OVERVIEW OF STUDY

A recent independent study published in the Journal of the International Society for Respiratory Protection undertaken by the university of Cincinnati compared the efficacy of the VeriFit® MT-11 (a.k.a. Sibata MT-11D.) with the TSI® PortaCount® 8048. Currently the PortaCount® 8048 is known as the industry-standard device used for fit testing respirators (especially N95 and half-face respirators).

WHAT THEY TESTED

The study design used 26 subjects (15 males and 11 females) representing a variety of ethnicities with a wide range of facial dimensions. Included in the study were nine respirator models representing three different types of respirators: N95, P100, and elastomeric half-face respirators.

Researchers compared both instruments by:

- Measuring aerosol particles used during respirator fit testing
- Running OSHA-style respirator fit tests
- Comparing "fit factor" results (how well the mask seals to the face)
- Evaluating accuracy, consistency, reliability, and repeatability

MAIN FINDINGS

The findings of the study demonstrated high correlation coefficients between the measurement results obtained with the VeriFit® MT-11 and the TSI® PortaCount® indicating a high degree of agreement between the two units. The results indicated that the VeriFit® MT-11 performed as well as the TSI® PortaCount® on multiple types of respirators employed on a variety of facial types.

According to the abstract:

- The **VeriFit® MT-11 produced fit test results equivalent to the TSI® 8048**
- The correlation between the two devices was **very strong**
- The VeriFit® MT-11 was found to have:
    - **High accuracy**
    - **Good reliability**
    - **Strong repeatability**
- The study concluded the VeriFit® MT-11 is:
    - **"Suitable as a fit tester"**
    - **"Comparable with the TSI 8048"**

NEXTTEQ® DELIVERS LEADING TECHNOLOGY AT A BETTER VALUE AND WHY THIS MATTERS

The TSI® PortaCount® 8048 is widely recognized as the benchmark for quantitative respirator fit testing. This paper shows the VeriFit® MT-11 can:

- Deliver comparable fit-testing performance
- Meet accepted testing standards
- Be used confidently for respirator fit testing applications

When compared directly to the PortaCount 8048, the VeriFit® MT-11 is **more economical** in initial costs and in operational costs over the long-term including calibration of the unit. It is light (less than 10 lbs.) and easily transportable with the included padded carry case. The MT-11 is the only CNC based unit that comes complete with a built-in touch screen and a mirror to assist the operator and the test subject in properly fitting and adjusting the facepiece before starting the fit test.

In addition, a **technology advantage** of the VeriFit® MT-11 is that it incorporates a RDMA (Radial Differential Mobility Analyzer) which is more efficient when compared to some CNC devices on the market that use non-radial types of DMAs of similar size. The advantage of RDMA is that it can draw a higher flow rate and therefore has less particle loss compared to other analyzers of a similar size, so more air can be directed to the detector. This means that it is relatively easy to obtain the number of particles required for a fit test.

BACKED BY A WORLD LEADER IN RESPIRATORY FIT TESTING

The VeriFit® MT-11 is manufactured by SIBATA SCIENTIFIC TECHNOLOGY LTD., a global leader in environmental testing and product development. With over **50 years** of expertise in respiratory fit testing instrumentation, Sibata is a renowned authority in the field. Through an exclusive partnership, Nextteq® collaborated with Sibata to refine the MT-11's intuitive user interface—one of the first to utilize real-person testing exercises for enhanced accuracy and ease of use.

SIMPLE TAKAWAY

The paper demonstrates that the VeriFit® MT-11D performs at a level equivalent to the TSI® PortaCount® 8048 for quantitative respirator fit testing, with strong accuracy, consistency, and reliability. The study found that the VeriFit® MT-11D performed essentially the same as the TSI® PortaCount® 8048, and in some areas showed advantages.