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3M Science. Applied to Life.™

3M™ Versaflo™ Powered Air Turbo TR-600

Thanks to comprehensive research and an in-depth understanding of your needs, we created the most advanced, versatile solution yet. Simply put: It's designed to help make breathing and working easier.



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Technical Datasheet

3M™ Versaflo™ Powered Air Turbo TR-600

Description

The 3M™ Versaflo™ Powered Air Turbo TR-600 is a belt-mounted air purifying device. When combined with one of the 3M approved headtops, it forms a power-assisted system for respiratory protection against particles, nuisance odours (where applicable) and gases and vapours. The TR-600 Powered Air Turbo can be used with the following 3M headtops: S-Series, M-Series, HT-622/HT-629/HT-639, HT-707/HT-748/HT-749 and SG9100 Air and SG9100 FX Air.

- Three user selectable flow rates for improved comfort
- Controlled airflow delivers steady flow as battery discharges or filter loads with particulates
- Display shows battery charge status and particulate loading status during use
- No user calibration of the turbo is required
- Electronic audible, visual and vibratory alarm in case of low battery and/or low air flow
- Simple, intuitive, easy to use two-button operation
- Six filter options available:
  - P
  - P plus nuisance level* organic vapours and acid gas which also offers protection against Hydrogen Fluoride up to 10 x Threshold Limit Value
  - A1P
  - ABE1P
  - A2P
  - ABE2K1HgP
  - Lightweight lithium ion battery with LED to indicate charge status
  - Two belt options:
  - Easy-clean belt with smooth surfaces allows easy, thorough cleaning
  - High durability belt for hot work or rugged environments provides greater durability and spark/flame resistance
  - Suitable for shower decontamination (IP54) when using filter cover and temporary submersion (IP67) when fitted with cleaning plugs



Approvals

The TR-600 Powered Air Turbo, when used as part of an approved 3M Respiratory system has been shown to meet the Basic Safety Requirements under Article 10 and 11B of the European Directive 89/686/EEC and are CE marked.

The product was examined at the design stage by: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, UK (Notified Body number 0086).

The product complies with European EMC Directive 2004/108/EC

Standards

The TR-600 Powered Air Turbo, in combination with 3M headtops, has been tested and approved to EN12941. The TR-600 also meets the following requirements:

- Dust protection and protection against spraying water from all directions to EN60529 IP 54
- Dust tight and temporary submersion to 1m to EN60529 IP 67

* Nuisance level refers to concentrations below the Threshold Limit Value

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Applications

The TR-600 Powered Air Turbo, when used as part of an approved system with appropriate filters, provides protection against:

- Particles e.g. fine dusts, mists and metal fume
- Nuisance odour* levels (below the Threshold Limit Values) of organic vapours
- Nuisance odour* levels (below the Threshold Limit Values) of acid gases and up to 10 x Threshold Limit Value of Hydrogen Fluoride
- Organic gases and vapours (with boiling point > 65°C)
- Inorganic gases
- Acid gases
- Ammonia
- Mercury vapour

The TR-600, when used with an appropriate 3M headtop and filters, can be used in various applications including:

- Agriculture
- Chemical Industry
- Construction and Building Renovation
- Demolition
- Food and Beverage
- Medical and Healthcare
- Metalworking
- Pharmaceutical Manufacturing
- Pulp and Paper Processing
- Smelting and Foundries
- Surface Preparation, Paint Spraying and Coating
- Woodworking

Limitations

The TR-600 Powered Air Turbo should not be used in the following conditions:

- Asbestos removal
- In atmospheres containing less than 19.5% oxygen
- Confined spaces (lack of ventilation)
- When the risk is considered to be immediately dangerous for life or health (IDLH)
- Where the contaminant concentration is above the Threshold Limit Value defined for the headtop used (see relevant User Instructions for the headtop)

Product Range

The TR-600 Powered Air Turbo is available to buy as:

- TR-602E Turbo Unit includes Airflow Indicator & Spark Arrestor (x2)
- TR-619UK/E Starter Kit includes the TR-602E Turbo Unit, A2P Filter, Filter Cover, Prefilters (x10), Easy Clean Belt, High Capacity Battery, Single Station Battery Charger Kit, BT-30 Length Adjusting Breathing Tube, Airflow Indicator and Spark Arrestor (x2).



TR-602E



TR-619UK/E

Materials

Turbo body	Polycarbonate / Acrylonitrile Butadiene Styrene blend
Filter cover	Polyamide
Battery casing	Polycarbonate / Acrylonitrile Butadiene Styrene blend
Easy Clean Belt	Ethylene Vinyl Acetate foam, polyamide webbing
High Durability Belt	Ethylene Vinyl Acetate foam, leather belt

* Nuisance level refers to concentrations below the Threshold Limit Value

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Spare Parts & Accessories

Part No.	Description
TR-630	Standard Battery
TR-632	High Capacity Battery
TR-640	Battery Charger Cradle
TR-641E/UK	Single Station Battery Charger Kit (Europe/UK)
TR-644E/UK	4-Station Battery Charger Kit (Europe/UK)
TR-626	High Durability Belt
TR-627	Easy Clean Belt
TR-6710E	Particulate Filter
TR-6820E	Particulate Filter plus nuisance level organic gases and vapours below TLV (Threshold Limit Value), nuisance level acid gases below TLV and Hydrogen Fluoride gas up to 10 x TLV
TR-6110E	A1P - Organic gases & vapours (bp > 65°C) and particulates
TR-6130E	ABE1P - Organic gases & vapours (bp > 65°C), inorganic, acid gases and particulates
TR-6310E	A2P - Organic gases & vapours (bp > 65°C) and particulates
TR-6580E	ABE2K1HgP - Organic gases & vapours (bp > 65°C), inorganic, acid gases, ammonia, mercury vapour and particulates
TR-6100FC	Filter Cover for TR-6100 Series Filters
TR-6300FC	Filter Cover for TR-6300 Series Filters
TR-6500FC	Filter Cover for TR-6500 Series Filters
TR-6700FC	Filter Cover for TR-6700 Series Filters
TR-6800FC	Filter Cover for TR-6800 Series Filters
TR-6600	Pre-Filter
TR-662	Spark Arrestor
TR-651	Filter Latch Assembly
TR-653	Cleaning and Storage Kit
TR-654	Cleaning and Storage Kit Replacement Seals
TR-971	Air Flow Indicator
BPK-01	Backpack
TR-655	Backpack Adaptor
TR-329	Braces

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Technical Specifications

Nominal Protection Factor (NPF):
Depends on 3M headtop used

Protection Class TH2	
NPF	50
Assigned Protection Factor (APF)	20
Protection Class TH3	
NPF	500
APF	40

Storage Conditions

-30°C to +50°C < 90%RH

Outlet Flow Characteristics

Manufacturer's Minimum Design Flow (MMDF)	170 l/min
Nominal Standard Flow	190 l/min
Nominal Mid Flow	205 l/min
Nominal High Flow	220 l/min

Operating Temperature

-10°C to +55°C

Weight

Turbo	670 g
Standard Battery	450 g
High Capacity Battery	620 g
Easy Clean Belt	270 g
High Durability Belt	425 g

Battery Charge Time

Standard Battery	Less than 3.5 hours
High Capacity Battery	Less than 4.5 hours

Battery Duration (with new battery and clean filter at 20°C)

	Standard Flow		Medium Flow		High Flow	
	All Filters	P Filter	All Filters	P Filter	All Filters	P Filter
Standard economy battery (hours)	6-12	10-12	5.5-11.5	9.5-11.5	4.5-9.5	8.5-9.5
High capacity battery (hours)	9.5-19	15-19	8.5-15	14.5-15	7-14.5	13.5-14.5