



PMFT SYSTEM

# RESPIRATORY MASK TESTING

Reliable and precise

*Made in Germany*



# Quality control for masks: PMFT 1000 (M)

The filter test rig PMFT 1000 (M) enables a reliable control of masks and filter material. This allows you to effectively ensure the quality of your products.

Our test equipment tests better than required by EN 149 and EN 13274-7 standards. The standards GB 2626, 42 CFR 84 and EN 143 are also more than fulfilled: As a result the **PMFT 1000 (M)** not only tests overall efficiency and breathing resistance/pressure drop, but also fractional efficiency in the size range between 100 nm and 3 µm (PMFT 1000 M: 145 nm and 5 µm).



To date, the **PMFT 1000 (M)** is the only protective mask test rig that can test respiratory filters according to the „Covid Certified Filter“ (CCF) standard: The FFP2 seal guarantees special filter performance for FFP2 masks in the 150 nm size range - i.e. in the virus-relevant range.

<https://www.ccf-quality.com/>

# Application examples



**(NEW) PROTECTIVE MASK**



**FILTER MEDIA MANUFACTURERS**



**GOVERNMENT**



**TESTING INSTITUTES**



**INDUSTRY**



**CUSTOMS**

# Principle of operation

Our proven technology allows us to count particles of very small sizes. The device can **detect and measure in the size range of viruses and bacteria**. The penetration as well as the fractional efficiency is tested, e.g. the efficiency in the whole size range of 100 nm up to 5  $\mu\text{m}$  (size range spectrometer 100 nm up to 40  $\mu\text{m}^*$ ).

**PMFT 1000 (M)** is future proof: It works with salt, oil and latex aerosols when measuring penetration. It is also capable of measuring differential pressure at different air flow rates.

Thanks to the individual face mask adapter, **PMFT 1000 (M)** can be used for all kinds of face masks and is also easy to handle.

The **PMFT 1000 (M)** thus enables rapid quality assurance and supports the continuous optimization of the R&D process.



\*145 nm - 40  $\mu\text{m}$  (PMFT 1000M)

# The PMFT systems

## PMFT 1000 M

- High-resolution penetration measurements of FFP masks
- Best comparability with the standards EN 149, EN 13274-7, 42 CFR 84, ASTM F2299-3, ASTM F3502-21, GB 2626, ISO 16900, EN 143
- Exact analysis of filter mask efficiency from 145 nm up to 5  $\mu\text{m}$  (size range spectrometer: 145 nm up to 40  $\mu\text{m}$ )
- Air flow adjustable between 1 - 27  $\text{m}^3/\text{h}$
- Attractive maintenance package

## Additional features PMFT 1000

- Exact analysis of filter mask efficiency from 100 nm up to 5  $\mu\text{m}$  (size range spectrometer: 100 nm up to 40  $\mu\text{m}$ )
- 8 size channels for efficiency from 100 nm and 180 nm

### Software extension: Comparison module EN 149

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The software extension can be used to display penetration results of the entire tolerance range of the size distribution according to EN 13274-7 as well as other test institutes and manufacturers. This enables the comparison of different test systems and facilitates certification.

# Special advantages and benefits

There are only very few officially certified companies to test respiratory masks and filter material. Inevitably, this creates a large backlog, you may have to wait quite some time for the test results of your masks and with each testing cycle, you would incur additional costs.

Our testing system works perfectly to compliment these institutions. You can easily check your production lots against these set standards which provides:

- **Flexibility**
- **Speed of testing**
- **Safety**

The **PMFT 1000 (M)** is characterized by simple operation, fast installation and uncomplicated commissioning.

## Future-proof: Even more guidelines covered

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- Testing of the fractional separation efficiency according to
  - ISO 29463-3 (up to 99.5% efficiency) (HEPA filter)
  - ISO 11155-1 (automotive cabin air filters)
  - ISO 16890 (ePM1 and ePM2.5) (cabin air filters)

# Technical features

<b>Measuring range (size)</b>	0.10 – 40 µm (PMFT 1000) 0.145 – 40 µm (PMFT 1000 M)
<b>Volume flow</b>	1 – 27 m <sup>3</sup> /h (pressurized operation)
<b>Inflow velocity</b>	1.5 – 70 cm/s (others on request)
<b>Differential pressure measurement</b>	0 – 1200 Pa
<b>Test area of the medium</b>	100 cm <sup>2</sup>
<b>Aerosols</b>	Salts (e.g. NaCl, KCl), Liquid aerosols (e.g. DEHS), Latexparticel (PSL)
<b>Compressed air supply</b>	6 – 8 bar



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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