

# PORTACOUNT® ACADEMY

## TIPS & TOOLS

# TROUBLESHOOTING GUIDE

APPLICATION NOTE RFT-018

**T**his quick reference guide provides helpful information and troubleshooting instructions for the PortaCount® Pro and Pro+ Respirator Fit Testers. For additional information and further troubleshooting instructions refer to the PortaCount Respirator Fit Tester Operation Manual and the FitPro™ Fit Test Software Manual.

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### PortaCount Fit Tester Will Not Turn On

- Ensure the power supply is plugged into an A/C outlet and the PortaCount fit tester.
- Check A/C wall outlet to ensure it has power.
- Verify PortaCount fit tester power supply is working. This could be verified by trying another PortaCount power supply (if available).

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### PortaCount Fit Tester Does Not Count Any Particles

- Ensure the alcohol cartridge is installed in the PortaCount fit tester.
- Verify that reagent grade alcohol (99.5% or greater) is being used in the Alcohol Fill Capsule.
- Verify that the Alcohol Wick is installed in the alcohol cartridge properly.
- If the nozzle is blocked, perform the Nozzle Cleaning Procedure as referenced in the Maintenance section of the PortaCount Respirator Fit Tester Operation Manual.

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### Tight-fitting, Hard to Turn Alcohol Cartridge

- See the Alcohol Cartridge tech note in the resources section of the PortaCount fit tester [Interactive Training Tutorial](#).

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### Low Alcohol Warning

- Re-soak the Alcohol Wick/Cartridge in the Alcohol Fill Capsule.
- Verify that the volume of alcohol is to the fill-line in the Alcohol Fill Capsule before re-soaking.



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## High Humidity in the Fit Testing Environment

- Replace the Alcohol Wick with one of the spare replacement Alcohol Wicks from the PortaCount fit tester.
- Dry out the Alcohol Wick to ensure continued and successful use. Place the wick in a well-ventilated area for 16 to 24 hours. This will allow any water moisture build up from environmental humidity to evaporate. Do not discard the wick, it may be reused and re-soaked with alcohol. When leaving the wick out to dry, it is best to ensure the ambient humidity is less than 50%.
- Turn off, or lower the output setting, of any water based particle generators (i.e., TSI Model 8026 Particle Generator or ultrasonic humidifiers). These devices should be used only when necessary.

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## Failing Minimum Particle Check (Daily Checks)

- Review Room Setup in Module 5, Task 3 (8038) and Task 2 (8030) of the PortaCount fit tester interactive tutorial to learn optimal positioning and configurations of Particle Generator and fit testing station.
- Use a Particle Generator to supplement ambient particle concentration. Ideal ambient particle concentrations should be ~100 to 800 pt/cc with N95 mask fit tester running (8038) or ~2,000 to 8,000 pt/cc without N95 mask fit tester running (8030/8038).

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## Failing Zero Check (Daily Checks)

- Verify the blue and silver inlet ports are screwed on tight. If loose, hand-tighten the inlet ports, and then use pliers to turn each inlet an additional 1/8 turn.
- Try test again with a different Zero Filter (there are two Zero Filters included with each PortaCount fit tester). If Zero Check continues to fail, connect two Zero Filters together with a small piece of tubing and retry.
- Verify the ambient concentration (displayed after completing the Minimum Particle Check) does not exceed 8,000 pt/cc (as per use with full- & half-mask, P100 fit testing) or 800 pt/cc (as per use with N95 fit testing). If any form of particle generation is being used, ensure the particle source is placed at least 6 ft (1.8 m) away from the PortaCount fit tester. Turn off any particle generation if recommended maximum ambient concentrations, listed above, are exceeded. Review Room Setup in Module 5, Task 3 (8038) and Task 2 (8030) of the PortaCount fit tester interactive tutorial to learn optimal positioning and configurations of Particle Generator and fit testing station.
- Verify correct Daily Check settings are in place. From the Daily Checks window, select Settings. Adjust the “Zero Check: Maximum Particles Allowed” value to 30, select Save, and redo the Daily Checks.
- If Zero Check failures persist consult the PortaCount Respirator Fit Tester Operation Manual for further troubleshooting assistance.

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## Room Setup

- Room size up to a ~20 ft x 20 ft (~7 m x 7 m) are ideal.
- Position fit test station near the return air grid or between the supply air diffuser and return air grid.
- Position particle generator on the side of room closest to the supply air diffuser.
- Close or cover the supply air diffuser and return air grid (if necessary).
- Keep the door to the room closed.
- Never put a Particle Generator next to PortaCount fit tester. This causes contamination, clogging, and PortaCount fit tester to fail during daily checks or fit testing. Having at least 6 ft (1.8 m) between the Particle Generator and the PortaCount fit tester allows the particles to dry.
- Never split Twin Tube and/or put ambient sample (blue) tube near Particle Generator. This causes contamination, clogging, and PortaCount fit tester to fail during daily checks and/or fit testing.
- Review Room Setup in Module 5, Task 3 (8038) and Task 2 (8030) of the PortaCount fit tester [Interactive Training Tutorial](#) to learn optimal positioning and configurations of Particle Generator and fit testing station.

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## Fit Test Fails (overall fit factor is less than minimum pass level)

- Evaluate the mask and mask adapter components to see where the particle leak might be.
- Verify the Daily Checks are passing.
- The ambient particle concentration may be too high, causing failing fit factors. Ideal ambient particle concentrations is ~100 to 800 pt/cc with N95 mask fit tester running (8038) or ~2,000 to 8,000 pt/cc without N95 mask fit tester running (8030/8038). If any form of particle generation is being used, ensure the particle source is placed at least 6 ft (1.8 m) away from the PortaCount fit tester. Turn off any particle generation if recommended maximum ambient concentrations, listed above, are exceeded.
- Review Room Setup in Module 5, Task 3 (8038) and Task 2 (8030) of the PortaCount fit tester [Interactive Training Tutorial](#) to learn optimal positioning and configurations of Particle Generator and fit testing station.
- In environments with naturally occurring (no particle generation in use) ambient particle concentrations exceeding 8,000 pt/cc (as per use with full- & half-mask, P100 fit testing) or 800 pt/cc (as per use with N95 fit testing) you may need to increase the fit test protocol purge times. The purge time allows the PortaCount fit tester to clear the tubing in between mask and ambient particle samples.
  1. Go to **Database | Edit | Protocol Table**.
  2. Increase the ambient purge from 4 to 6 seconds—increased time allows for stable ambient concentration.
  3. Increase the respirator purge from 11 to 15 seconds—increased time allows for complete mask purge at high particle concentration.

TSI is proud to introduce a new educational tool for the respirator fit testing world, the PortaCount Academy. By enrolling in the PortaCount Academy you will be able to choose from a variety of interactive learning methods. We offer four educational options:

1. PortaCount Fit Tester [Interactive Training Tutorial](#) CD offers comprehensive training from unpacking and setting up the PortaCount fit tester to running fit tests and exporting reports. The tutorial focuses on the software installation, instrument set up, and workflow for the PortaCount fit tester in standalone and computer controlled modes.
2. [Online Training Center](#) offers a variety of innovative online courses, and is a one-stop-shop for access to other resources such as videos from OSHA and links to the PortaCount Academy Microsoft® PowerPoint® slides. Courses covering the PortaCount Pro/Pro+ and FitPro Fit Test Software operations can be accessed anytime, by anyone, from anywhere. There are also regularly held live webinars to discuss recent PortaCount fit tester updates and/or Respiratory Fit Testing news.
3. [TSI Shoreview Campus](#) is a comprehensive program located at the Shoreview, Minnesota campus, where we cover the PortaCount Fit Testing protocol from “A to Z.” This program does cost a nominal fee to attend; TSI does not cover travel expenses including room, board, or any other miscellaneous expenses.
4. [Onsite Campus](#) is a customizable training program which can be tailored to fit your company’s specific needs. With this option, you can attend the PortaCount Academy conveniently at your own work site. Fee schedule determined by training content, duration, and location. For more information, call 800-874-2811 ext. 3837.

***Enroll Now! Space is limited, so be sure to sign up fast!***

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## Some of the Courses TSI Offers

### Beginner level courses:

- RESFT 101: Intro to Quantitative Fit Testing
- RESFT 103: Intro to PortaCount Pro/Pro+ Respirator Fit Tester Stand-Alone Operations\*
- RESFT 105: Intro to FitPro Software & PC Controlled Operations\*

### Intermediate level courses:

- RESFT 201: PortaCount Pro-to-PC Communications
- RESFT 203: Flash Drive Database Exchange Function
- RESFT 205: Analysis of the Daily Checks

### Advanced level courses:

- RESFT 301: Troubleshooting: Failed Fit Tests
- RESFT 303: Advanced Database Management
- RESFT 305: Reports: Modification & Creation

\* Not available through the Online Training Center

To speak to a professor or for academy schedules visit [www.tsi.com/PCacademy](http://www.tsi.com/PCacademy), email [academy@tsi.com](mailto:academy@tsi.com) or call 800-874-2811 ext. 3837.



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