PALAS®

PMFT System

RESPIRATORY MASK TESTING

Reliable and Precise

Made in Germany

Quality Control for Masks: PMFT System

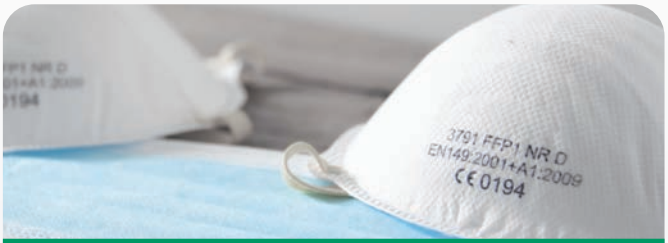
The filter test rigs PMFT System enable a reliable control of masks and filter material. This allows you to effectively ensure the quality of your products. Palas test instruments test better than required by EN 149, EN 13274-7 and GB 2626 standards for face masks, and 42 CFR 84, ISO 16900-3 and EN 143 for full face mask filters.

The **PMFT Systems** does not only test overall penetration and breathing resistance/ pressure drop, but also fractional efficiency in the size range between 100 nm and 5 µm.

The **PMFT System** includes three models for different needs:

- **PMFT 1000** for development and production monitoring of half masks
- **PMFT 1000 M** for reliable continuous operation in routine monitoring of half masks
- **PMFT 1000 F** as an all-rounder in the testing of almost all mask and filter types

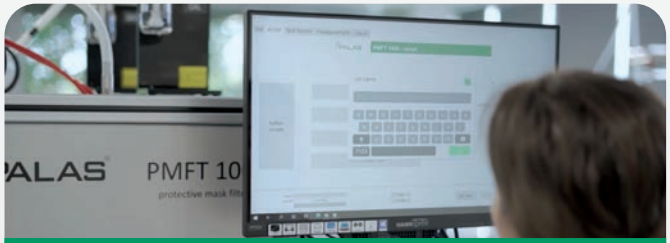
Application Examples



FACE MASK MANUFACTURER

FULL PROTECTION
MASK MANUFACTURER

FILTER MEDIA MANUFACTURER



TESTING INSTITUTES

REGULATORY AUTHORITY

MEDICAL FACILITIES

Principle of Operation

Palas proven technology allows the counting of particles of very small sizes. The device can detect and measure in the size range of viruses and bacteria. Both total penetration and fractional efficiency are tested e. g., the efficiency in the whole size range respectively the particle size-dependent penetration.

The **PMFT System** is future-proof: It works with salt, oil and latex aerosols when measuring penetration. It is also capable of measuring differential pressure at various breathing resistances.

Thanks to the individual filter adapter, **PMFT System** can be used for all kinds of protective masks and is also easy to handle.

PMFT System

The photometric total penetration for the size range is determined according to standard. A best comparability with the standards EN 149, EN 13274-7, 42 CFR 84, ISO 16900-3, ASTM F2299-3, ASTM F3502-21 and GB 2626 exists.

In addition, the breathing resistance is determined by differential pressure measurement.

PMFT 1000 FOR DEVELOPMENT AND PRODUCTION MONITORING OF HALF MASKS

- Exact analysis of filter mask efficiency from 100 nm up to 3 µm (size range photometer: from 100 nm up to 40 µm)
- 8 size channels for efficiency from 100 nm up to 180 nm

PMFT 1000 M FOR RELIABLE CONTINUOUS OPERATION IN ROUTINE MONITORING OF HALF MASKS

- Exact analysis of filter mask efficiency from 145 nm up to 5 µm (size range photometer: from 145 nm up to 40 µm)
- Long-lasting and robust LED light source

PMFT 1000 F AS AN ALL-ROUNDER IN THE TESTING OF ALMOST ALL MASK AND FILTER TYPES

Additional to PMFT 1000 M

- Testing of respiratory filters with an efficiency of up to 99.9995 % and a penetration of 0.0005 % respectively
- Comparability with standards EN 143 and ISO 16900-3

Special Advantages and Benefits

Flexibility

- Verification of production easily in-house based on defined standards
- Continuous optimization of the R&D process and production
- For comparability with other standards to measure fractional efficiency by size and to export as text file, e. g., for ISO 29463-3, ISO 11155-1, ISO 16890-2, please contact us for more information

Speed of testing

- Reliable quality assurance due to easy operation
- Uncomplicated changeover due to supplied mask and filter adapters
- No waiting for test results from external institutes

Safety

- Logged results based on relevant standards
- Factory tested and calibrated test stands

Technical Features

Measuring range (total penetration)	0.0005–100 %
Measuring range (size) particle size dependent penetration	0.1–3 µm (PMFT 1000), 0.1–40 µm (aerosol photometer) 0.145–5 µm (PMFT 1000 M, F), 0.145–40 µm (aerosol photometer)
Aerosols	Salts (e. g., NaCl, KCl), liquid aerosols (e. g., DEHS), latex particles (PSL)
Test area of the medium	100 cm^2
Volume flow	1–27 m^3/h (pressurized operation)
Inflow velocity	1.5–70 cm/s (others on request)
Differential pressure measurement	0–1,200 Pa
Compressed air supply	6–8 bar
Dilution factor	1:27 (PMFT 1000, 1000 M) 1:27 / 1:700 (PMFT 1000 F)
Discharge	Integrated (PMFT 1000 F) optional (PMFT 1000, 1000 M)
Dimensions (H • W • D)	1,800 • 600 • 900 mm

Palas is a leading developer and manufacturer of highprecision instruments for the generation, measurement and characterization of particles in air.

With more than 30 active patents, Palas develops technologically leading and certified fine dust and nanoparticle analyzers, aerosol spectrometers, generators and sensors as well as related systems and software solutions. Palas was founded in 1983 and employs more than 100 people.

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