



Measure consumption and flow

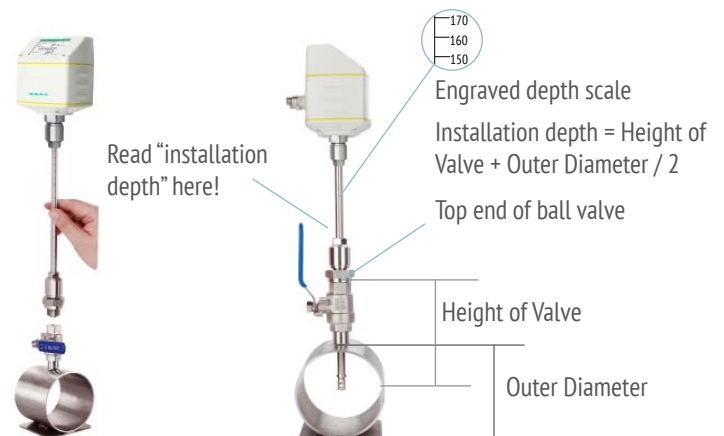
Optimize process efficiency

- Tube diameters of DN25 to DN300.
- 2 installation types: center installation and 100 mm insertion depth installation for bigger pipes (> DN250)
- Installation under pressure through 1/2" ball valve

Benefits

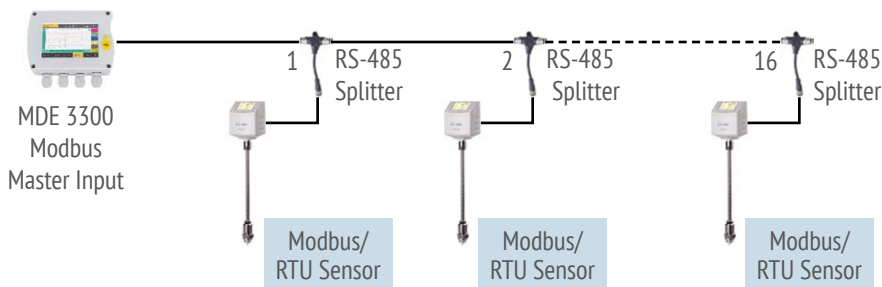
- Measures standard flow, mass flow and consumption
- Thermal mass flow, independent of pressure and temperature changes
- IP65 casing provides robust protection in rough industrial environment
- Very fast response time
- High accuracy and wide measuring range
- Isolated mA and pulse output signals or Modbus/RTU or Modbus/TCP interface
- Selectable gas type (Some gases require real gas calibration!)
- Sensor can be calibrated in 2 different gases

Installation and Sensor Removal



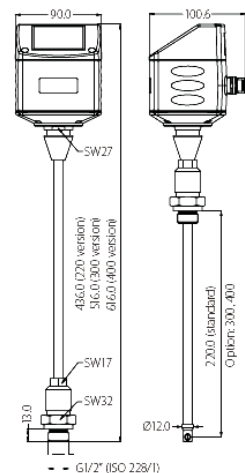
MFM 4010 can be installed under pressure through a 1/2" ball valve. The sensor tip must be in the pipes center.

Network integration



Sensors can be easily integrated into a Modbus/RTU network (daisy chain)

Dimension Drawing





Analysers from HTK

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The use of fixed and mobile gas analysers is widespread in many industries, and the demand continues to grow.

HTK Hamburg develops and builds equipment to provide effective solutions, from the small manual analyser up to the complex analysis unit in the food sector, welding & cutting and in many other industries.

Planning, manufacturing, service and calibrating analysers for the measuring gases such as O₂, CO₂, H₂, SF₆ - and many more - isn't a challenge for us; it's our mission each and every day.

Our aim is to ensure safe, consistent and accurate analysis in your process - thus maintaining quality.



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Technical Data	
Accuracy	1.5% of reading + 0.3% full scale (Optional 1% of reading)
Repeatability	0.25% of reading
Sampling rate	> 10 samples / sec
Reference conditions	Can be set by user. Standard conditions are Ps = 0.1 MPa and Ts = 20°C
Medium conditions	-30 ... +140°C / relative humidity < 90% no condensation
Transport temperature	-30 ... +70°C
Material	Metal parts 1.4404 (SUS 316L) Casing PC + ABS Sensor: Ceramic with glass coating
Classification	IP65
Electrical connection	2 x M12, 5 poles (2 x M12 plug with screw terminals included)
Approvals	CE, RoHS, FCC
Operating temperature	-30 ... +140°C fluid temperature -30 ... +70°C casing -10 ... +50°C casing with display
Operating pressure	0 ... 5.0 MPa (>1.6 MPa need installation device)
Analogue output	Signal: 4 ... 20 mA, isolated Scale: 0 ... max flow Max. Load: 250R
Pulse output	Signal: Isolated switch output, normally open, Max 30 VDC, 20 mA Scaling: 1 pulse per consumption unit
Modbus output	Isolated RS-485 with Modbus/RTU protocol or Modbus/TCP output
Power supply	15 ... 30 VDC / 200 mA

Volumetric flow ranges					
Anschlussgewinde Inch	DN	Di (mm)	MFM 4010-S ((m ³ /h)	MFM 4010-M ((m ³ /h)	MFM 4010-H ((m ³ /h)
1"	DN25	27.3	0.5 ... 147.7	0.6 ... 294.7	0.6 ... 356.9
1¼"	DN32	36.0	0.9 ... 266.3	1.2 ... 531.5	1.2 ... 643.5
1½"	DN40	41.9	1.2 ... 366.7	1.5 ... 731.9	1.5 ... 886.2
2"	DN50	53.1	2.0 ... 600.1	2.5 ... 1197.6	3.0 ... 1450.0
2½"	DN65	68.9	3.5 ... 1026.5	5.0 ... 2048.6	5.0 ... 2480.4
3"	DN80	80.9	5.0 ... 1424.4	7.0 ... 2842.7	7.0 ... 3441.9
4"	DN100	100.0	10 ... 2183.3	12 ... 4357.2	12.0 ... 5275.7
5"	DN125	125.0	13 ... 3419.6	18 ... 6824.4	18.0 ... 8263.1
6"	DN150	150.0	18 ... 4930.1	25 ... 9838.9	25.0 ... 11913.1
8"	DN200	200.0	26 ... 8785.6	33 ... 17533.3	42.0 ... 21229.5
10"	DN250	250.0	40 ... 13743.9	52 ... 27428.5	60.0 ... 33210.7
12"	DN300	300.0	60 ... 19814.8	80 ... 39544.1	100.0 ... 47880.4

Stated measuring ranges under following conditions:

- Standard flow in air
- Reference pressure: 1000 hPa
- Reference temperature: +20°C

The table above shows the air flow ranges for pipe sizes up to DN300 at standard conditions. At other reference conditions and gas types the flow range may vary, please contact your local sales support. Furthermore it is possible to measure the air flow in bigger pipes (> DN300), for this please contact your local sales support.

