

3M™ Versaflo™ PAPR TR-600 Systems - Healthcare



Versaflo Healthcare PAPR Training



Opening Points

- This presentation is based on United States federal requirements as of August 2016. US state or other country requirements may be different. Always consult User Instructions and follow local laws and regulations.
- This presentation contains an overview of general information and should not be relied upon to make specific decisions. Completing this program does not certify proficiency in safety and health.
- Information is current as of August 2016, and requirements can change in the future.
- This presentation should not be relied upon in isolation, as the content is often accompanied by additional and/or clarifying information or discussion.
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3M™ Versaflo™ PAPR System TR-600

Common Healthcare Assemblies

PAPR
Overview

Product &
Component
Overviews

Donning /
Doffing

Cleaning &
Maintenance

Technical
Specs



S-133



S-403



BT-30



TR-600

Regulatory Requirements

- ▶ Read all *User Instructions* and warnings before using.
- ▶ Occupational use of respirators must be in compliance with applicable health and safety standards.
- ▶ By United States regulation, employers must establish a written respirator protection program meeting the requirements of the Occupational Safety and Health Administration (OSHA) Respiratory Protection standard 29 CFR 1910.134 and any applicable OSHA substance specific standards. Additional information on this standard can be found at: www.OSHA.gov.
- ▶ Recordkeeping is employer's responsibility.
- ▶ In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction as appropriate.

Anatomy and Physiology of a PAPR system



Assigned Protection Factors (APF)

Half Face (APF 10)



Headcover (APF 25)



Hood (APF 1000)



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Why Select a PAPR?

- ▶ No fit testing
- ▶ Continuous supply of filtered air
- ▶ Higher levels of protection
- ▶ Integrated face protection

Still Need:

- ▶ Medical clearance
- ▶ Training
- ▶ OSHA Compliant Respiratory Protection Program

Common Setup

Airborne Splash/Contact



S-133
Headcover



S-403
Hood



BT-30
Breathing
Tube



TR-600 PAPR



Overview:

S-133 Headcovers/S-433 & S-403 Hoods



S-133



S-433



S-403

Headcovers and Hoods with Integrated Comfort Suspension

- ▶ Fully assembled and ready to go!
 - ▶ Two sizes-expanded size range
 - ▶ No replacement parts
-
- ▶ Design minimizes air whistling past user's ears
 - ▶ Exhalation panel
 - ▶ Adjustable plastic suspension

S-133



- APF:25

S-433



- APF:1000
- Increased skin coverage

Integrated Suspension

Adjustable crown strap



When worn, front band should be across forehead.

Crown strap should be across the top of the head.

There are NO straps that go around the circumference of the head.



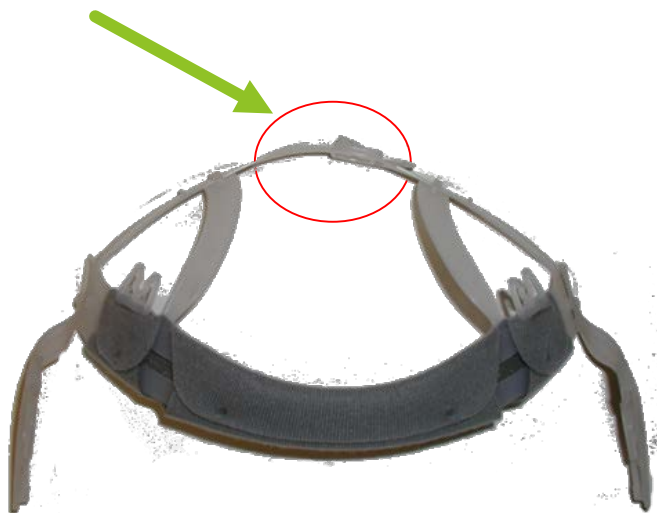
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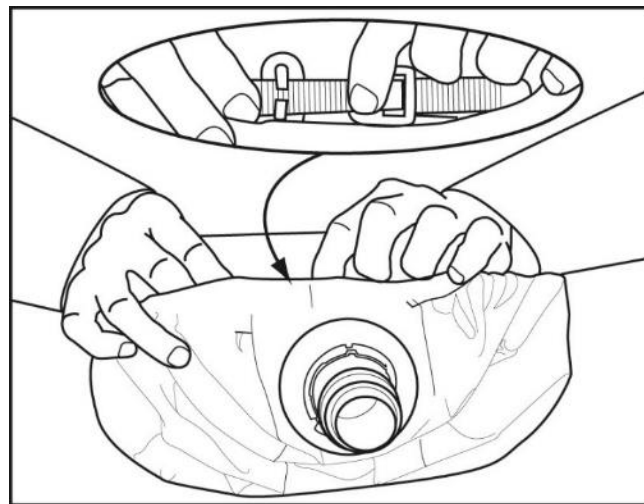
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Integrated Suspension

- Suspension has a user adjustable crown strap.



- Adjust strap such that the suspension is tight but comfortable.



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Headcovers and Hoods with Integrated Fabric Suspension

All Models

- ▶ Fully assembled and ready to go!
- ▶ Two sizes-expanded size range
- ▶ No replacement parts

Fabric Suspension Models

- ▶ Sewn-in elastic suspension



3M™ Versaflo™ Length Adjusting Breathing Tube BT-30

Self-adjusts between
approximately 24" to 42"

Material - Polyurethane

Improved fit for many users

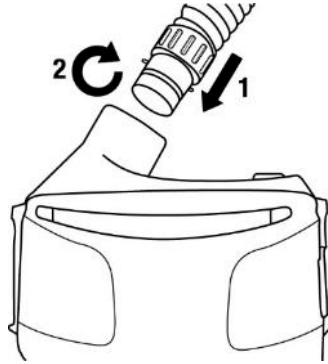
Quick Release Swivel

- Less likely to get tangled and twisted
- Fast and easy connection



Connecting Breathing Tube

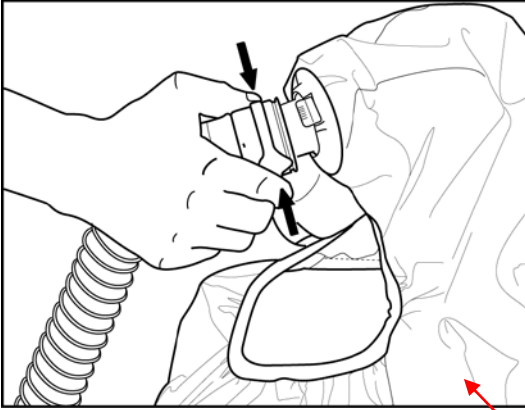
**Attach Breathing
Tube to Blower**



**Attach Breathing
Tube to Headgear**



Removing Breathing Tube: All Headgear



To remove breathing tube, compress ends of the blue tabs to release and pull back.



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3M™ Versaflo™ TR-600 Series

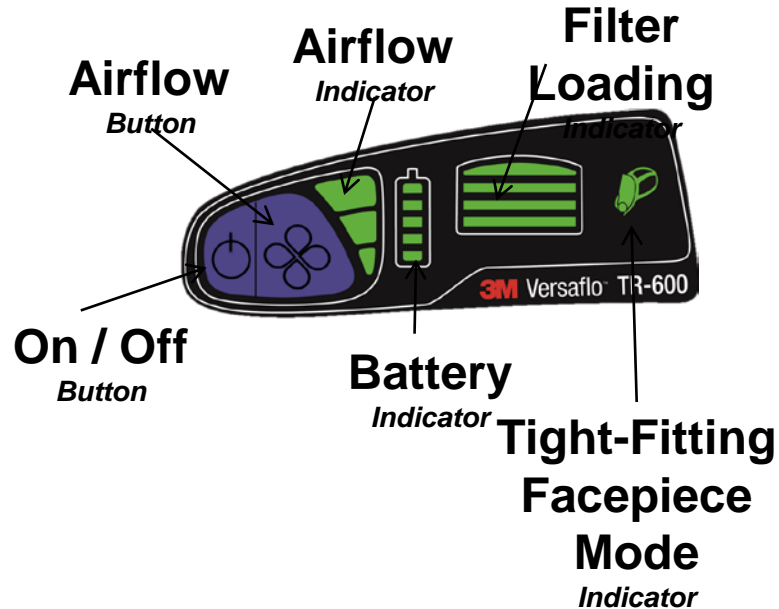


User Interface



TR-600

Advanced User Interface



Installing Battery into Motor Unit



'Click'

Checking Battery Status



100%
-80%



80%
-60%



60%
-40%



40%
-20%



20%
-5%



<5%

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Battery Chargers



TR-341 Single-Station Battery Charger Kit


















TR-344 Four-Station Battery Charger Kit

NOTE: Place charger in an area free of combustible material and readily monitored.

Battery Charger Display

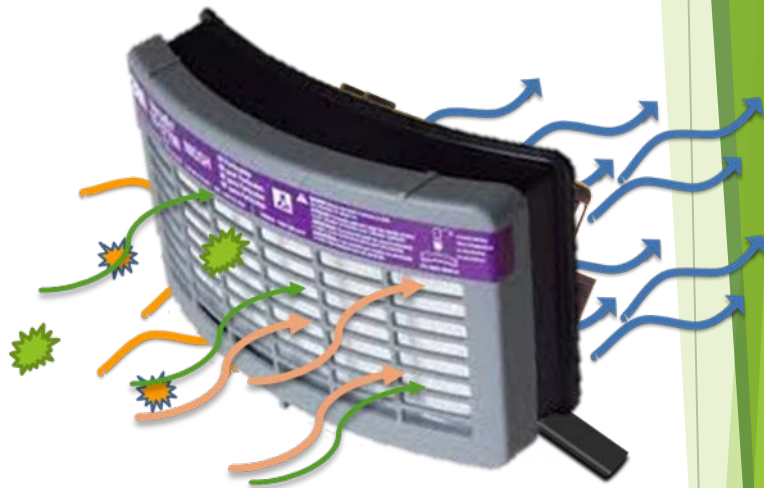


Charge Status	Orange LED	Green LED
Quick Charge 	On – Steady 	Off 
Trickle Charge  90%	On – Steady 	On – Slow Flash 
Fully Charged  100%	Off 	On – Steady 
Error 	On – Quick Flash 	On – Quick Flash 
Battery internal temperature too hot or cold. 	On – Slow Flash 	Off 

High Efficiency (HE) Filter

Filters capture particles:

- ▶ Biological Aerosols
 - ▶ Bacteria
 - ▶ Viruses
- ▶ Dust: Solid particles / Powders
- ▶ Mists: Liquid particles
 - ▶ Airborne droplets of a substance that is a liquid at room temperature and pressure
- ▶ Fumes: Solid particles
 - ▶ Material evaporates, cools in air & forms small, solid particles
- ▶ Smoke: Solid & liquid particles
 - ▶ Particles resulting from incomplete combustion



Note: Particulate Filters are not effective against gases and vapors!

Cartridge vs. Gas/Vapor Types

	Protection	HE	HF	OV	FM	AM	MA	SD	HC	CL	CD	HS
TR-6710N	HE	X										
TR-6320N	SD/HC/CL/CD/HS /HE	X						X	X	X	X	X
TR-6350N	FM/HE	X			X							
TR-6360N	AM/MA/HE	X				X	X					
TR-6510N	OV/HE	X		X								
TR-6530N	OV/SD/HC/CL//H F/HE	X	X	X				X	X	X		

HE - High efficiency particulate
 HF - Hydrogen fluoride
 OV - Organic vapor
 FM - Formaldehyde
 AM - Ammonia
 MA - Methyl amine

SD - Sulphur dioxide
 HC - Hydrogen chloride
 CL - Chlorine
 CD - Chlorine dioxide
 HS - Hydrogen sulfide



Visit [3M.com/PPESafety](https://www.3m.com/PPESafety) to
 access Respirator Selection and
 Service Life calculation software

Change Out : Particulate Filter

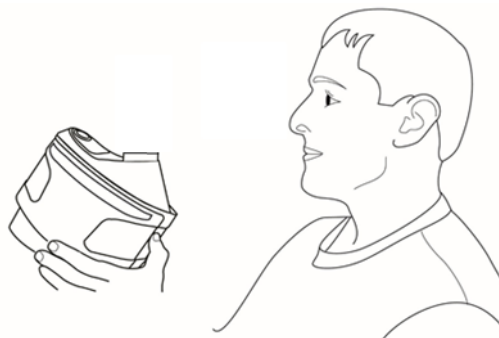
- ▶ The HE filter must be changed if:
 - ▶ The low airflow alarms,
 - ▶ The airflow falls below 6 CFM, or
 - ▶ The HE filter becomes damaged or wet.
- ▶ As indicated per your EHS, Quality, or Infection Control program



Inspection Before Use

Prior to use, visually inspect PAPR system per *User Instructions* including:

- Motor blower
- Cover
- Filter
- Battery pack
- Belt
- Breathing tube
- Headgear



Replace all missing or damaged parts with 3M™ replacement parts before proceeding.

There are no user serviceable parts inside the TR-300 PAPR. Do not open the motor/blower to attempt repairs or for any other reason.

Cleaning, In General...

Okay to Clean with:

- ▶ Mild detergent and warm water
- ▶ 3M™ Respirator Wipe 504
- ▶ 3M™ Neutral Cleaner
- ▶ 3M™ TB Quat
- ▶ 3M™ Sanitizer #16 Disinfectant
- ▶ Bleach solution (0.5%)
- ▶ 70% Isopropyl alcohol (IPA)
- ▶ 3% Hydrogen Peroxide



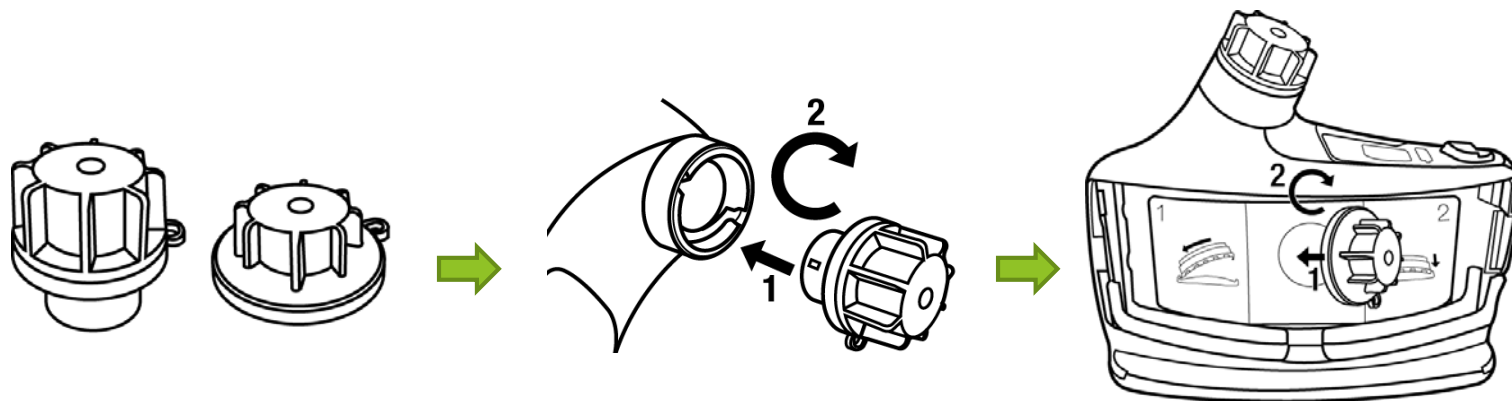
See 3M Technical Data Bulletin #222
Cleaning and Maintenance of the TR-600
for additional information

Do Not Clean with:

- ▶ Organic solvents
- ▶ Cleaners that leave residues
- ▶ Cleaners that result in physical or chemical damage to PAPR



Installing Cleaning and Storage Plugs Videos – TR-600



Storage

Do:

- Dry all components prior to storage
- Store batteries fully charged
- Ensure adequate storage space

Do Not:

- Hang PAPRs or Hoods from the breathing tube

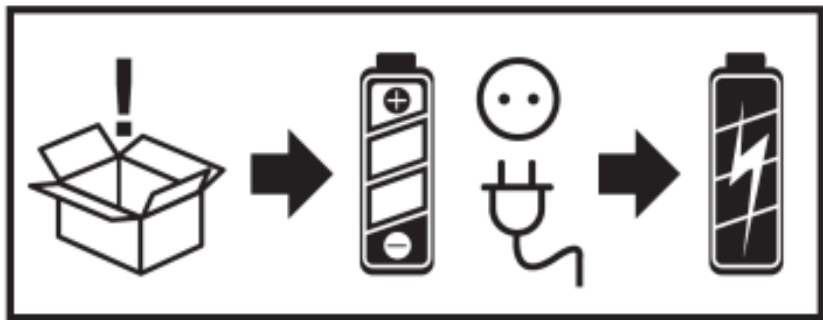


- Stuff components into too small of space

Advanced Cleaning and Maintenance Notes

- ▶ Batteries
 - ▶ Receiving new batteries & Shelf Life
 - ▶ Battery maintenance & Use Life
 - ▶ Battery Disposal
- ▶ Cleaning
 - ▶ Cleaning agents

New Battery & Shelf life



Good-to-Know:
Versaflo™ Batteries
lose ~2.5-4% per
month in storage.

Good-to-Know:
Batteries are shipped
30% charged.

- ▶ Battery should be charged immediately and fully upon receipt.
- ▶ Battery should be fully recharged at least every 9-12 months.
- ▶ Batteries reach their max capacity after the ~3rd charge. However, this is only a few %. No special conditioning is recommended.
- ▶ New batteries have a 9 month shelf life at recommended storage conditions.



See Technical Data Bulletin #233
Battery Maintenance for 3M Versaflo
for additional information

Battery 'Service Life'

New Battery

Is at 100% of max capacity when fully charged.



Fully Charged (= 100%)



Remaining capacity displayed on the battery is 'absolute', and does not recalibrate itself as the battery ages.

Example

Used Battery

~250 Cycles



Is at ~80% of max capacity when fully charged.



Fully Charged (= 80%)

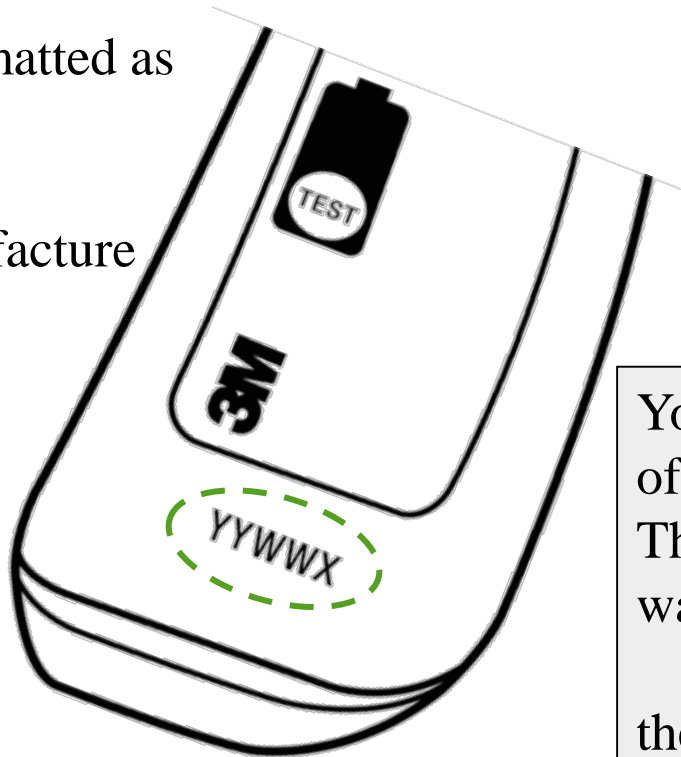
Lot Code

The LOT code is formatted as (YYWWX):

YY = year of manufacture

WW = week of year

X = ignore



Example

Your battery has a LOT code of **14231**.

This means that your battery was manufactured:

**23rd week of 2014, or
the week of June 8th, 2014.**

Disposal

► Batteries:

Batteries are Lithium-ion. They should be disposed of (preferentially recycled) according to Federal, State, and Local regulations.

3M participates in the 'Call to Recycle' battery recycling program. Help on recycling unwanted batteries can be found at: 1-800-822-8837 / www.call2recycle.org

► Motor blowers & Chargers:

The motor blower & charger contain electronic components. Dispose of according to local and government regulations.

Questions?



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Phone: 1-800-243-4630

