MFP 3000 HF

With the MFP 3000 HF, it is possible to set the relative humidity from 10 to 80 % or the temperature from -10 to 50 °C. The inflow velocity has been extended compared to standard models to a range of 4 cm/s – 2 m/s.

The MFP 3000 HF serves to determinefilter parameters under realistic air conditions, such as

- the differential pressure of the filter medium at different inflow velocities
- the fractional efficiency and the differential pressure at a defined air volume flow
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- the dust holding capacity and the associated gravimetric efficiency at a prescribed air volume flow and increase in differential pressure.

Benefits

- Settable relative humidity: 10 – 80 %
- Temperature regulation of the air volume flow: 20 to 35 °C (-10 to 50 °C on request)
- Expansion of the inflow velocity to 4 cm/s – 2 m/s
- Integration of an U-SMPS into the MFP 3000 HF expands the size range for the measurement of filter efficiency at the MFP 3000 to 10 nm – 40 μm
- Quasi-simultaneous particle measurement in raw gas and pure gas
- Measurement of $C_{n\,max}$= 10^6 particles/cm^3 without dilution
- Internationally comparable measuring results, high distribution of the test system
- Top reproducibility of the test procedure
- Easy use of various test aerosols, such as SAE Fine and Coarse, NaCl/KCl, DEHS
- Top raw gas concentrations up to > 1000 mg/m^3 ISO Fine or > 5000 mg/m^3 ISO Coarse with fraction separation efficiency measurement for load testing
- Flexible filter test software FTControl
- Sequential programs for pressure loss measurement, fraction separation efficiency measurement and load measurement
- Easy to operate, fast induction even of untrained personnel
- Short set-up times
- Cleaning and calibration can be carried out by customers themselves

Applications

- Testing of filter media and of small filter elements in product development and during production monitoring with variable rel. humidity and temperature.
- Testing option based on ISO 11155-1 / DIN 71460-1 (cabin air filters), ISO 5011 (engine pre-air filters), ISO 16890 / EN779 / ASHRAE 52.2 (room air filters), EN 1822-3 (HEPA filters), CEN EN 143 and other standards in various versions.
- Simulation for testing
  - car interior air intake filters or engine air filters at high temperatures, under dusty and dry or extremely humid conditions
  - turbine air filters from power plants (like those exposed to salt particles at high humidity on the coast under bad weather condition)
  - performance of room air filters in summer (warm and humid / dry) and winter (cold / humid / dry)
  - performance of ice formation in the filter medium

DATASHEET

Aerosols	Dusts (e.g., SAE dusts), salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS)	Test area of the medium	100 cm^2
Measurement range (size)	0.2 – 40 μm (Promo® system), 5 nm – 1 μm (U-SMPS system)	Measurement range (mass)	For SAE-Fine without additional dilution to 1,000 mg/m^3 (ISO A2 Fine)
Volume flow	1.2 – 72 m^3/h - suction mode	Power supply	400 V, 50 Hz
Differential pressure measurement	0 – 20,000 Pa	Inflow velocity	4 – 200 cm/s
Compressed air supply	6 – 8 bar	Temperature regulation	+20 – +35 °C (-10 – 50 °C on request)
Luftfeuchteregelung	10 – 80 %	Dimensions	2,300 • 800 • 2,000 mm (H • W • D)