

# MFP NANO PLUS 4000



MFP filter test rigs from Palas® have already proved themselves many times worldwide in practical applications in development and quality control. The MFP Nano plus 4000 is specially designed for the precise determination of the separation efficiency of HEPA and ULPA filter media in accordance with DIN EN 1822-3 and ISO 29463-3. In the form of the U-SMPS, a modern and powerful nanoparticle measuring device with a measurement range from 5 nm to 1  $\mu\text{m}$  is used for particle size and quantity analysis. The separation efficiency at a specific size is measured in real-time with the MFP Nano plus 4000 and a UF-CPC condensation particle counter in both the raw and clean gas.

## BENEFITS

- Real-time determination of the fraction separation efficiency above 20 nm
- The measuring time for determining the fraction separation efficiency is halved by measuring the particle concentration in the raw and clean gas.
- No dilution necessary!
- Combining two UF-CPC versions, the UF-CPC for the highest concentrations, up to 2,000,000 particles/cm<sup>3</sup> (single count mode) in the raw gas and the UF-CPC 50 for top counting rates at low concentrations in the clean gas, corresponds to a dilution factor of 1:200.
- Internationally comparable measurement results in accordance with DIN EN 1822-3 and ISO 29463-3
- Simple use of different test aerosols, such as NaCl / KCl or DEHS (others on request)
- Simple measurement of the fraction separation efficiency and determination of the MPPS range
- High reproducibility of the test method
- Flexible filter test software FTControl
- Easy to operate; even untrained personnel can be quickly trained in the use of the equipment
- Cleaning can be performed independently by the customer
- Short set-up times, fast throughput times
- Mobile set-up, easy to move on castors
- Clear verification of the function of the individual components and the system as a whole in the scope of pre-delivery acceptance testing and at delivery
- Reliable functioning

## APPLICATIONS

- Testing of filter media and small mini filters in product development and production monitoring
- Testing capability according to DIN EN 1822-3 (HEPA / ULPA) and ISO 29463-3
- Fractional efficiency measurement for other filter media in the range of approx. 20 nm to 1  $\mu\text{m}$

## DATASHEET

|                                   |  |
|-----------------------------------|--|
| Measurement range (size)          | U-SMPS: 10 – 800 nm  |
| Volume flow                       | 0.48 – 5.76 m <sup>3</sup> /h - pressurized operation                          |
| Inflow velocity                   | 1.3 – 16 cm/s (others on request)  |
| Differential pressure measurement | 0 – 2,500 Pa (others on request)   |
| 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 cm <sup>2</sup>  |
| Power supply                      | 115 – 230 V, 50/60 Hz  |
| Dimensions                        | Approx. 760 • 2,100 • 985 mm (H • W • D)                                       |



Further information:  
<https://www.palas.de/product/mfpnanoplus4000>