: 10 m/s
Max. operating temperature	Metal connection: 150 °C (25 bar) PVDF connection: 120 °C (3 bar); 90 °C (5.5 bar); 50 °C (10 bar)
Tube material	Zirconium oxide
Electrodes material	99.9% Platinum, sintered
Process connection	Thread connection: DIN, NPT, BSP Flange: ANSI B 16.5 (Tri-) Clamp / DIN 11851 <i>More options on request</i> Materials: Mat. No. 1.4571 - Hastelloy® C4 - PVDF - Titan



Suitable for temporary flow measurements



MIS 1/D



MIS 2/15

MIS 1/D and MIS 2/15

As with the electromagnetic flow sensors, the magnetic inductive probes use the electrical conductivity of the media for non-mechanical flow measurement. They can be easily integrated into existing installations without disassembly, making our flow sensor probes ideal for reliable temporary measurements. They can be used for flow rates up to 5 or 10 m/s (9.84 ft/s or 32.8 ft/s) and a minimum conductivity of 20 $\mu\text{S/cm}$.

Features

- Sensor body made of PVC or PVDF
- Chemically resistant
- Quick installation and replacement
- MIS 1/D can be used in highly contaminated media
- Low maintenance
- Cost-effective
- Protection class IP 68/NEMA6 with 5 m (16.4 ft) attached cable

Fields of applications

- Water and sewage plants
- Steel industry
- The energy industry and public utilities

Magnetic Flow Sensor Probes	MIS 1/D	MIS 2/15
Measuring Principle	Pulsed constant field (DC)	
Measuring Accuracy	$\pm 3\%$ of the measured value (1 m/s to 5 m/s)	$\pm 3\%$ of the measured value (1 m/s to 10 m/s)
Range size	DN 200 (8") - DN 2000 (80")	
Requirements on media	Minimum conductivity: 20 $\mu\text{S/cm}$ (sensor at 5m cable length)	
	Velocity: 1 - 5 m/s	Velocity: 1 - 10 m/s
Max. temperature	60 °C / 140 °F	100 °C / 212 °F
Sensor material	PVC	PVDF
Electrodes material	Mat. No. 1.4571	
Connection	Mounting socket Materials: stainless steel, PVC, PP	



Complete Solution for MECON mag-flux products



mag-flux M1

The MECON transmitter mag-flux M1 is designed to integrate with MECON magnetic conductive flow measuring solutions. Mag-flux M1 is available for remote and compact installation. It can be programmed to different languages to meet users' needs.

Features

- Additional module available for HART® communication option
- Fast signal transmitter
- Multilingual display

Electric Conductive Transmitter	mag-flux M1
Measuring Principle	Pulsed constant field (DC)
Measuring Frequency	3,125 Hz / 6,25 Hz / 12,5 Hz / 25 Hz
Power Requirement	115/230V AC 50/60 Hz, 10VA 24V DC, 10W
Protection Class	IP 67 (EN60529)
Outputs	Analog: 0 / 4 to 20 mA (electrically isolated) Pulse: 0 - 1 kHz, passive, 24V, 60 mA (electrically isolated) Status: passive, 24V, 60 mA (electrically isolated)
Process Temperature	-20 °C up to 60 °C (Depends on the compact version)
Mounting	Compact version (directly on the flow sensor mounted) Remote version
Options	HART® communication Control unit with local display

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