

# MFP 4000



MFP filter test rigs from Palas® have already proved themselves many times over all around the world in practical applications in development and quality control. The MFP filter test rig is a modular filter testing system for flat filter media and small mini-filters.

This enables you to determine the

- pressure loss curve on the medium without a dust coating,
- fraction separation efficiency, or
- burden and fraction separation efficiency during application of the burden
- and the gravimetric separation efficiency

within shortest times – reliably and therefore cost-effectively.

The MFP 4000 operates in suction mode. This ensures a particularly uniform formation of the dust cake even at high inflow speeds.

With the new FTControl test rig software of the MFP 4000, the aerosol spectrometer Promo® 1000/2000 is used for clear and reliable determination of the aerosol concentration and particle size and therefore clear determination of the fraction separation efficiency. The use of one aerosol spectrometer Promo® 1000/2000 in raw gas and one in clean gas within simultaneous operation offers the following advantages:

- Fully-automatic simultaneous measurement of fraction separation efficiency
- Faster determination of the beginning fraction separation efficiency because of bisection of the testing time for the fraction separation efficiency.
- Higher temporal resolution for the measurement of fraction separation efficiency during loading.
- Using the testing system for very high and very low aerosol concentrations.

The largely automated setup of the test sequence in conjunction with the clearly defined individual components and the individually adjustable sequence programs of the filter test software FTControl combine to deliver the high reliability of our measurement results.

## BENEFITS

- 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/ $\text{cm}^3$  without dilution
- Internationally comparable measurement results
- Widespread distribution of the measurement system
- 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  $> 1000$   $\text{mg}/\text{m}^3$  (ISO Fine) or  $> 5000$   $\text{mg}/\text{m}^3$  (ISO Coarse) with measurement of the fraction separation efficiency for burden tests
- Flexible filter test software FTControl
- Sequence programs for pressure loss measurements, measurements of fraction separation efficiency and burden measurements
- Easy to operate, even untrained personnel can be instructed quickly in the use of the equipment
- Short set-up times
- Cleaning and calibration can be performed autonomously by the customer
- Easy use of the measurement technology components – even in other applications
- Mobile setup, easy to move on castors

## APPLICATIONS

- For filter media and small filter elements
- Product development and during production monitoring
- Testing based on ISO 11155-1 / DIN 71460-1 (cabin air filters)
- Testing based on ISO 5011 (engine pre-air filters)
- Testing based on ISO 16890 (room air filters)
- Other standards in various versions

## DATASHEET

Measurement range (size)	0.2 – 40 $\mu\text{m}$
Measurement range (mass)	Up to 1,000 $\text{mg}/\text{m}^3$ (depending on the version)
Volume flow	1 – 35 $\text{m}^3/\text{h}$ - suction mode
Inflow velocity	5 $\text{cm}/\text{s}$ – 1 $\text{m}/\text{s}$ (others on request)
Differential pressure measurement	0 – 1,200 Pa selectable, 0 – 2,500 Pa selectable, 0 – 5,000 Pa selectable
Aerosols	Dusts (e.g., SAE dusts), salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS)
Compressed air supply	6 – 8 bar
Test area of the medium	100 $\text{cm}^2$



Further information:  
<https://www.palas.de/product/mfp4000>