MRU AIRfair since 1984 ®
EMISSION MONITORING SYSTEMS

ΔP | P_{dyn} | P_{sta} | P_{abs} | V | Q | Density | $PUMP_{flow}$ | ΔT | T_{gas}

MF*plus* 16911

Multifunctional digital manometer.

Compliant to European Standard EN 16911-1, ISO 10780 and USEPA 40CFR part 60, method 2.

MF*plus* 16911

Slim, handheld and multifunctional

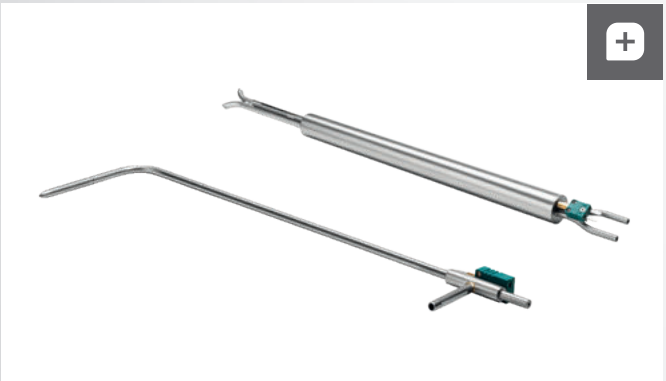
Our MF*plus* is designed for travers points volumetric flow rate measurement in industrial stacks.

These are your special advantages:

- Single pressure/differential pressure
- Atmospheric/absolute pressure
- Single temperature/differential temperature
- Optional external transducers input:
  hot wire and vane anemometer, thermo-hygrometer

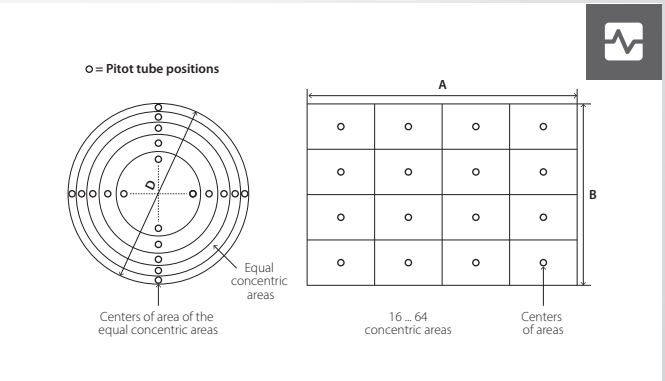
The device in detail

An overview of the special features



Pitot tubes

Compatible for all pitot tubes available on the market

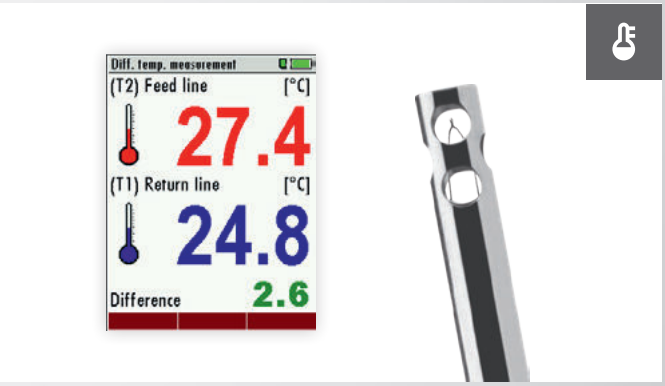


Measurement sketch

In every measurement point it is necessary to determine the average value of flow, according to EN 15259

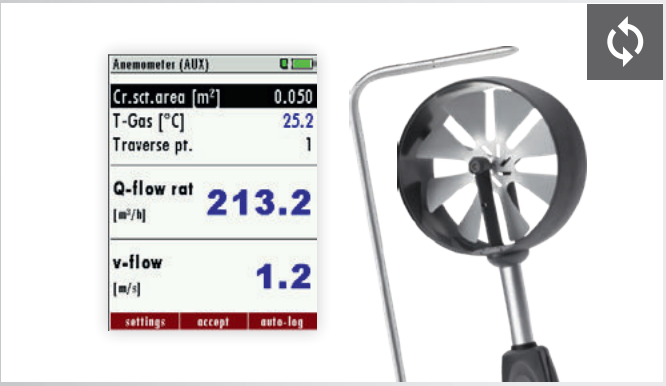
Pressure measurement

Using either internal or external sensors



Temperature measurement

Using thermocouples with 2 standard K-type sockets



Flow speed measurement

Using vane probe or Pitot tube

Humidity measurement

Relative humidity, dew point, temperature and barometric pressure

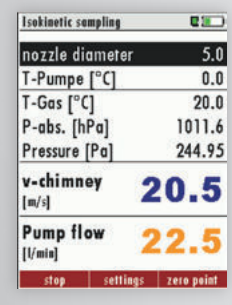
MF*plus* 16911
Technical data

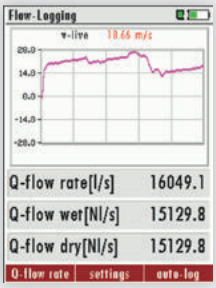
Measurements	Measuring range	Resolution	Accuracy
Differential pressure	± 100 hPa	0.01 Pa	± 0.5 ... 10 Pa, ± 2 Pa or ± 1 % of reading ... 100 hPa
Flow velocity (calculated)	0 ... 100 m/s	0.1 m/s	0 ... 2 m/s (± 1 m/s), 2 ... 10 m/s (± 0.2 m/s), > 10 m/s (± 0.5 %)
Absolute pressure	700 ... 1,200 hPa	1 Pa	± 1 % of reading
Gas temperature (K-type thermocouple)	-20 ... + 1,200 °C	0.1 °C	± 1 °C or 1 % of reading
Ambient air temperature (K-type thermocouple)	-20 ... + 80 °C	0.1 °C	± 1 °C

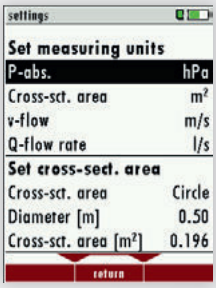
General technical data	
Operating conditions	-10 ... +50 °C; RH up to 95 % non condensing
Display	colour, backlit 3.5" TFT
Interface	Mini-USB or SD card
Internal power supply	Li-Ion battery, 30 hours mains free operation
Mains power supply	USB wall-plug battery charger, 100 ... 240 Vac, 5 V DC, 1 A
Protection class	IP43
Dimensions (W x H x D)	90 x 205 x 38 mm
Weight	ca. 470 g

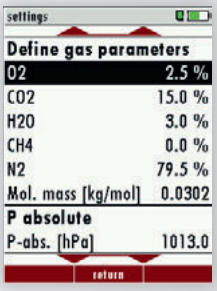
Software features

- Simple and intuitive menu for speed and flow measurement according to EN 16911-1
- Automatic calculation of the position of the measuring points according to EN 15259
- Calculation of nozzle diameter and flow indication for isokinetic sampling according to EN 13284-1
- Manual configuration of duct details, diameter, number of measuring points and number of nozzles
- Possibility of entering the gas composition, with automatic density calculation
- Calculation of dry and wet flow rate, normalized in temperature and absolute pressure
- Direct measurement of the absolute pressure in the stack with calculation of the static pressure difference
- Correction of the measurement based on the factor of the pitot tube used
- Compensation of SWIRL angle and wall factor (wall effect)
- Transfer of the complete test report from SD card directly in CSV format (Excel)
- Datalogger with graph for prolonged measurements of speed and range, with export to SD card









MRU – Competence in gas analysis. For over 35 years.

MRU · Messgeraete fuer Rauchgase und Umweltschutz GmbH
Fuchshalde 8 + 12
74172 Neckarsulm-Obereisesheim
Phone +49 7132 99620 · Fax +49 7132 996220
info@mru.de · www.mru.eu

MRU representative: