



TORNADO



The Respiratory System

Protector TORNADO

Developed using Protector's unique experience in designing and manufacturing protective equipment and based on proven technology from the original Tornado range launched in 1994, the NEW Protector Tornado System is a genuine leap forward in the provision of respiratory protective equipment. The system incorporates all of the four key Protector design criteria: high levels of wearer comfort, simplicity of use, easy maintenance and servicing and full conformity to national and international standards. The biggest single advantage of the new system is that it is completely modular. Whether your requirement is for powered filtered air or constant flow airline respiratory equipment – the Tornado meets your requirements. The choice of nine headtops, cover virtually every potential application and many of the headtops combine respiratory protection with approved head, eye and welding protection elements for the most aggressive environments. In addition, Protector's design team have built features into the system that increase duration, keep the wearer informed of the status of their respirator and, from their emphasis on ergonomic styling, have ensured the highest levels of user acceptance whilst keeping weight to a minimum and ensuring optimal comfort and balance.

T-POWER

The Tornado power unit is designed to provide filtered air for the widest range of industrial applications. With the use of intelligent electronic systems, the wearer is kept informed of the status of the battery and filter, so that battery and filter life are maximised. This unique electronic management system also ensures Tornado conforms to the latest international standards – making it very much the powered respirator system for the twenty-first century.

INTELLIGENCE

With 15 power levels, the T-Power unit monitors airflow and optimises flow rates through the unit. As filters begin to clog the unit increases power automatically to compensate. Should the filter become clogged or the battery level become low the wearer will be given audible and visual warnings. In addition the type of headtop being used is automatically detected and flow rates adjusted accordingly. These features not only improve performance, they also significantly increase user safety.



COMFORT

The lightweight T-Power unit is designed to fit neatly around the body. A range of battery sizes and durations are available so that power can be matched to a specific job – thereby minimising weight.

VERSATILITY

The specially designed filter adaptors can be simply added or removed from the T-Power unit. The same blower can be used with one, two or three filters depending on operational requirements.



SAFETY

T-Power units are certified to EN12941/2. In addition, all T-Power units are certified intrinsically safe. Other safety features include a battery lock to prevent accidental disconnection and a unique switch that requires positive action to turn the unit off. The unit is also designed to require no routine maintenance and is tamper resistant.

The Respiratory System

T-A-LINE

For use with clean factory airline supplies, the T-A-Line supply unit is also designed for use with a range of Tornado headtops – offering maximum operational flexibility. In addition, it features an auxiliary air outlet for use with air-powered tools – such as spray guns. The air flow through the T-A-Line is demand compensated such that, assuming sufficient supply pressure and flow from the factory line, the unit will compensate for power tool requirements and guarantee the wearer sufficient air.



INTELLIGENCE

In addition to demand compensation, the unit includes a built in filter that visually warns the user when it requires changing. This filter also acts as a silencer to minimise air flow noise and increase wearer comfort. Changing the filter is a simple operation to minimise down-time. The T-A-Line also features a low pressure warning whistle to inform the wearer of insufficient air flow.

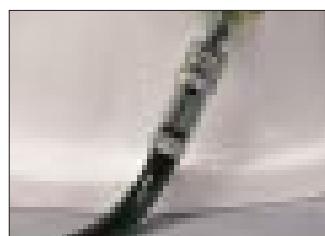
COMFORT

The lightweight belt-mounted unit has simple, low profile design lines. These minimise wearer fatigue and snag hazards and result in high levels of comfort, wearer acceptance and improved safety.



VERSATILITY

It is important that tools powered from the auxiliary air outlet port are presented to the wearer in the most comfortable position. For this reason T-A-Line can be simply changed from a left to a right hip wearing position out in the field.



SAFETY

Certified to the latest airline standard (EN1835), T-A-Line provides air efficiently and safely to the user. CEN quick-connect couplings connect the airline supply to the unit by a simple, one handed operation but can only be disconnected using both hands – thus preventing inadvertent disconnection.

Airline or Powered: The choice is yours

A major feature of the Tornado system is that the one range of headtops can be used with either the T-Power or T-A-Line supply units. This minimises both training requirements and stock holding and investment. But how do you choose which to use?



The great benefit of airline supplied respirators is that – assuming a good clean air supply from a factory compressed air supply line – they can be relatively inexpensive to run. It is essential that the air supplied to the unit is of breathing quality. Protector market a range of Airline Filter Units that will remove oil mist and water vapour. AFU's do not remove Carbon dioxide or Carbon monoxide. If this is present in the air supply, please refer to your Protector distributor or Protector customer service.

Airline supplied respirators are best suited for applications where the wearer is going to be relatively static. If the operation requires them to be mobile, the trailing airline supply hose may become a limiting factor and the mobility provided by a powered system may then be preferred. Airline supply should always be used if the contaminant cannot be filtered or is at levels where filter life will be very short.

EN1835 only covers light duty airline products and these are not suitable for use in confined spaces or oxygen deficient atmospheres where positive pressure breathing apparatus conforming to EN137 or EN139 should be specified.

TORNADO T-ONE



An ultra-lightweight half hood for applications where impact protection is not required. T-One provides a cool flow of air over the head and down the face.

TORNADO T-TWO



A lightweight full hood manufactured from a durable PU coated nylon material, T-Two covers both the head and shoulders and is for applications where impact protection is not required.

TORNADO T-THREE



Based on a Browguard providing impact protection certified to EN166, T-Three delivers air to the wearer via a specially designed air duct that directs the airflow to the wearer whilst minimising 'wind in the eyes' discomfort.



Manufactured from a durable PU coated nylon material, T-One is available in two sizes to ensure a good fit for all wearers.



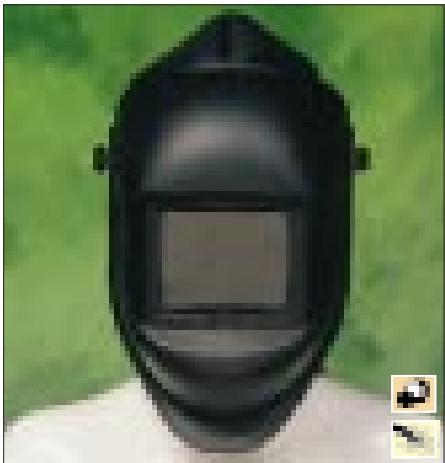
With the convenience of a simple neck tie seal, one size of T-Two will fit all head sizes. It is particularly suited to wearers with beards or spectacles. Optional anti-static version also available in white.



The lightweight T-Three offers a very wide field of vision and the flip up visor is available with screens in a range of materials including those offering protection against molten metal and chemical splash.

HEADTOP TYPE	T1	T2	T3
Classification to EN12941/2 – Powered	TH2	TH3	TH2
Classification to EN1835 – Airline	LDH2	LDH3	LDH3
Nominal Protection Factor – Powered	50	500	50
Assigned Protection Factor – Powered (in accordance with BS4275 : 1997)	20	40	20
Nominal Protection Factor – Airline	50	200	200
Assigned Protection Factor – Airline (in accordance with BS4275 : 1997)	20	40	40
Number of Filters: Gases only	2	2	2
Number of Filters: Particulate (P)	1	1	1
Number of Filters: Gas/Particulate combinations (eg AP)	3	3	3

TORNADO T-FOUR



T-Four is designed for welding and offers the wearer two different visor options: The T4B has a cloth face-seal and no inner visor with the T4DVB featuring a secondary polycarbonate visor to offer extra protection.

TORNADO T-FIVE



Based on the proven Protector Tuffmaster II helmet, T-Five combines head, face and respiratory protection in one product. There is an additional option for hearing protectors if required.

TORNADO T-SIX



T-Six combines all the features of T-Five with those of T-Four resulting in a product that provides respiratory, impact, head and welding protection with the additional option of hearing protection.



The unique design of the T-Four uses the same air distribution system as T-Three whilst offering maximum operational flexibility and high comfort levels to ensure maximum wearer acceptance.



The unique balanced design of the helmet combined with the ease of Tornado respiratory protection, provides a product designed for use in aggressive environments.



As with T-Four there is a range of welding visors that can be used with T-Six including automatic liquid crystal filters. T-Six provides the ultimate levels of protection for the metal fabrication industry.

HEADTOP TYPE	T4	T5	T6
Classification to EN12941/2 – Powered	TH2	TH2	TH2
Classification to EN1835 – Airline	LDH2	LDH3	LDH2
Nominal Protection Factor – Powered	50	50	50
Assigned Protection Factor – Powered (in accordance with BS4275 : 1997)	20	20	20
Nominal Protection Factor – Airline	50	200	50
Assigned Protection Factor – Airline (in accordance with BS4275 : 1997)	20	40	20
Number of Filters: Gases only	2	2	2
Number of Filters: Particulate (P)	1	1	1
Number of Filters: Gas/Particulate combinations (eg AP)	3	3	3

TORNADO T-SEVEN



T-Seven is the full facemask version of Tornado providing the highest levels of respiratory protection. A novel hose connection brings the hose up over the wearer's shoulder, keeping the work area clear.



Protector are renowned for their facemasks – and this special liquid silicone rubber version includes all the high specification features of comfort and good field of vision that the market has come to expect.

TORNADO T-EIGHT



T-Eight is a half mask available in two sizes. The liquid silicone rubber faceseal provides exceptional comfort and fit. Applications include welding and spraying



The low profile design of T-Eight makes for easy fitting of visors or welding helmets.

TORNADO T-NINE



T-Nine is a specialist polyurethane hood designed to provide good all round vision and respiratory protection. Applications include specialist laboratory work, the nuclear industry and pest control.



The design of T-Nine makes it suitable for use by wearers who need spectacles or have beards.

HEADTOP TYPE	T7	T8	T9
Classification to EN12941/2 – Powered	TM3	TM2	TH3
Classification to EN1835 – Airline	-	-	LDH3
Nominal Protection Factor – Powered	2000	200	500
Assigned Protection Factor – Powered (in accordance with BS4275 : 1997)	40	20	40
Nominal Protection Factor – Airline	-	-	200
Assigned Protection Factor – Airline (in accordance with BS4275 : 1997)	-	-	40
Number of Filters: Gases only	3	3	2
Number of Filters: Particulate (P)	1/2/3	1/2/3	1
Number of Filters: Gas/Particulate combinations (eg AP)	3	3	3

TORNADO APPLICATION GUIDE

INDUSTRY	T1	T2	T3	T4	T5	T6	T7	T8	T9
Laboratories	■	■	■				■	■	■
Textiles	■	■	■						
GRP Manufacture	■	■	■				■	■	
Food Processing	■	■	■		■		■	■	■
Flour Mills and Silos	■	■	■		■		■	■	
Agriculture	■	■	■		■		■	■	
Wineries/Market Gardens	■	■	■		■		■	■	
Pest Control		■	■		■		■	■	■
Animal Allergies	■	■	■						■
DIY		■	■	■	■	■	■	■	
Pharmaceutical	■	■	■		■		■	■	■
Foundries			■	■	■	■	■	■	
Lead Processing					■	■	■	■	
Aluminium Works					■	■	■	■	
Steel Industry					■	■	■	■	
Shipyards				■	■	■			
Welding				■		■	■	■	
Tunnelling/Quarrying				■	■		■	■	
Mining					■		■	■	
Demolition & Maintenance			■		■		■	■	
Building & Construction					■	■	■		
Purification & Sewage	■	■	■		■		■	■	■
Waste Disposal		■	■		■		■	■	
Chemical Plants		■	■						■
Petrochemical		■	■						■
Nuclear		■	■						
Isocyanates	■	■	■		■		■		
Electronic/PCB Manufacture	■	■	■				■	■	
Paint Spraying		■	■		■		■	■	

■ = T-Power/T-A-Line ■ = T-Power ■ = T-A-Line

TORNADO PROTECTION GUIDE

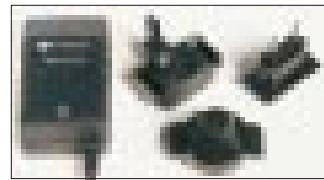
PROTECTION	T1	T2	T3	T4	T5	T6	T7	T8	T9
EN12941 – Respiratory	■	■	■	■	■	■			■
EN12942 – Respiratory						■	■	■	
EN1835 – Respiratory	■	■	■	■	■	■			■
EN166 – Eye			■	■	■				
EN175 – Welding				■	■	■			
EN397 – Head					■	■			



TORNADO ACCESSORIES



10 station smart charger



Single station smart charger



Electronic welding lens



Welding cape



TORNADO FILTERS AND ORDERING DETAILS

Reference (Box of 6)	Type	Colour Code	Applications
TF200	A2		Organic gases and vapours with a boiling point above 65°C
TF210	A1B1E1		As TF200 + inorganic and acid gases and vapours, eg. chlorine, hydrogen sulphide, hydrogen cyanide, sulphur dioxide, hydrogen chloride
TF 203	K1		Ammonia and organic ammonia derivatives
TF220	A2P		As TF200 + solid and liquid particulates (dusts, fibres, mists, fumes, bacteria and virus)
TF230	A1B1E1P		As TF210 + solid and liquid particulates, (dusts, fibres, mists, fumes, bacteria and virus)
TF223	K1P		As TF203 + solid and liquid particulates (dusts, fibres, mists, fumes, bacteria and virus)
PF251	P		Solid and liquid particulates (dusts, fibres, mists, fumes, bacteria and virus)

These products should not be used in atmospheres immediately dangerous to life, in confined spaces or in atmospheres deficient in oxygen (less than 19.5%).

Please contact your Distributor or Protector Technologies Internal Sales department for further information on applications/limitations.

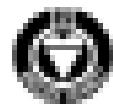


Part Number	Description
T-Power	Tornado blower, belt, flow tester and user instruction manual
T-A-Line	Tornado airline unit, belt and user instruction manual
T1	Half hood headtop and hose – specify Medium/Large (M/L) or Small/Medium (S/M)
T2	Full hood headtop and hose
T2/AS	Full hood and hose (anti-static)
T3	Browguard visor and hose
T4	Browguard unit with lightweight face screen with welding visor and hose
T4/B	Welding helmet with cloth faceseal
T5	Helmet, visor and hose
T6	Helmet, lightweight face screen with welding visor and hose
T7/VISION	Full facemask and hose – specify Medium/Large (M/L), Medium (S/M) or Small (S)
T8	Half mask and hose – specify M/L or S/M
T9	Cylindrical polyurethane hood and hose
TOR/BATT/M	4 hour NiCd battery for T-Power
TOR/BATT/H	8 hour NiCd battery for T-Power
TOR/ADAPT	Filter adaptors (pair)
T/AL/FILTER	Replacement filter for T-A-Line unit
TOR/WH5	Optional hose cover (spark resistant)
TOR/WB/COMFORT	Optional spark resistant comfort belt
WELD/CAPE	Head covering for use with T4/T6
TEWF3/11	Auto welding filter shade 11 for all T4/T6
TEWF4/9-13	Auto welding filter variable shade 9-13 for all T4/T6
TOR/BC/UK	Battery charger (UK 3 pin plug)
TOR/BC/EURO	Battery charger (European 2 pin plug)
TOR/BC/SM	Smart charger (UK/Euro/Aus)
TOR/BC/SM/10	10 station smartcharger (UK/Euro/Aus)
BAG/PPR	Holdall

tyco

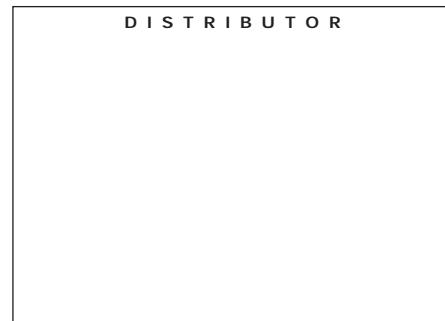
**Fire &
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FM 20685

CE Approval



In accordance with our policy of continual product improvement, equipment supplied may differ from the specification detailed herein.



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