ANALYSIS OF DAILY CHECKS & REALTIME FIT FACTOR DISPLAY

RESFT 205

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Course Description

+ Understanding of the purpose of performing the Daily Checks
+ Ability to troubleshoot the Daily Checks
+ Running the Realtime Fit Factor Display
+ Evaluating the ambient particle concentration with the Realtime Fit Factor Display
+ Followed by a Q & A session

PORTACOUNT ACADEMY

Course Key

Touchscreen ‘Touch’

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Required Material

1. PortaCount Pro/Pro+
2. 5 ft (1.5 m) Blue/Clear Twin Tube Assembly
3. Alcohol Cartridge (recently soaked)
4. Zero Check Filter

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Let's begin…

1. Insert the PortaCount Pro/Pro+ Alcohol Cartridge
2. Power on the PortaCount Pro/Pro+
3. Connect the twin tube assembly to the blue and silver nozzles

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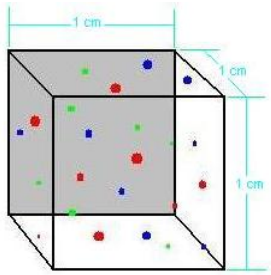
Helpful Definitions

Daily Check

- Maintenance procedure done each day before fit testing. 1 for N95 enabled, 1 for regular fit testing.

Ambient Particle Concentration

- *ambient aerosol & particle count*; # of particles per cubic centimeter (pt/cc) of air.
- Sampled down blue (ambient) tube
- *Conversely "mask concentration" refers to the particles sampled down clear (mask) tube*



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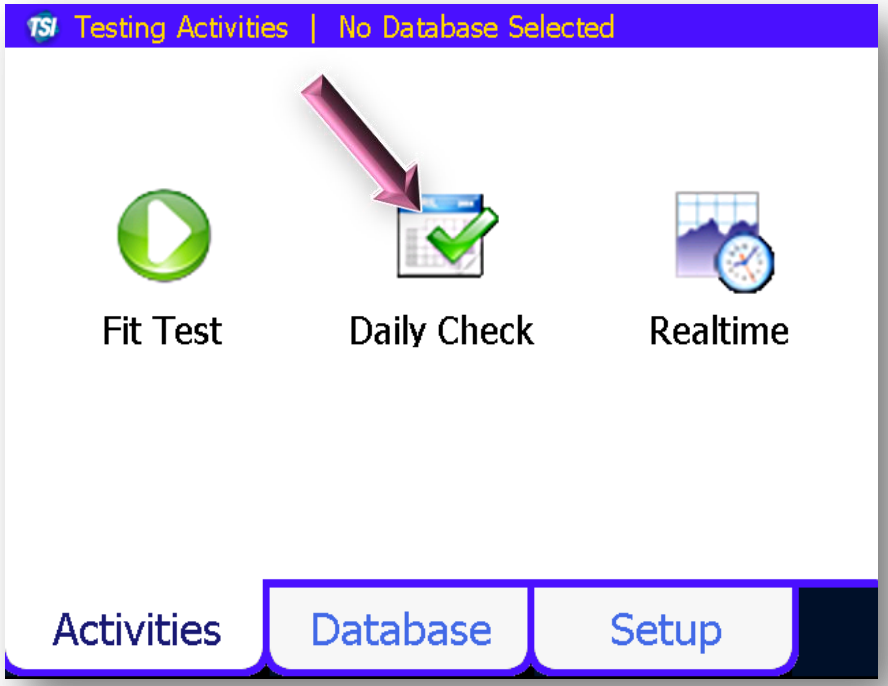
Starting the Daily Checks

+ Touch **Daily Check**



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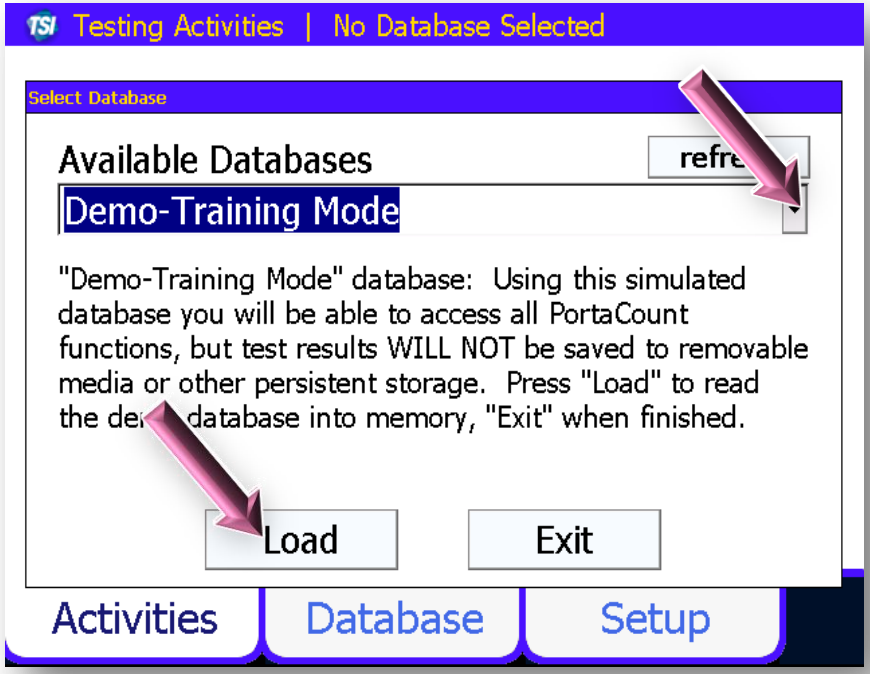
Database Selection

+ Select Database from the drop down window

If you do not have a database to select, choose “Demo-Training Mode”

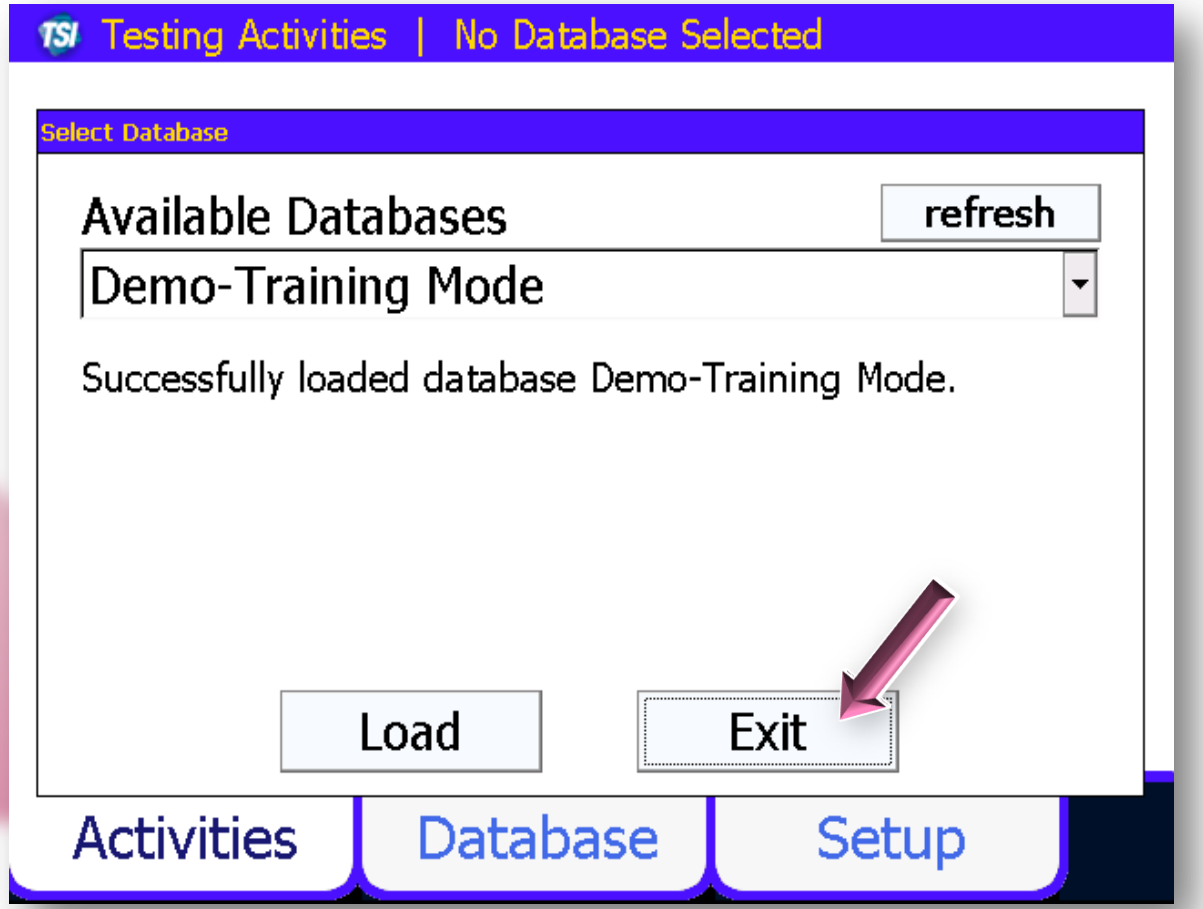
+ Touch **Load**



PORTACOUNT ACADEMY

Database Selection

+ Touch **Exit**



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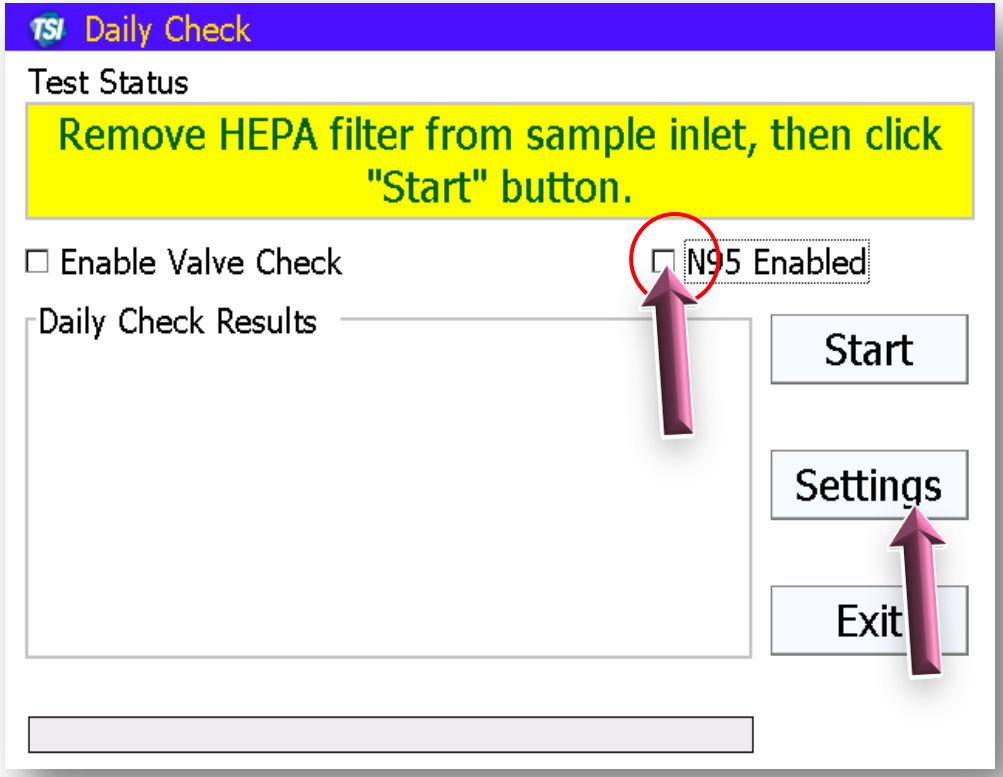
Daily Checks

+ Select **N95 Enabled**; if applicable



The **Valve Check**, is **not** part of the recommended Daily Checks

+ Touch **Settings**

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Helpful Definitions

Minimum Particle Check

- Determines if the concentration of particles in the ambient air is sufficient to conduct fit testing

Classifier Check

- *Occurs in N95 mode ONLY; Verifies the internal classifier is functioning properly*

Zero Check

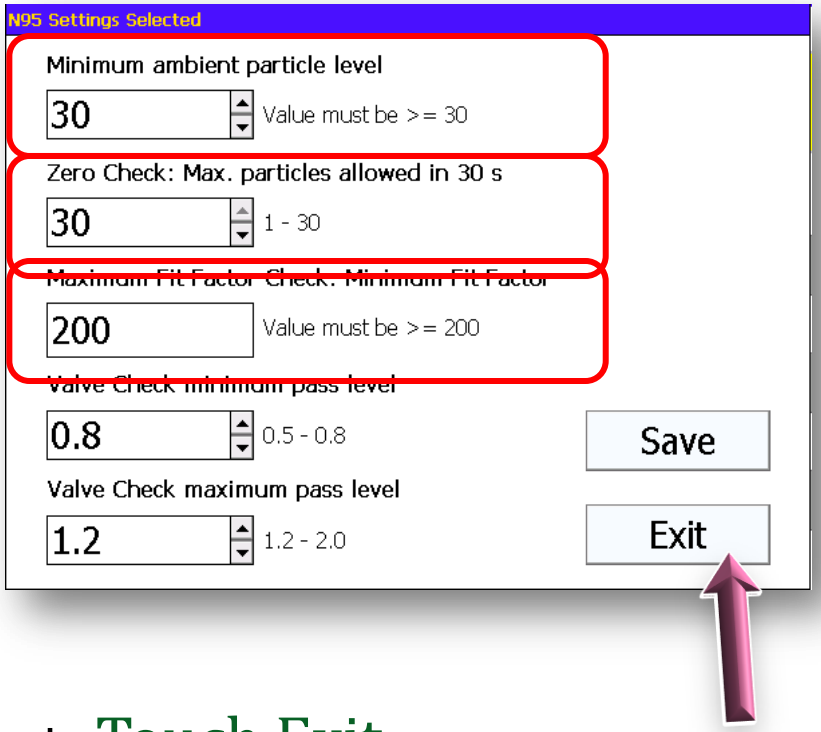
- Assures that there are no leaks present

Maximum Fit Factor Check

- Ensures the internal switching valve is functioning properly, so both Mask and Ambient samples are taken

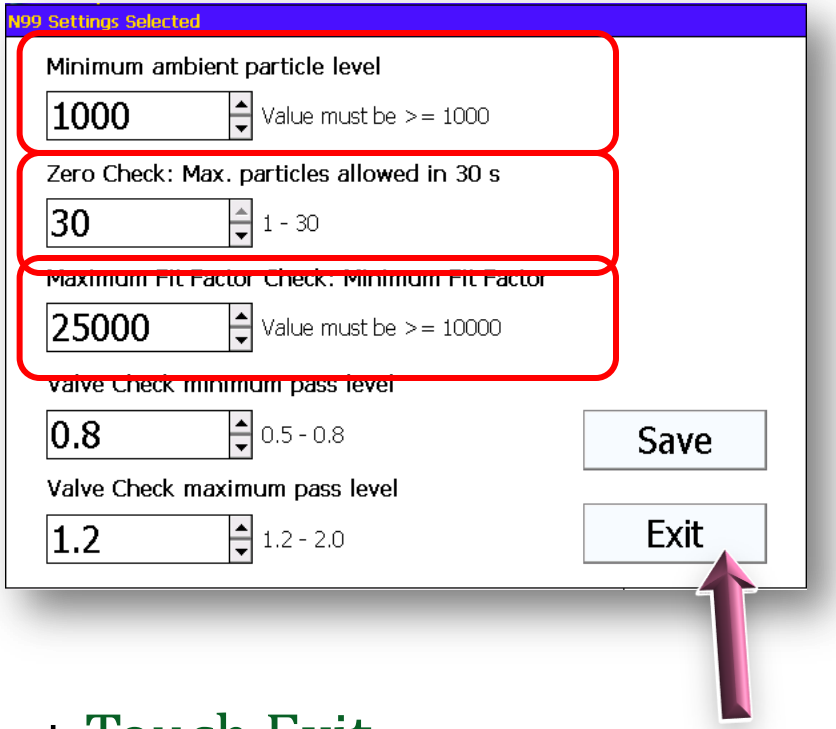
Daily Check Settings

Settings with N95 enabled



+ Touch Exit

Settings without N95 enabled



+ Touch Exit

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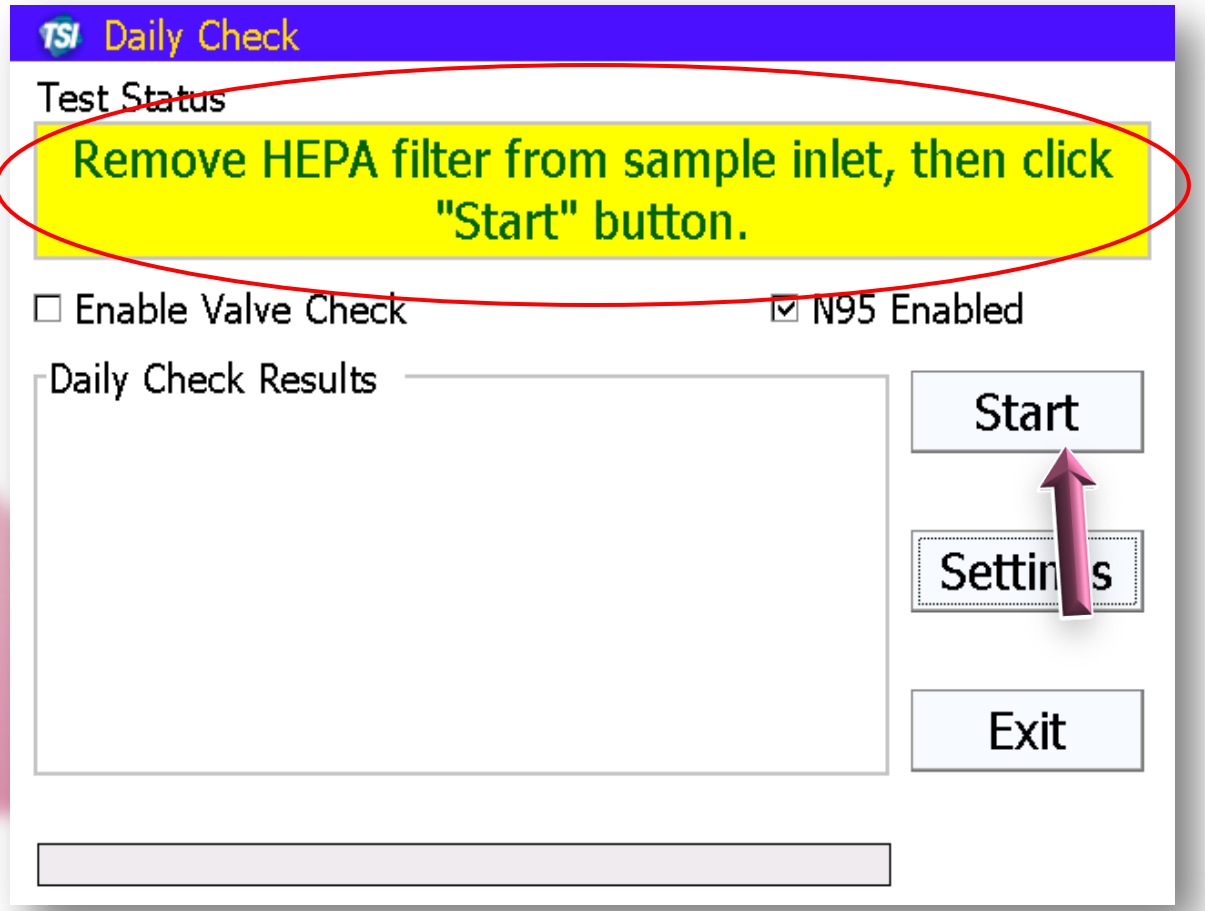
Daily Checks

Remove HEPA (Zero) Filter, if attached

+ Touch **Start**



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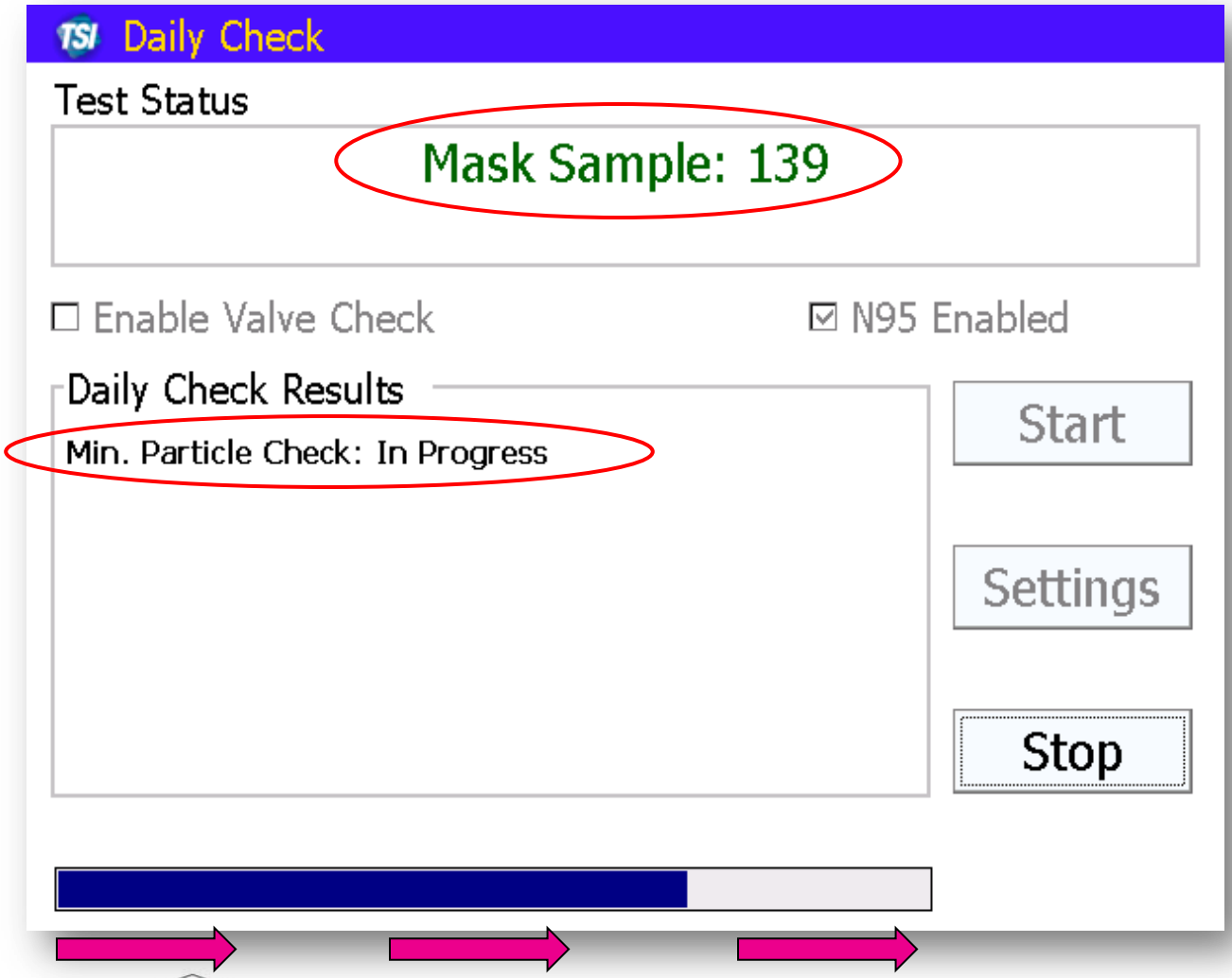
Daily Checks

1. Minimum Particle Check



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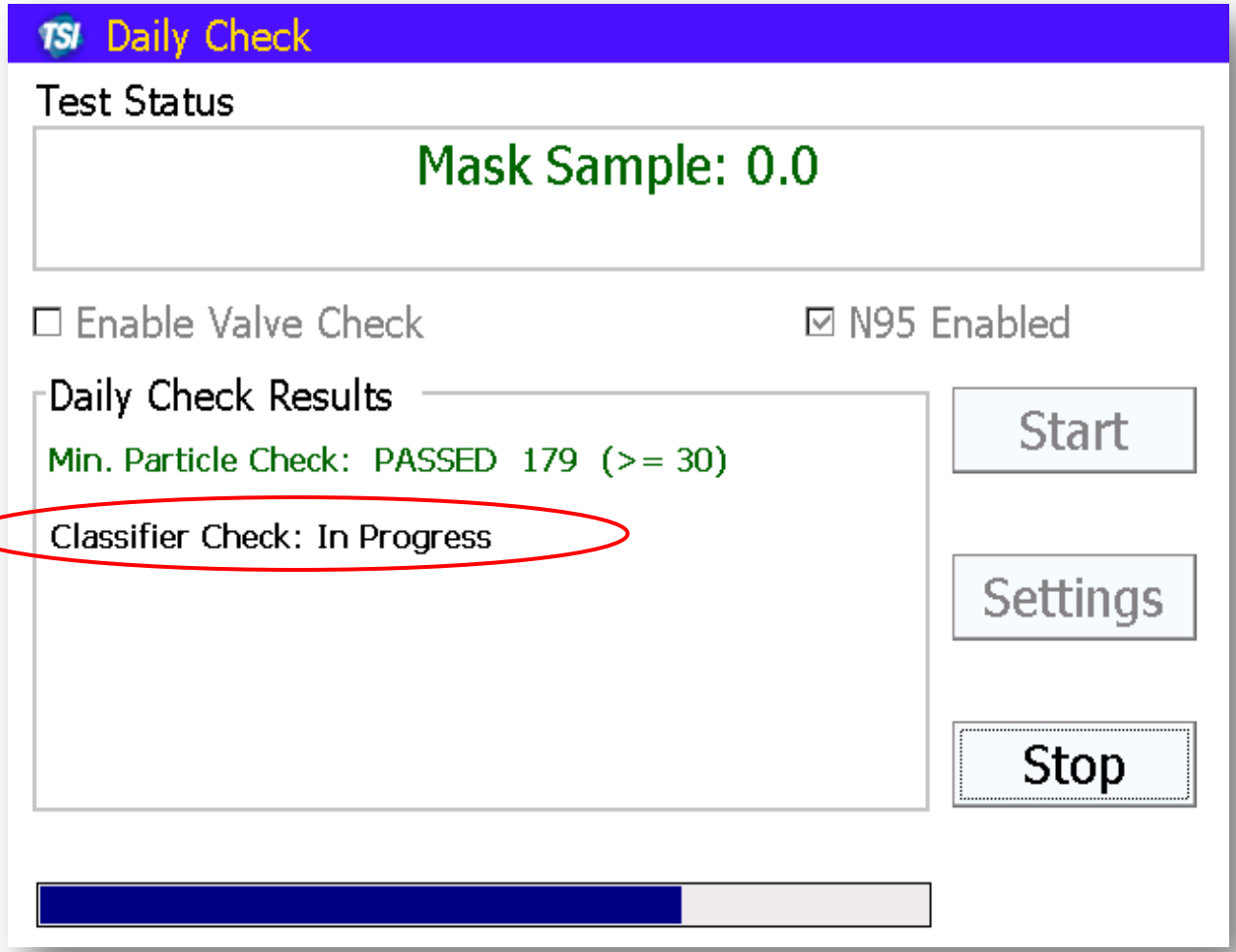
Daily Checks

Classifier Check



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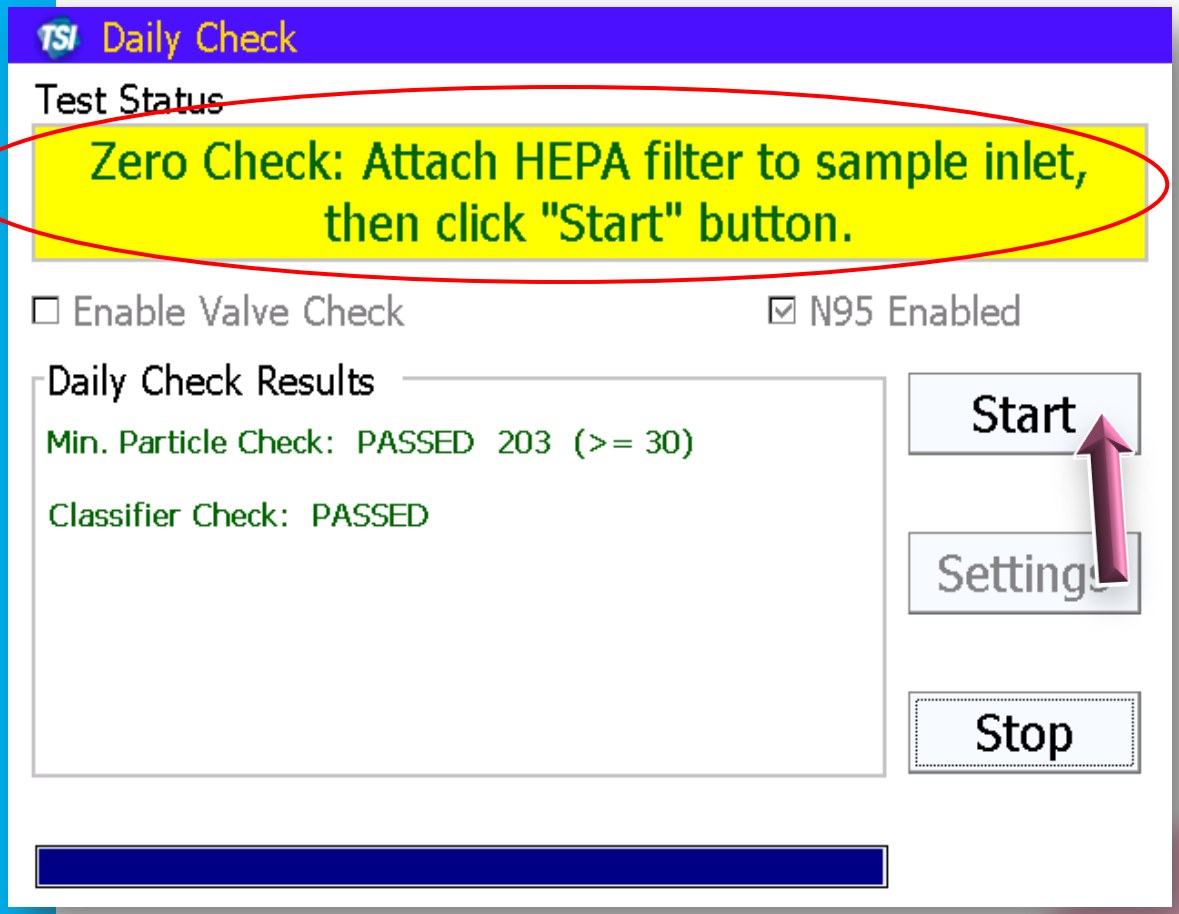
Classifier Check for N95 enabled units only

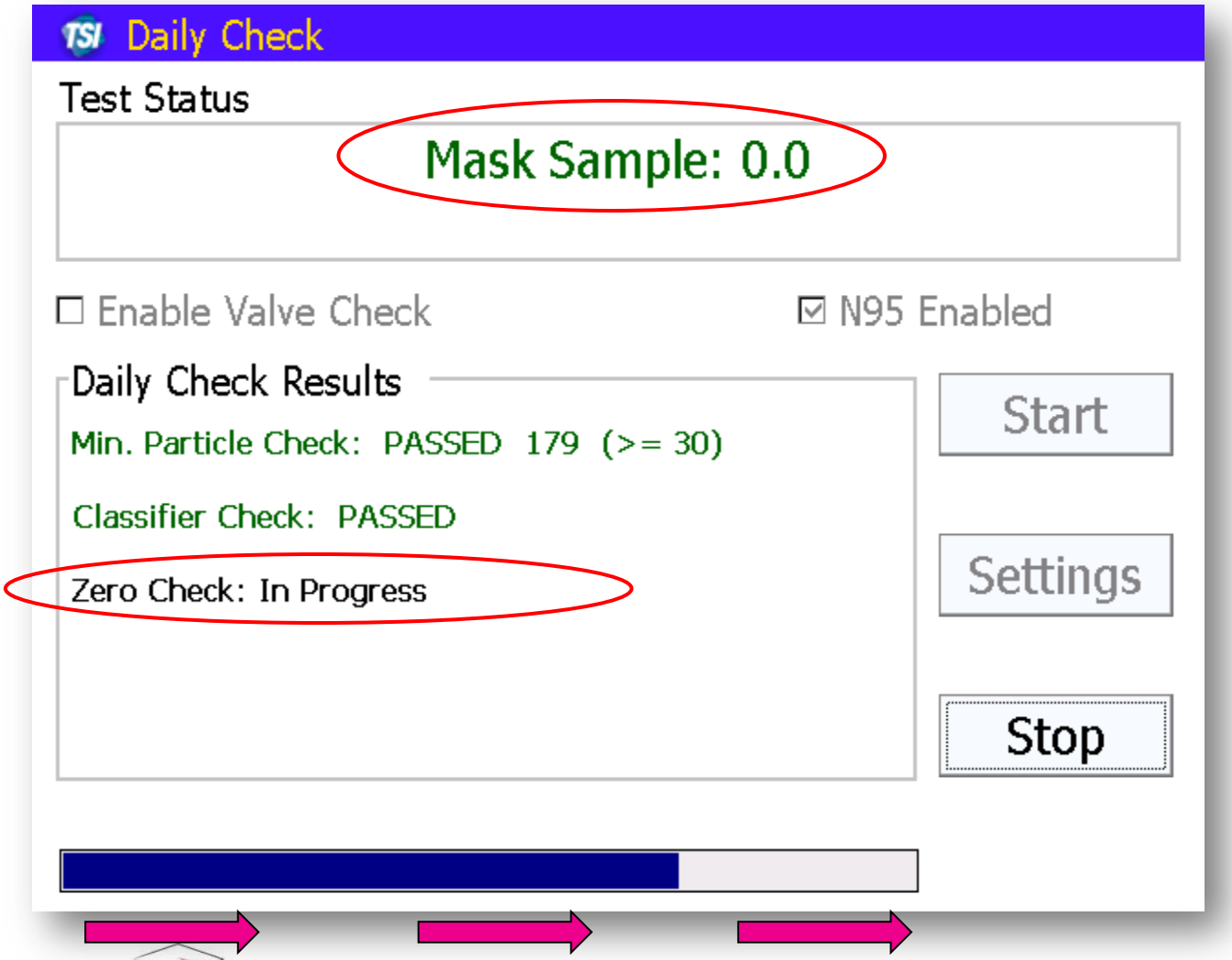
2. Zero Check



Attach HEPA (Zero) Filter

\+ Touch **Start**

2. Zero Check



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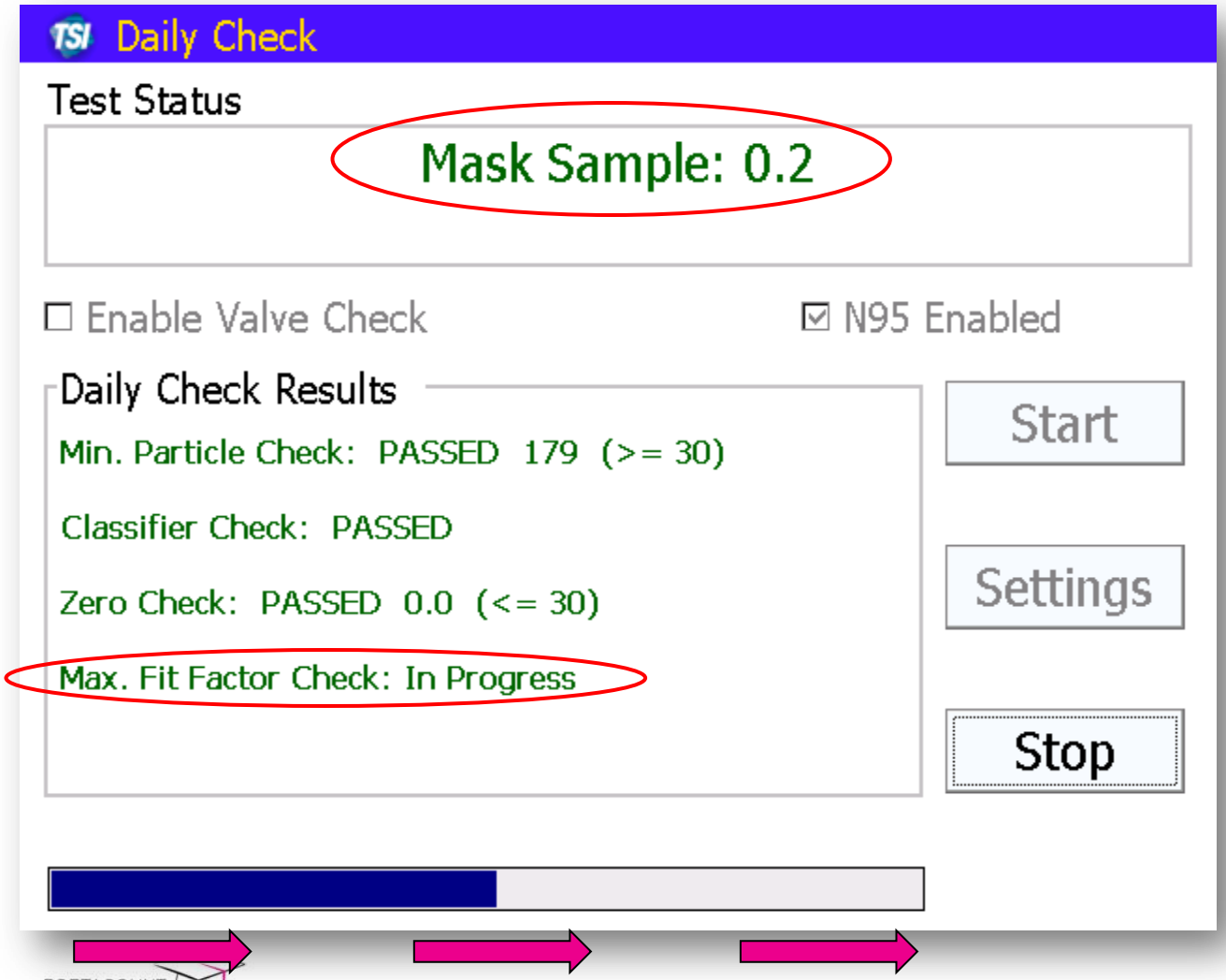
3. Maximum Fit Factor



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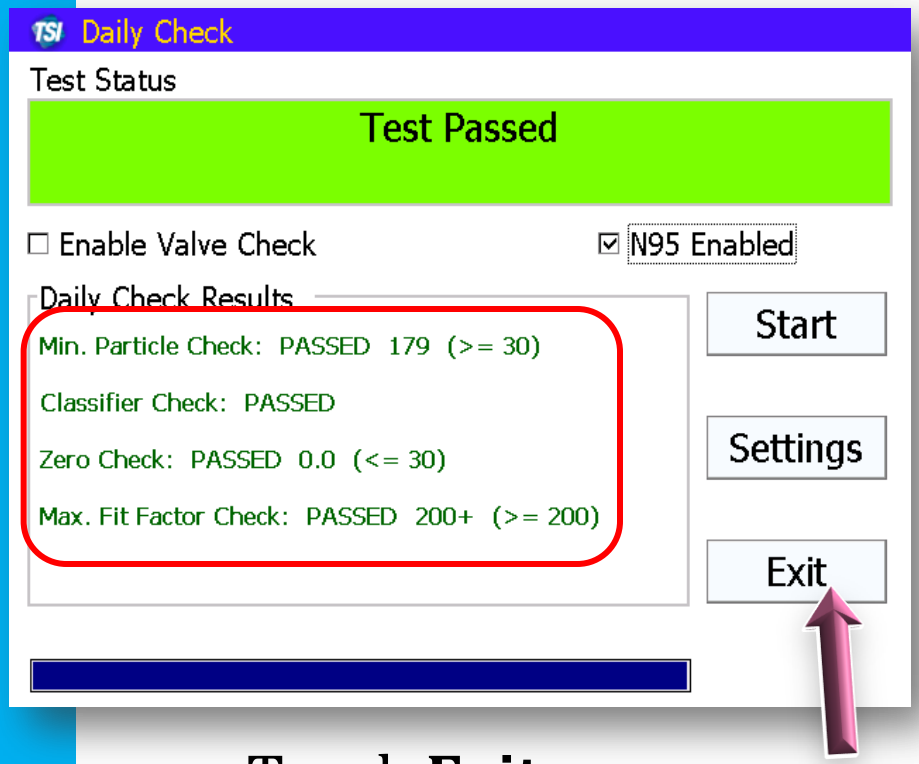
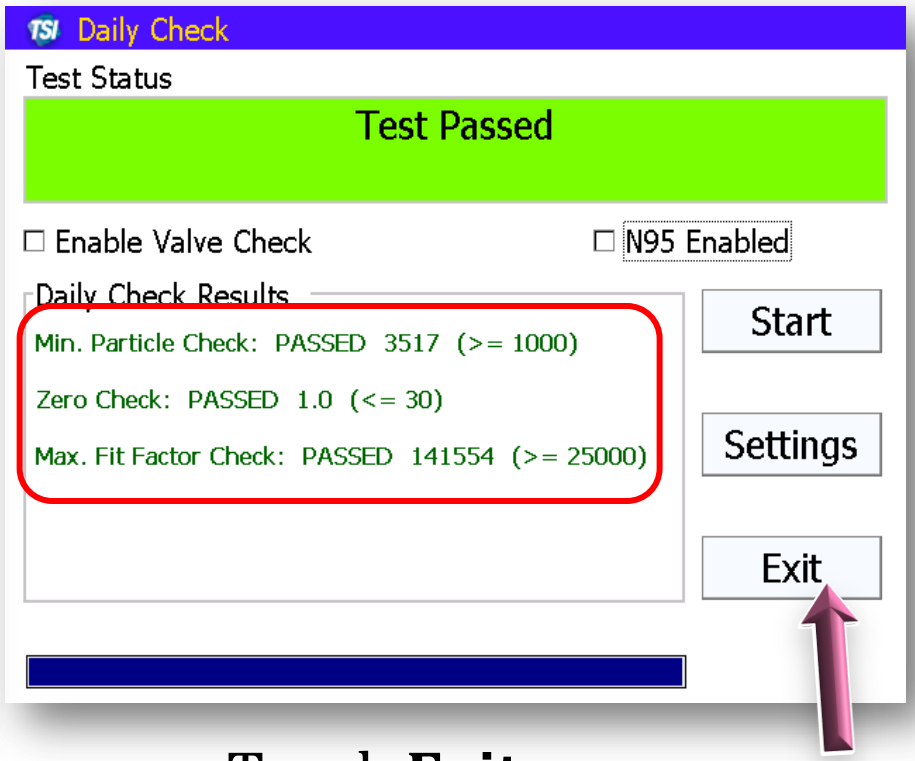
Daily Check Results

Complete with N95 enabled



+ Touch **Exit**

Complete without N95 enabled



+ Touch **Exit**

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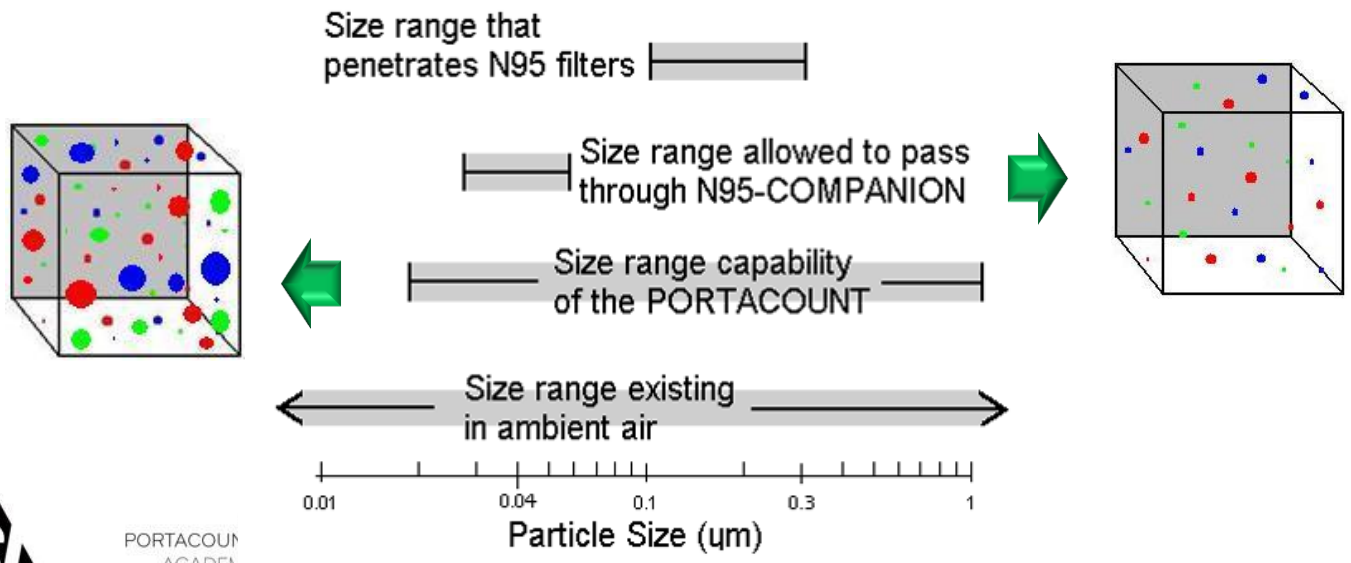
Did you know?

Ambient Particle Concentrations

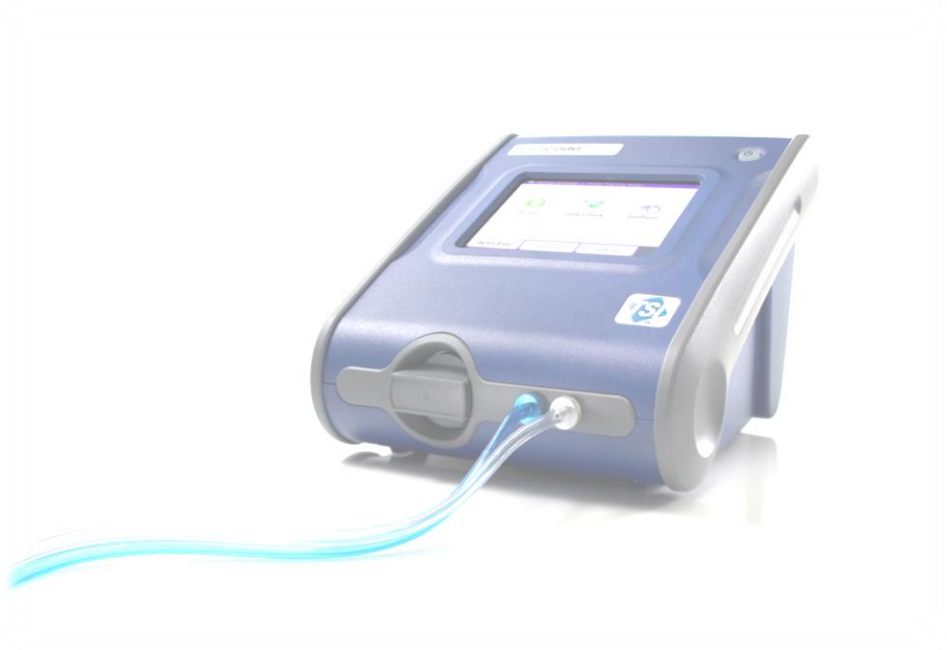
An 8038 with N95 Enabled counts far less particles

because it counts only a small fraction of the particle size range



Troubleshooting the Daily Checks

…made easy



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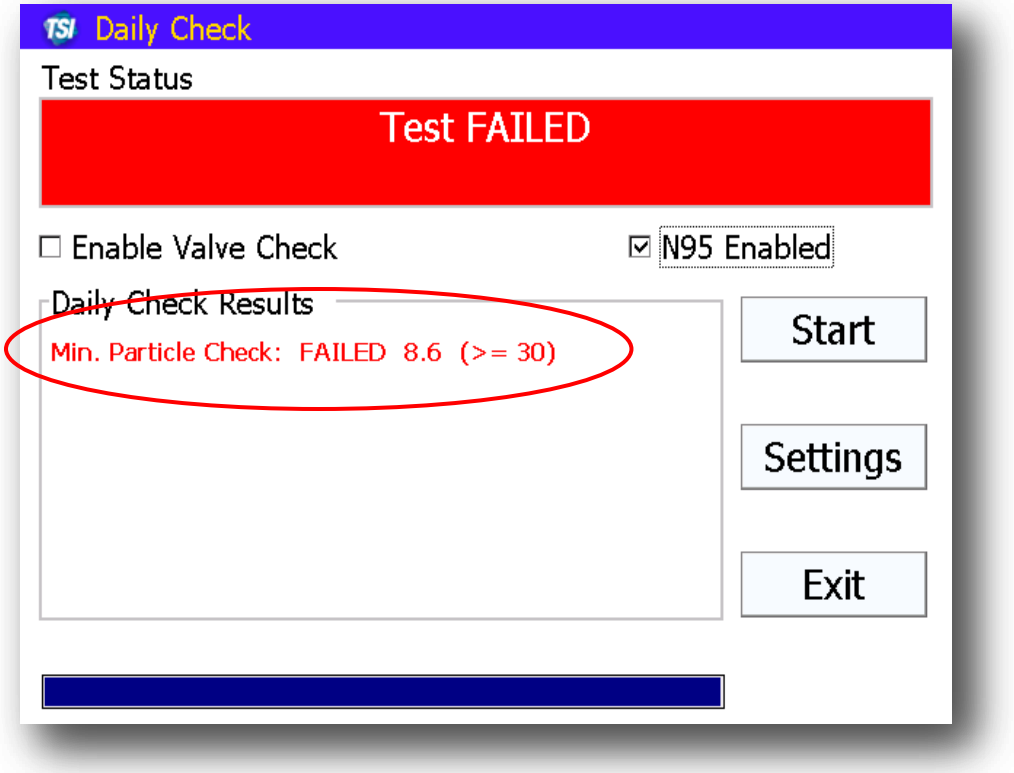
Troubleshooting

What if…

the **Minimum Particle Check** fails?



PORTACOUNT ACADEMY

\+ Select **Cancel**

Did you know?

Ideal Ambient Particle Concentration

~100 to 400 pt/cc

with N95

~2,000 to 8,000 pt/cc

without N95

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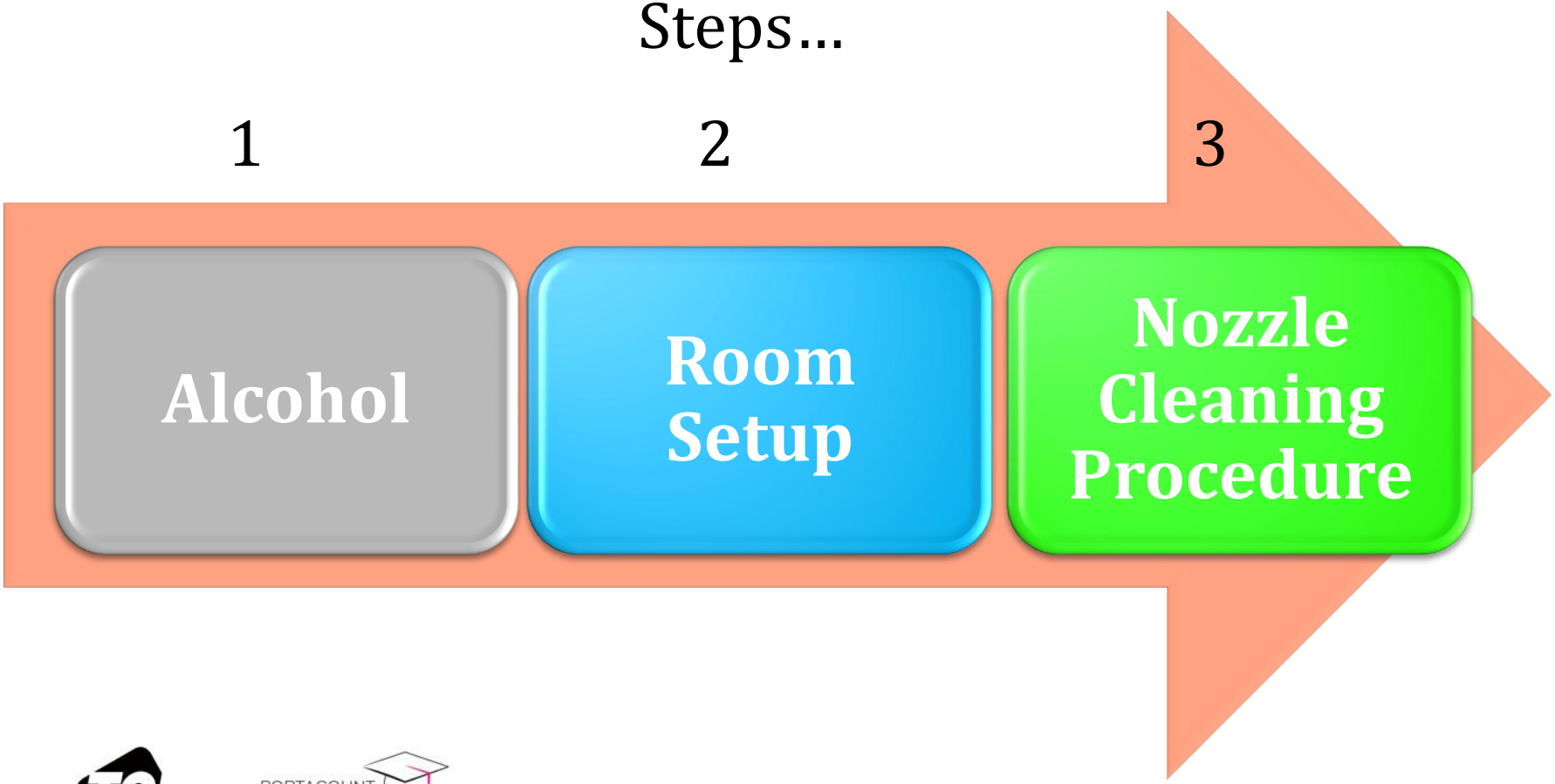
Troubleshooting the Minimum Particle Check…



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1. Check Alcohol & Cartridge

Alcohol

- Installed correctly?
- Using Reagent Grade 99.5% or greater Isopropyl Alcohol?
- Alcohol is up to the fill-line in the Fill Capsule (with no Alcohol Cartridge installed)
- Try a different alcohol wick

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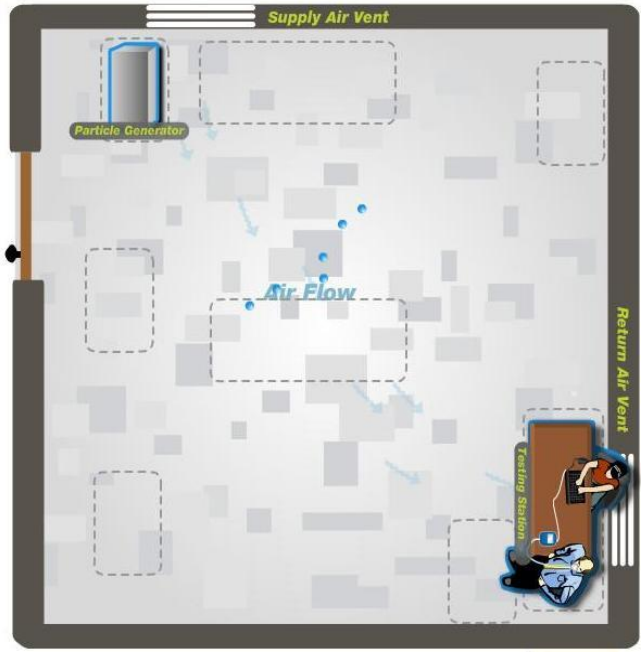
2. Look for Environmental Factors

Room Setup

- Is the room smaller than 20’ x20’?
- Close off ventilation & doors
- Look for ways to generate particles
- Review Room Setup
  (Module 5 of the Interactive Tutorial)



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3. Perform Nozzle Cleaning

Nozzle Cleaning Procedure

- Reference the Maintenance section of the PortaCount Pro/Pro+ Operations Manual

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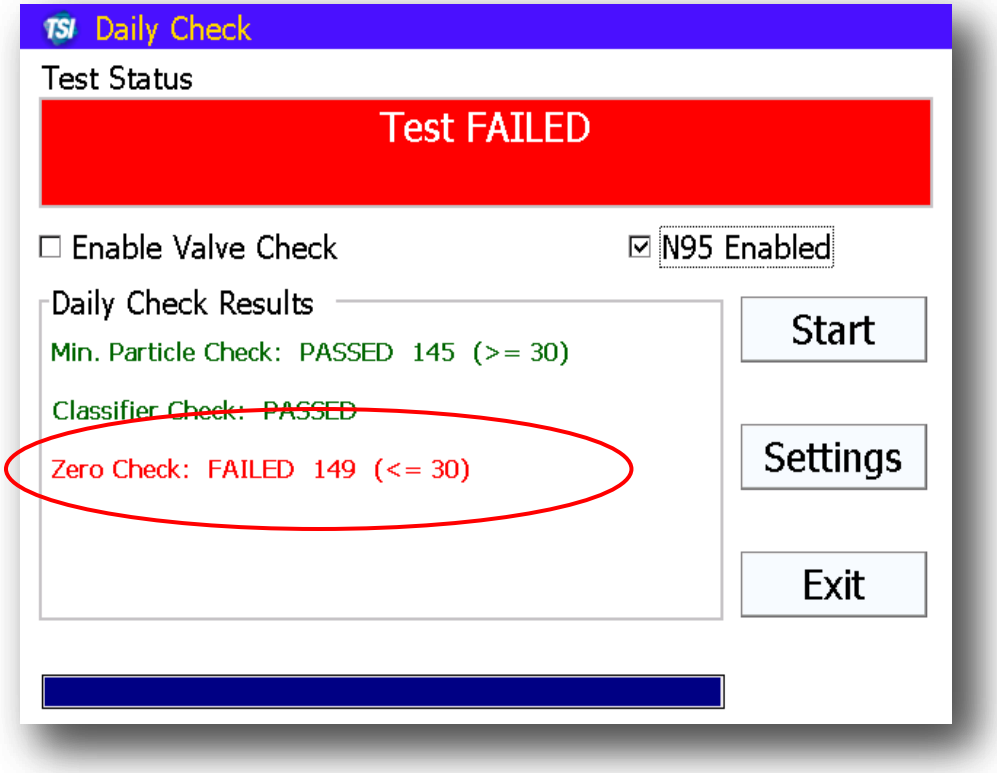
Troubleshooting

What if…

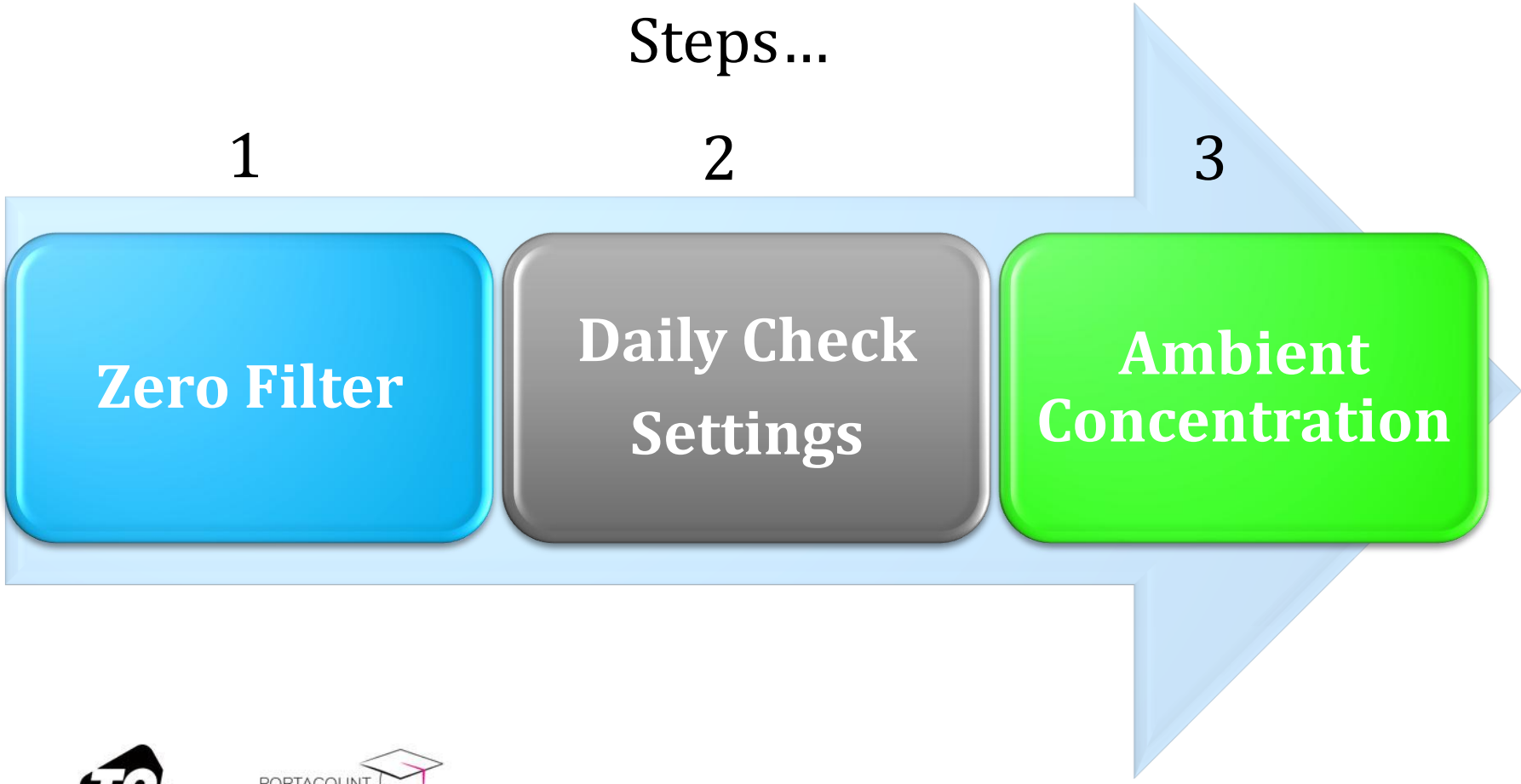
the **Zero Check** fails?



PORTACOUNT ACADEMY

\+ Select **Cancel**

Troubleshooting the Zero Check…



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1. Check the Zero Filter

- Try a different Zero Filter
- Connect two Zero Filters in series
  (use a small piece of tubing)
- Use Realtime Fit Factor Display using thumb instead of Zero Filter

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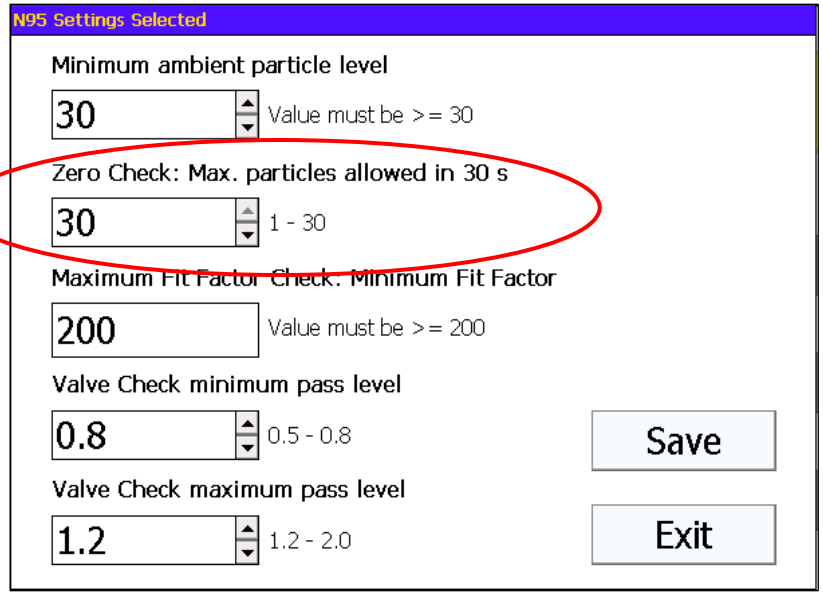
2. Check Daily Check Settings…

Daily Check Settings

Adjust the "**Zero Check: Maximum Particles Allowed**" setting to a greater value *(maximum is 30)*



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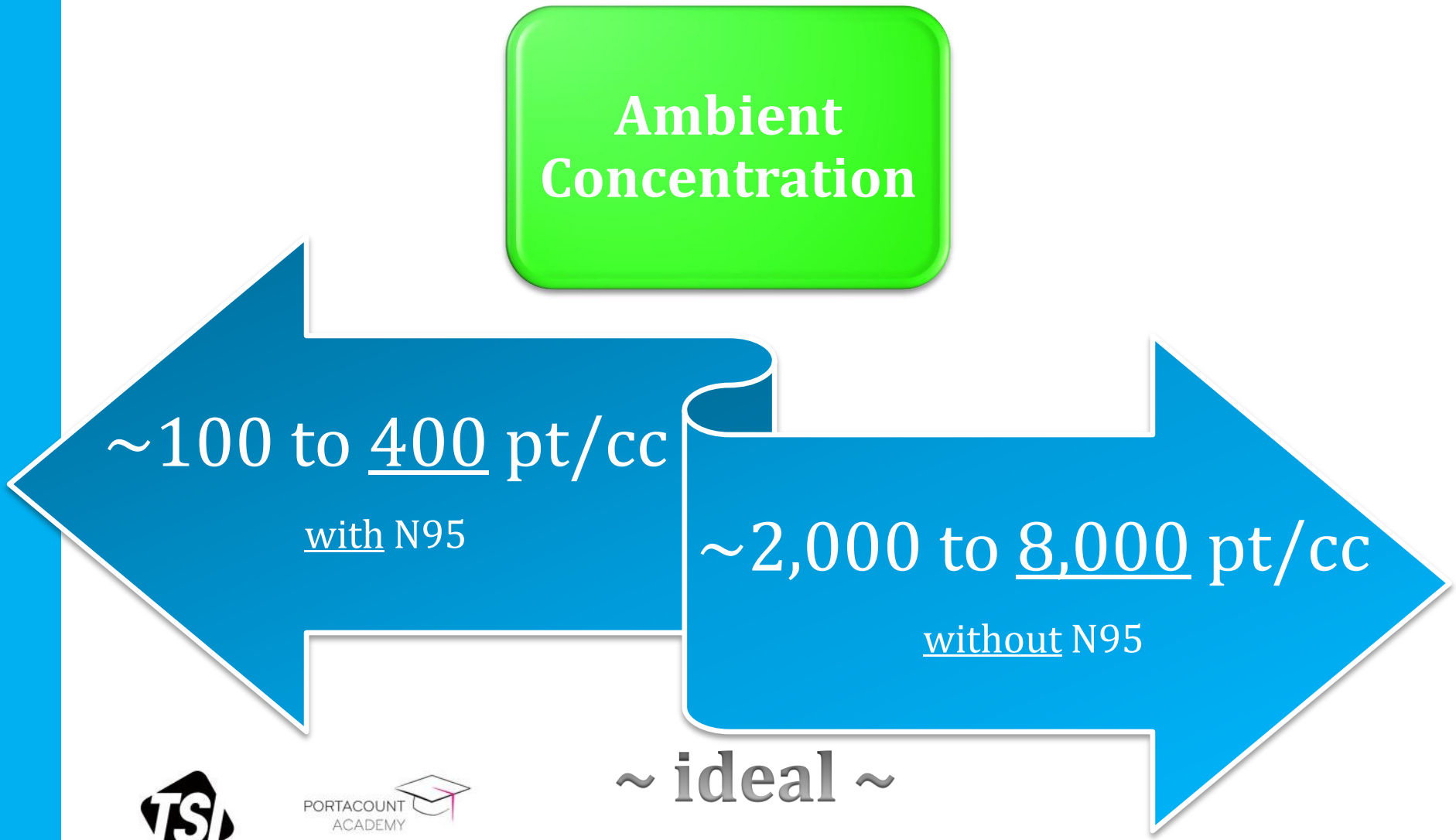
3. Check Ambient Concentration



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Troubleshooting

What if…

the **Classifier Check** fails?

What if…

the **Maximum Fit Factor** fails?

- Cycle power on the PortaCount Pro/Pro+
- Verify Ambient Concentration is less than recommended maximum (refer to previous slide)
- Contact Technical Support
  (+1.800.874.2811 or technical.service@tsi.com)

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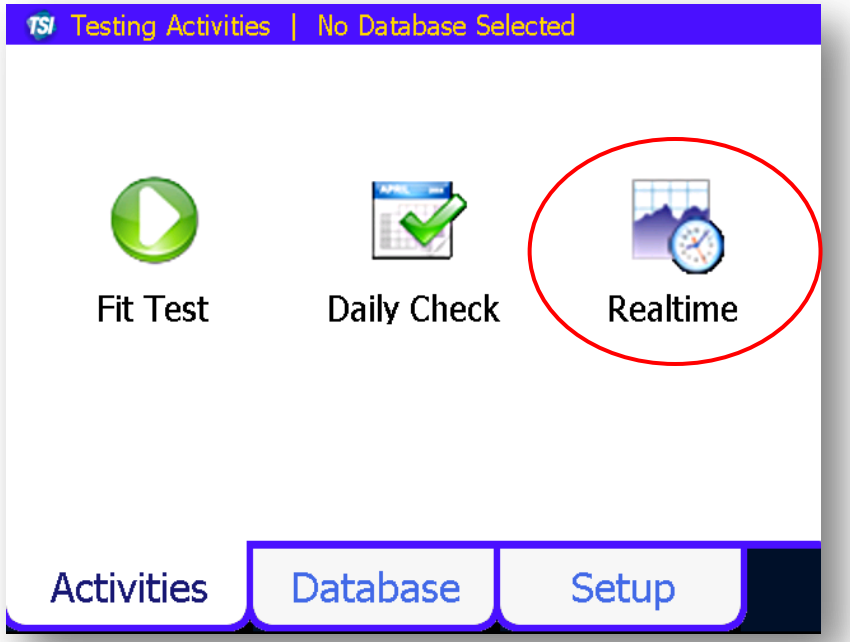
Realtime Fit Factor Display

Tool for troubleshooting the Daily Checks and Fit Tests



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Helpful Definitions

Realtime Fit Factor Display

- Graph and values showing fit factors in real-time.
- Used for troubleshooting failing fit tests and determining potential fit factors

Concentration Check

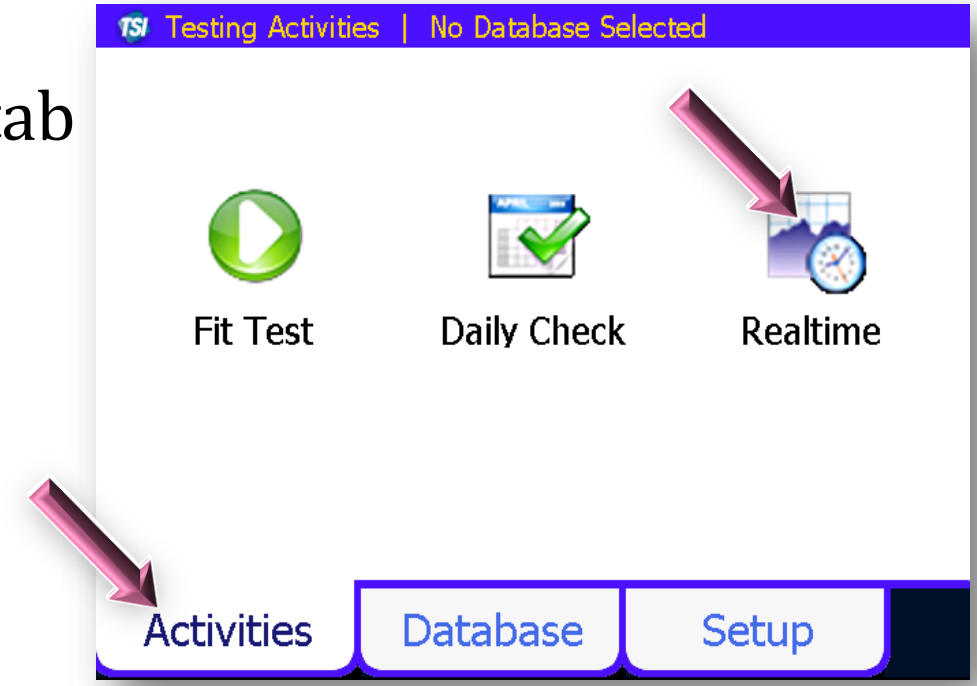
- A mode *within* the **Realtime Fit Factor Display** which continuously measures the ambient particle concentration.
- Used to troubleshoot ambient concentration issues

Realtime Fit Factor Display

+ Attach HEPA (Zero) filter to the end of the clear tubing *(mask tubing)*

+ Touch the **Activities** tab

+



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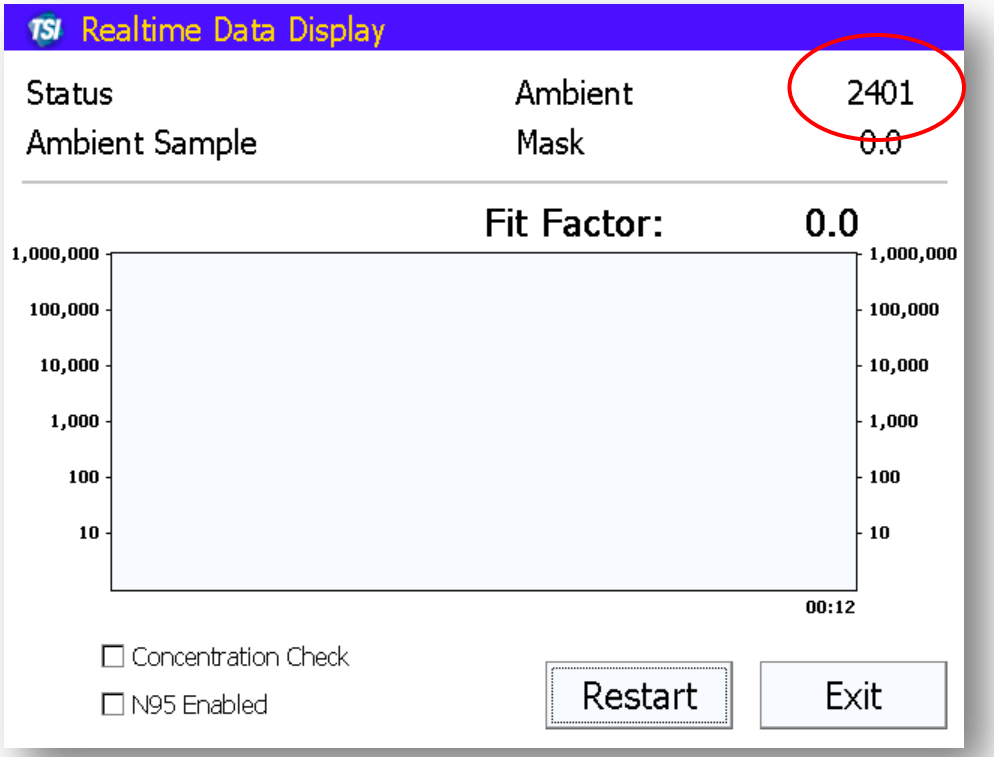
Realtime Fit Factor Display

1st – a 30 second Ambient sample is taken

After which…
the average Ambient Concentration will be displayed



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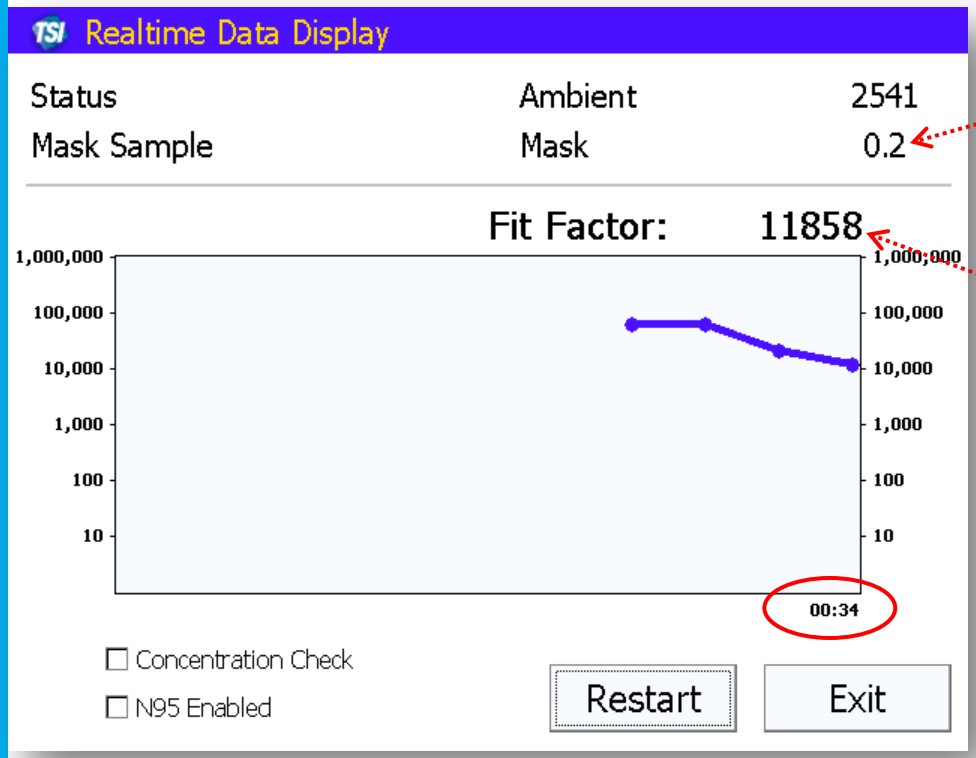
Realtime Fit Factor Display

2nd – the internal valve switches and we take a continuous sample from the mask tubing



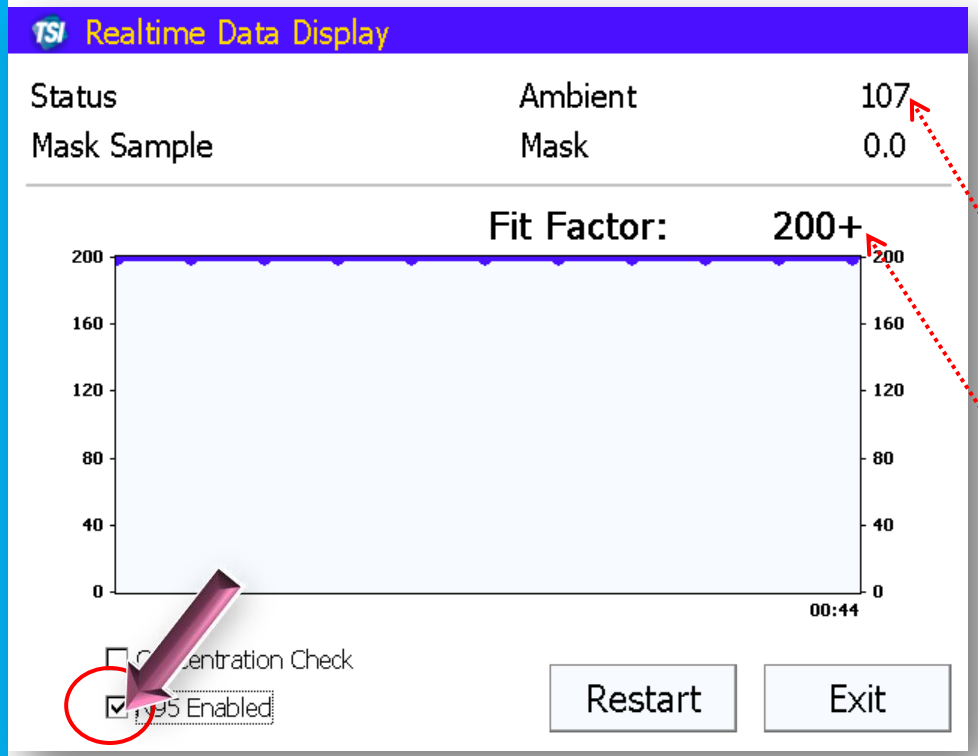
Mask concentration is displayed

Fit Factor is calculated and displayed

These values are updated once per second

Realtime Fit Factor Display

8038 models will see an **N95 Enabled** option



- Select **N95 Enabled**; *if applicable*

Note difference in ambient concentrations

Note difference in displayed Fit Factors

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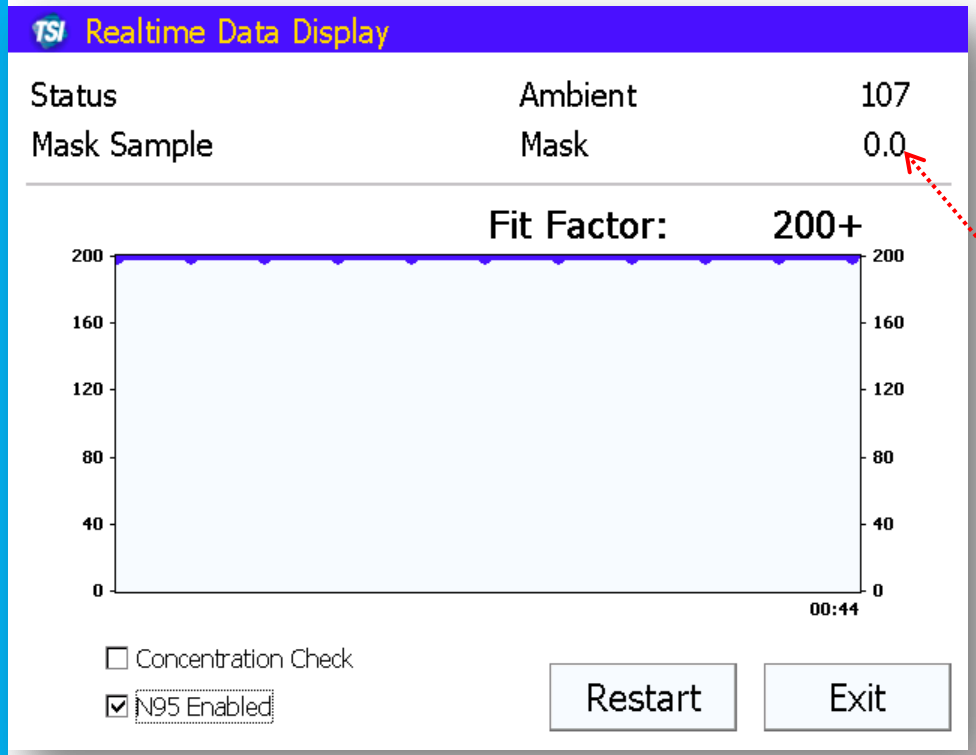
Troubleshooting

Failing your **Zero Check**?

use this screen to verify the HEPA Filter's efficiency



Leaks in the HEPA filter will be displayed as leaks in the Mask

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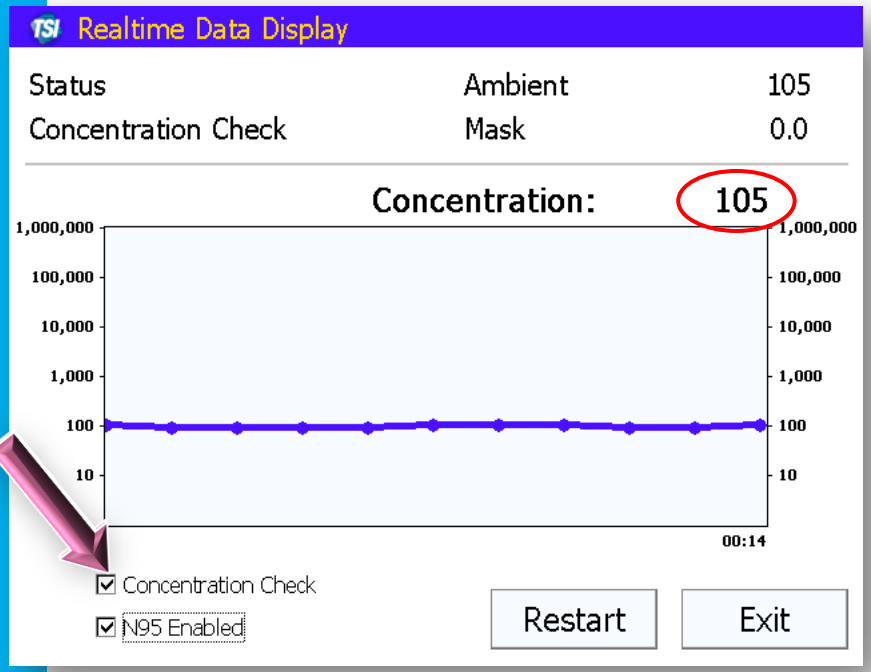
Concentration Check

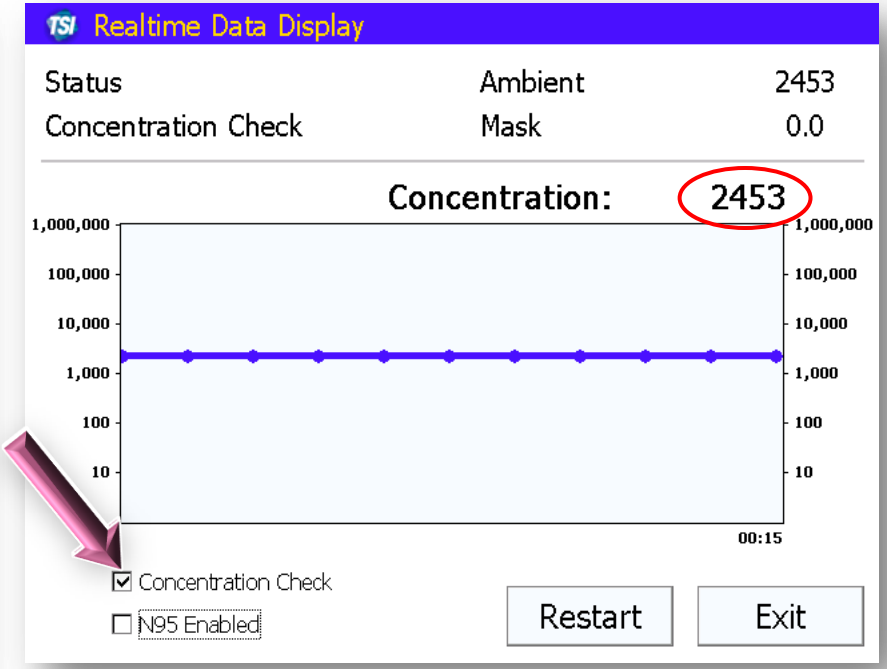
Failing your **Ambient Particle Check**?

+ Select **Concentration Check**

<u>with</u> N95 enabled



<u>without</u> N95 enabled



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Troubleshooting

Investigating Ambient Particle Concentration issues…
using the **Concentration Check**

1. Verify levels of ambient particle concentration
2. Investigate different particle concentrations in different environments
3. Assist in Room Setup
   (referred to in Module 5 of the Interactive Tutorial)
4. Determine best fit testing locations or times

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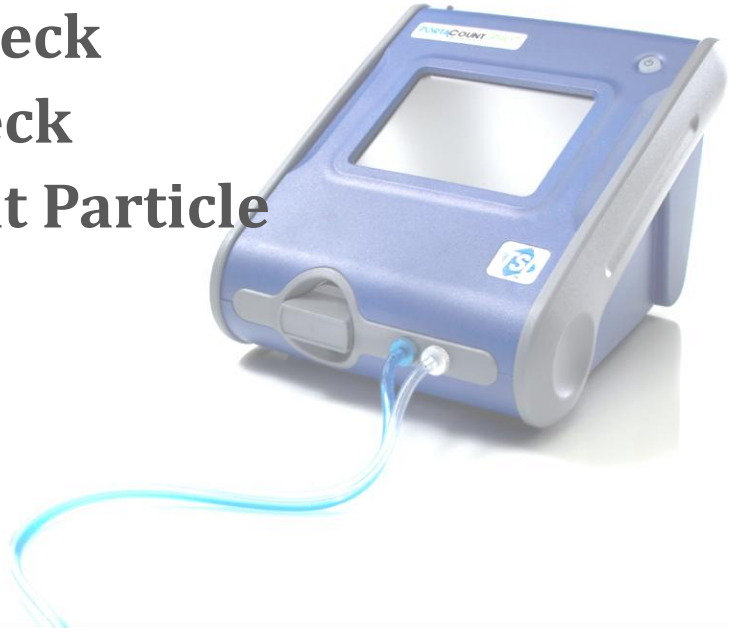
Summary

+ **Daily Checks**
  - Understanding the process and reasons
  - Resolving common issues

+ **Realtime Fit Factor Display**
  - Troubleshooting the Zero Check
  - Use of the Concentration Check
  - Troubleshooting the Ambient Particle Concentration



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PortaCount Academy

Online Training Center

- Available at the PortaCount Academy website; www.tsi.com/PCacademy

Answers

- Available at www.tsi.com/PCacademy and www.tsi.com/portacount