

# P&SA Asbestos Project Strategy

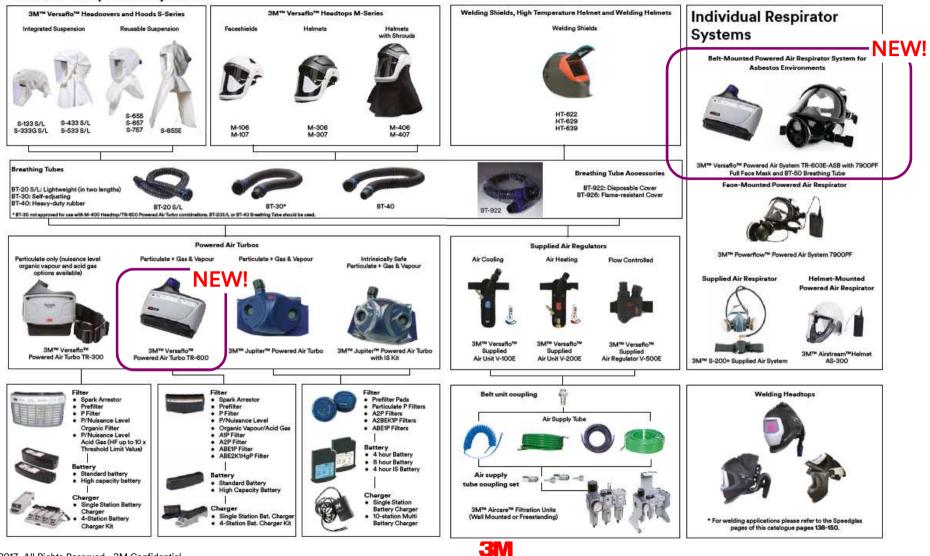
- Market approach
- Range and product overview
- Key industries and applications

# Powered and Supplied Air Product Range Pre-2015



# Powered and Supplied Air Product Range – 2015/2017

#### **Modular Respirator Systems**



# TR-603E-ASB Overview



7900PF Full Face Mask

Cleaning and storage kit



High Capacity battery



Single station battery charger



2 Filter options:

- Particulate







Storage case

Airflow Indicator

- A1P



#### **Turbo Pack Outs**

#### Powered Air Turbo TR-603E-ASB

3M<sup>™</sup> Versaflo<sup>™</sup> Powered Air Turbo TR-603E-ASB (inc. Air Flow Indicator TR-972 and Spark Arrestor TR-660 x 2



#### Starter Kit TR-615F-ASB

3M™ Versaflo™ P Starter Kit TR-615E-ASB

#### Particulate Starter Kit includes:

- TR-603E-ASB Turbo
- P filter
- Filter cover
- Spark arrestor
- Easy clean belt
- High capacity battery
- Single station battery charger kit (EU)
- BT-50 tight fitting breathing tube
- Breathing Tube retainer
- Airflow indicator
- 7900PF Full face mask
- Cleaning & storage kit
- BT Cover BT-922

#### Starter Kit TR-618E-ASB

3M™ Versaflo™ A1P Starter Kit TR-615E-ASB

#### Particulate Starter Kit includes:

- TR-603E-ASB Turbo
- A1P filter
- Filter cover
- Spark arrestor
- Easy clean belt
- High capacity battery
- Single station battery charger kit (EU)
- BT-50 tight fitting breathing tube
- Breathing Tube retainer
- Airflow indicator
- 7900PF Full face mask
- Cleaning & storage kit
- BT Cover BT-922





# Filter Options

Filters	Filter Covers
TR-6710E P	TR-6700FC
TR-6110E A1P	TR-6100FC



TR-6710E P



TR-6110E A1P



Note: Order Filter Covers separately

NB: Turbo can be used with out filters covers. Only required if using prefilter or spark arrestor or showering with the product on.

# **High Capacity Battery & Chargers**

#### One type of battery and 2 charger options:

#### **Battery**

TR-632 High Capacity Battery

# 0.

+ TR-632 High Capacity Battery

+ Featuring easy to read LED indicator

#### Chargers

**TR-641E** Single Station Battery Charger Kit

TR-644E 4-Station Battery Charger Kit



+ TR-641E Single Station Charger



+ TR-644E 4-Station Charger



# Easy clean Belt

Belt

TR-627 Easy-Clean Belt

+ Easy clean belt – submersible belt with smooth surfaces allows easy, thorough cleaning



+ TR-627 Easy-Clean Belt



Easy Clean Fastening



+ Lugs insert through belt

+ Lock secures in position

# Turbo accessories

Accessories	
TR-6600 Pre-filter	TR-653 Cleaning & storage kit
TR-662 Spark Arrestor	TR-972 Air Flow Indicator
BT-922 Disposable Breathing Tube Cover	



+ TR-6600 Pre-filter



+ TR-662 Spark Arrestor



+ TR-653 Cleaning & storage kit

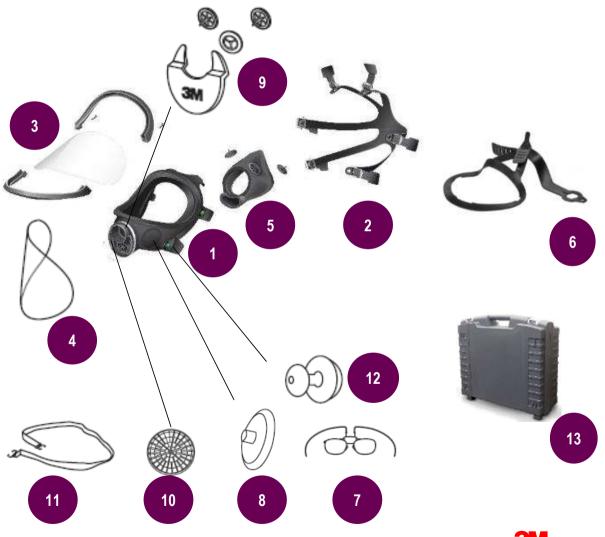


+ BT-922 Disposable Breathing Tube Cover



+ TR-972 Air Flow Indicator

# 7900PF Full Face Mask



	Spares & Accessories
1	7900PF Full Face Mask
2	7893 Six-strap Harness
3	7927 Lens
4	7992 Lens covers
5	7991 Nose cup assembly
6	RTN-01 Breathing tube retainer
7	7925 Spectacle kit
8	7283 Exhalation valve
9	VLV-06 Breathing Room assembly service kit
10	7895 Speaking Diaphragm kit
11	7883 Neck strap assembly
12	7989 Green head harness buttons
13	STC-01 Storage Case

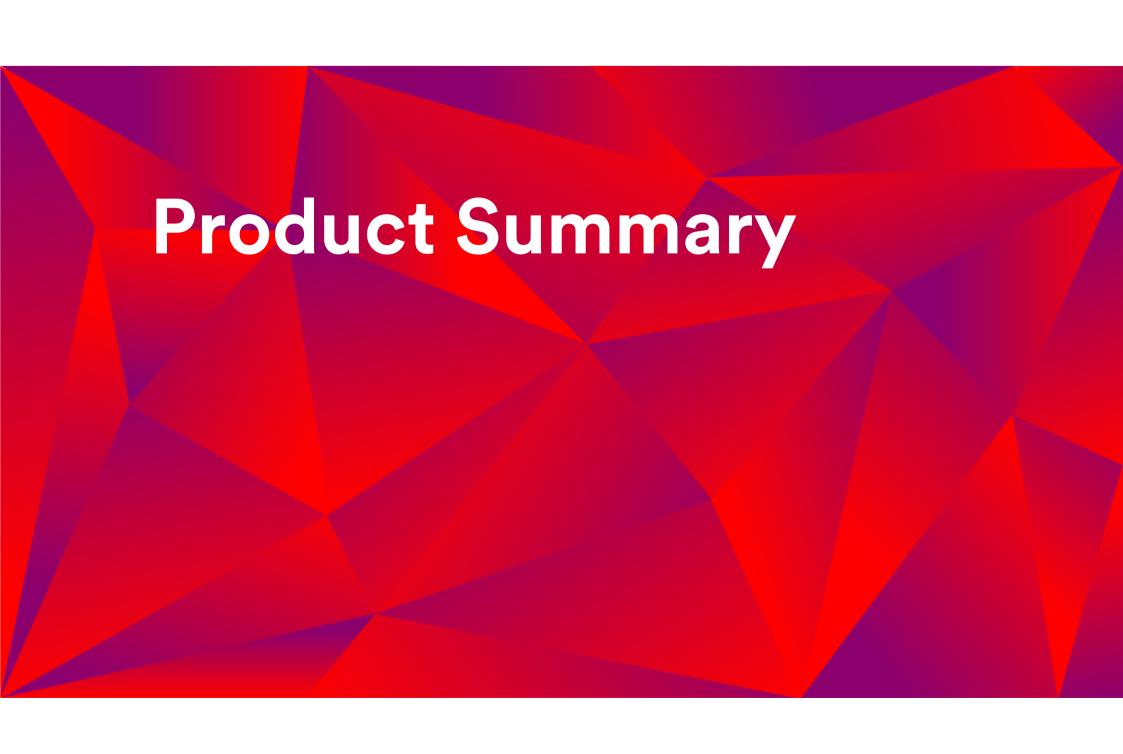
# **Industries & Applications**

#### **Typical Industries & Applications include:**

- Abatement / construction / building and civil engineering
- Maintenance activities carried out in all industries (transportation industry, hospitals, hot transformation industries (metalworking and steel industries/ glass industries): sheet-metal workers, boilermakers, welders, pipefitters, dockers etc.)







#### TR-603E-ASB Powered Air Turbo - Overview

#### Approved system:

- TR-603E-ASB Powered Air Turbo (incl. Airflow Indicator)
- P or A1P Filter (plus covers)
- High Capacity Battery
- Single or 4-station Charger
- Easy Clean Belt
- BT-50 Tight Fitting Breathing Tube
- 7900PF Full Face Mask

#### **Optional Accessories:**

- Breathing Tube Retainer
- BT cover
- Pre-filter
- Spark Arrestor
- Cleaning & Storage Kit
- Plastic Carry/Storage case





### Features & Benefits – Full Face Mask

#### **Benefits**

- Confidence in protection
- High durability
- Comfortable
- Improved worker productivity
- Improved communication
- Reliable fit





#### **Features & Benefits**

#### Easy cleaning and decontamination

- Smooth shape
- Suitable for shower decontamination (IP54) & temporary submersion (IP67)
- Easy clean belt submersible belt with smooth surfaces allows easy, thorough cleaning

#### **Comfortable Airflow**

 Delivers constant 180lpm steady airflow as battery discharges or filter loads with particulates

#### Ease of Use

- Display shows battery charge status and particulate filter loading status during use
- Charge status is also indicated by a useful LED display on the battery
- No user calibration of turbo required
- Electronic audible, visual and vibratory alarm
- Intelligent fast-charging single station battery charger

# System Protection, Traceability & Security

- Approved to EN 12942 Class TM3
- Unique serial numbers applied on the turbo, face mask and battery
- Maintenance certificate delivered with each starter kit



#### Standards and Classifications

- System approved to EN 12942 (Respiratory protective devices Power assisted filtering devices, full face masks etc)
- TM3 Classification

	NPF
Power On	2000
Power Off	1000

Note: Filters are also used with TR-602E and are therefore **also** marked EN 12941 (systems incorporating hoods and helmets). However, the TR-603E-ASB is **not** currently approved to this Standard.

- Suitable for use in French Asbestos market
- Full Face Mask approved to EN136:1998 (Class 2) for use with 3M Filters (with EN148-1 connector)
- Also limited clauses to EN166:2001. Meets optical class 2 and performance requirements for protection against high speed particles, medium energy impact

17

# **Advanced User Interface**



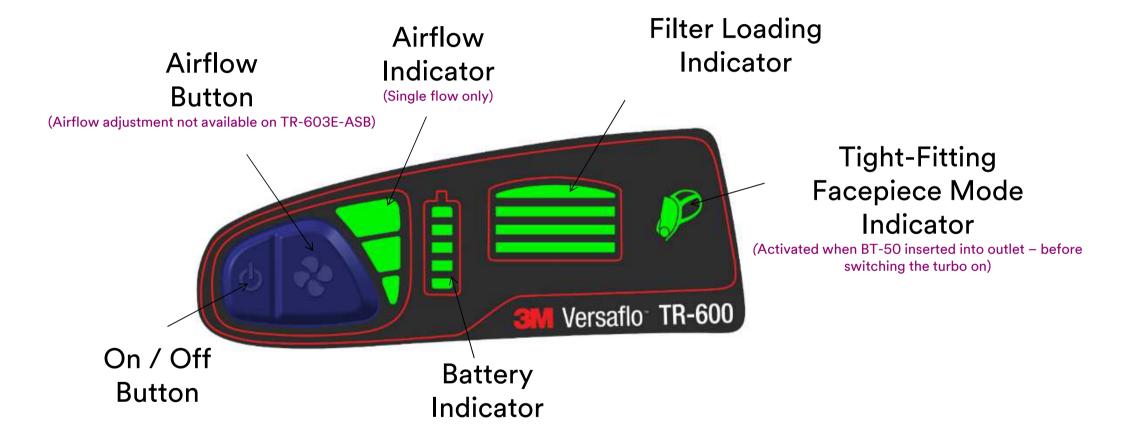
Starting-up the Powered Air Turbo (Startup sequence NIOSH\_3M

360.mp4)

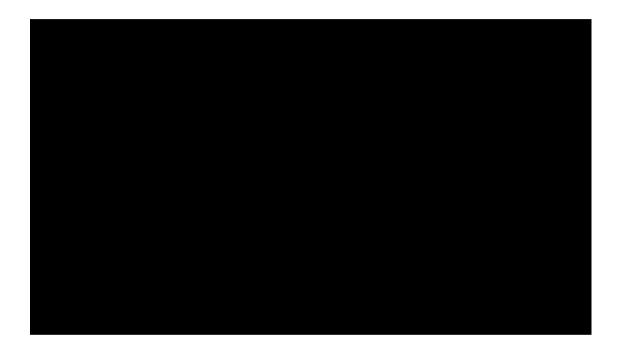


- BT-50 should be inserted into the outlet before switching Powered Air Turbo on to ensure it enters tight-fitting mode (indicator will be lit)
- All 3 airflow LEDs will be lit when Turbo is running
- All 3 airflow LEDs will flash when Turbo is in 'sleep mode'

#### **Advanced User Interface**

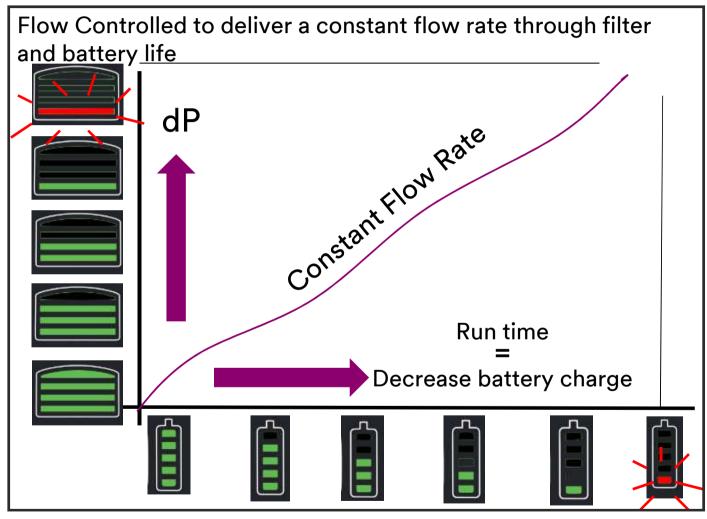


# Starting-up Powered Air Turbo (TR-600 – Start Up.mp4)

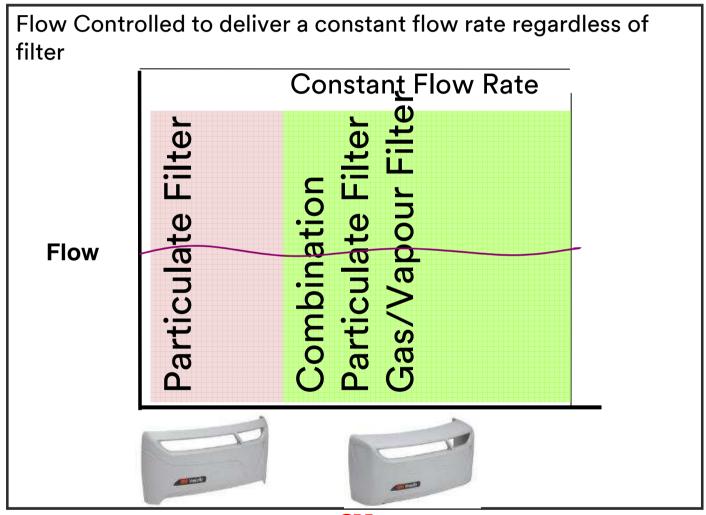


- BT-50 should be inserted into the outlet before switching Powered Air Turbo on to ensure it enters tight-fitting mode (indicator will be lit)
- All 3 airflow LEDs will be lit when Turbo is running

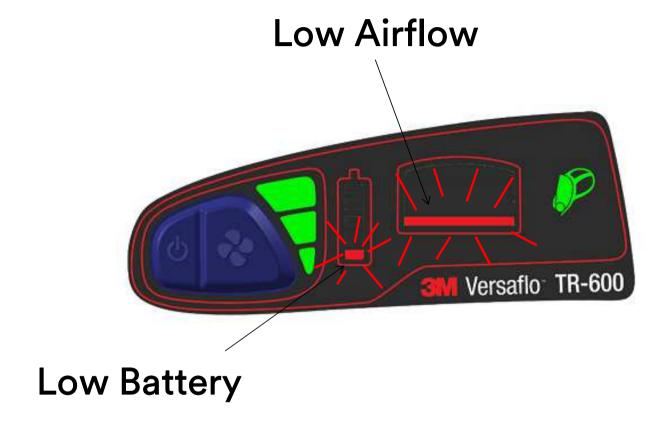
## Flow controlled



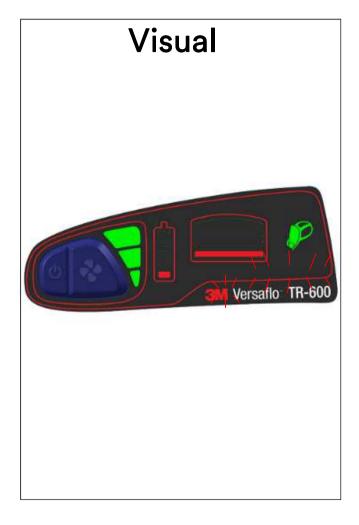
#### Flow controlled



# **Alarms**



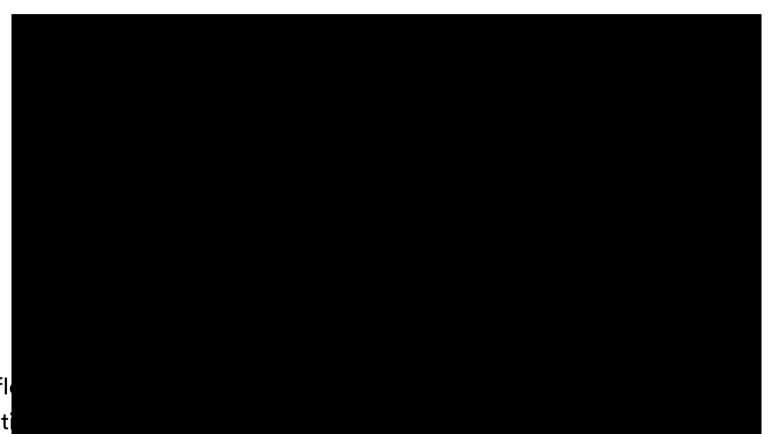
# **Alarms**







# Checking Low Airflow Alarm (TR-600 - Low Flow Alarms (2).mp4)



- All 3 airfl
- Tight-fitti

# **Filters**

Protection	Part Number			Prod	luct l	_abel		
P	TR-6710E	ЗМ	Versaflo™ TR-6710E	EN 12941 EN 12942	P R SL	<u>∧</u> ∏i	(€	
A1P	TR-6110E	3M	Versaflo* TR-6110E	EN 12941 EN 12942	A1P R SL Mode in Canada	<u>A</u> [i	(6	

# Filter Markings - Example shown is the A1P TR-6110E

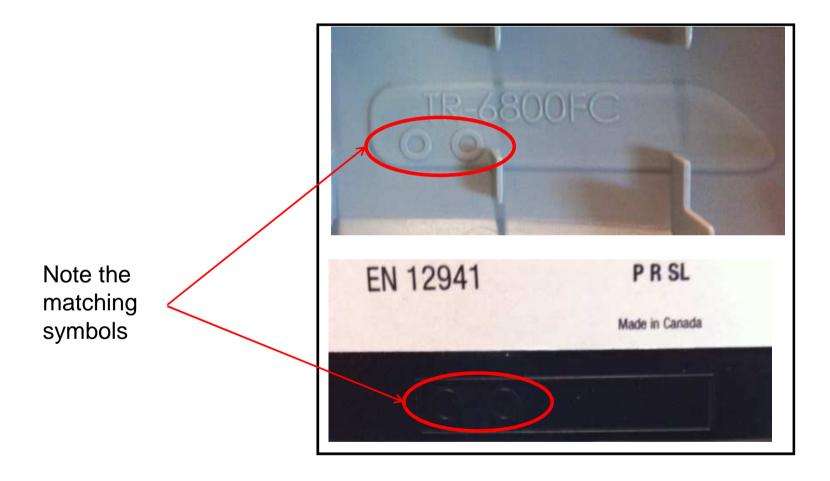
Refer to User Instructions EN 12941 = powered air with loose Note: Filters are common to TRfitting headtops e.g. S-Series 602E Turbo and therefore are EN 12942 = same but with tightmarked to EN 12941. However, TRfitting facepieces 603E-ASB is not currently approved Shelf-life information with loose-fitting headtops Versaflo<sup>™</sup> EN 12941 A1P R SI EN 12942 Made in Canada Colour coding according to A = organic vapours (bp >  $65^{\circ}$ C) R = Reusable P = Particulate protection claimed: SL = For use against solid aerosols, water-based A = brownaerosols and non-water P = white based aerosols Note: Number denotes protection capacity where applicable

# **Filter Covers**

Filter	Filter Cover
TR-6710E P	TR-6700FC
TR-6110E A1P	TR-6100FC



# Matching Filter Covers and Filters



# Installing Filter (Filter change NIOSH\_3M 360.mp4)



# **Prefilter / Spark Arrestor**





TR-6600 Prefilter (foam)

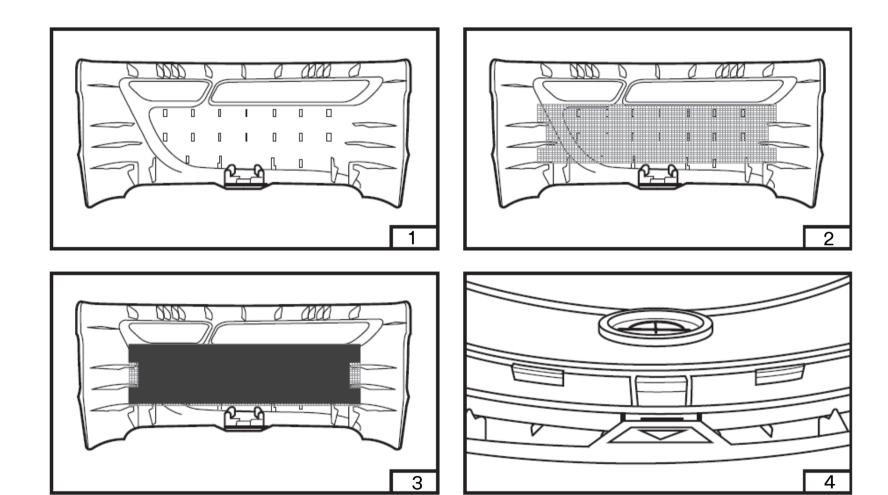
TR-662 Spark Arrestor/Prefilter (metal mesh)

# Prefilter / Spark Arrestor

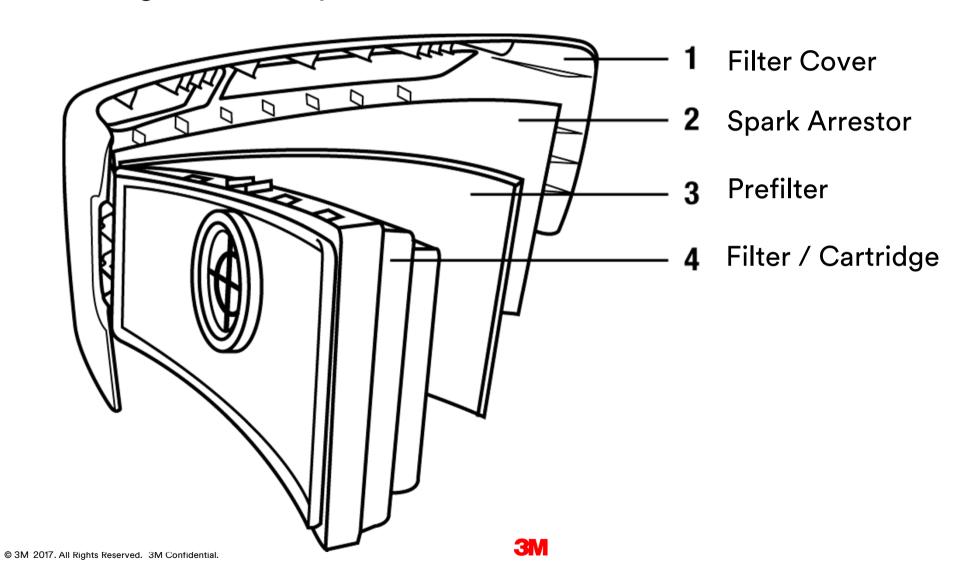




# Installing Prefilter/Spark Arrestor



# **Installing Prefilter/Spark Arrestor**



# **High Capacity Battery**



# Checking Battery Charge (Battery charge NIOSH\_3M 360.mp4)



# Installing Battery (Battery Change NIOSH\_3M 360.mp4)



# **Battery Chargers**



**3M** 

# **Battery Chargers**





TR-641E Single-Station Battery Charger Kit

TR-644E Four-Station Battery Charger Kit

# **Charger Setup**

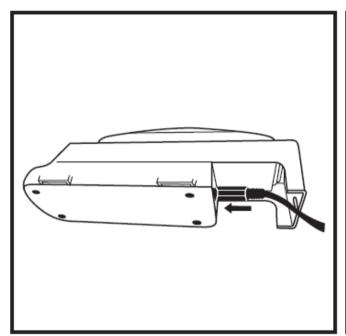


Fig. 1 - Single-station charger setup

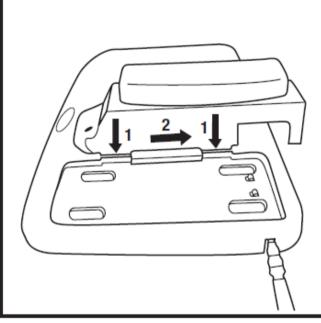


Fig. 2 - Multi-station charger setup

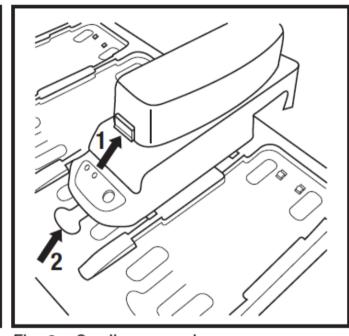


Fig. 3 - Cradle removal

# **Battery Charger Display**



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

# **Battery Charger Display**

Power On



Trickle Charge (>90%)



# **High Capacity Battery Specifications**

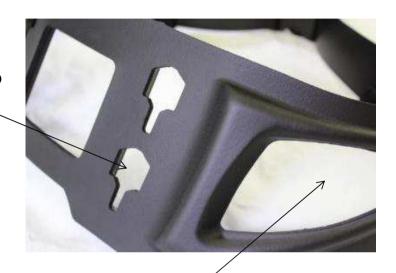
Chemistry	Li-lon	
Charge Time	< 4.5 hours (TR-632)	
Max Time on Charger	Indefinite	TRASE MEMBER TO BE SERVICE OF THE SE
Battery Charging* *Based on the internal temperature of the battery	Range: 0° - 40°C Optimal: 20°C - 25°C	
Weight	TR-632: 670 grams	

### Minimal Battery Run Times

- When using P Filter = 9 hours
- When using A1P Filter = 7 hours
- Above claims based on new battery and filter, used at 20°C-21.1°C
- Also dependent on filter loading

# TR-627 Easy Clean Belt

Easy to attach turbo to belt



Size adjustment for global population



Ventilation sections that help reduce heat build-up between belt and body, as compared to solid belts.

Smooth surfaces allows easy, thorough cleaning





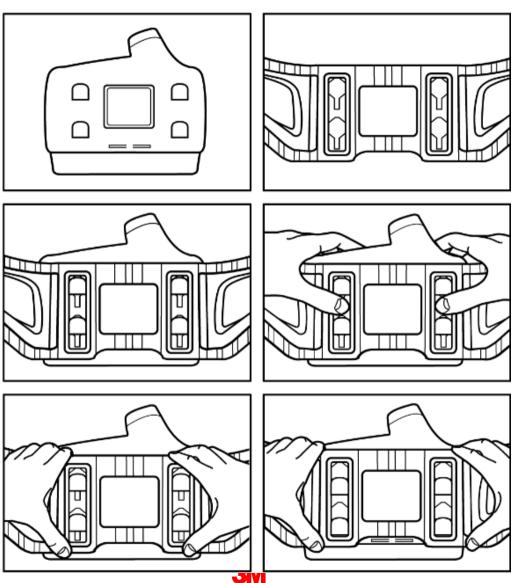
# Installing Belt (Belt attachment NIOSH\_3M 360.mp4)



# Installing Belt (TR-600 – Installing Belt.mp4)



# **Installing Belt**



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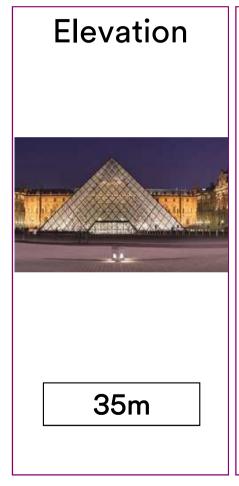
#### Airflow Indicator and Checks

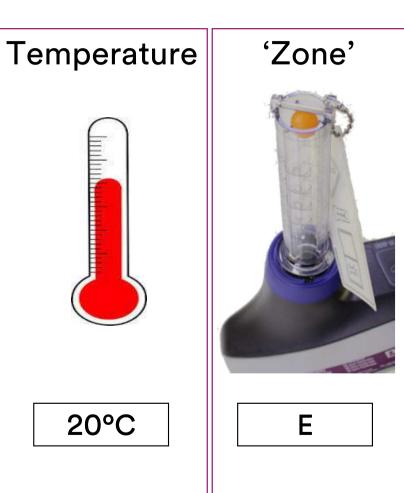
#### TR-972 Airflow Indicator

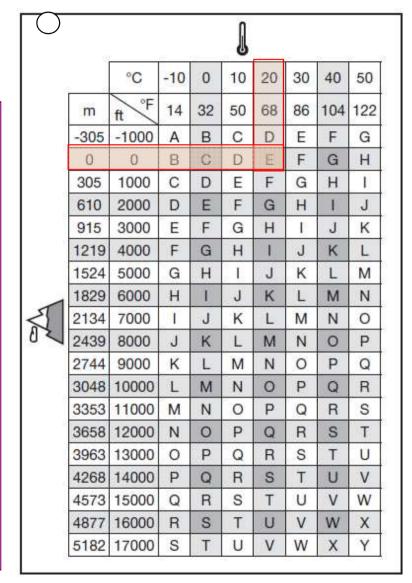


)									
		°C	-10	0	10	20	30	40	50
	m	ft °F	14	32	50	68	86	104	122
	-305	-1000	Α	В	С	D	Ε	F	G
	0	0	В	С	D	E	F	G	Н
	305	1000	С	D	Ε	F	G	Н	1
	610	2000	D	Е	F	G	Н	1	J
	915	3000	Ε	F	G	Н	1	J	K
	1219	4000	F	G	Н	Į,	J	K	L
	1524	5000	G	Н	I.	J	K	L	M
1	1829	6000	Н	Ţ	J	K	L	М	N
2	2134	7000	1	J	K	L	М	N	0
UZ	2439	8000	J	K	L	M	N	0	Р
	2744	9000	K	L	M	N	0	Р	Q
	3048	10000	L	М	N	0	Р	Q	R
	3353	11000	M	N	0	Р	Q	R	S
	3658	12000	Ν	0	Р	Q	R	S	Т
	3963	13000	0	Р	Q	R	S	Т	U
	4268	14000	Р	Q	R	S	Т	U	٧
	4573	15000	Q	R	S	Т	U	٧	W
	4877	16000	R	S	Т	U	٧	W	Х
	5182	17000	S	Т	U	٧	W	X	Υ

#### Airflow Indicator and Checks

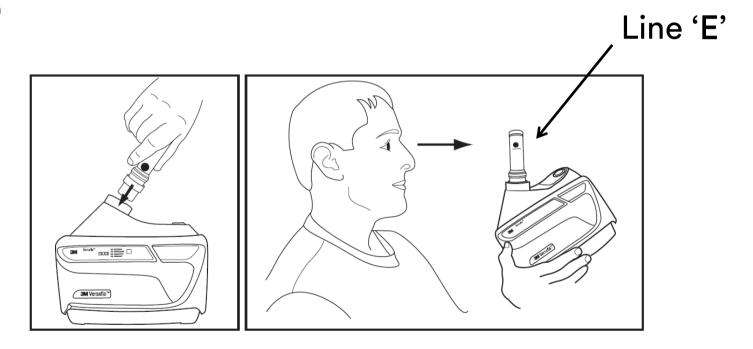






#### Airflow Indicator and Checks

- Insert BT-50 and switch turbo on
- Tight-fitting indicator will be lit
- Wait for 1 min for airflow to stabilise
- Remove BT-50



# TR-600 Features: Flow Controlled Air Density Compensation

Automatically maintains airflow at elevations from <u>-100 to 5000 meters (-328 to 16,404 feet)</u>
Automatically maintains airflow from <u>-10 to 54°C (14 – 129°F)</u>





# Cleaning and Storage





### **IPX4 - Showering**

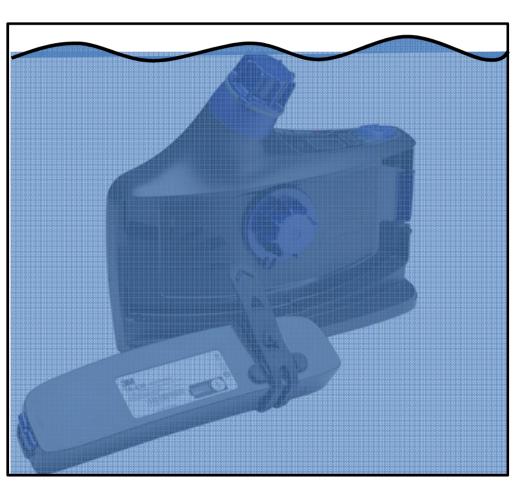
System can be decontaminated in shower IPX4 – sprayed water from all directions

#### Must:

- use filter cover
- not direct water directly into air inlet
- not remove breathing tube, filter or battery during shower decontamination



# IP X7 - Submerging for Cleaning



System can be put in water for cleaning IPX7 – up to depth of 1m for 30mins Must:

- use cleaning and storage plugs
- use battery strap

### Installing Cleaning and Storage Plugs (Plugs animation NIOSH\_3M 360.mp4)



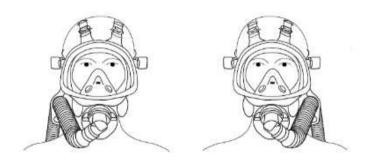
# BT-50 Breathing Tube - Wearing

Can be worn under the arm



#### <u>Or</u>

Can be worn over left/right shoulder (if concerned about BT-50 snagging)

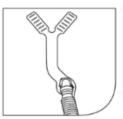


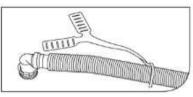
Must use RTN-01
Breathing Tube Retainer



#### Using RTN-01 Breathing Tube Retainer

1. Stretch the retaining hole on the Y-Strap over the breathing tube. Position it so it is approx. 20cm along the length of the tube





2. Connect the two long straps on visor frame loop to Y-strap



3. Don the facepiece and rest the retainer/breathing tube on shoulder



4. Bring the retainer over the top of the head from behind and secure cut-out sections around the facepiece



#### Storage

#### **Storage Conditions**

Relative humidity <90%

Temperature (daily storage) -30°C to 50°C

Temperature (extended storage) 4°C to 35°C

Optimal temperature for batteries to 15°C maintain existing charge while stored off

charger





Storage case available

# Shelf life from date of manufacture when stored in original packaging and recommended storage conditions:

Turbo 5 years\*

Battery 1 year – refer to guidelines for

best practice with TR-600

batteries

Filters 5 years

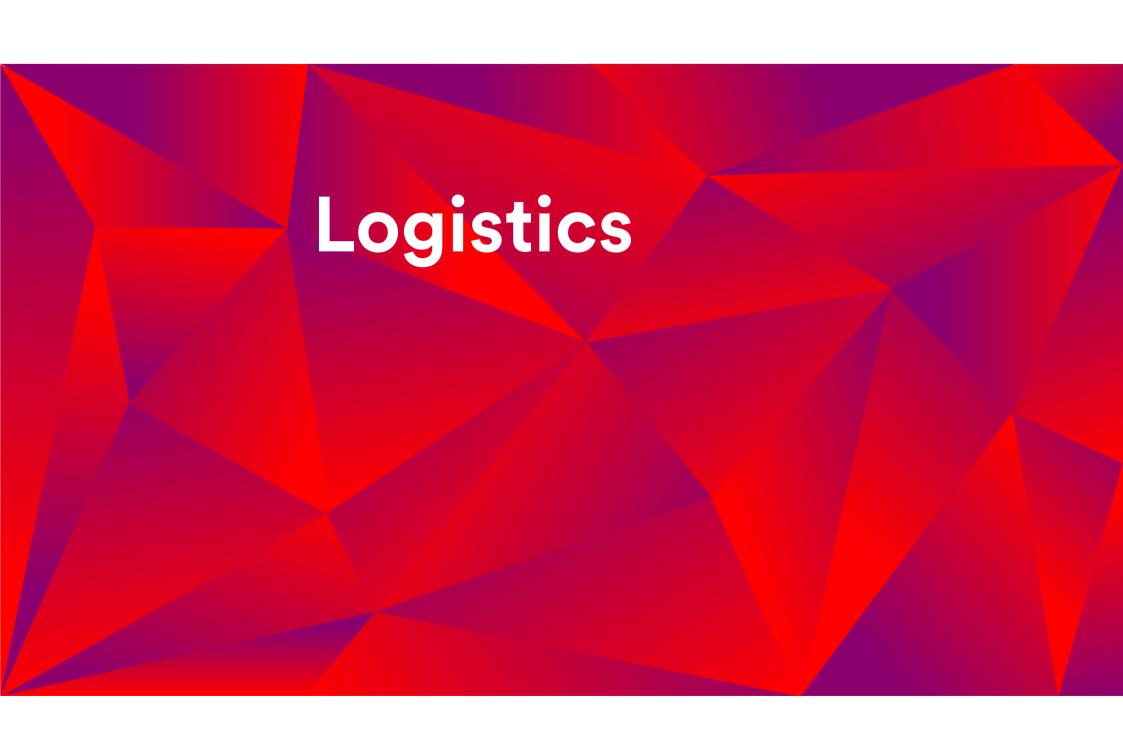
**3M** 

\* Run for 5 minutes/year

### **Operating Conditions**

Temperature	10 °C to 54 °C
High Temp Alarm	Battery alarm will activate when battery internal temperature exceeds 55 °C
High Temp Shutdown	Turbo will shut down if the battery temperature reaches 60 °C
Operating altitude/elevation range	-328 feet to 16,404 feet (-100 meters to 10,000 meters)

Please see TR-600/TR-300 Battery Best Practice & Guidelines document available on Sharepoint for more information



# Logistics (1/3)

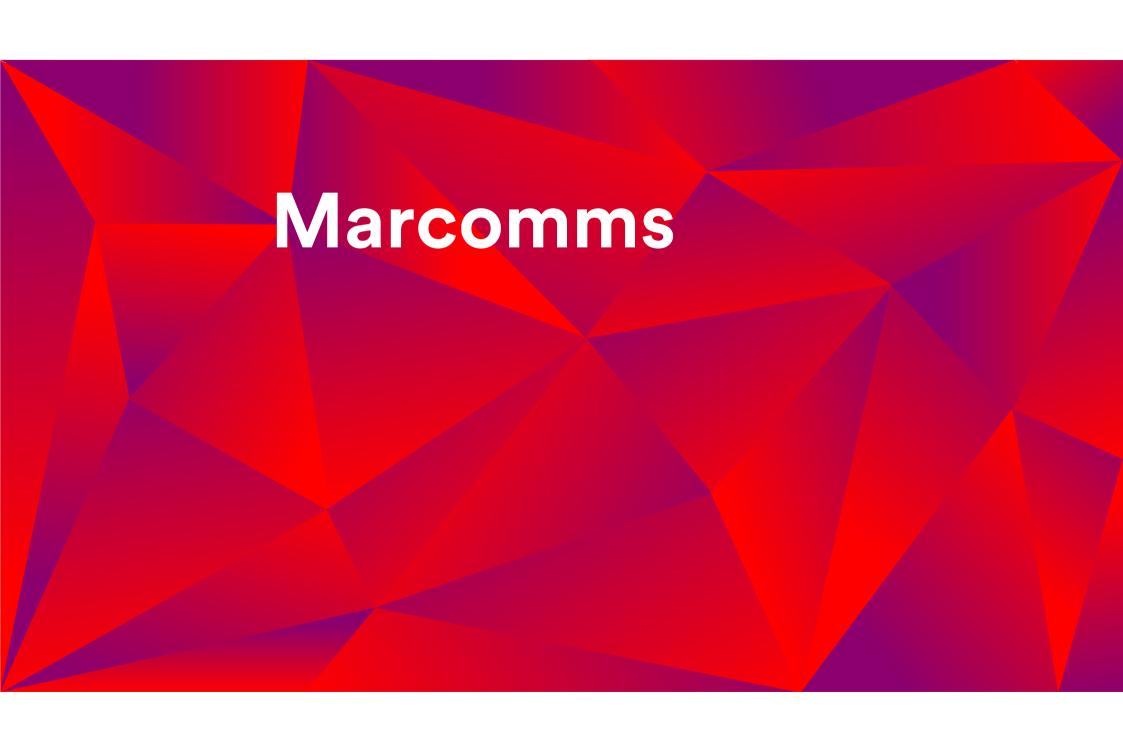
Product No.	SKU	Description
TR-618E-ASB	7100038564	3M™ Versaflo™ A1P Starter Kit TR-618E-ASB (inc. Turbo Unit, A1P Filter, Spark Arrestorx2, Easy Clean Belt, HD Battery, Battery Charger, Air Flow Indicator, Breathing Tube, Filter Cover, Full Face Mask, BT Retainer, Cleaning Kit, BT cover) - 1 turbo kit/box
TR-615E-ASB	7100038563	3M™ Versaflo™ P Starter Kit TR-615E-ASB (inc. Turbo Unit, P Filter, Spark Arrestor, Easy Clean Belt, HD Battery, Battery Charger, Air Flow Indicator, Breathing Tube, Filter Cover, Full Face Mask, BT Retainer, Cleaning Kit, BT cover) - 1 turbo kit/box
TR-603E-ASB	7100076422	3M™ Versaflo™ Powered Air Turbo Unit TR-603E-ASB , 1 turbo/box, 1 box/case, lang. FR/UK (inc Air Flow Indicator and Spark Arrestor x2)
BT-50	7100038562	3M™ Tight-Fitting Breathing Tube BT-50, 1each/box, 1box/case
STC - 01	7100049805	3M™ Storage Case STC-01 - 1 unit/box, 1 box/case
RTN-01	7100049806	3M™ Retainer RTN-01 for BT-50 - 1 unit/box, 1 box/case
TR-972	7100057684	3M™ Versaflo™ Air Flow Indicator TR-972 - 1 unit/box, 1 box/case
TR-6600	70071618246	3M™ Versaflo™ Prefilter TR-6600, for TR-600/800 Turbo, 10 filters/box, 5 box/case, lang. EMEA/Aus/NZ.

# Logistics (2/3)

Product No.	SKU	Description
TR-6710E	CR180812370	3M™ Versaflo™ Particulate Filter TR-6710E, for TR-600/800 Turbo, 1 filters/box, 5 box/case, lang. EMEA/Aus/NZ.
TR-6110E	CR180812388	3M™ Versaflo™ A1P Filter TR-6110E, for TR-600/800 Turbo, 1 filter/box, 5 boxes/case, Lang EMEA/Aus/NZ.
TR-662	70071618253	3M™ Versaflo™ Spark Arrestor TR-662, for TR-600/800 Turbo, 2 each/box, 1 box/case, lang. EMEA/Aus/NZ.
TR-6700FC	70071618261	3M™ Versaflo™ Filter Cover TR-6700FC, for TR-6700 Series Filters, 1 each/box, 1 box/case, lang. EMEA/Aus/NZ.
TR-6100FC	70071622057	3M™ Versaflo™ Filter Cover TR-6100FC, for TR-6100 Series Filters, 1 each/box, 1 box/case, lang. EMEA/Aus/NZ.
TR-641E	52000053570	3M™ Versaflo™ Single Station Battery Charger Kit TR-641E (EU lead), for TR-600/800 Series Turbo, 1 each/box, 1 box/case, lang. EMEA/Aus/NZ.
TR-632	52000053554	3M™ Versaflo™ High Capacity Battery TR-632, for TR-600 Turbo, 1 each/box, 1 box/case, lang. EMEA/Aus/NZ.
TR-627	70071618154	3M™ Versaflo™ Easy Clean Belt TR-627, for TR-600/800 Turbo, 1 each/box, 1 box/case, lang. EMEA/Aus/NZ.
7900PF	XA007706832	3M™ Full Face Mask 7900PF

# Logistics (3/3)

Product No.	SKU	Description
TR-653	70071618428	3M™ Cleaning & Storage Kit TR-653
BT-922	XA0077065257	3M™ Disposable Breathing Tube Cover BT-922, 5 each/bag, 1 bag/case



# Marketing Communications Material

- Sell sheet
- Technical data sheet
- Care & maintenance poster





