

# MFP 3000 M



Version MFP 3000 M is especially tailored to the requirements of the ISO 5011 and ISO TS 19713-2 measurement procedures.

## OPERATION PRINCIPLE

### TESTING FILTER MEDIA BETTER THAN ISO 5011 / ISO/TS 19713 ENGINE AIR FILTERS

Aerosol generation with RBG 1000 G:

The dosing air for the RBG 1000 G solid particle aerosol generator is regulated with a mass flow controller. This ensures the same operating conditions are always maintained.

Additional solid material reservoirs and dispersing covers offer an optimal dosing time at different air volume flows.

DLB 2000 compressed air humidifier for the dispersion air:

Dry compressed air is generally used for the aerosol generation, whereby, at the very low volume flows in filter media testing, the rel. humidity of the test volume flow can drop considerably. The DLB 2000 compressed air humidifier can condition the rel. humidity and temperature of the RBG 1000 dispersion air precisely to the required values, thus minimizing the influence of rel. humidity on the dust holding capacity to be measured.

Aerosol inlet on MFP 3000 M:

The aerosol inlet on the MFP 3000 M is specially tailored to the high mass concentration of 1000 mg/m<sup>3</sup>. It ensures a homogeneous distribution of the test aerosol in the raw gas channel. The simple construction allows the raw gas channel to be easily cleaned.

welas<sup>®</sup> 2070 aerosol sensors:

The welas<sup>®</sup> 2070 high-concentration sensors ensure unambiguous and coincidence-free fractional separation efficiency measurement at a 1000 mg/m<sup>3</sup> concentration<sup>3</sup>. These sensors are also fitted with a unique aerosol guide that minimizes contamination of the internal optics.

Software:

Various differential pressure levels can be set in the filter media test sequence program for loading in accordance with ISO 5011. The precise definition of the test parameters in the pre-programmable sequence programs ensures a very high level of comparability of the results.

## BENEFITS

- Virtually simultaneous particle measurement in the raw gas and clean gas
- Particle size measurements from 0.2 – 40  $\mu\text{m}$
- Measurement of  $C_{n \text{ max}} = 10^6$  particles/cm<sup>3</sup> without dilution
- Internationally comparable measurement results
- High reproducibility of the testing method
- Easy use of different test aerosols, e.g. SAE Fine and Coarse, NaCl/KCl, DEHS
- Highest raw gas concentrations of up to > 1000 mg/m<sup>3</sup> (ISO Fine) or > 5000 mg/m<sup>3</sup> (ISO Coarse) with measurement of the fraction separation efficiency for burden tests
- Sequence programs for pressure loss measurements, measurements of fraction separation efficiency and burden measurements
- Easy to operate
- Short set-up times
- Cleaning and calibration can be performed by the customer
- Easy use of the measurement technology components – even in other applications
- Mobile setup, easy to move on castors
- Validation of the clear function of individual components and the overall system during pre-delivery acceptance testing and upon delivery
- Low-maintenance

## NORMS AND CERTIFICATES

ISO 5011, ISO/TS 19713, DIN 71460, ISO 11155-1, EN 779, ASHARE 52.2, ISO 16890

## DATASHEET

Aerosols	Dusts (e.g., SAE dusts), salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS)
Test area of the medium	100 cm <sup>2</sup>
Measurement range (size)	0.2 – 40 μm
Measurement range (mass)	Up to 1,000 mg/m <sup>3</sup> (depending on the version)
Volume flow	1 – 36 m <sup>3</sup> /h - suction mode
Differential pressure measurement	0 – 1,200 Pa selectable, 0 – 2,500 Pa selectable, 0 – 5,000 Pa selectable
Inflow velocity	5 cm/s – 1 m/s (others on request)
Compressed air supply	6 – 8 bar
Dimensions	2.500 • 680 • 1.550 mm (H • B • T)

## APPLICATIONS

- Testing of filter media and small filter elements in product development and during production monitoring.
- Testing based on ISO 5011 (engine air intake filters)



Mehr Informationen:  
<https://www.palas.de/en/product/mfp3000m>