Technical Datasheet

3M™ Versaflo™ M-Series Faceshields & Helmets

Description

The 3M™ Versaflo™ M-Series headtops combine respiratory protection with eye and face protection, and with some models, head and hearing protection. The headtops are designed to be used with an approved 3M air delivery unit to form a respiratory protective device.

- M-300 and M-400 Series headtops offer the highest respiratory performance requirements when used with specific 3M air delivery units.
- Visor offers eye and face protection to EN166 (optical class 1, liquid splash and medium energy impact), with excellent peripheral and downward vision as well as chemical and scratch resistance.
- M-300 and M-400 Series headtops offer head protection to EN397 (including lateral deformation and electrical insulation).
- M-Series headtops have a choices of fabrics to suit a wide range of industries and applications
  - M-106/306 fitted with comfort faceseal. Used for example when spraying, chemical processing or in construction.
  - M-406 fitted with highly durable shroud for construction and heavy industry.
  - M-107/M-307/M-407 fitted with flame resistant faceseal/shroud for applications with hot particles.
- All M-Series headtops:
  - Are lightweight with excellent balance
  - Have a fully adjustable suspension for optimal fit and weight distribution
  - Incorporate a deflector to allow the user to direct the airflow inside the headtop for increased control and comfort
  - Are quick and easy to maintain
  - Connect via the new, strengthened BT Series breathing tubes

Approvals

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

These products were examined at the design stage by: BSI, Maylands Avenue, Hemel Hempstead, Hertfordshire, HP2 4SQ, England (Notified Body number 0086).

Standards

The M-Series headtops meet the performance requirements of the following European standards:

Eye and face protection to EN166:1:B:3 (Optical class 1, medium energy impact B and liquid splash 3)

Head protection (M-300 and M-400 Series only) to EN397 LD, 440 v a.c. (Lateral deformation and electrical insulation)

Hearing protection EN352-3:2002 (M-100 and M-300 only) SNR = 28dB; Size designation M/L. Contact 3M for full attenuation data including octave band and H, M and L values.

Respiratory protection (M-400 Series)

- EN12941 TH3 when connected to 3M™ Versaflo™ TR-302E and 3M™ Jupiter™ Powered Air Turbo.
- EN14594 3B when connected to 3M™ Versaflo™ V-100E, V-200E and V-500E Regulators

Standards (continued)

Respiratory protection (M-300 Series)

- EN12941 TH3 when connected to 3M™ Versaflo™ TR-302E Powered Air Turbo.
- EN12941 TH2 when connected to 3M™ Jupiter™ Powered Air Turbo.
- EN14594 3B when connected to 3M™ Versaflo™ V-100E, V-200E and V-500E Regulators

Respiratory protection (M-100 Series)

- EN12941 TH2 when connected to 3M™ Versaflo™ TR-302E and 3M™ Jupiter™ Powered Air Turbo.
- EN14594 2B when connected to 3M™ Versaflo™ V-100E, V-200E and V-500E Regulators

Note: The M-Series headtops meet the higher strength (B) requirements of EN14594. They are approved for use with a range of compressed air supply tubes that meet both the lower and higher strength (A and B) requirements.

Applications

The M-Series headtops can be used with an air-filtering unit to form a powered air respirator system or with a regulator to form a supplied air respirator system.

According to the system chosen, protection is provided against:

- Particles e.g. fine dusts, mists and metal fume
- Gases & vapours
- Particles & gases combined

Typical industries include:

- 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

Materials

Common parts are listed in Figure 1

Component	Material
Visor	Coated polycarbonate
Visor frame	Polycarbonate
Visor seal	EPDM/polypropylene
Deflector	Acetal
Ratchet	Nylon
Sweat pad	Cotton
Headband	Polyolefin
Headband strap	Nylon
Breathing tube BT-20S/L	Polyurethane with steel helix
Breathing tube BT-30	Polyurethane with acrylonitrile butadiene styrene helix
Breathing tube BT-40	Neoprene
Breathing tube cover BT-922	Polyethylene
Breathing tube cover BT-926	Oxidised polyacrylonitrile

Figure 1

Materials	M-106	M-107	M-306	M-307	M-406	M-407
Faceseal	Poly-ure-thane coated knitted nylon	Flame resistant polyes-ter	Poly-ure-thane coated knitted nylon	Flame resistant polyes-ter	N/A	
Shroud	N/A				Nylon	Poly-aramid
Inner shroud	N/A				Polyurethane coated knitted nylon	
Faceshield shell	Polyethylene		N/A			
Helmet shell	N/A		Polycarbonate			

Limitations

- 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)
- If connected to TR-302E Powered Air Turbo:
  - when the concentration is above 500 times the Threshold Limit Value (TLV): M-300/M-400 Series only
  - when the concentration is above 50 times the Threshold Limit Value (TLV): M-100 Series only
- If connected to Jupiter Powered Air Turbo:
  - when the concentration of contaminant is above 500 times the Threshold Limit Value (TLV): M-400 Series only
  - when the concentration of contaminant is above 50 times the Threshold Limit Value (TLV): M-100/M-300 Series only
- If connected to V-100E, V-200E or V-500E regulators:
  - when the concentration of contaminant is above 200 times the Threshold Limit Value (TLV): M-300/M-400 Series only
  - when the concentration of contaminant is above 50 times the Threshold Limit Value (TLV): M-100 Series only

Product Range

M-100 Series

M-300 Series

M-400 Series

Technical specifications

M-400 Series

Nominal Protection Factor = 500

- EN12941 TH3 when connected to TR-302E and Jupiter Powered Air Turbo.

Nominal Protection Factor = 200

- EN14594 3B when connected to V-100E, V-200E and V-500E Regulators

M-300 Series

Nominal Protection Factor = 500

- EN12941 TH3 when connected to TR-302E Powered Air Turbo.

Nominal Protection Factor = 200

- EN14594 3B when connected to V-100E, V-200E and V-500E Regulators.

Nominal Protection Factor = 50

- EN12941 TH2 when connected to Jupiter Powered Air Turbo

M-100 Series

Nominal Protection Factor = 50

- EN12941 TH2 when connected to TR-302E and Jupiter Powered Air Turbos.
- EN14594 2B when connected to V-100E, V-200E and V-500E regulators.

Minimum Manufacturer Design Flow (MMDF)

170 l/min (TR-302E and V-100E/V-200E/V-500E)
150 l/min (Jupiter)

Storage conditions

-30°C to +50°C < 90 %RH

Operating temperature

-10°C to +55°C

Weight (without breathing tube)

M-106/M-107 544g
M-306/M-307 832g
M-406/M-407 1066g

Important Notice

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Spare parts and accessories

Part No.	Description
M-116	Airflow deflector (M-100)
M-150	Head suspension (M-100)
M-154	Forehead seal (M-100)
M-316	Airflow deflector (M-300/M-400)
M-350	Head suspension (M-300/M-400)
M-354	Forehead seal (M-300/M-400)
M-441	Jaw gasket
M-444	Replacement inner shroud
M-447	Flame resistant shroud
M-448	High durability shroud
M-919	Visor frame buttons
M-920	Visor frame
M-921	Visor gasket
M-927	Visor
M-928	Peel-off visor cover
M-935	Standard faceseal
M-936	Comfort faceseal
M-937	Flame resistant faceseal
M-953	Ratchet
M-956	Ratchet Comfort pad
M-957	Comfort pad
M-958	Chin strap
M-960	Pivot kit
M-972	Flame resistant headtop cover
M-976	Head, neck and shoulder cover
H31P3AF 300	3M™ Peltor™ Hearing Protector Attachment
BT-20S/L	Lightweight breathing tube (Small/Medium or Medium/Long)
BT-30	Self-adjusting breathing tube
BT-40	Heavy duty breathing tube
BT-922	Disposable breathing tube cover
BT-926	Flame resistant breathing tube cover

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