

Klachkova, Anastasiya (CSC/SCC)

From: Butterworth Jeremy (PRA)
Sent: February 2, 2021 11:12 AM
To: Pathberiya Semini (NHQ-AC)
Cc: Clement Chris (NHQ-AC)
Subject: RE: Cleaning Guidelines for FIT Testing
Attachments: cleaning tips.docx; TSI App Note - Hygienic Security of PortaCount - ITI-034.pdf; TSI FAQ - Portacount Use During Pandemic - RFT-032B.pdf

Hello there!

Being a non-tech person...are you aware of a way we could roll all three of these files into one?

B. Jeremy Butterworth

Correctional Manager (CX-4)

CORE COVID Team

Telephone | Téléphone 403-823-5101 x 6130

Telephone | Téléphone 705-796-0807

Government of Canada | Gouvernement du Canada

From: Clement Chris (NHQ-AC) <Chris.Clement@CSC-SCC.GC.CA>

Sent: February 2, 2021 9:10 AM

To: Butterworth Jeremy (PRA) <Jeremy.Butterworth@CSC-SCC.GC.CA>; Pathberiya Semini (NHQ-AC) <Semini.Pathberiya@CSC-SCC.GC.CA>

Subject: RE: Cleaning Guidelines for FIT Testing

Hi there,

Copying Semini who can convert the PDF's and assemble for you.

Thanks

CC

From: Butterworth Jeremy (PRA) <Jeremy.Butterworth@CSC-SCC.GC.CA>

Sent: February 2, 2021 11:09 AM

To: Clement Chris (NHQ-AC) <Chris.Clement@CSC-SCC.GC.CA>

Subject: RE: Cleaning Guidelines for FIT Testing

the TSI files are PDF – so I don't believe I can compile it all...I'll do some research as I am definitely not a 'tech' person ☺

B. Jeremy Butterworth

Correctional Manager (CX-4)

CORE COVID Team

Telephone | Téléphone 403-823-5101 x 6130

Telephone | Téléphone 705-796-0807

Government of Canada | Gouvernement du Canada

From: Clement Chris (NHQ-AC) <Chris.Clement@CSC-SCC.GC.CA>

Sent: February 2, 2021 9:07 AM

To: Butterworth Jeremy (PRA) <Jeremy.Butterworth@CSC-SCC.GC.CA>

Subject: RE: Cleaning Guidelines for FIT Testing

Thanks Jeremy!

I actually switched to a heavier coat here as cold in Ottawa as well and expecting the fringe of the storm that has hit the east coast of the USA!

This looks good, can you please also send the TSI information??

Can we roll it into a single guide??

Thanks

CC

From: Butterworth Jeremy (PRA) <Jeremy.Butterworth@CSC-SCC.GC.CA>

Sent: February 2, 2021 11:00 AM

To: Clement Chris (NHQ-AC) <Chris.Clement@CSC-SCC.GC.CA>

Subject: RE: Cleaning Guidelines for FIT Testing

Hi Chris,

Doing well in cold Alberta, hopefully all is good out there!

I've attached a copy of what I intended to send out around cleaning tips for each fit testing session (it comes from both Brandon at PHAC and what I've gathered from TSI and my own experience). By no means is it exhaustive, but I believe in conjunction with the two documents from TSI, this should be enough to mitigate any concerns our staff may have.

When you review and give me the go ahead, I'll create a French version.

B. Jeremy Butterworth

Correctional Manager (CX-4)

CORE COVID Team

Telephone | Téléphone 403-823-5101 x 6130

Telephone | Téléphone 705-796-0807

Government of Canada | Gouvernement du Canada

From: Clement Chris (NHQ-AC) <Chris.Clement@CSC-SCC.GC.CA>

Sent: February 2, 2021 8:28 AM

To: Butterworth Jeremy (PRA) <Jeremy.Butterworth@CSC-SCC.GC.CA>

Cc: Carver Regan (PRA) <Regan.Carver@CSC-SCC.GC.CA>

Subject: Cleaning Guidelines for FIT Testing

Morning Jeremy,

Hope you are well.

Can you please send me a copy of the Cleaning Guidelines you have developed for FIT testing??

Also we will need to have them translated into French.

Thanks

CC

CORRECTIONAL SERVICE CANADA

CHANGING LIVES. PROTECTING CANADIANS.

SERVICE CORRECTIONNEL CANADA

TRANSFORMONS DES VIES. PROTÉGEONS LES CANADIENS.

Cleaning guidelines and tips for PortaCount Fit Testing

- Operator and employee should always wear appropriate PPE relative to the outbreak level of their site and the risk management framework. It is recommended both the operator and employee both use disposable gloves and observe social distancing measures where possible for the duration of the testing procedure
- Operator should take care to allow the employee to handle their own N95 mask where possible
- Operator should use clean and disinfect the surfaces of the Porta Count machine in between each employee test
- In between each employee test, the Operator should removed the 'twin plastic tube assembly', place a few drops of isopropyl alcohol in each tube and then either use a short burst of compressed air to dry it or allow the alcohol to dry on its own. The 'alcohol wick', HEPA filter and negative pressure ensure the internal components of the Porta Count machine remain sanitary



TSI[®] INCORPORATED OFFICIAL RESPONSE TO QUESTIONS RELATED TO USE OF THE PORTACOUNT[®] RESPIRATOR FIT TESTER DURING A PATHOGENIC OUTBREAK

APPLICATION NOTE RFT-032 (US)

Contents

Introduction	1
Frequently Asked Questions.....	2
1. How do you clean and sanitize the PortaCount [®] Respirator Fit Tester?.....	2
2. Can exhaled air from a person being fit tested expose the next person being tested? Could COVID-19 stay in the twin tube and get pulled back into the respirator when the next person is fit tested?	2
3. Does the PortaCount [®] Respirator Fit Tester filter the air sample exhausted from the instrument?	3
4. Can the PortaCount [®] Respirator Fit Tester be used to test efficiency of N95 Respirators?	3

Introduction

The PortaCount[®] Respirator Fit Tester is being used extensively to fit test Healthcare Professionals and First Responders as part of respiratory protection programs. Numerous customers have asked TSI Incorporated about the best practices for operation of the PortaCount[®] Respirator Fit Tester during the pandemic. Frequently asked questions are reviewed below.

TSI does not have expertise on pathogens such as viruses or the transmission of them. Therefore, we cannot assess and provide much in the way of recommendations on the risk(s) of your unique situation. Please follow the CDC guidelines and your facilities policies for using the equipment.

TSI, the TSI logo, and PortaCount are registered trademarks of TSI Incorporated.



Frequently Asked Questions

1. How do you clean and sanitize the PortaCount® Respirator Fit Tester?

TSI advises customers to follow their company's policies on cleaning/sanitizing the PortaCount® Respirator Fit Tester and associated twin-tubing from your written Respiratory Protection Program. Or, alternatively TSI recommends following your company's upgraded standard operating procedure for sanitizing equipment in your COVID-19 response plan. The surface of the PortaCount® Respirator Fit Tester and the twin tube assembly can be disinfected using a disinfectant from the list of products that meet EPA or CDC criteria for use against SARS-CoV-2 (see links).

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>.

<https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html>

Please note that TSI has not tested the materials in the list and cannot state if they will affect the lifespan of the PortaCount® Respirator Fit Tester.

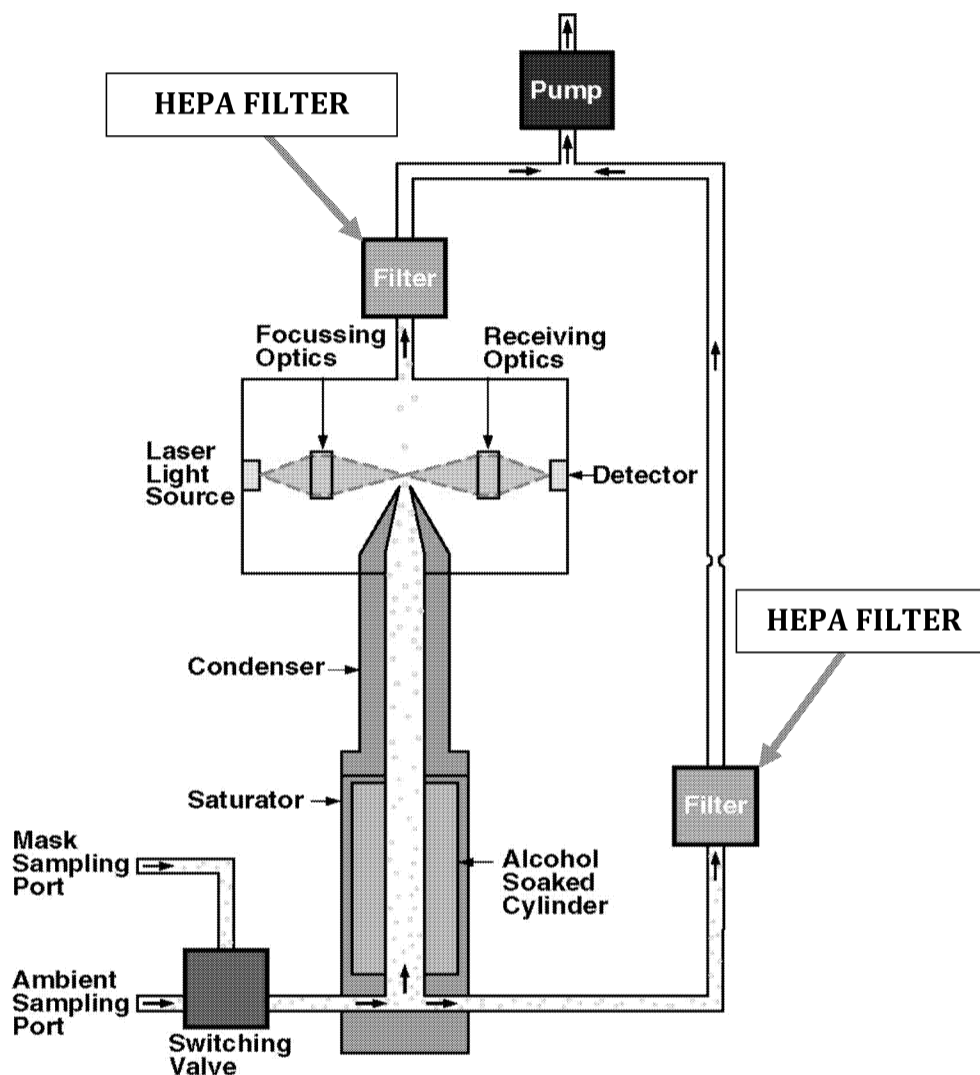
2. Can exhaled air from a person being fit tested expose the next person being tested? Could COVID-19 stay in the twin tube and get pulled back into the respirator when the next person is fit tested?

The twin tubes are under negative pressure or sealed during the operation of the PortaCount® Respirator Fit Tester. The air is either flowing into the tube to the PortaCount® Respirator Fit Tester or a valve has blocked the air flow in the tube during the fit test. Additional information can be found in TSI Application Note ITI-034 describing testing TSI performed on the air flow on the Twin Tubes during fit testing. The newer 8048 and 8038 units have a higher flow rate than the 8020 described in this application note; therefore, TSI engineers have determined that the conclusions in this application note apply to all models.

TSI does not recommend disinfecting the interior of the tubes between use; however, this can be done at the user's discretion. If you choose to disinfect the tubing, please disconnect the twin tubes from the PortaCount® Respirator Fit Tester before disinfecting the interior of the tubes. The interior of the twin tubes may be disinfected between use using a disinfectant from the list referenced above. Further, if you disinfect the interior of the twin tubes, TSI recommends that the tubes be rinsed with distilled water after disinfecting to prevent damage to the PortaCount® Respirator Fit Tester. TSI's testing has shown no need to clean or disinfect the inside of the twin tubes, as such the details of the cleaning procedure are determined by the user based on their requirements. Alternatively, additional spare Twin Tube Assemblies can be purchased for use (800197 - Twin-tube for PortaCount Respirator Fit Tester, blue/clear, 5-foot, pkg. of 1). Please consult your company procedures for the proper disposal of any used tubing.

3. Does the PortaCount® Respirator Fit Tester filter the air sample exhausted from the instrument?

The PortaCount® Respirator Fit Tester has two internal HEPA filters that filter the air sample inside the instrument before being exhausted to the ambient air (See figure below). HEPA filters are 99.97% efficient for the most penetrating particle size of 0.3 microns. Based on current understanding, Coronavirus particles, the smallest of which are believed to be 0.06 microns, are anticipated to be filtered out by NIOSH Series-95/99/100 rated filter medias at >99.97% efficiency.



4. Can the PortaCount® Respirator Fit Tester be used to test efficiency of N95 Respirators?

The PortaCount® Respirator Fit Tester is designed to test the fit of respirators to a respirator wearers face. The PortaCount® Respirator Fit Tester cannot be used to verify the filter efficiency of respirator being tested. Respirator filter efficiency is based on filter penetration measurements and pressure drop across the filter media with a filter tester as described in 42 CFR Part 84.



UNDERSTANDING, ACCELERATED

TSI Incorporated – Visit our website www.tsi.com for more information.

USA Tel: +1 800 680 1220
UK Tel: +44 149 4 459200
France Tel: +33 1 41 19 21 99
Germany Tel: +49 241 523030

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

RFT-032 Rev. B (5/20/2020) US

©2020 TSI Incorporated

Printed in U.S.A.



HYGIENIC SECURITY AND THE PORTACOUNT® RESPIRATOR FIT TESTER

APPLICATION NOTE ITI-034 REV. D (US)

Can a person being fit tested with a PortaCount® Respirator Fit Tester be exposed to exhaled moisture from a previous test subject?

Introduction

On occasion, TSI receives an inquiry regarding the potential exposure of fit test subjects to moisture exhaled during earlier fit tests. Obviously, respirator masks used for fit testing must be sanitized in-between fit tests, but what about the PortaCount® Respirator Fit Test twin-tube? The first several inches of the twin-tube typically becomes fogged with moisture during a fit test. This occurs because moisture in the test subject's warm breath condenses when it contacts the cold walls of the tube. The concern is that a momentary flow reversal, perhaps caused by inhaling sharply, could expose the test subject to moisture left over from a previous test.

Discussion and Test Results

One way to alleviate concern would be to change the twin-tube assembly for each fit test. This would certainly work, but the cost may be prohibitive. Alternately, you could have an inventory of twin-tubes and a method for cleaning and drying the tubes prior to re-use. See the end of this document for information on obtaining spare twin-tubes.

Fortunately, discarding or cleaning the PortaCount twin-tube assembly after each fit test is not necessary. TSI has tested the PortaCount Respirator Fit Tester and determined that air inside the mask sample tube travels from the mask to the PortaCount Respirator Fit Tester, or is prevented from moving at all (such as when the ambient tube is in use). This test was done using a PortaCount Plus Respirator Fit Tester Model 8020, however, the results will be identical when the N95-Companion™ accessory is attached since the pump in the PortaCount Respirator Fit Tester still does all the work.

To determine how much vacuum is required to reverse the air flow through the mask sample tube, TSI connected a sensitive flow meter in-line with the PortaCount Respirator Fit Tester. A vacuum pump and HEPA filter were attached to the end of the mask sample tube to simulate a person wearing a respirator (see diagram on last page). The vacuum level was adjusted using a needle valve located between the pump and the sample line. The small HEPA filter served the purpose of providing a flow restriction similar to that of a respirator cartridge. There was no need to filter the air for this experiment.

An adult male respirator wearer can generate a peak in-mask vacuum level of approximately 2.0 inches of water while breathing deeply. TSI wanted to know if 2.0 inches of water could cause flow to stop or reverse. For test purposes, TSI challenged the PortaCount Respirator Fit Tester at higher and higher vacuum levels until the flow was forced to stop. The table below shows the results.

TSI, TSI logo, and PortaCount are registered trademarks of TSI Incorporated.
N95-Companion is a trademark of TSI Incorporated.

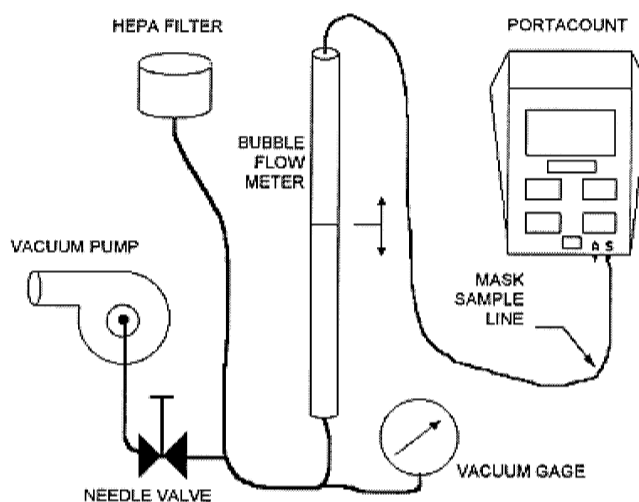


Test No.	In-Mask Vacuum (inches H ₂ O)	Flow Rate (liters/min)	Flow Direction Inside Mask Sample Tube
1	0	0.74	into PortaCount fit tester
2	2*	0.71	into PortaCount fit tester
3	7	0.70	into PortaCount fit tester
4	14	0.63	into PortaCount fit tester
5	21	0.55	into PortaCount fit tester
6	28	0.48	into PortaCount fit tester
7	55	0	No Flow

* Peak in-mask vacuum for adult male = 2.0 inches of water

As can be seen from the data above, an in-mask vacuum level that is over 27 times higher (55 in. H₂O) than can be created by a respirator wearer (2.0 in. H₂O) is needed to stop the air flow through the PortaCount® Respirator Fit Tester sample line.

The PortaCount® Respirator Fit Tester uses a solenoid valve to switch between the ambient and the mask sample line of the twin-tube assembly. During an ambient measurement, the valve holds the mask sample line tightly closed. Using the same apparatus as above, TSI was unable to draw air out of the mask sample line while the valve held that line closed, regardless of the vacuum level applied. This was true even during the moment when the valve was in the process of switching.



Conclusion

Air drawn into the PortaCount® Respirator Fit Tester twin-tube travels from the test respirator towards the PortaCount Respirator Fit Tester or is stopped.

If you need replacement twin-tubes, the following item is available:

Part No.	Description
800197	Twin-tube for PortaCount fit tester, blue/clear, 5-foot, pkg. of 1



TSI Incorporated – Visit our website www.tsi.com for more information.

USA	Tel: +1 800 680 1220	India	Tel: +91 80 67877200
UK	Tel: +44 149 4 459200	China	Tel: +86 10 8219 7688
France	Tel: +33 1 41 19 21 99	Singapore	Tel: +65 6595 6388
Germany	Tel: +49 241 523030		