



TORONTECH



FACE MASK & RESPIRATOR BREATHING RESISTANCE TESTER

Face Mask & Respirator Breathing Resistance Tester ToronFM™ BRT is designed to assess inhalation and exhalation resistance in masks and respirators under specific conditions, with flow rates of 30L/min, 85L/min, and 95L/min for inhalation, and 85L/min and 160L/min for exhalation. It also performs flow impact testing on breather valves at a rate of 300L/min, providing precise and reliable performance insights.

Standards

1. EN149-2009 section 7.15, 8.3.4, 8.9
2. EN 13274-3
3. NIOSH 42 CFR Part 84
4. JIS/T 8151

APPLICATIONS

The Torontech ToronFM™ BRT is designed to perform the essential test for breathing resistance on respirators and face masks, in full compliance with global standards like EN 149 and NIOSH 42 CFR Part 84. Its primary application is to provide a precise, quantitative measure of the inhalation and exhalation effort required to use a mask. This is a fundamental performance and comfort parameter, ensuring that a mask provides its intended protection without overburdening the user's respiratory system.

This critical performance and usability test is indispensable for:

- **Respirator & Mask Manufacturing:** As a mandatory quality control and lot release test to certify that products meet the stringent breathing resistance requirements of their claimed classification (e.g., FFP1, FFP2, FFP3, N95), ensuring both user safety and comfort.
- **Third-Party & Government Certification:** For regulatory bodies and accredited test labs to independently verify that respirators and masks on the market meet national and international occupational health and safety standards.

- **Personal Protective Equipment (PPE) R&D:** As a primary research tool for developing new filter media and mask designs, allowing for the optimization of filtration efficiency while minimizing the breathing resistance to enhance user comfort and compliance.
- **Industrial Safety & Occupational Health:** For large industrial users to perform incoming quality assurance, verifying that the respirators provided to their workforce meet the specified performance standards for the intended work environment and exertion levels.

FEATURES

- Touch-screen interface with an English menu and interactive mode for easy operation.
- Built-in thermal printer for quick and convenient result printing.
- High-precision differential pressure sensor and digital flow meter for exceptional accuracy.
- Customizable inhalation and exhalation test modes for versatile applications.
- Automatic respirator pipeline switch to prevent incorrect connections during testing.
- 3D standard head-form, adjustable in five directions, simulates natural breathing for improved test accuracy.

TECHNICAL SPECIFICATIONS

Model	ToronFM™ BRT
Range of Flow Meter	0~400L/min, Accuracy: 1%
Range of Digital Differential Pressure Gauge	0~1000Pa, Accuracy: 1Pa
Pump Capacity	≥300L/min
Printer	Micro-thermal printer
Dimensions	680 × 600 × 1000mm

Model	ToronFM™ BRT
Head Mold	3 sets (Large, Medium, and Small)
Voltage	AC220V 50Hz 650W (110V is also available)
Weight	50kg
Standards	1. EN149-2009 section 7.15, 8.3.4, 8.9 2. EN 13274-3 3. NIOSH 42 CFR Part 84 4. JIS/T 8151



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