**OSHA’s New Quantitative Fit-Testing Protocols Aim to Save Time & Effort**

OSHA has added two new fit testing protocols for quantitative respirator fit-testing. The two new protocols are actually modifications of the current ambient aerosol CNC protocols for full-facepiece, half-mask elastomeric, and filtering facepiece respirators. These modifications cut in half the number of steps required, also making them faster to conduct.

There are two types of manufacturers of quantitative fit-testing machines which are most popular, the Portacount by TSI and a controlled negative pressure (CNP) machine by Occupational Health Dynamics. **The changes in the protocols affect the PortaCount-type machines.**

**Quantitative Fit Testing vs. Qualitative Fit Testing**

**Qual**itative fit-testing uses items such as saccharine or irritant smoke to determine protection. It relies on the person being tested’s ability to sense odor or irritants. Qualitative fit testing is only for half-face and N95 filtering facepiece respirators that have an APF of 10.

**Quant**itative respirator fit-testing uses a machine to measure pressure loss inside the mask or to count quantities of particles to calculate a fit factor.

Quantitative testing is considered more accurate than qualitative fit-testing. Quantitative fit-testing must be conducted for respirators requiring an Assigned Protection Factor (APF) over 10. Full-face tight fitting respirators have an APF of 50 and thus need to be quantitatively fit-tested.

**The New Protocols**

OSHA based their new protocols on the results of three different studies. After consideration and comment, 4 of the 8 exercises were removed or changed.

These include the grimace exercise, normal breathing, and deep breathing. The grimace exercise was often found to shift the fit of the mask while the breathing exercises were considered exercises that rarely affected fit factor. For full facepiece and half-mask respirators, talking was eliminated in favor of jogging-in-place, a new exercise.

Additional changes were made to the number of sets and the duration. OSHA anticipates 5 minutes can be shaved from each fit-test with the new protocols.

**PortaCount Upgrades Needed**

If you have PortaCount Models 8030, 8038, 8040 or 8048, you will need a software upgrade that you can download from the TSI website. You can also have the update uploaded when you send in your machine for its annual service. PortaCount Model 8020 or 8028 users will only be able to use the original 8-step protocols. If you have a machine manufactured by another company which uses the same protocols, you will need to check with your manufacturer if the machine you’re using requires an update.

**Link to the New Protocols**

For more information about the specific protocols, visit the [revised Appendix A](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppA) of the standard.