

# HEALTHCARE PROFESSIONALS CAN TRUST QUANTITATIVE FIT TESTING

BY MOLLY DORAN AND  
JOHN MORTON



## Introduction

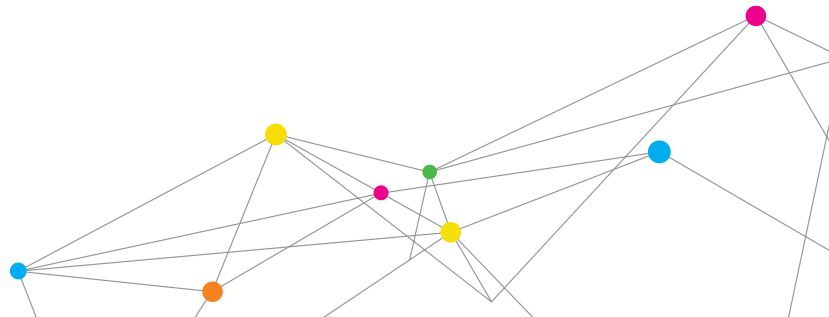
As a Healthcare Professional:

- + Do you dread being fit tested, or giving fit tests?
- + Do you get subjected to a repulsive “challenge aerosol” during the test (i.e., Saccharin or Bitrex®)?
- + Does the wearing of a test hood trigger your claustrophobia?
- + Are you wishing there was an easier way to maintain compliance records?

If so, the chances are you're respirator fit testing using the Qualitative Fit Testing (QLFT) method. QLFT is a low cost, subjective pass/fail test that exposes the respirator wearer to a chemical stimulant (while donning a test hood) that can only be detected if the respirator leaks. Multiple challenges exist for QLFT, including operator error and fatigue as well as deceitful responses from the person being fit tested, not to mention the bookkeeping challenges it presents. **PLEASE NOTE**—there's a better, trusted, OSHA-accepted way to do respirator fit testing.



UNDERSTANDING, ACCELERATED



# QUANTITATIVE FIT TESTING

## HEALTHCARE PROFESSIONALS CAN TRUST

### Ensure Maximum Protection: Quantitative Respirator Fit Testing (QNFT)

There are two OSHA-accepted QNFT methods for N95 respirators: Generated Aerosol (complex and lack portability) or Ambient Aerosol (simple and portable). Both methods measure an aerosol challenge agent on the outside of the respirator ( $C_{out}$ ) as well as on the inside of the respirator ( $C_{in}$ ) as the wearer performs a series of exercises that approximate conditions of use, while the results are recorded. The ratio of the two measurements ( $C_{out}/C_{in}$ ) is called a fit factor. OSHA requires N95 respirators to have a fit factor of at least 100 to pass the fit test. This means that the air inside of a properly donned respirator must be at least 100 times safer than the air outside of the respirator.

### Ambient Aerosol QNFT: Best OSHA-Accepted Fit Test Method

Simple and portable, the Ambient Aerosol method of QNFT is the most economical and industry preferred method along with being the best OSHA-accepted fit test method. TSI manufactures the only ambient aerosol fit tester on the market—the PortaCount® Respirator Fit Tester. The challenge agent used is the ambient microscopic particles that are present at all times in the air we breathe. These particles can't penetrate the respirator filter, so any particles measured inside the respirator are attributed to a face seal leak.

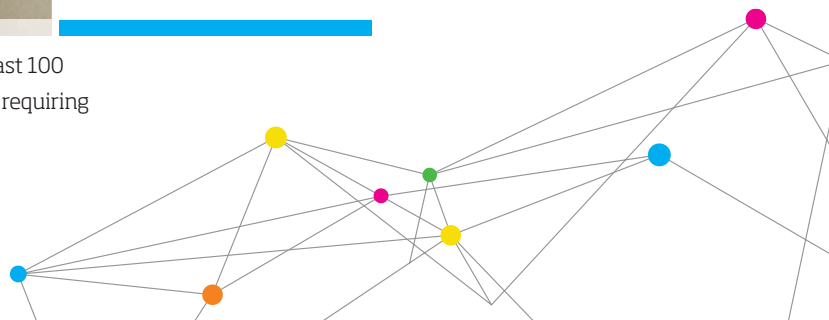
The PortaCount Fit Tester was first introduced by TSI more than 20 years ago. Today, only the PortaCount Fit Tester can:

- + Enable real-time fit optimization
- + Facilitate training on proper donning procedures
- + Speed up testing time using real-time fit factor technology
- + Eliminate errors with automated step-by-step guidance
- + Ease record keeping and management of reports
- + Go above and beyond regulatory compliance
- + Test all types of respirators, including N95

$$C_{OUT} \div C_{IN} = \text{FIT FACTOR}$$



As required by OSHA, N95 respirators need to have a fit factor of at least 100 (100 times safer than the air outside of the respirator). For respirators requiring a fit factor >100, quantitative fit testing must be used.



# QUANTITATIVE FIT TESTING

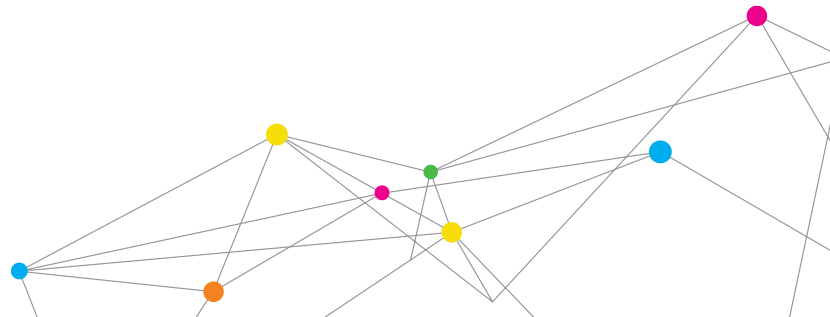
## HEALTHCARE PROFESSIONALS CAN TRUST

### Comparison of Fit Testing Methods: QLFT vs QNFT with the PortaCount Fit Tester

It's easy to see the advantages QNFT can offer.



Good (Qualitative)	Best (Quantitative)
Squeeze Bulb	<b>PortaCount Pro+</b> integrated, automated, step-by-step software test protocol that enables up to four people to be fit tested simultaneously using one computer
75-225 nebulizer squeezes per test subject	1 button push, 99% reduction in work, 100% reliable
<b>What a Waste!</b> <ul style="list-style-type: none"> <li>+ Tedious process</li> <li>+ Prone to errors</li> <li>+ Increases need for operational resources</li> <li>+ Provokes repetitive stress disorders</li> <li>+ Necessitates exposure to unpleasant tasting solutions</li> <li>+ Prone to deceitful test responses</li> </ul>	<b>Know You're Protected!</b> <ul style="list-style-type: none"> <li>+ Speeds up testing</li> <li>+ Eliminates error</li> <li>+ Enables real-time fit optimization and training</li> <li>+ Eases reporting and record keeping</li> <li>+ Minimizes operational resources</li> <li>+ Eliminates repetitive stress disorders</li> <li>+ OSHA-compliant for all respirators including N95</li> </ul>



# QUANTITATIVE FIT TESTING

## HEALTHCARE PROFESSIONALS CAN TRUST

### PortaCount Fit Tester: Saves Time and Money

With the recent introduction of the FitPro+™ Fit Test Software, the PortaCount offers even more efficiency in fit testing than ever before. The new software provides for expanded use while still maintaining the ability to provide the same trusted real-time results the PortaCount Fit Tester is known for. It is currently being installed on all new units, but is also being offered as a free upgrade option for currently-owned units in the field, including Models 8020/8030/8038.

The new added features include:

- + Ability to easily test up to four people simultaneously (Models 8030/8038 only; multiple, same PortaCount models must be used)
- + Single dashboard style interface
- + Comprehensive record tools screen enables easy access to a variety of database utilities (copy, export, etc.)
- + MS Access based database system allows for quicker, simpler installation and setup plus easier database sharing and maintenance
- + Expands compatibility for use with Microsoft® Windows® 8

### Conclusion

If you've been at work during a worldwide pandemic or community influenza outbreak, or had to care for a patient with an infectious disease, you understand how important respirators can be in keeping you safe while on the job. This protection is most likely an N95 respirator, available in numerous types, models and sizes. The only way to ensure you're wearing the right one, and fully protected, is to be properly fit tested. This doesn't have to be an unbearable, tedious process—no matter if you're the one being fit tested or if you're facilitating the fit test.

This is where the PortaCount Fit Tester can help, as the best OSHA-accepted fit test method. It doesn't get any easier and more efficient. The PortaCount uses an intuitive software driven protocol to conduct and drive adherence to respirator fit testing best practices while multi-person testing capabilities instill efficiency. In addition, the software easily maintains accurate compliance records and facilitates printing of fit test certificate cards that individuals can carry for quick reference in times of need. It's virtually impossible to make mistakes and eliminates negative tendencies that plague QLFT.

Trust the PortaCount Fit Tester—just like over 2000 healthcare facilities in the U.S. already rely on TSI for compliance as required by OSHA, JCAHO and the CDC.



UNDERSTANDING, ACCELERATED

**TSI Incorporated** - Visit our website [www.tsi.com](http://www.tsi.com) for more information.

**USA** Tel: +1 800 874 2811  
**UK** Tel: +44 149 4 459200  
**France** Tel: +33 4 91 11 87 64  
**Germany** Tel: +49 241 523030

**India** Tel: +91 80 67877200  
**China** Tel: +86 10 8219 7688  
**Singapore** Tel: +65 6595 6388

PortaCount, TSI and the TSI logos are registered trademarks, and FitPro+ is a trademark of TSI Incorporated.

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Bitrex is a registered trademark of Macfarlan Smith Ltd.