



FACE MASK SYNTHETIC BLOOD PENETRATION TESTER

Face Mask Synthetic Blood Penetration Tester ToronFM™ SBPT evaluate the ability of medical protective masks to resist synthetic blood penetration at various test pressures. This method can also assess the blood penetration resistance of other coated materials.

APPLICATIONS

The Torontech ToronFM™ SBPT is engineered to perform the critical test for resistance to synthetic blood penetration, in full compliance with key international standards like ASTM F1862 and ISO 22609. This test is the definitive measure of a medical face mask's ability to act as a protective barrier against fluid splashes and sprays. It provides the essential pass/fail data required for product classification, regulatory approval, and ensuring the safety of healthcare professionals.

This critical safety and performance test is indispensable for:

- **Medical Device Manufacturing:** As a mandatory quality control and release test for manufacturers of surgical and medical face masks, providing the essential data to certify their products to the required performance levels (e.g., ASTM Levels 1, 2, or 3).
- **Third-Party & Government Testing Labs:** For independently verifying that face masks sold on the market meet national and international safety standards, ensuring public and occupational health and safety.
- **Personal Protective Equipment (PPE) R&D:** As a primary tool for the development and validation of new fluid-resistant materials and non-woven fabrics, providing the quantitative data needed to prove their effectiveness as a protective barrier.
- **Hospital & Healthcare Procurement:** To conduct quality assurance and supplier validation, ensuring that the masks procured for frontline healthcare workers provide the claimed level of fluid barrier protection and meet institutional safety requirements.



Standards

- ASTM F2100: Specifies the performance and material requirements for medical face masks in North America, classifying them into Levels 1, 2, or 3 based on fluid resistance, filtration efficiency, breathability, and flammability.
- ASTM F1862: Defines the standard test method for measuring a medical face mask's ability to resist penetration when struck by a small volume of synthetic blood at high velocity.
- ISO 22609: An international standard evaluating a medical mask's resistance to synthetic blood splash penetration, functioning as the global equivalent to ASTM F1862.
- BS EN 14683: The European standard specifying design, performance, and testing requirements for medical face masks, categorizing them into Type I, Type II, and splash-resistant Type IIR.
- NBR 15052: The Brazilian national standard establishing technical specifications and performance criteria—including bacterial filtration efficiency and fluid resistance—for healthcare and surgical face masks.

FEATURES

- The convex sample fixture replicates the mask's real-world usage, ensuring a test target area remains intact while directing synthetic blood to the designated zone.
- A specialized constant-pressure spray mechanism delivers a precise volume of synthetic blood within a controlled timeframe.

- The system accurately simulates average human blood pressure spray speeds of 10.6 kPa, 16 kPa, and 21.3 kPa for testing.
- A target plate blocks the high-pressure edges of the liquid stream, allowing only the steady-state flow to reach the sample, enhancing the accuracy and consistency of the applied liquid velocity.

TECHNICAL SPECIFICATIONS

Model	ToronFM™ SBPT
Spraying distance	300mm~305mm (can be adjustable)
Nozzle diameter	0.84mm
Spraying speed	450cm/s, 550cm/s, 635cm/s
Weight	35kg
Voltage	AC220V 50Hz (110V is also available)



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