

# MFM 6000 Compressed Air Purity Analyser



## Smart measurement

### Save precious time

The MFM 6000 is the portable multi-tool for compressed air purity measurements. It measures, records and validates quality parameters like particles, dew point, oil vapor contents, temperature and the pressure of compressed air systems.

## Mode of Operation

ISO 8573 compliant purity quantifications of compressed air systems are bound to time-consuming installations and long-lasting test runs ... It's time for a revolution:

The MFM 6000 is unlike its competition. It combines the latest sensor technology, software-guided measurements and a time-saving setup into

a handy, touchscreen controlled multi-tool. With our MFM 6000 you will finish measurement runs in much less time than with your traditional method, after that you don't ever want to leave your new comfort zone again. Trust us.

## Benefits

- All-in-one device measures Particle concentration, dew point and oil vapor
- Measures additionally the temperature and pressure
- Software guided measurement makes it easy to generate reliable results
- Report generator creates PDFs for audits
- Ultra portable and compact design
- Compressed air connection via 6 mm tube
- Integrated data logger saves data for later analysis
- Dew point measurement from -100... +20 °C Td
- Oil vapor measurement from 0.003... 10.000 mg/m<sup>3</sup>
- Particle measurement from 0.1 < d ≤ 5.0 µm

## Applications

- **PARTICLE CONCENTRATION MEASUREMENT**
  - Measurement methods according to ISO 8573 standards (together with isokinetic sampling device)
  - Latest laser detection technology
  - Smallest particle size 50 % per JIS, bigger sizes 100 % per JIS
- **DEW POINT MEASUREMENT**
  - Large ranges thanks to the unique multiple sensor technology
  - Long-term stable and well-proven measurement methods
  - High precision with an accuracy of ±2 °C Td
- **OIL VAPOR MEASUREMENT**
  - Latest photoionisation detector (PID) with self-calibration
  - Wide range of oil vapor concentrations
  - High precision with 5 % of reading ± 0.003 mg/m<sup>3</sup> accuracy
- **PRESSURE MEASUREMENT**
  - State of the art sensor technology
  - Additional quality data about the compressed air system
- **PLUG & PLAY MEASUREMENTS WITH A TOUCH**
  - Integrated data logger records all channels in parallel for later analysis and pdf-report creation
  - 5" touchscreen allows you to interact with the device on site. There is no need for a PC to manage the device.



MFM 6000 with isokinetic measuring section

For particle measurements according to ISO 8573 an isokinetic sampling tube has been designed. This optional equipment enables you to monitor and adjust the air flow of the particle measurement to ensure the correct isokinetic sampling.

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## Analysers from HTK

### We are your partner for tailor-made gas analysis technology

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 O<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>, SF<sub>6</sub> - 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	
Measuring unit	5" colour touchscreen with data logger, guided measurement and report generator function. All combined and integrated with the multiple sensor system.
Process connection	Micro quick connector, full passthrough, male (1.5 m hose with coupling included)
Operating pressure	0.3 ... 1.5 MPa
Ambient temperature	0 ... +50 °C
Storage & Transport temperature	-10 ... +70 °C
Medium	Compressed Air, Nitrogen (N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) (software setting)
Medium temperature	0 ... +40 °C
Medium humidity	< 40% rH, no condensation
Reference settings	ISO1217 / 20 °C / 1000 mbar
UV lamp lifetime (oil vapor sensor)	1 year or 6000 working hours, whichever comes first
Power supply	Mains supply adapter (AC/DC) Input: 100 ... 240 VAC, 50/60 Hz, 1.4 A Output: 24 VDC, 2.5 A, 60 W max.
Data logger	100 mio. values, Integrated report generator for PDF export
Measured values	Temperature, Pressure, Oil vapor, Dew point, Particle concentration
Interface	USB, Ethernet (Modbus/TCP)
Display	Touchscreen, Size: 5", Resolution: 800 x 480 px
Dew point sensor	Dual-sensor technology (QCM & Polymer)
Particle sensor	Laser optical detection
Oil vapor sensor	PID (Photoionisation detector)
Measurement duration	min. 35 minutes (no upper limit)
Sampling rate	1 sample / sec.
Classification	IP65 (cover lid closed)
Casing material	PC + ABS, Aluminium alloy
WEight	9.8 kg
EMC	IEC 61326-1

Measurement Specifications	
Measurement range Particle counter	0.1 < d ≤ 0.5 µm; 0.5 < d ≤ 1.0 µm; 1.0 < d ≤ 5.0 µm
Measurement range Dew point sensor	-100 ... +20 °C Td
Measurement range Oil vapor sensor	0.003 ... 10.000 mg/m <sup>3</sup>
Detection limit oil vapor sensor	0.003 mg/m <sup>3</sup>
Resolution oil vapor sensor	0.001 mg/m <sup>3</sup>
Accuracy Particle measurement	50 % @ 0.1 < d ≤ 0.15 µm 100 % @ 0.15 µm > d per JIS
Accuracy Dew point measurement	±2 °C Td
Accuracy Oil vapor measurement	5 % of value ± 0.003 mg/m <sup>3</sup>

Isokinetic sampling device	
Measuring unit	Sampling pipe with integrated isokinetic sampling tube, flow regulation and control by integrated flow sensor, to be used for particle measurements according to ISO8573
Process connection	Connection hose with quick coupling 1.5 m 1 compressed air quick connection at the inlet 2 quick connectors to the MFM 6000 Connection hose included in delivery
Operating pressure	0.3 ... 1.5 MPa
Ambient temperature	0 ... +50 °C
Storage & Transport temperature	-10 ... +70 °C
Flow sensor	Thermal mass flow, only for isokinetic flow setup, no system-flow measurement
Interface	Communication interface for MFM 6000, cable included, M8 to M12
Accuracy	3 % o. RDG
Purge flow	Regulated by needle valve

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