

3M™ Versaflo™ Powered Air Turbo TR-600

Technical Data Sheet

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, and certain Speedglas welding shields and selected headtops.

Features

- 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
- Four filter options available:
 - TR-6710ANZ PAPR-P3
 - TR-6820ANZ PAPR-P3 plus nuisance level organic vapours and acid gas which also offers protection against hydrogen fluoride up to 10 x the Exposure Standard
 - TR-6310ANZ PAPR-A1P3
 - TR-6580ANZ PAPR-A1B1E1HgP3 & nuisance level ammonia
- Lightweight lithium ion battery with LED to indicate charge status
- Two belt options:
 - TR-627 Easy-clean belt with smooth surfaces allows easy, thorough cleaning
 - TR-626 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 TR-653 cleaning plugs

* Nuisance odours refers to concentrations below the Exposure Standard



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 Exposure Standard) of organic vapours
- Nuisance odour levels* (below the Exposure Standard) of acid gases and up to 10 x the Exposure Standard for Hydrogen Fluoride
- Organic gases and vapours (with boiling point > 65°C)
- Inorganic gases
- Acid gases
- 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:

- 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 protection level assigned to this respirator and associated headtop (ref AS/NZS 1715:2009)

Product Range

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

- TR-602E Turbo Unit includes Airflow Indicator & Spark Arrestor (x2)
- TR-619A Starter Kit includes TR-602E powered air turbo unit, TR-632 battery, BT-30 Breathing Tube, TR-971 Airflow indicator, TR-6600 Pre Filter, TR-662 Spark arrestor, TR-627 Easy Clean Belt, TR-641A single station battery charger. Does NOT include a filter, filter cover, and headtop/hood which are required to be purchased separately.



TR-602E

TR-619A

Compatible Hoods and Headtops



M-206
M-207

M-306
M-307

M-307CAP

M-406
M-407

S-133 S/L
S-333G S/L

S-433 S/L
S-533 S/L

S-655
S-657
S-757

S-855E

Technical specifications

All 3M loose fitting hoods and headtops for use on the TR-600 Powered Air Turbo are given a protection factor of 50 for particulates and 10 for gas/vapours.

Full facepiece used on the TR-600 Powered Air Turbo are given a protection factor of 100+ for particulates and 10 for gas/vapours. (ref. AS/NZS1715:2009).

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

Weight

TR-602E Turbo 670 g

TR-630 Standard Battery 450 g

TR-632 High Capacity Battery 620 g

TR-627 Easy Clean Belt 270 g

TR-626 High Durability Belt 425 g

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

Battery Charge Time

TR-630 Standard Battery Less than 3.5 hours

TR-632 High Capacity Battery Less than 4.5 hours

NOTE: PAPR runtime vary based on battery age, filter loading, filter or cartridge selection, and user selected air flow setting

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
TR-630 Standard economy battery (hours)	6-12	10-12	5.5-11.5	9.5-11.5	4.5-9.5	8.5-9.5
TR-632 High capacity battery (hours)	9.5-19	15-19	8.5-15	14.5-15	7-14.5	13.5-14.5

Ordering Information

SAP ID	Legacy ID	Availability		Model #	Description
		AUS	NZ		
7100168178	70071697000	•	•	TR-619A	3M™ Versaflo™ Powered Air Purifying Respirator Starter Kit, TR-619A, 1 EA/Case includes TR-602E powered air turbo unit, TR-632 battery, BT-30 Breathing Tube, TR-971 Airflow Indicator, TR-6600 Pre Filter, TR-662 Spark arrestor, TR-627 Easy Clean Belt, TR-641A single station battery charger. Does NOT include a filter, filter cover, and headtop/hood which are required to be purchased separately.
7100259576	UU011506860	•	•	TR-602E	3M™ Versaflo™ Powered Air Turbo Unit, TR-602E



BT-20 S/L



BT-30



BT-40



QR-PSA-BT

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Breathing Tubes

SAP ID	Legacy ID	Availability		Model #	Description
		AUS	NZ		
7100296133	70071767472	•		BT-20L	3M™ Versaflo™ Breathing Tube BT-20L, Medium/Large, 1 ea/Case. Fixed length lightweight Polyurethane L=965mm
7100134625	70071533023	•		BT-20S	3M™ Versaflo™ Breathing Tube, BT-20S/37309(AAD), Small/Medium, 1 EA/Case. Short Fixed length lightweight Polyurethane L=735mm
7100006955	XA007706584	•	•	BT-30	3M™ Versaflo™ Breathing Tube, Self-adjusting, BT-30 L= 525-850
7100069524	UU003085113	•	•	BT-40	3M™ Versaflo™ Heavy Duty Breathing Tube BT-40, 1 ea/Case Fixed length Neoprene Rubber L=840mm



TR-6300FC

TR-6310ANZ
PAPR-A1P3



TR-6500FC

TR-6580ANZ
PAPR-A1B1E1HgP3



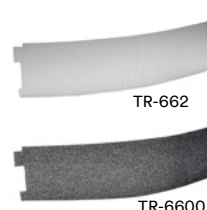
TR-6700FC

TR-6710ANZ
PAPR-P3



TR-6800FC

TR-6820ANZ
PAPR-P3 with nuisance* OV/AG



TR-662

TR-6600



QR-TR68-FLTR

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TR-600/800 Filters

SAP ID	Legacy ID	Availability		Model #	Description
		AUS	NZ		
7100135784	UU008996215 (AU) NT070007769 (NZ)	•	•	TR-6310ANZ	3M™ Versaflo™ Filter TR-6310ANZ, PAPR-A1P3 Organic Vapour & Particulate, 5 ea/Case
7100021336	70071622065	•	•	TR-6300FC	3M™ Versaflo™ Filter Cover TR-6300FC/37380 (AAD), for TR-6310ANZ Filter, 1 EA/Case
7100135783	UU008996223 (AU) NT070007777 (NZ)	•	•	TR-6580ANZ	3M™ Versaflo™ Filter TR-6580ANZ, PAPR-A1B1E1HgP3, 5 ea/Case for Organic Vapours, Acid Gases, Inorganic gases, Mercury vapour and particulates. Nuisance* Level Ammonia
7100021252	70071622073	•	•	TR-6500FC	3M™ Versaflo™ Filter Cover TR-6500FC, for TR-6580ANZ Filter, 1 EA/Case
7100135785	UU008996199 (AU) NT070007736 (NZ)	•	•	TR-6710ANZ	3M™ Versaflo™ High Efficiency Particle Filter TR-6710ANZ PAPR-P3, 5 ea/Case
7100021251	70071618261	•	•	TR-6700FC	3M™ Versaflo™ Filter Cover TR-6700FC/37356(AAD), for TR-6710ANZ Filter, 1 EA/Case
7100135786	UU008996207	•	•	TR-6820ANZ	3M™ Versaflo™ Nuisance* Odour OV/Acid Gas Plus PAPR-P3 Filter TR-6820ANZ, 5 ea/Case and hydrogen fluoride gas up to 10 x WES
7100021247	70071622040	•	•	TR-6800FC	3M™ Versaflo™ Filter Cover TR-6800FC/37378(AAD), for TR-6820ANZ Filter, 1 EA/Case
7100021255	70071618246	•	•	TR-6600	3M™ Versaflo™ Prefilter TR-6600/37354(AAD), for TR-600 PAPR, 50 EA/Case
7100035845	70071618253	•	•	TR-662	3M™ Versaflo™ Spark Arrestor, TR-662



Spare Parts & Accessories

SAP ID	Legacy ID	Availability		Model #	Description
		AUS	NZ		
7100035832	70071618147	•	•	TR-626X	3M™ Versaflo™ Belt Extender TR-626X, for TR-626 High Durability Belt, 1 EA/Case
7100035834	70071618162	•	•	TR-627X	3M™ Versaflo™ Belt Extender TR-627X/37346(AAD), for TR-627 Easy Clean Belt
7100222675	UU010933040	•	•	TR-626	3M™ Versaflo™ High Durability Belt, Leather, TR-626
7100222674	UU010916185	•	•	TR-627	3M™ Versaflo™ Easy Clean Belt TR-627, for TR-600/TR-800 Turbo, 1/case
7000144501 (AU) 7100327726 (NZ)	52000053547 (AU) UU012578520 (NZ)	•	•	TR-630	3M™ Versaflo™ Standard Li ion Battery TR-630 for TR-600 Turbo, 60 Wh, 1 EA/Case. Approximate run time of 4-12 hours. PAPR runtime will vary based on battery age, filter loading, filter or cartridge selection, and user selected air flow setting. Recharges in <4 hours
7100327726		•	•	TR-630	3M™ Versaflo™ Standard Li ion Battery TR-630 for TR-600 Turbo, 60 Wh, 1 Box/Case (Phase In). Approximate run time of 4-12 hours. PAPR runtime will vary based on battery age, filter loading, filter or cartridge selection, and user selected air flow setting. Recharges in <4 hours
7000144502	52000053554	•	•	TR-632	3M™ Versaflo™ High Capacity Battery TR-632, for TR-600 Turbo, 91 Wh, 1 EA/Case. Approximate run time of 7-19 hours. PAPR runtime will vary based on battery age, filter loading, filter or cartridge selection, and user selected air flow setting. Recharges in <4 hours
7100327727		•	•	TR-632	3M™ Versaflo™ High Capacity Battery TR-632 for TR-600 Turbo, 91 Wh, 1 Box/Case (Phase In). Approximate run time of 7-19 hours. PAPR runtime will vary based on battery age, filter loading, filter or cartridge selection, and user selected air flow setting. Recharges in <4 hours
7012875017 (AU) 7000144504 (NZ)	AT019494825 (AU) 52000053570 (NZ)	•	•	TR-641A	3M™ Versaflo™ Battery Charger Kit, Single Station, Euro, TR-641A, includes power cord, 1 ea/Case
7100342670	70100401622	•	•	TR-642A	3M™ Versaflo™ Single Station Battery Charger Kit TR-642A, for Versaflo™ TR-600 & TR-800, 1 EA/Case (New to supersede TR-341A)
7100342637	70100401622	•	•	TR-642-3	3M™ Versaflo™ 3-Station Battery Charger Pack Only TR-642-3, for Versaflo™ TR-600 & TR-800, does not include a power cord, 1 Pack/Case (New)
7100035841	70071618428	•	•	TR-653	3M™ Versaflo™ Cleaning & Storage Kit, TR-653
7100260718	70071765625	•	•	TR-681	3M™ Versaflo™ PAPR Cover TR-681, for TR-600/800 PAPR, 10 ea/Case. Polypropylene non woven and polyester mesh. Does not include PAPR blower.

SAP ID	Legacy ID	Availability		Model #	Description
		AUS	NZ		
7100300071	UU012452437	•	•	TR-927	3M™ Versaflo™ Easy Clean Backpack TR-927, 1 ea/Case
7100035846	70071668076	•	•	TR-971	3M™ Versaflo™ Air Flow Indicator TR-971 for all Versaflo™ PAPR units with M/S-Series loose fitting headtops, 1 EA
7012880650	AT010601550	•	•	S1303-0166	3M™ Versaflo™ Storage PAPR Bag S1303-0166, 1 Bag/Case
		•	•	BPK-HD	3M™ Versaflo™ & Speedglas™ Heavy-Duty Back Pack BPK-HD. Suitable for TR-300, TR-600, TR-800 and Adflo

3M Versaflo TR-300+, TR-600 and TR-800 Comparison Chart

	3M™ Versaflo™ TR-300+ PAPR	3M™ Versaflo™ TR-600 PAPR	3M™ Versaflo™ TR-800 PAPR
			
Availability	AU & NZ	AU & NZ	AU & NZ
Blower part no.	TR-302E+	TR-602E	TR-802E
AS/NZS 1716 Approved configurations	Yes	Yes	Yes
PAPR-P3 Filter	TR-3712E	TR-6710ANZ	TR-6710ANZ
Pre-Filter	TR-3600	TR-6600	TR-6600
Spark Arrestor	TR-362	TR-662	TR-662
Gas and Vapor Cartridges	No	TR-6310ANZ PAPR-A1P3 TR-6580ANZ PAPR-A1B1E1HgP3	TR-6310ANZ PAPR-A1P3 TR-6580ANZ PAPR-A1B1E1HgP3
Nuisance Level ⁶	TR-3802E Organic Vapour TR-3822E Acid Gas	TR-6820ANZ Organic Vapour & Acid Gas	TR-6820ANZ Organic Vapour & Acid Gas
Battery Run Time ¹ (~ hours) & Watt Hour (Wh)	TR-332: 8-12 60 Wh	TR-630: 4 - 12, 60 Wh TR-632: 7 - 19, 91 Wh	TR-830: 4 - 8 44 Wh
Battery Charge Time (~ hours)	<3.5	< 3.5 hrs (TR-630) <4.5 hrs (TR-632)	<4
Chargers*	TR-341A Single TR-344A 4-Unit TR-342A	TR-641A Single TR-644A 4-Unit TR-642A	TR-641A Single TR-644A 4-Unit TR-642A
Approximate Airflow (Loose Fitting)	Std: 185 lpm High: 205 lpm	Std: 185 lpm Med: 205 lpm High: 225 lpm	Std: 185 lpm Med: 205 lpm High: 225 lpm
Approximate Airflow (Tight Fitting)	NA	Std: 135 lpm Med: 150 lpm High: 170 lpm	Std: 135 lpm Med: 150 lpm High: 170 lpm
Cleaning (blower only)	Wipe down only	Wipe down, or rinse or submerge with use of TR-653 Cleaning & Storage Kit	Wipe down, or rinse or submerge with use of TR-653 Cleaning & Storage Kit
Ingress Protection	IP-53 Rating in use ²	IP-54 Rating in use ³ IP-67 with cleaning & storage kit in place ⁷	IP-54 Rating in use ³ IP-67 with cleaning & storage kit in place ⁷
Elevation Limits	-610 m to 4300 m	-610 m to 5000 m	-610 m to 5000 m
Belt and Backpack Options*	TR-325 Standard Belt TR-326 High Durability Belt TR-327 Easy Clean Belt BPK-HD Backpack TR-927 Backpack TR-626X Extender TR-627X Extender	TR-626 High Durability Belt TR-627 Easy Clean Belt BPK-HD Backpack TR-927 Backpack TR-626X Extender TR-627X Extender	TR-626 High Durability Belt TR-627 Easy Clean Belt BPK-HD Backpack TR-927 Backpack TR-626X Extender TR-627X Extender

*Refer to code sections for further information on country availability.

	3M™ Versaflo™ TR-300+ PAPR	3M™ Versaflo™ TR-600 PAPR	3M™ Versaflo™ TR-800 PAPR
Blower Alarms	Visual/Audible	Visual/Audible/Vibratory	Visual/Audible
User Interface	Battery charge, filter loading and airflow status alarm	Battery charge, filter loading and airflow status alarm	Battery charge, filter loading and airflow status alarm
Battery Cycles	Approx. 500 – Full charge/discharge cycles equivalents until 80% of the original capacity over the course of the first year of service when used under recommended conditions	Approx. 500 – Full charge/discharge cycles equivalents until 80% of the original capacity over the course of the first year of service when used under recommended conditions	Approx. 750 – Full charge/discharge cycles equivalents until 80% of the original capacity over the course of the first year of service when used under recommended conditions
Battery Type	Lithium Ion	Lithium Ion	Lithium Ion
Headtops*	M-Series, S-Series	M-Series, S-Series, Selected Tight-fitting styles (bayonet style)	M-Series, S-Series, Selected Tight-Fitting (bayonet style)
Breathing Tubes (Loose Fitting)*	BT-20S, BT-20L, BT-30, BT-40	BT-20S, BT-20L, BT-30, BT-40	BT-20S, BT-20L, BT-30, BT-40
Breathing Tubes (Tight Fitting)*	NA	BT-63 BT-64	BT-63 BT-64
Approximate Blower Weight without battery	386 grams	635 grams	680 grams
Approximate Battery Weight	362 grams	453 grams 589 grams	680 grams
Approximate Blower Dimensions with HE filter and cover	20.3 cm W x 17.7 cm H x 7.6 cm D	25.4 cm W x 20.3 cm H x 7.6 cm D	25.4 cm W x 20.3 cm H x 7.6 cm D
Shelf Life	Blower: 5 years ⁵ Battery: 1 year ⁴ PAPR Filter: 5 years	Blower: 5 years ⁵ Battery: 1 year ⁴ PAPR Filter: 5 years	Blower: 5 years ⁵ Battery: 6 months ⁴ PAPR Filter: 5 years
Intrinsically Safe	No	No	Yes - Blower with battery certified to UL/IEC 60079 (2013) and SIMTARS IECEx SIM 19.0013

*Refer to code sections for further information on country availability.

- 1) Estimated system run time based on testing with a new battery and a new clean filter at 20°C (68°F). Actual system run time may be extended or shortened depending on system configuration and environment.
- 2) Suitable for use in a decontamination shower with a spray angle of up to 60 degrees from vertical
- 3) The IP54 rating indicates the unit is protected against infiltration of dusts and water splash that would interfere with normal operation
- 4) Battery packs should be charged immediately and fully upon receipt. TR-300+ and TR-600 batteries should be recharged after each use and at least every 9-12 months. TR-800 battery should be recharged after each use and at least every 6 months.
- 5) The motor must be run for at least 5 minutes annually to ensure proper lubrication and operation
- 6) Nuisance level refers to concentrations not exceeding Workplace Exposure Standard/Limit (WES/WEL)
- 7) The IP67 rating indicates the unit is protected against infiltration of dusts and can now be rinsed under running water, immersed, or put in a respirator washer for further cleaning as long as the 3M™ Cleaning and Storage Kit TR-653 inlet and outlet plugs are installed.

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