Respiratory protection for the metal industry
# 3M Product Selection Guide

This guide is only an outline. It is designed to help focus on the most appropriate products in the 3M range for various applications and hazards. It should not be used as the only means of selecting a product. It is ultimately the responsibility of the employer to select the most appropriate PPE and level of protection required based on a full risk assessment. Details regarding performance and limitations are set out on the product packaging and data sheets.

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<tr>
<th>Area</th>
<th>Typical Processes</th>
<th>Typical Hazards</th>
<th>Disposable Particulate Respirators</th>
<th>Reusable Respirators</th>
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<tr>
<td></td>
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<td>3M™ Aura™ Particulate Flat Fold Respirators 9300+ Series</td>
<td>3M™ Welding Fume Respirators 9925/9928</td>
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<td>Dust</td>
<td>CTPV</td>
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<td>Anode production</td>
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<td>MMMFs</td>
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<td>Cold Rolling</td>
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2 Metal Industry Safety Product Catalogue
### Key
- ✔️ May be suitable for use
- ■ Not suitable for use
- * Specific hazards and protection required need to be assessed by the user
- ** Follow local legislation on Isocyanate use

### Powered and Supplied Air Respirators

<table>
<thead>
<tr>
<th>3M™ Versaflo™ Helmet M-307</th>
<th>3M™ Versaflo™ Helmet M-407</th>
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<tbody>
<tr>
<td>3M™ Reusable Full Face Masks 6000 Series</td>
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<tr>
<th>Model</th>
<th>Accessories</th>
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### Table of Hazards

- **PAHs:** Polycyclic Aromatic Hydrocarbons
- **CTPVs:** Coal Tar Pitch Volatiles
- **MMMFs:** Man Made Mineral Fibres
- **HF:** Hydrogen Fluoride
- **HCL:** Hydrogen Chloride
- **Nox:** Nitrous Oxides
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<tr>
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<td>3M™ Aura™ Particle Flat Fold Respirators 9300+ Series</td>
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<td>3M™ Particulate Cup Shaped Respirator 8825+ and 8835+</td>
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<td>3M™ Welding Fume Respirators 9925/9928</td>
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<td>Hot Processes: Galvanising; Heat Treatment; Metallising</td>
<td>Metal Fume Dust</td>
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### PAHs:
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### CTPVs:
- Coal Tar Pitch Volatiles

### MMMFs:
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### HF:
- Hydrogen Fluoride

### HCL:
- Hydrogen Chloride

### Nox:
- Nitrous Oxides

<table>
<thead>
<tr>
<th>6092 or 6099 filters</th>
<th>TR-6710E or TR-6580E</th>
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3M Personal Safety Division 5
The importance of fit

Particulate respirators and reusable half face masks are most effective when there is a good seal between the edges of the respirator and your face. The instant this seal is broken, protection is compromised as contaminated air can leak in through any gaps.

Here’s what to look for:

- Upper strap should be positioned on the crown of the head. Strap should not be twisted.
- Respirator should be correctly positioned on your face and head.
- Lower strap should be positioned below the ears. Strap should not be twisted.
- Care must always be taken to ensure other safety equipment is compatible with your respirator and does not interfere with its fit, for example, straps should always be fitted underneath safety eyewear and hoods.

- Before fitting your respirator, make sure that your face is clean shaven. Respirators must not be worn with stubble, beards or other facial hair under the area of the face seal as these can prevent a good seal to the face.
- For flat fold respirators make sure the panels are fully unfolded.
- Noseclip should be moulded around nose and cheeks to give a good seal. Using both hands, mould noseclip to the shape of the lower part of the nose to ensure a close fit and good seal. Do not pinch the noseclip with only one hand as this may not give a good fit.

Fit check

- A pre-use use seal check (fit check) must be conducted every time you fit your respirator.
- Ensure that you read the product user instructions for full details.

For Disposable Respirators:
Cover the front of the respirator with both hands. For an unvalved respirator exhale sharply, for a valved respirator inhale sharply.

For Reusable Respirators:
Place the palm of your hand over the exhalation valve and exhale gently or cover the filters and inhale gently.

- If air leaks at the respirator edges, re-adjust the fit to eliminate leakage and repeat the above fit check.
- If air leaks around the nose, re-adjust the noseclip to eliminate the leakage.
- If you cannot achieve a proper fit do not enter the hazardous area – see your supervisor.
Fit testing

Fit testing checks that a respirator provides an adequate seal to the wearer’s face and is an industry wide requirement in some countries. Fit testing should be carried out on all wearers of respirators with tight fitting facepieces where testing has not been carried out before. Testing should be repeated at appropriate times, such as annually, or if the wearer’s face shape changes due to weight loss or gain, or facial surgery.

Fit test methods – quantitative and qualitative

Two main methods of fit testing are available, qualitative and quantitative fit testing.

**Quantitative fit testing** checks that the wearer can achieve an adequate seal between a tight-fitting facepiece and their face. It counts the number of particles both inside the mask and outside in the ambient air. From this, a fit factor – a measure of how well a respirator fits – is calculated. Fit testing equipment such as the TSI® PortaCount® Fit Tester are suitable for testing all types of tight-fitting respirator, disposable respirators as well as half-mask and full-face masks used with particulate or combination filters.

**Qualitative fit testing** provides a pass or fail result based on the wearer detecting a test agent. It provides a subjective measure of the quality of the seal of the facepiece to the wearers face. These tests are suitable for disposable respirators and half masks. The test agent can either be detected by taste or by smell. A controlled concentration of aerosol is introduced into a hood fitted over the wearer. This test is suitable for all disposable respirators and half masks fitted with particulate or combination gas/vapour and particulate filters. 3M offer two test kits in this category, one using a sweet tasting substance (saccharin) and the other which uses a bitter tasting solution (Bitrex®).

For further information on fit testing procedures, contact your safety officer or 3M.

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3M™ Qualitative Fit Test Kits
FT10 (Sweet) & FT30 (Bitter)

3M products that can be used with the 3M FT-10/FT-30 kits are:

- All 3M Disposable Respirators
- 3M™ Maintenance Free Reusable Respirators 4000 Series
- 3M™ Reusable Half Face Masks 6000/6500/7500 Series

3M offers two fit test kits FT-10 (Sweet) and FT-30 (Bitter). Each kit contains a hood and collar assembly, two nebulisers, sensitivity solution, test solution and detailed user instructions.

**Note:** The 3M FT-10/FT-30 kits can not be used with Full Face Masks – quantitative fit testing methods must be used. See local regulations on fit testing or contact 3M.
Disposable particulate respirators
The 3M™ Aura™ Particulate Flat Fold Respirators are the result of 3M’s continuous drive to improve comfort. Features include low breathing resistance filter technology for easier breathing throughout your shift, an embossed top panel to reduce fogging of eyewear, a sculpted edge for improved compatibility with eyewear and a chin tab to improve ease of fitting.

Features and benefits:

Foldable 3-panel design
- Ingenious 3-panel design fits a wide range of face shapes and sizes
- Accommodates your facial movements
- Collapse resistant: ideal for work in hot humid environments

Sculpted nose panel
- Curved, low profile design
- Conforms well to nose and eye contours
- Helps provide a good field of vision and improves compatibility with eyewear

Low breathing resistance filter technology
- Combines the benefits of 3M’s electret particulate filter material with advanced low breathing resistance filter technology
- Improved breathing ease and comfort

Embossed top panel
- Helps reduce fogging of eyewear

3M™ Cool Flow™ Valve
- Effective removal of heat build up provides a cooler and more comfortable wear
- Removes exhaled air and minimises the risk of fogging eyewear

Chin tab
- Improves ease of donning and adjustment to help achieve a comfortable fit

Face and head comfort
- Large soft nose foam material and smooth inner cover web both feel incredibly soft on the skin and help to create a comfortable environment for the face

Designed to be compatible with:
- Eyewear from 3M
- Hearing protection from 3M

Typical applications
- Sinter plant
- Casting
- Rolling mill
- Shake out
- Fettling/cleaning
- Grinding/polishing

3M™ Aura™ Particulate Respirator 9332+
FFP3 NR D
Protection: Dust/Mist
Nominal Protection Factor: 50

Individual packaging
- Hygienic individual packaging helps protect the respirator from contamination before use
- Allows practical storage and dispensing in the workplace

3M™ Disposable particulate respirators
3M Personal Safety Division
3M™ Disposable particulate respirators

**3M™ Aura™ Particulate Respirator 9310+**
- FFP1 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 4

**3M™ Aura™ Particulate Respirator 9320+**
- FFP2 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 12

**3M™ Aura™ Particulate Respirator 9312+**
- FFP1 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 4

**3M™ Aura™ Particulate Respirator 9322+**
- FFP2 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 12

**3M™ Aura™ Particulate Respirator 9330+**
- FFP3 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 50

**3M™ Aura™ Particulate Respirator 9332+**
- FFP3 NR D
- Protection: Dust/Mist
- Nominal Protection Factor: 50
The 3M™ Cup Shaped Respirators 8825+ and 8835+ have been engineered to help improve fit to wearer’s individual face shape and size.

With their robust shell and cup design, these respirators meet the particular requirements of the clogging test for FFP (filtering face piece) respirators and are EN 149 ‘R’ rated which means that they may be used for more than one shift.

**Features and benefits:**

**Proprietary soft inner face seal**
- Flexible material helps form comfortably onto a wide range of face shapes and sizes
- Innovative contoured design engineered to help provide a more secure seal around the nose
- Comfortable feel on the skin
- Easy to clean for wearer hygiene using the 3M™ Face Seal Cleaning Wipe 105 (as per EN 149+A1)
- Designed to help reduce eyewear fogging

**Innovative design**
- Engineered to help improve fit to wearer’s individual face shape and size
- EN 149 ‘R’ Rated. Reusable – this mask can be used for more than one shift
- Collapse resistant: works well in hot humid environments
- Modern and stylish
- Easy to don and doff

**3M™ Advanced Electret Filter Media (AEM)**
- High performance filter material that’s easy to breathe through
- Meets the clogging test requirements of EN 149:2001+A1:2009
- Consistent high quality performance

**3M™ Cool Flow™ Valve**
- Effective exit of heat build up provides a cooler and more comfortable wear and helps to minimise the risk of fogging eyewear

**Adjustable braided headbands**
- 4-point adjustment helps to provide a more secure feel
- Comfortable on the head and neck

**Materials**
- This product does not contain components made from:
  - natural rubber latex
  - metal
  - PVC

**Designed to be compatible with:**
- Safety eyewear from 3M
- Hearing protection from 3M

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**Typical applications**
- Sinter plant
- Casting
- Rolling mill
- Shake out
- Fettling/cleaning
- Grinding/polishing

---

**3M™ Particulate Respirator 8835+**
- FFP3 R D
- Protection: Dust/Mist/Metal Fume
- Nominal Protection Factor: 50

**3M™ Particulate Respirator 8825+**
- FFP2 R D
- Protection: Dust/Mist/Metal Fume
- Nominal Protection Factor: 12
Welding Fume Respirators

The 3M™ Welding Fume Respirators 9925 and 9928 provide lightweight, effective, comfortable and hygienic respiratory protection against dust, mist and metal fumes and resist clogging for extended use against welding fume. The convex shape enhances wearer comfort; the 3M™ Cool Flow™ Exhalation Valve reduces heat build up, particularly in hot humid work conditions. The 4-point adjustable straps and adjustable nose clip help achieve a comfortable fit. The 3M respirators 9925 and 9928 have been designed specifically for welding applications to provide protection against ozone and welding fumes, plus relief from nuisance odours.

Typical applications
- Refractory maintenance
- Melting and pouring
- Welding and cutting
- Hot surface treatment

Features and benefits:

- Robust shell and cup design
  - Flame retardant outer surface minimises the effect of welding splatter
  - Conforms well to most face shapes and sizes
  - Collapse-resistant
- Soft inner face-seal ring (9928 only)
  - Provides secure feel
  - Improves wearer comfort
- Can be hygienically cleaned if used for longer than one shift (3M™ Faceseal Cleaner 105)
- 3M™ Cool Flow™ valve
  - Effective removal of heat build up provides a cooler and more comfortable wear
  - Removes exhaled air and minimises the risk of misting eyewear
- Colour coded valve lettering
  - Easy to recognise protection level (FFP2) by colour coding
- Carbon layer
  - Provides protection against ozone gas and relief from nuisance level odours
- Adjustable braided headbands
  - Help provide comfort to face, head and neck
- Compatible with
  - Eyewear from 3M
  - Hearing protection from 3M
  - 3M™ Speedglas™ Welding Heads
  - Welding shields – low profile design for compatibility with welding shields

3M™ Welding Particulate Respirator 9928
Protection: Dust/Mist/Ozone/Nuisance level odours
Nominal Protection Factor: 10 for Ozone and Particulates
Below NPF for Nuisance Odours

3M™ Welding Particulate Respirator 9925
Protection: Dust/Mist/Ozone/Nuisance level odours
Nominal Protection Factor: 10 for Ozone and Particulates
3M™ Disposable particulate respirators

3M™ Speciality Series
Particulate Respirators

The Speciality Series by 3M have been developed to provide lightweight, effective, comfortable and hygienic respiratory protection for particular working environments ranging from welding to waste sorting.

These speciality respirators which protect against dust and mist also feature an integrated activated carbon layer, offering relief from nuisance odours below nominal protection factor and, depending on the product type, from low levels of organic vapours or acid gases.

Features and benefits:

Robust shell and cup design
- Conforms well to most face shapes and sizes
- Maintains its shape well during use
- Collapse-resistant

3M™ high performance filter material
- Effective filtration with easy breathing
- Consistent high quality performance

3M™ Cool Flow™ valve
- Effective removal of heat build up provides a cooler and more comfortable wear
- Removes exhaled air and minimises the risk of misting eyewear

Carbon layer
- Provides protection against nuisance level organic vapours below nominal protection factor

Colour coded straps
- Easy to recognise performance level by colour coded straps

Compatible with
- Eyewear from 3M
- Hearing Protection from 3M

Typical applications
- Coke production
- Anode production
- Melting and pouring
- Welding and cutting (9922)
- Aluminium smelting (9906)

3M™ Speciality Particulate Respirator 9914
Protection: Dust/Mist/Nuisance Level Organic Vapour
Nominal Protection Factor: 4 for Particulates
Below NPF for Organic Vapors
Also Available in handy packs of 5

3M™ Speciality Particulate Respirator 9906
Protection: Dust/Mist/Nuisance Level Hydrogen Fluoride
Nominal Protection Factor: 4 for Particulates
Below NPF for Hydrogen Fluoride

3M™ Speciality Particulate Respirator 9913
Protection: Dust/Mist/Nuisance Level Organic Vapour
Nominal Protection Factor: 4 for Particulates
Below NPF for Organic Vapors

3M™ Speciality Particulate Respirator 9915
Protection: Dust/Mist/Nuisance Level Acid Gas
Nominal Protection Factor: 12 for Particulates
Below NPF for Acid Gasses

3M™ Speciality Particulate Respirator 9921
Protection: Dust/Mist/Nuisance Level Acid Gas
Nominal Protection Factor: 4 for Particulates
Below NPF for Acid Gasses

3M™ Speciality Particulate Respirator 9922
Protection: Dust/Mist/Nuisance Level Ozone
Nominal Protection Factor: 10 for Particulates and Ozone
Below NPF for Organic Vapors

3M™ Speciality Particulate Respirator 9936
Protection: Dust/Mist/Nuisance Level Acid Gas
Nominal Protection Factor: 50 for Particulates
Below NPF for Acid Gasses
Reusable respirators
3M™ Maintenance Free Reusable Respirators 4000 Series

With no parts assembly or maintenance required, this simple, lightweight, well balanced respirator offers reliable respiratory protection against a range of gases, vapours and particulates typically found in a variety of industries. A unique bonded carbon technology allows the respirator to sit close to the face and fit well under many other types of protective equipment, providing an undisturbed field of vision and a more comfortable worklife.

Features and benefits:

Comfortable, effective protection
- Low profile design for better peripheral vision
- Lightweight, well balanced design
- Soft, non-allergenic material with textured face seal
- Proven to consistently exceed EU standard requirements for breathing ease

Convenience
- One piece, maintenance-free construction
- Four versions available, each offering protection against differing hazards throughout industry
- Resealable bag provides convenient and clean storage between uses

Cooler wear
- Central position of the exhalation valve for effective removal of heat and moisture build up within face piece

Adjustability
- Helps to achieve a stable secure fit
- Easy to fasten neck strap

Cost effective
- Use until damaged, particulate filters clog or gas filters become saturated
- Proven to consistently exceed minimum standards for filter service life which can help postpone the need for respirator replacement and, overtime, represent a budget gain

Accessories
- 3M™ Overspray Guard 400 is available to help prolong the life of the main particulate filters

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

3M™ Maintenance Free Respirator 4251

3M™ Maintenance Free Respirator 4000 Series available:

- 3M™ Reusable Respirator 4251
  Organic Vapour* + Particulates FFA1P2 R D

- 3M™ Reusable Respirator 4000
  Organic Vapour* + Particulates FFA2P3 R D

- 3M™ Reusable Respirator 4277
  Organic Vapour* / Inorganic Vapours + Acid Gas / Particulates FFABE1P3 R D

- 3M™ Reusable Respirator 4279
  Organic Vapour* / Inorganic Vapours + Acid Gas / Ammonia / Particulates FFABEK1P3 R D

* Organic vapours boiling point>65 degrees C

*Based on sales of 3M reusable respirators in Europe Middle East and Africa between 2010 and 2013.
1 INSPEC INTERNATIONAL Test Report 1.10.06.29 and ongoing quality release data
2 Tested by 3M, ongoing quality release data. For example in 2012: 300 products tested, all samples exceeded EN 405 minimum level gas and vapour filter capacity.
3M™ Reusable respirators

3M™ Filters for use with Reusable Respirators

3M has developed a wide range of filters for use with its half and full face masks that offer effective protection against gases, vapours and particles. The Bayonet Filter Attachment System allows the filters to just be clicked into place ensuring optimum ease of use.

3M™ Particulate Filters

Particulate filters protect only against particles i.e. dust, mists, aerosols, smoke, mould, bacteria and so on. Some of our filters also provide relief from nuisance odours.

### 3M™ Particulate Filters 6035/6038 Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>6035</td>
<td>P3 R</td>
<td>Solid and liquid particles – in solid plastic case for rough application</td>
</tr>
<tr>
<td>6038</td>
<td>P3 R</td>
<td>Solid and liquid particles. Hydrogen Fluoride gas up to 30ppm and relief from nuisance level organic vapours and acid gases below nominal protection factor in solid plastic case for tough applications</td>
</tr>
<tr>
<td>502**</td>
<td></td>
<td>Filter retainer</td>
</tr>
</tbody>
</table>

**Service Life**

- These filters have more surface area than many standard filters i.e. 1.8 times the surface area of a 2000 Series filter, which can potentially increase the service life in some applications

**Easy Seal Checking**

- Simply press on the filter’s hard case to use the 3M™ spring seal check feature

**Convenience**

- The hard case makes this filter ideal for harsh environments with the need for easy decontamination and protection. The 6038 hard case also protects against sparks and high heat

### 3M™ Particulate Filters 5000 Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>5911*</td>
<td>P1 R</td>
<td>Solid and liquid particles</td>
</tr>
<tr>
<td>5925†</td>
<td>P2 R</td>
<td>Solid and liquid particles</td>
</tr>
<tr>
<td>5935†</td>
<td>P3 R</td>
<td>Solid and liquid particles</td>
</tr>
<tr>
<td>501</td>
<td></td>
<td>Filter retainer</td>
</tr>
<tr>
<td>603</td>
<td></td>
<td>Filter platform</td>
</tr>
</tbody>
</table>

**Combine**

- Can be combined with the 3M™ Gas and Vapour 6000 Series using the 501 retainer or used separately with the 603 and 501 filter retainer

**Comfort**

- Lightweight, low breathing resistance, excellent field of vision when fitted over the 6000 Series Gas and Vapour Filters

**Convenience**

- Especially useful if you need to change the particulate filter more often than the gas and vapour filter
3M™  Reusable respirators

3M™ Particulate Filters 2000 Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>2125</td>
<td>P2 R</td>
<td>Solid and liquid particles</td>
</tr>
<tr>
<td>2128</td>
<td>P2 R</td>
<td>Solid and liquid particles, ozone protection up to 10 x nominal protection factor, organic vapours/acid gas</td>
</tr>
<tr>
<td>2135</td>
<td>P3 R</td>
<td>Solid and liquid particles</td>
</tr>
<tr>
<td>2138</td>
<td>P3 R</td>
<td>Solid and liquid particles, ozone protection up to 10 x nominal protection factor, organic vapours/acid gas</td>
</tr>
<tr>
<td>502**</td>
<td></td>
<td>Filter retainer</td>
</tr>
</tbody>
</table>

Comfort
- Both sides of the filter can be breathed through, increasing the surface area and reducing breathing resistance

Compatibility
- Can be used with half/full face masks and can even be used under welding shields

Durability
- These filters resist abrasion and wetting

3M™ Gas and Vapour Filters

Gas and vapour filters protect only against gases and vapours. These can be combined with some particulate filters if needed.

3M™ Gas and Vapour Filters with 3M™ Service Life Indicator 6000i Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>6051i</td>
<td>A1</td>
<td>Organic gases and vapours bp&gt;65°C</td>
</tr>
<tr>
<td>6055i</td>
<td>A2</td>
<td>Organic gases and vapours bp&gt;65°C</td>
</tr>
</tbody>
</table>

Optimised filter use
- Designed to indicate service life based on individual exposure and respiratory use patterns
- Confidence in protection
- Indicator is a simple tool integrated into each individual 6000i Series filter for quick visual check

Ease of use
- Can help users determine when to change their filters in appropriate environments or can be used to complement your current filter change schedule
3M™ Combination Filters

Protect against both particles and gases. Different combinations of particulate and gas and vapour filters are used depending on the gases or vapours present in the air.

### 3M™ Gas, Vapour and Particulate Filters 6000 Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>6091</td>
<td>A1P3 R</td>
<td>Organic gases and vapours bp&gt;65°C and particulates</td>
</tr>
<tr>
<td>6092</td>
<td>A1B1EK1P3 R * formaldehyde</td>
<td>Organic vapours bp&gt;65°C, inorganic vapours, acid gases, ammonia and its derivatives, formaldehyde up to 10ppm and particulates</td>
</tr>
<tr>
<td>6095</td>
<td>A2P3 R</td>
<td>Organic gases and vapours bp&gt;65°C and particulates</td>
</tr>
<tr>
<td>6096</td>
<td>A1E1HgP3 R</td>
<td>Organic vapours bp&gt;65°C, acid gases, mercury and particulates</td>
</tr>
<tr>
<td>6098*</td>
<td>AXP3 NR</td>
<td>Organic vapours bp&lt;65°C and particulates</td>
</tr>
<tr>
<td>6099*</td>
<td>A2B2E2K2HgP3 * formaldehyde</td>
<td>Organic vapours bp&gt;65°C, inorganic vapours, acid gases, ammonia and its derivatives, mercury, formaldehyde up to 10ppm and particulates</td>
</tr>
</tbody>
</table>

### Convenience and flexibility
- Three new combination filters accommodate an even greater variety of applications
- Whilst the 6096 and 6099 classifications have been expanded to cover additional contaminants

### Comfort
- Provides a good balance of weight on the face
- Offers low breathing resistance
- Trapezoidal shape helps to give excellent field of vision

### Compatibility
- Can be used with all half face and full face combinations both with and without particulate filters

### 3M™ Gas and Vapour Filters 6000 Series

<table>
<thead>
<tr>
<th>Filter</th>
<th>Protection Level</th>
<th>Protection Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>6051</td>
<td>A1</td>
<td>Organic gases and vapours boiling point (bp) &gt;65°C</td>
</tr>
<tr>
<td>6054</td>
<td>K1</td>
<td>Ammonia and derivatives</td>
</tr>
<tr>
<td>6055</td>
<td>A2</td>
<td>Organic vapours bp&gt;65°C</td>
</tr>
<tr>
<td>6057</td>
<td>ABE1</td>
<td>Organic vapours bp&gt;65°C, inorganic vapours and acid gases</td>
</tr>
<tr>
<td>6059</td>
<td>ABEK1</td>
<td>Organic vapours bp&gt;65°C, inorganic vapours, acid gases ammonia and its derivatives</td>
</tr>
<tr>
<td>6075</td>
<td>A1+ formaldehyde</td>
<td>Organic vapours bp&gt;65°C and formaldehyde up to 10ppm</td>
</tr>
</tbody>
</table>

* Only for full face masks.
**502 filter retainer, allows 6000 series Gas and Vapour filters to be combined with 2000 series or 6000 series particulate filters.
† 5000 series filters can be used with 6000 series filters for combined gas and particulate protection in conjunction with a 501 filter retainer, and without the 6000 series filters in conjunction with a 603 filter platform and a 501 filter retainer.
3M™ Reusable Half Face Masks
6000 Series

The 3M™ Reusable Half Masks 6000 Series are economical, low-maintenance, simple to handle and lightweight. Available in three sizes 6100 (small), 6200 (medium), 6300 (large), all masks have the 3M™ Bayonet Connection System allowing connection to a broad range of twin filters to protect against gases, vapours and particulates depending on your individual needs. These half masks can also be used with 3M™ Supplied Air Systems for your increased convenience and flexibility.

Features and benefits:

Head harness
- Designed for compatibility with other 3M head and eye protection
- Cradle suspension for comfortable fit
- Easy to fasten neck strap

Facepiece
- Colour coded sizes for easier identification
- Lightweight elastomeric material for comfort during long periods of work
- Low weight of 82g

Low-profile design
- Minimises interference with field of view
- More simplicity for easy handling

Filter connection
- Twin filter design provides lower breathing resistance
- Better weight distribution and a more balanced fit
- Improved peripheral vision
- Safe and secure fit
- Optical marking of attachment point
- Flexible system for gas, vapour, particulate filters
- Optional supplied-air connection

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Welding and cutting
- Grinding and polishing
- Surface preparation and treatment

3M™ Half Mask 6200 (Medium)
Classification: EN140:1998

3M™ Half Mask 6100 – small (light grey)
3M™ Half Mask 6200 – medium (grey)
3M™ Half Mask 6300 – large (dark grey)

For filter selection, please see page 24-26

3M™ Organic Vapour Monitor Badges measure personal exposure to hazards

3M™ Face Seal Wipe 105
3M™ Reusable Half Masks
6500 Series

The 3M™ Reusable Half Masks 6500 Series have been designed with tough and dirty work environments in mind. Stay productive and protected – the 6500 Series delivers durability and stability with a firm, lightly textured silicone faceseal and strong body construction. There are two versions of the 6500 Series available – the 6500QL Series featuring the Quick Latch Drop Down mechanism and the 6500 Series (Standard). Both versions are available in three sizes.

Features and benefits:

Overmoulded, low-profile design
- Simplified cleaning and maintenance with minimal parts and crevices
- Advanced half mask design for a wide field of view
- Compatibility with 3M™ welding/grinding shields

Adjustable head harness assembly
- Optimum fit and comfort with three-size adjustable head cradle
- Durable harness straps

Silicone faceseal
- Provides comfort and stability with a soft but firm faceseal
- Extended product life due to resilient silicone material
- Lightweight
- Keeps its shape in high-heat environments
- Available in three sizes (S, M and L)

3M™ bayonet connection
- Flexible bayonet system for connection to a wide range of 3M™ gas, vapour and particulate filters

Valve cover design
- Directs exhaled breath and moisture downward
- Easy positive pressure seal check

3M™ Cool Flow™ exhalation valve
- Enhanced comfort by reducing heat and moisture
- Less exhalation resistance makes breathing easier

Quick Latch (QL) – drop down mechanism*
- Easy on and off as you move in and out of contaminated areas
- No need to remove your safety helmet or face shield when lowering or raising your respirator

*QL version only

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Rolling mill
- Forging and stamping
- Foundry casting
- Welding and cutting
- Grinding and polishing
- Surface preparation and treatment

3M™ Reusable Half Mask 6501QL - small with Quick Latch
3M™ Half Mask 6501QL - small
3M™ Half Mask 6502QL - medium
3M™ Half Mask 6503QL - large

Standard
3M™ Half Mask 6501 - small
3M™ Half Mask 6502 - medium
3M™ Half Mask 6503 - large

3M™ Organic Vapour Monitor Badges measure personal exposure to hazards

3M™ Face Seal Wipe 105

For filter selection, please see page 24-26
3M™ Reusable Half Face Masks
7500 Series

The 7500 Series Respirators by 3M have set a new standard in comfort. This facepiece was designed with the wearer in mind. Its soft sealing surface, along with the unique 3M™ Cool Flow™ Valve, enhances wearer comfort and face fit. Reduced breathing resistance helps to minimise heat build-up in the mask and increases your comfort.

Available in three sizes, 7501 (small), 7502 (medium) and 7503 (large), all masks have the 3M™ Bayonet Attachment System offering a broad range of twin lightweight filters to protect against gases, vapours and particulates depending on your individual needs and can also be used with 3M™ Supplied-Air Systems.

Features and benefits:

Head harness
- Balanced, secure fit
- Reduced pressure and tension points

Facepiece
- DropDown feature for added convenience during breaks
- Designed for compatibility with 3M head and eye protection
- Soft silicone face piece material for comfort and durability
- Thin nose bridge area for more comfort
- Fully maintainable
- Low weight of 136 gr.

3M™ Cool Flow™ exhalation valve
- Less exhalation resistance
- Easier breathing
- Less heat and sweat build-up
- Reduces valve vibration
- downwards flow of exhaled air

Low-profile design
- Minimises interference with field of view
- Minimised dirt-traps
- Reduced fogging with eye protection
- Sleek look and feel

Filter connection
- Twin filter design provides lower breathing resistance
- Better weight distribution and more balanced fit
- Improved peripheral vision
- Safe and secure fit
- Optical marking of attachment point
- Flexible system for gas, vapour, particulate filters
- Optional supplied-air connection

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Welding and cutting
- Grinding and polishing
- Surface preparation and treatment

3M™ Half Mask 7503 (Large)
Classification: EN140:1998
- 3M™ Half Mask 7501 – small (grey blue)
- 3M™ Half Mask 7502 – medium (light blue)
- 3M™ Half Mask 7503 – large (dark blue)

3M™ Organic Vapour Monitor Badges
measure personal exposure to hazards

3M™ Face Seal Wipe 105

For filter selection, please see page 24-26
3M™ Reusable Full Face Masks 6000 Series

The 3M™ Full Face Masks 6000 Series are simple to handle and comfortable to wear. The exhalation port provides increased durability and is easy to keep clean.

Available in three sizes, 6700 (small), 6800 (medium) and 6900 (large), both masks have the 3M™ Bayonet Connection System enabling connection to a broad range of twin lightweight filters to protect against gases, vapours and particulates depending on your individual needs.

Features and benefits:

**Full face piece**
- Soft, non-allergenic elastomeric face piece
- Extremely lightweight (400 grams) for high comfort

**Full face lens**
- Broad field of vision
- Polycarbonate lens, scratch and impact resistant to EN166:2001 B

**4 strap head suspension**
- Easy to put on and take off
- Well balanced

**3M™ Cool Flow™ exhalation valve**
- Less exhalation resistance
- Easier breathing
- Less heat and sweat build-up
- Reduces valve vibration
- Downwards flow of exhaled air
- Minimised dirt-traps to stay clean
- Sleek look and feel

**Filter connection**
- Twin filter design provides lower breathing resistance
- Better weight distribution and more balanced fit
- Improved peripheral vision
- Safe and secure fit
- Optical marking of attachment point
- Flexible System for gas, vapour, particulate filters
- Optional supplied-air connection

Typical applications

- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

For filter selection, please see page 24-26
Powered and supplied air respirators
Should I choose:

A powered air system?
- Incorporates a battery powered motorised fan to draw air through a filter
- Cannot be used to protect against substances with poor warning properties (taste/smell)
- Must not be used in conditions that are Immediately Dangerous to Life or Health (IDLH)
- Suitable for use over long shifts - reduced breathing resistance
- Can offer integrated head, eye and face protection

A supplied air system?
- Air is supplied from a compressor (compressed air must be of breathable quality)
- Can be used to protect against substances with poor warning properties (taste/smell)
- Must not be used in conditions that are Immediately Dangerous to Life or Health (IDLH)
- Suitable for use over long shifts - reduced breathing resistance
- Can offer integrated head, eye and face protection

Powered air respirators
- 3M™ Versaflo™ Powered Air Turbo TR-300+
- 3M™ Versaflo™ Powered Air Turbo TR-600
- 3M™ Jupiter™ Powered Air Turbo

Supplied air respirators
- 3M™ Versaflo™ Regulators V-Series
- 3M™ S-200+ Supplied Air System
- 3M™ Aircare™ Filtration Units
Modularity

Modularity is a comprehensive approach to worker protection systems based on comfortable-to-wear modules. All modular headtops and delivery units are compatible with one another. Users can mix and match parts as they move from one environment to another, or from one application to the next. It is the ultimate in flexibility for handling changing user environments.

Selection process for modular systems

**Powered air systems**

Stage 1A
Select Powered Air Turbo*

Stage 1B
Select Filters, Battery and Belt

Stage 2
Select your Headtop

Stage 3
Select your Breathing Tube

Stage 4
Choose Accessories

* Want an even easier way to select a system? Choose 3M’s powered air starter kits, which include everything apart from the headtop.

**Supplied Air Systems**

Stage 1
Select your Regulator

Stage 2
Select your Headtop

Stage 3
Select your Breathing Tube

Stage 4
Select your Compressed Air Supply Tube

Stage 5
Select Couplings

Stage 6
Choose Accessories
Modular respirator systems

**3M™ Versaflo™ Headtops M-Series**

- **3M™ Versaflo™ Helmet M-307**
- **3M™ Versaflo™ Helmet M-407**

**Breathing tubes**

- **BT-30:** Self-adjusting
- **BT-40:** Heavy-duty rubber

*BT-30 not approved for use with M-400 Headtop/TR-600 Powered Air Turbo combinations. BT-40 Breathing Tube should be used.*

**Powered air turbos**

- **Particulate only (nuisance level organic vapour and acid gas options available)**

- **3M™ Versaflo™ Powered Air Turbo TR-300+**
- **3M™ Versaflo™ Powered Air Turbo TR-600**

- **3M™ Jupiter™ Powered Air Turbo**
- **3M™ Jupiter™ Powered Air Turbo with IS Kit**

**Filter**

- Spark Arrestor
- Prefilter
- P Filter
- P/Nuisance Level Organic Filter
- P/Nuisance Level Acid Gas (HF up to 10 x Threshold Limit Value)

**Battery**

- Standard battery
- High capacity battery

**Charger**

- Single Station Battery Charger
- 4-Station Battery Charger Kit

**Filter**

- Spark Arrestor
- Prefilter
- P Filter
- P/Nuisance Level Organic Vapour/Acid Gas
- A1P Filter
- A2P Filter
- ABE1P Filter
- ABE2K1HgP Filter

**Battery**

- Standard Battery
- High Capacity Battery

**Charger**

- Single Station Battery Charger
- 4-Station Battery Charger Kit

**Filter**

- Prefilter Pads
- Particulate P Filters
- A2P Filters
- A2BE1P Filters
- ABE1P Filters

**Battery**

- 4 hour Battery
- 8 hour Battery
- 4 hour IS Battery

**Charger**

- Single Station Battery Charger
- 10-station Multi Battery Charger
3M™ Powered and supplied air respirators

**Headtop accessories**
- 3M™ Radiant Heat Cover M-973 for 3M™ Helmet M-307*
- 3M™ Radiant Heat Cover M-975 for 3M™ Helmet M-407*
- 3M™ Versaflo™ Helmet M-300 with integrated communications and hearing protection

*The Radiant heat covers should only be used with Powered air systems

**Breathing tubes accessories**
- 3M™ Flame Resistant Breathing Tube Cover BT-926

**Supplied air regulators**
- Air cooling
- Flow controlled
- 3M™ Versaflo™ Supplied Air Unit V-100E
- 3M™ Versaflo™ Supplied Air Regulator V-500E

**Belt unit coupling**
- Air Supply Tubes
  - 308-00-30P
  - 308-00-72P
  - 308-00-31P
- Air supply tube coupling set
- 3M™ Aircare™ Filtration Units
  - Wall mounted (ACU-03)
  - Free Standing (ACU-04)

**Individual respirator systems**

**Supplied air respirator**
- 3M™ S-200+ Supplied Air System

**Welding headtops**
- 3M™ Speedglas™ Welding Helmet 9100 FX Air
- 3M™ Speedglas™ Welding Helmet 9100 Air
- 3M™ Speedglas™ Welding Helmet 9100 MP

*For more information please refer to the welding pages of this catalogue.*
3M™ Versaflo™ Powered Air Turbo TR-600

The new 3M Versaflo Powered Air Respirator System TR-600 provides protection against particles, gases or vapours, or against a combination of these depending on the type of filter used.

The turbo has selectable multiple airflows through a simple, intuitive, easy to use two-button operation and the particulate filter and battery status indicators provide constant updates during use. The modern, low profile design keeps weight close to the back resulting in greater comfort.

Features and benefits:

**Comfortable airflow**
- Three user selectable flow rates to maximise comfort
- Controlled airflow delivers steady flow as battery discharges or filter loads with particulates

**Ease of use**
- TR-600 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 in case of low battery and/or low air flow

**Suitable for metal applications**
- Spark arrester designed to prevent ingress of hot sparks
- High durability belt option for hot work or rugged environments provides greater durability and spark/flame resistance
- Suitable for shower decontamination and temporary submersion to aid cleaning

**Safety**
- Approved to EN 12941 Class TH2 or TH3 dependent on headtop

---

### Typical applications

- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill

---

### Batteries

<table>
<thead>
<tr>
<th>3M™ Versaflo™ Powered Air Turbo TR-602E</th>
</tr>
</thead>
<tbody>
<tr>
<td>This turbo can be easily adapted to your type of environment - see options below. (Includes Air Flow Indicator TR-971 and Spark Arrester TR-662 x2).</td>
</tr>
</tbody>
</table>

---

### 3M™ Versaflo™ Powered Air Turbo Starter Kit TR-619E

- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

---

### 3M™ Modular respirator systems

- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

---

### Filter covers

<table>
<thead>
<tr>
<th>Filter</th>
<th>Filter covers</th>
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<tbody>
<tr>
<td>TR-6701E P</td>
<td>TR-6700FC</td>
</tr>
<tr>
<td>TR-6802E P + Nuisance Odour* Organic Vapour Filter and Acid Gas (Hydrogen Fluoride up to 10 x Threshold Limit Value)</td>
<td>TR-6800FC</td>
</tr>
<tr>
<td>TR-6101E A1P</td>
<td>TR-6100FC</td>
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<tr>
<td>TR-6300E A2P</td>
<td>TR-6300FC</td>
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### Batteries

<table>
<thead>
<tr>
<th>3M™ Versaflo™ Powered Air Turbo TR-600</th>
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<tbody>
<tr>
<td>TR-630 Standard Battery</td>
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<tr>
<td>TR-632 High Capacity Battery</td>
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### Belts

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<thead>
<tr>
<th>3M™ Versaflo™ Powered Air Turbo TR-600</th>
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<tbody>
<tr>
<td>TR-626 High Durability Belt</td>
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<tr>
<td>TR-627 Easy Clean Belt</td>
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### Spares & accessories

<table>
<thead>
<tr>
<th>3M™ Versaflo™ Powered Air Turbo TR-600</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-6600 Pre-filter</td>
</tr>
<tr>
<td>TR-662 Spark Arrester</td>
</tr>
<tr>
<td>TR-653 Cleaning &amp; Storage Kit</td>
</tr>
<tr>
<td>TR-651 Filter Latch Assembly</td>
</tr>
<tr>
<td>TR-641E Single Station Battery Charger Kit</td>
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### Chargers

<table>
<thead>
<tr>
<th>3M™ Versaflo™ Powered Air Turbo TR-600</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-644E 4-Station Battery Charger Kit</td>
</tr>
</tbody>
</table>

---

* "Nuisance Odour" refers to concentrations below the occupational exposure limit (OEL)
3M™ Versaflo™ Powered Air Turbo TR-300+

The 3M™ Versaflo™ Powered Respirator System TR-300+ combines performance, protection and functionality with modern, stylish design and comfort. It is the key to easy-to-use, versatile, respiratory protection systems for particulate environments.

Features and benefits:

Ease of use
- Battery charge status, selected airflow and particulate filter loading status indicators
- Electronic audible and visual alarm in case of low battery and/or low air flow
- Charge status is indicated by a useful LED display

Comfort
- 185 l/min and 205 l/min airflow rate options for user comfort
- Light and small - slim, lightweight, balanced design for comfort

Multiple applications
- High efficiency filter captures hazardous dust, mist and fume plus options for nuisance level gases and vapours
- IP53 rating. Suitable for use in decontamination shower
- Leather belt spark arrestor

Safety
- Approved to EN 12941, TH2 or TH3 depending on headtop

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

Filter
- TR-372E P
- TR-38202E P + Nuisance Level™ Organic Vapour
- TR-38202E P + Nuisance Level™ Acid Gas Filter (Hydrogen Fluoride up to 10 x Threshold Limit Value)

* Nuisance level refers to concentrations below the occupational exposure limit (OEL)

Batteries
- TR-330 Standard Battery
- TR-332 High Capacity Battery

Belts
- TR-325 Standard Belt
- TR-327 Easy-Clean Belt
- TR-326 Leather Belt

Spares & accessories
- TR-3600 Pre-filter
- TR-970 Air Flow Indicator
- BPK-01 Backpack
- TR-362 Spark Arrester
- TR-329 Braces
- TR-380 Filter Surround Gasket

Chargers
- TR-341E Single Station Battery Charger Kit
- TR-344E 4-Station Battery Charger Kit

3M™ Versaflo™ Powered Air Turbo TR-302E+
This unit comes with an airflow indicator only. To adapt to your type of environment see options below.

3M™ Versaflo™ Starter Kit TR-315E+
This Versaflo Starter Kit includes the TR-302E+ Turbo, particulate filter, pre-filter, spark arrestor, standard belt, high capacity battery pack, battery charger kit, self-adjusting breathing tube and airflow indicator.

Leather Belt TR-326
Spark Arrester TR-362
The 3M™ Jupiter Respirator provides respiratory protection against particulate and gaseous contaminants. It can also be used in potentially explosive atmospheres when fitted with the intrinsically safe pouch and battery (available as the Intrinsically Safe Kit).

Ergonomically designed to sit at the base of the user’s back, the unit’s low weight is carried mostly on the user’s hips via the padded comfort belt. As a result, the 3M Jupiter Respirator is comfortable enough to wear for entire work shifts.

Typical applications:
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

Features and benefits:

Ease of use
- Electronic audible and visual alarm in case of low battery and/or low air flow

Comfort
- Modern, ergonomic design
- High comfort decontamination belt

Intrinsic safety (IS)
- Only when used with intrinsically safe kit
- Kit contains pouch and intrinsically safe battery
- 3M part number 085-12-00P

Respiratory safety
- Approved to EN 12941 class TH2 or TH3 depending on headtop

Other options:
- P Filters (Pair) 450-00-25P2X12
- A2BEK1P Filters (Pair) 453-09-25P2X6
- Battery Pack – 4 hour 007-00-63P
- 10 Station Intelligent Charger 003-00-59P

3M™ Jupiter™ Powered Air Starter Kit includes:
- Jupiter Turbo 085-00-10P
- Decontamination Belt + Clip BLT-12 + BLT-15
- Airflow Indicator Tube and Calibration Tube 021-14-12P
- A2P Filters (Pair) 453-00-25P2X6
- Pre-Filters (Pair) 461-00-02P24X5
- Self-adjusting Breathing Tube BT-30
- 8 hour Battery (NiMH) 007-00-64P
- Battery Charger CHG-02E
The modular range of supplied air respirators lets you choose how you want your system built, with the flexibility to change it in the future. The 3M™ Versaflo™ Supplied Air Regulators offer protection against dust, mist, fumes, gases or vapours and combination hazards e.g. paint spray. Supplied Air Regulators do not offer protection in confined spaces, oxygen deficient atmospheres or for asbestos stripping.

Typical applications
- Refractory maintenance
- Moulding core making
- Shake out and blasting
- Surface preparation and treatment

Features and benefits:

**Comfort**
- Individually adjustable, consistently controlled airflow
- Air flow 170–305 l/min
- Removable, integrated activated charcoal filter
- Integrated silencer
- Belt swivel mechanism

**Multiple Applications**
- Spray gun or compressed air-tool port

**Safety**
- Low-pressure warning whistle
- Double action supplied air connection
- Approved to EN 14594 Class 2A/3A or 2B/3B dependent on headtop

**3M™ Versaflo™ Supplied Air Regulator V-500E**
Balanced regulator specifically designed for respirator use, the Versaflo V-500E Regulator ensures smooth airflow, safety and comfort.

**3M™ Versaflo™ Cooling Regulator V-100E**
3M™ Versaflo™ Regulator V-100E allows users to cool the air by as much as 28°C, making it a good choice for workers exposed to uncomfortably hot temperatures.

**Filtration units and couplings**
The 3M™ Aircare™ Filtration Unit can be connected inline to clean the compressed air before it is fed to the regulator. The various components of the Versaflo V-Series Regulators are connected using plug and socket hose couplings (Rectus 25 or Rectus 95 connectors available).
The 3M™ Versaflo™ Helmets M-300 Series feature lightweight, compact and well-balanced helmets that can offer integrated protection from a range of respiratory, head, eye, face and hearing hazards. M-300 Series helmets meet the highest respirator performance requirements (TH3) for this type of product when used with specific 3M™ Air Delivery Units.

Features and benefits:

Highly versatile rigid headtops
- Head protection approved according to EN397
- Integrated protection from multiple hazards (e.g. respiratory, impact, splash hazards)

Modern, well balanced design
- Lightweight with excellent balance
- Fully-adjustable head suspension
- A deflector allows users to direct the airflow inside the headtop for increased control and comfort

Visor design
- Visor design combines excellent peripheral and downward vision with good optical clarity
- Lenses provide chemical and scratch resistance

Easy to maintain
- Many parts are common to all Versaflo M-Series Headtops, meaning reduced inventories and downtime
- Spare parts and accessories are quick, easy and intuitive to replace

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

Accessories
- M-925 Visor - providing additional molten metal splash protection
- M-927 Coated Visor - providing chemical and scratch resistance
- M-928 Peel-Off Visor Covers (pack of 10)
- M-937 Flame resistant faceseal (pack of 5)
- M-958 Chin-strap
- 3M™ PELTOR™ Hearing Protector Helmet Attachments:
  - H31P3AF 300, H510P3AF-405-GU (Optime I)
  - H520P3AF-410-GQ (Optime II) and H540P3AF-413-SV (Optime III)
- M-972 Flame Resistant Headtop Cover

Additional protection
- Eye Protection
  - EN166 1/BT:3*
  - EN166 1/BT:3.9**
- Hearing Protection
  - EN352-3***
- Head Protection
  - EN397 LD 440V a.c.

1 Nominal Protection Factor – a number derived from the maximum percentage of total inward leakage permitted in relevant European Standards for a given class of respiratory protective devices.
2 The M-Series Face Shields and Helmets 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.
3M™ Versaflo™ Helmets with Shrouds M-400 Series

The 3M™ Versaflo™ M-Series Helmets can offer integrated protection from a range of respiratory, head, eye, face and hearing hazards with additional neck and shoulder coverage. M-400 Series helmets meet the highest respirator performance requirements (TH3) for this type of product when used with specific 3M™ Air Delivery Units.

Features and benefits:

Highly versatile rigid headtops
- Head protection approved according to EN397
- Integrated protection from multiple hazards (e.g. respiratory, impact, splash hazards)

Modern, well balanced design
- Lightweight with excellent balance
- Fully-adjustable head suspension
- A deflector allows users to direct the airflow inside the headtop for increased control and comfort

Visor design
- Visor design combines excellent peripheral and downward vision with good optical clarity
- Lenses provide chemical and scratch resistance

Easy to maintain
- Many parts are common to all Versaflo M-Series Headtops, meaning reduced inventories and downtime
- Spare parts and accessories are quick, easy and intuitive to replace

Typical applications
- Sinter plant
- Coke production
- Anode production
- Furnaces and smelting
- Foundry casting
- Rolling mill
- Forging and stamping
- Grinding and polishing
- Surface preparation and treatment

3M™ Versaflo™ Helmet M-407
Features a flame resistant shroud for applications with hot particles.
Fabric material: Polyaramid.

Accessories
- M-925 Visor - providing additional molten metal splash protection
- M-927 Coated Visor - providing chemical and scratch resistance
- M-928 Peel-Off Visor Covers (pack of 10)
- M-958 Chin-strap
- M-447 Flame resistant shroud
- M-972 Flame resistant headtop cover

3M Air Delivery Unit | Versaflo™ M-400
---|---
Classification | NPF
3M™ Versaflo™ TR-300 | EN12941 TH3 500
3M™ Versaflo™ TR-600 | EN12941 TH3 500
3M™ Jupiter™ | EN12941 TH3 500
3M™ Versaflo™ V-100E/ V-500E | EN14569 3B 200

Additional Protection

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<th>Protection</th>
<th>Classification</th>
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<tbody>
<tr>
<td>Eye Protection</td>
<td>EN166 1BT,3*&lt;br&gt;EN166 1BT,3:9**</td>
</tr>
<tr>
<td>Hearing Protection</td>
<td>N/A&lt;br&gt;Head Protection EN397 LD 440V a.c.</td>
</tr>
</tbody>
</table>

* With M-927 Coated Visor<br>** With M-925 Uncoated Visor

1 Nominal Protection Factor – a number derived from the maximum percentage of total inward leakage permitted in relevant European Standards for a given class of respiratory protective devices.
2 The M-Series Faceshields and Helmets 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.
**3M™ Versaflo™ Breathing Tubes BT-Series**

A breathing tube connecting the air source with the headtop is required to ensure that clean air reaches the headtop reliably and with unrestricted airflow. The breathing tubes offered are compatible with all 3M™ Versaflo™ Headtops and Air Delivery Units*.

For high heat applications such as furnace operations and foundry work the 3M™ Radiant Heat Breathing Tube Cover BT-927 offers additional protection against radiant heat and metal splash.

### Features and benefits:
- QRS (Quick Release Swivel) breathing tubes allow fast and easy connection
- All BT-Series Breathing Tubes meet the higher respiratory performance requirements with 3M™ headtops
- A radiant heat breathing tube cover offers additional protection against radiant heat and metal splash
- A special flame-resistant sleeve lengthens the life of the breathing tube and protects it from flying sparks

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**Breathing tube covers**

- BT-926: Flame resistant breathing tube cover
- BT-927: Radiant heat breathing tube cover

---

3M™ Breathing Tube BT-30
Self-adjusting length for improved fit for many wearers and reduce risk of catching and snagging.
Material: Polyurethane
Length: 525–850mm

3M™ Breathing Tube BT-40
High durability breathing tube
Material: Neoprene
Length: 840mm

---

3M™ Modular respirator systems
3M™ Compressed Air Supply Tubes and Couplings

Various compressed air supply tubes are available to connect the 3M™ Air Regulator to the facility’s compressed air system to meet different requirements. The tubes are available in different lengths and they guarantee high quality connections to all components. The tubes have a 3/8” male pipe thread BSP at each end to allow flexibility in the choice of coupling systems.

- **10m Standard duty**
  - Antistatic, high temperature tube
  - Output 3/8” (both ends)
  - Part no. 308-00-30P

- **30m Standard duty hose**
  - Output 3/8” (both ends)
  - Part no. 308-00-31P

- **Coupling Set 3/8” BSP**
  - Rectus 25
    - Part no. 530-12-82P3.
  - Rectus 95
    - Part no. 530-12-81P3.

- **Coupling Plug 1/4” BSP, Rectus 25**
  - Part no. 530-12-52P3.
  - Rectus 95
    - Part no. 530-12-53P3.
3M™ Radiant Heat Cover M-973/M-975 and Over-Visor M-967


Features and benefits:
- Designed to be robust and durable to withstand some of the harsh environments experienced in the metal production industry
- Adaptable - the radiant heat cover and over-visor comprises modular components allowing the user to select the components required to adapt to their needs
- Low profile, designed specifically for 3M™ M-307/M-407 Respirator Helmet
- The over-visors are designed to be flip-up, allowing the user the flexibility to have shaded IR/UV protection when needed but have the peace of mind of clear vision when not required
- Utilises the 3M™ Visor Carrier M-961 to fit to the 3M™ M-307/M-407 Respirator helmet
- Additional options: 3M™ Radiant Heat Breathing Tube Cover BT-927 and 3M™ Flame Resistant Faceseal M-938

### Radiant heat cover performance

<table>
<thead>
<tr>
<th>EN ISO 11612 Code letter and classification</th>
<th>Heat transmission performance requirement</th>
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<tbody>
<tr>
<td>A1</td>
<td>Limited flame spread</td>
</tr>
<tr>
<td>B1</td>
<td>Convective heat</td>
</tr>
<tr>
<td>C4</td>
<td>Radiant heat</td>
</tr>
<tr>
<td>D3</td>
<td>Molten aluminium splash</td>
</tr>
<tr>
<td>E3</td>
<td>Molten iron splash</td>
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### Over-visor and visor carrier performance

<table>
<thead>
<tr>
<th>Model</th>
<th>European standard</th>
<th>Scale number</th>
<th>Optical class</th>
<th>Symbol</th>
<th>Field of use</th>
<th>Mechanical strength</th>
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<tbody>
<tr>
<td>M-967 Over-visor</td>
<td>EN N66/2001</td>
<td>2–5</td>
<td>1</td>
<td>BT</td>
<td>High speed particles</td>
<td>Medium energy impact at extremes of temperature</td>
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<tr>
<td></td>
<td>EN 170/2002</td>
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<tr>
<td>M-961 Visor Carrier</td>
<td>EN 171/2002</td>
<td>4–5 (Infrared)</td>
<td>9</td>
<td>BT</td>
<td>Molten metal splash</td>
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<tr>
<td></td>
<td>EN 166/2001</td>
<td></td>
<td></td>
<td></td>
<td>High speed particles</td>
<td>Medium energy impact at extremes of temperature</td>
</tr>
</tbody>
</table>

### Typical applications
- Furnaces and smelting
- Foundry casting

---

3M™ Modular respirator systems
3M™ Versaflo™ Helmet M-300 with integrated communications and hearing protection

M-300 Series Helmets meet the highest powered respirator performance requirements (TH3) for this type of product when used with specific 3M™ Air Delivery Units. Now approved to be used with 3M™ PELTOR™ LiteCom headsets, M-300 Helmets offer you the possibility to communicate effectively whilst protecting your hearing in noisy environments.

Features and benefits:

Highly versatile rigid headtops
► Head protection approved according to EN397
► Integrated protection from multiple hazards (e.g. respiratory, impact, splash hazards)

Modern, well balanced design
► Lightweight with excellent balance
► Fully-adjustable head suspension
► A deflector allows users to direct the airflow inside the headtop for increased control and comfort

Visor design
► Visor design combines excellent peripheral and downward vision with good optical clarity
► Lenses provide chemical and scratch resistance

Product references

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>M-307</td>
<td>3M™ Versaflo Helmet M-307 with flame resistant face seal</td>
</tr>
<tr>
<td>MT7V/1</td>
<td>Dynamic Microphone (including helmet attachment)</td>
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<tr>
<td>MT53V/1</td>
<td>Electret Microphone (including helmet attachment)</td>
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<tr>
<td>MT7H7P3E4410-EU</td>
<td>3M™ PELTOR™ LiteCom Plus, PMR 446, helmet attachment, dynamic mic</td>
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<tr>
<td>MT7H7P3E4310-EU</td>
<td>3M™ PELTOR™ LiteCom Plus, LPD 433, helmet attachment, dynamic mic</td>
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<tr>
<td>MT53H7P3E410WS5</td>
<td>3M™ PELTOR™ WS™ LiteCom, PMR 446, helmet attachment, electret mic</td>
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<tr>
<td>MT53H7P3E4400-EU</td>
<td>3M™ PELTOR™ LiteCom, PMR 446, helmet attachment, electret mic</td>
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* The M-Series Helmets 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.

Typical applications
► Sinter plant
► Coke production
► Anode production
► Furnaces and smelting
► Foundry casting
► Rolling mill
► Forging and stamping
► Grinding and polishing
► Surface preparation and treatment

3 options of LiteCom headsets
► 3M™ PELTOR™ LiteCom
  Two way radio
  Dynamic microphone
  Electret microphone

► 3M™ PELTOR™ LiteCom Plus
  Two way radio
  External audio input
  Level dependent function for ambient listening

► 3M™ PELTOR™ WS™ LiteCom
  Two way radio
  External audio input
  Level dependent function for ambient listening

Approvals

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<th>Protection Type</th>
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<tr>
<td>Respiratory protection</td>
<td>EN12941:TH2/TH3, EN14594:3B*</td>
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<td>Head protection</td>
<td>EN397 LD 440V a.c.</td>
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<td>Eye protection</td>
<td>EN661:1BT:3**, EN661:1BT:3.9***</td>
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** With M-927 Coated Visor
*** With M-925 Uncoated Visor
3M™ Supplied Air System S-200+

The 3M™ Supplied Air Respirator System S-200+ is a comfortable and versatile supplied air respirator system for use with the 3M™ Half Masks 7502 & 7503 and 3M™ Full Face Masks 6800 & 6900. The S-200+ System by 3M can be used as a standard airline respirator system or in dual-mode with filter back-up when air supply is disconnected.

Engineered to deliver additional comfort and security, the S-200+ features double-action safety couplings to help minimise the risk of accidental disconnection during use and an adjustable airflow feature so you can control the air across your face for maximum comfort.

**Features and benefits:**

- **Cool and comfortable**
  - Lightweight and balanced system with a constant flow of air across the face for a cooler and more comfortable wear

- **Adjustable airflow**
  - Lockable airflow adjustment knob giving you full control of a range of input pressure

- **Double action couplings**
  - Help to minimise the risk of accidental disconnection during use giving you enhanced confidence in protection
  - Stainless Steel CAST Connection, offering improved corrosion resistance in tough conditions

- **ATEX tested**
  - Assessed in accordance with the requirements of the ATEX directive and in accordance with EN13463-1 for non-electrical equipment
  - Suitable for use in IIB 2GD environments under certain conditions. Please see all relevant user information for further details

- **Top performance**
  - Tested and approved to EN14594:2005
  - Meets the highest level of protection, Class 4B for continuous flow supplied air respirators when fitted to a full face mask

- **Quick and easy maintenance**
  - Easy to maintain, spare parts are quick, easy and intuitive to replace

- **Easy to connect**
  - Robust, proven bayonet connection to the facepiece and filter provides easy fitting with confidence of security

- **Easy movement**
  - Low profile, narrow-bore breathing tube for ease of movement and helps to reduce interference with your work

**Typical applications**
- Refractory maintenance
- Moulding core making
- Shake out and blasting
- Surface preparation and treatment

**3M™ S-200+ Supplied Air System**

- **Approvals:** EN14594
- **NPF**:
  - 3M Half Face Masks (Class 3A/B) = 200
  - 3M Full Face Masks (Class 4A/B) = 2000
- **Pressure range:** 3.0 – 7.0 Bar
- **Pressure range (with auxiliary air tool connected):** 4.5-7.0 Bar
- **Maximum Pressure:** 10 Bar

**3M™ Flow Check Bag FCB-01**
The S-200+ includes a Flow Check Bag allowing you to conduct a simple pre-use check to ensure that the correct amount of air is being delivered – giving you peace of mind.

**Select your individual respirator system:**
1. Choose the S-200+ Air Delivery Unit
2. Choose your half face or full face mask
3. Choose your filters (for use in dual-mode)
4. Choose the appropriate air supply tube
5. Choose your accessories and air tools (optional)

* Nominal Protection Factor – a number derived from the maximum percentage of total inward leakage permitted in relevant European Standards for a given class of respiratory protective devices.
The 3M™ Aircare™ Filtration Units can be combined with all 3M™ Supplied Air Respirator Systems. The three-stage filtration system supplies highest quality air to the Supplied Air Respirator System and compressed air tools by removing water and oil aerosols, particles and odours from the facility-supplied compressed air.

The Filtration Unit is available as either a portable freestanding unit or wall-mounted unit.

**Features and benefits:**
- Can be used for up to three users (or two users plus air tool)
- Differential Pressure Indicator
- Pressure regulator (lockable)
- Pressure gauge
- Pre-filter
- Semi Auto Drains (Stage 1, 2) and Manual Drain (Stage 3)
- Coalescing filter
- Adsorber filter with activated charcoal

**Adapters and connectors**
- Input: 1/2” or 3/8” female pipe thread BSP
- Includes 3/8” to 1/2”
- BSP adapter
- Includes 2 adapters, 3/8” BSP to 3/8” male pipe thread BSP
- Output: 3/8” BSP
- Output pressure can be adjusted with the integrated pressure regulator. The Aircare™ Filtration Units can be used with input pressures up to 10 bar

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**3M™ Aircare™ Filtration Unit, Freestanding ACU-04**
- Input: 1/2” or 3/8” female pipe thread BSP.
- Output: 3/8” BSP.

**Wall-mounted option:**

**3M™ Aircare™ Filtration Unit, Wall Mounted ACU-03**
- Input: 1/2” or 3/8” female pipe thread BSP.
- Output: 3/8” BSP.