



PARTICULATE FILTRATION EFFICIENCY (PFE) TESTER

Particulate Filtration Efficiency (PFE) Tester ToronFM™ PFE is designed for quick, precise, and reliable measurement of filtration efficiency in medical and everyday protective masks, respirators, and similar items.

APPLICATIONS

The Torontech ToronFM™ PFE is a high-precision instrument for determining the Particulate Filtration Efficiency (PFE) of filter media and respirator masks. Its primary application is to provide a definitive, quantitative measure of a material's ability to capture sub-micron airborne particles, a fundamental performance parameter for any air-purifying respirator. This test is essential for product classification, regulatory approval, and ensuring the respiratory protection of users in hazardous environments.

This critical performance test is a cornerstone of quality, safety, and development in:

- **Respirator & Mask Manufacturing:** As a mandatory quality control and lot release test to certify that products meet the stringent PFE requirements of their claimed classification (e.g., N95, FFP2, FFP3), ensuring they provide the specified level of protection against airborne particulates.
- **Third-Party & Government Certification:** For regulatory bodies and accredited test labs (like NIOSH and Notified Bodies) to independently verify that respirators on the market meet national and international occupational health and safety standards.
- **Filter Media & Non-Woven R&D:** As a primary research tool for developing new, high-efficiency filter materials, allowing formulators to optimize the balance between filtration performance, breathability, and loading capacity.
- **Industrial Safety & Healthcare:** For large industrial and healthcare organizations to perform incoming quality assurance, verifying that the respirators being supplied to their workforce meet the required performance standards for the specific hazards present in their environment.

FEATURES

- **Flow Detection:** The system's test flow is supplied by external dry, clean compressed air. Internal voltage and flow stabilization mechanisms ensure consistent flow, while the automatic control system provides a simple, fast, and stable operation.
- **Test Results:** Comes with a laptop and English-language software, displaying test results directly on the interface. Users can save data or export it as needed.
- **Data Port:** Features an external memory card for seamless data export, eliminating concerns about data loss.
- **Resistance Detection:** Measures the pressure difference of the filter material using static pressure rings in the upstream and downstream test chambers. A high-precision, differential pressure transmitter ensures accurate and reliable readings.
- **Ease of Use:** Users simply place the filter material into the fixture and press a button to set the test flow. The system automatically measures resistance and efficiency through the controller.

TECHNICAL SPECIFICATIONS

Options Model

Model	ToronFM™ PFE-A	ToronFM™ PFE-B-1	ToronFM™ PFE-B-2	ToronFM™ PFE-C
Aerosol	Salt or Oil	Salt + Oil	Salt or Oil + Latex Spheres	Latex Spheres
Aerosol Channel	One	Two	Two	One
Efficiency detection	0.1-10 µm Photometer		0.1-10 µm Photometer 0.1 µm Particle counter	0.1-5 µm Particle counter
Standards	EN149, EN143, JIS/T 8151, NIOSH-42 CFR84		ASTM F2100 9.3, ASTM F2299 EN149, EN143, JIS/T 8151	ASTM F2100 9.3, ASTM F2299

Model	ToronFM™ PFE-A	ToronFM™ PFE-B-1	ToronFM™ PFE-B-2	ToronFM™ PFE-C
Control mode	Laptop computer + English operation software			
Oil aerosol type: DEHS, DOP, Paraffin				

Key Specifications

Model	ToronFM™ PFE
Test flow range	30L / min ~ 100L / min, accuracy 2% 30L / min ~ 150L / min, accuracy 2% (For ASTM F2100 & F2299)
The air flow cross-sectional area	100cm²
Resistance test range	0 ~ 1000Pa, accuracy can reach 0.1Pa
Filtration efficiency test range	0 ~ 99.999%, resolution 0.001%
Test time	Simultaneous efficiency and resistance test: 70s
Test range	0.001 - 300mg/m³
Voltage	Single phase 220V 50Hz (110V is also available)

Standard Accessories

Model	ToronFM™ PFE-A	ToronFM™ PFE-B-1	ToronFM™ PFE-B-2	ToronFM™ PFE-C
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