



 **Speedglas™**



# Passion for Welding

# Empowering information

Welcome to our comprehensive guide to eye, face and respiratory protection for welders.

In this guide we have compiled our welding filters, helmets, respiratory systems, accessories, spare parts and technical data into one handbook for your easy reference.

We are proud to empower welders to select the optimized combination of 3M personal protective equipment for their improved safety, comfort and long-term health.

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## New products:



◀ **3M™ Speedglas™ Quick Release Rail System (QR)**  
No more welding without head protection. And no more wearing a welding helmet when you do not need it.  
Read more on **page 11**.



▶ **3M™ Speedglas™ Welding Filter Kit 9100XXi**  
New welding filter lets you more readily recognize colours. Plus a newly redesigned silver front has external controls for fast and easy access to the grinding and memory modes.  
Read more on **page 9**.

# Speedglas online

Direct access to knowledge, via your computer, laptop or mobile:

## [www.3M.eu/Speedglas](http://www.3M.eu/Speedglas)

Access our latest news, learn more about welding safety and explore the online product catalogue:

- Quick product search
- Compare products
- Download information

Use your smartphone or tablet to explore the new Speedglas product guide

## [app.speedglas.com](http://app.speedglas.com)

- Product overview
- Sort by feature
- Selection guide, etc.



## Follow us on social media

Subscribe to [www.youtube.com/3MSpeedglas](http://www.youtube.com/3MSpeedglas)



Join the welding community on [www.facebook.com/SpeedglasGlobal](http://www.facebook.com/SpeedglasGlobal)



Tag us on Instagram [@3MSpeedglas](https://www.instagram.com/3MSpeedglas)



## ◀ 3M™ Adflo™ Powered Air Respirator

The new Li-ion batteries makes the Adflo respirator even more lightweight. Further details on [page 24](#).



More than 35 years ago, we went to the shipyards of Sweden to study welders working conditions. We found skilled craftsmen blindly striking arcs as they continually nodded their shields down. From that point on, we committed ourselves to developing tools that would forever improve the world of the welder. From the first groundbreaking auto-darkening welding helmet in 1981 to our current lineup of state-of-the-art welding safety products, we continue to revolutionize your world.

# Inspired by your reality

We have a passion for welding and we know the challenges of your profession. We share the passion and pride you put into your welding. So it is natural for us to want to address the ergonomic, safety, and health challenges facing your every day. Your thoughts and opinions are the bottom line in our continuous search for innovation. Inspired by your reality, we shape the future of welding so you can get on with the job of shaping ours.



3M™ Speedglas™ Welding Helmet 9100



High performing  
products and people

# 3M™ Speedglas™ Welding Helmet Series 9100 – our top-of-the-line safety platform for professional welders

In the product development process for our 4th generation of 3M™ Speedglas™ Welding Helmets, we systematically studied welders to identify global customer needs of a welding helmet. The result was

a long list of welding helmet concerns important to the welder, where the three highest ranked became key factors applied in each model within the 3M™ Speedglas™ Welding Helmet Series 9100.

Project start



## Voice of customer summary

- 1 Protection against radiation
- 2 Comfortable to wear
- 3 Reliable performance



1 Protection

### 1 Coverage is key!

Helmet coverage is a concern among many welders. So we made the 9100 series welding helmets deeper and wider, improving coverage of ears, neck and sides of the head from heat and welding sparks. In addition there are several accessories available to extend coverage.

### 2 More comfort, less fog

Less pressure and stable fit means improved comfort: The 9100 high-comfort headband is designed to avoid pressure on vulnerable areas of the head. It also provides several adjustment combinations for maximum personal tailoring and helmet stability.

The 9100 series helmets' improved exhaust vents help reduce heat, humidity and fogging of the welding filter.

## 3 Reliable performance!

The key to remember with 3M™ Speedglas™ Auto-darkening Welding Filters is consistency. They enable consistent, comfortable viewing and provide protection from ultraviolet (UV) and infrared (IR) radiation, at all times, in all states. They consistently auto-switch from light state to dark state, and back again, to help increase productivity while you weld.

## Field trials and quality verifications

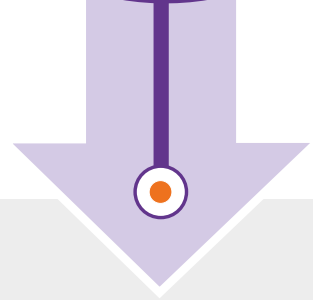
Real-world validation of design concepts and international field trials of prototypes are used to verify our products before they are released. Multiple rigorous objective tests are made to ensure all products meet or exceed international safety standards and requirements well before they reach end-users.



2 Comfort



3 Reliability



## High-performing products for high-performing people

The 3M™ Speedglas™ Welding Helmet Series 9100 includes six welding helmet models offering many options, including flip-up welding shields, safety helmets, and respiratory systems. If you haven't experienced these innovations in welding protection, call your local 3M reseller for a hands-on demonstration.



3M™ Speedglas™ Welding Filter Series 9100

# Excellent optics, bigger views

The 3M™ Speedglas™ Welding Filter Series 9100 continues our tradition of outstanding optical quality, including uniform shading and minimal distortion across the entire filter viewing area. By selecting just the right setting for each task, you reduce eye strain and improve the quality of every weld.

- Seven dark shades, including 9–13 (variable), 5 for gas welding/cutting, and 8 for micro-plasma or low-amp TIG.
- Outstanding low-amp TIG performance, even on settings as low as 1 amp.
- Any shade can be “locked-in.” For example, you can lock-in the light state shade 3 for grinding.
- Exclusive, innovative tack welding comfort mode which can help reduce eye strain.



Magnification made easy. The magnifying lens holder is built into the welding filter, making lens installation easier and more secure.

The 9100 series auto-darkening welding filters include three sizes of viewing areas: regular, large, and extra-large.

Seven user selectable dark shades for most types of arc welding.

The tack welding comfort mode uses an intermediate shade 5 light state to help minimize eye strain during extended tack welding applications.

Conforms to European Standard EN 379 (Personal Eye-Protection – Automatic Welding Filters) as well as other national standards in USA, Canada, Australia – to name a few.

The Delay function allows you to set the dark-to-light switching time.

You can adjust the sensitivity of the arc detection for unsurpassed switching reliability.



## 3M™ Speedglas™ Welding Filter 9100XXi

# An entire suite of improvements – putting the “i” in 9100XXi

Introducing our new top-of-the-line filter! The 3M™ Speedglas™ Auto-Darkening Welding Filter 9100XXi offers the same extra-large viewing area as our 9100XX welding filter, plus:

- More natural colours
- With a push of an external button, switch between your two memory settings – each with their own dark shade, switching sensitivity, and dark-to-light delay
- On the silver front, external controls for grinding and memory modes
- Auto ON/OFF
- New user interface
- Dark shades 5, 8-13



Watch the video at  
[www.youtube.com/3MSpeedglas](http://www.youtube.com/3MSpeedglas)

Or scan this QR-code:



### More natural colours

The difference is easy to see. Yes, the light state is still shade 3! But what you see through the filter seems lighter, more detailed and colourful. In fact, the improved welding filter optics can make your entire viewing experience feel more natural.



### External controls and memory function

The newly redesigned silver front included in the 3M™ Speedglas™ Welding Filter Kit 9100XXi houses external controls, enabling fast and easy access to the grinding and memory modes. A new motion-sensor instantly turns ON the welding filter when you pick up the helmet.

### 3M™ Speedglas™ Welding Helmet Series 9100

## The headband that shapes to your head

The Speedglas 9100 series welding helmets feature a highly adjustable, comfortable headband. The outside of the human head is lined with nerves, arteries, and acupressure points; applying pressure to some of these spots actually makes a person feel fatigued. The 9100 headband specifically avoids

these vulnerable areas. And it provides multiple adjustment combinations so you can “tailor” the helmet to fit your personal preferences and comfort settings, while increasing helmet stability.



### More comfortable when raised

Lifted into the raised position, the helmet’s “high point” is lower than many other helmets. From a design standpoint that means keeping the helmet as close as possible to your head. Because the helmet is more balanced, you do not need to tighten the headband as much, further increasing your wearing comfort.

### Parking position

The smooth up-and-down pivot action can be locked in the up position – a light pull lowers the helmet back down again.



### 3M™ Speedglas™ Quick Release Rail

## Continuous head protection for welders

Designed to fit many of the industry's safety helmets, the 3M™ Speedglas™ Quick Release (QR) Rail swiftly clasps onto your safety helmet via a releasable ratcheting mechanism. With the rail installed, you can easily detach the welding visor, keeping your safety helmet protection in place as you perform non-welding tasks.

### Quickly Connect/Disconnect

Even with a gloved hand, you can easily attach the 3M™ Speedglas™ Welding Helmet 9100-QR (or 100-QR). When your welding work is finished, you can detach the welding helmet as quickly as you take off a baseball cap.

You never need to remove the safety helmet from your head. As you attach and detach the welding helmet, you never need to remove your safety helmet – so your head is protected at all times.



### Use Your Safety Helmet ...Or Ours

The 3M™ Speedglas™ Quick Release (QR) Rail allows you to attach a Speedglas auto-darkening welding helmet to a wide range of the industry's most popular safety helmets. We recommend using a safety helmet with a ratchet headband, for better stability.

3M offers a complete welding helmet system including the 3M™ Safety Helmet H-701.



See videos and learn more about Speedglas quick release welding helmets, visit 3M website:

[www.3M.eu/quickrelease](http://www.3M.eu/quickrelease)

Or scan this QR-code:



### 3M™ Speedglas™ Welding Helmet 9100-QR

## Flexible and comfortable

Your head is protected at all times because you never need to remove your safety helmet as you attach and detach the welding helmet! If you prefer to keep the welding helmet attached, it is quickly parked in the raised position.

This parked position creates a low center of gravity, reducing the forces on your neck while letting you move around more easily thanks to the low profile.

Even with a gloved hand, you can easily attach the 3M™ Speedglas™ Welding Helmet 9100-QR.

The Quick Release (QR) Rail allows you to attach the Speedglas auto-darkening welding helmet 9100-QR to many of the industry's safety helmets.

Ultraviolet (UV) and infrared (IR) protection at all times, in all states.

3M offers a complete welding helmet system including the 3M™ Safety Helmet H-701.

100% compatible with our top-of-the-line 3M™ Speedglas™ Welding Filter Series 9100.

Designed from inception to accept 3M™ Peltor™ Earmuffs.

Exhaled air is channelled out via side exhaust vents.

SideWindows: Shade 5 filters that widen your field of vision.



The 3M™ H-701 is a full-featured safety helmet, capable of accepting integrated eyewear and earmuffs in addition to the Speedglas welding helmet 9100-QR.



## 3M™ Speedglas™ Welding Helmet 9100 MP

# Multiple protection features

We've seamlessly integrated five levels of welder protection: head, eye, face, respiratory and hearing into one extraordinarily comfortable and easy-to-use system.

The 3M™ Speedglas™ Welding Helmet 9100 MP: uncompromising, all-in-one, welding protection for highly demanding environments.

Speedglas welding filter series 9100 with superior optical performance for continuous viewing comfort.

Two shade 5 passive SideWindows add peripheral welding vision.

A deflector allows users to direct the airflow inside the headtop for increased control and comfort.

A big (17x10 cm), curved, protective visor with excellent views up, down and peripherally. Meets EN 166:BT for high speed particle protection\*

Respiratory protection - TH3\*\*

The top shell is made from heat resistance polycarbonate and meets the standard EN 397 for industrial safety helmets. An optional, high-visibility, aluminum fabric reflects hot sunlight and welding heat.

Fully-adjustable suspension that includes textile straps for optimal fit and weight distribution.

The innovative 3M™ Quick Release Swivel (QRS) enables onehanded breathing tube connection and release.

Designed from inception to accept 3M™ Peltor™ Earmuffs.

\* European Standards classify this helmet as "B," with resistance to high speed particles at medium energy impact (120 m/s).  
\*\* When used with 3M™ Adflo™ Powered Air Respirator.



## Look around... really look around

The clear protective visor is wide (17x10 cm) and curved, offering great views up, down and side-to-side. It's perfect for prepping and inspecting welds...and just walking around your facility with full-time, TH3-class respiratory protection\*\*. Then, pull down your welding shield and appreciate the SideWindows view: you can have peripheral vision at all times, even when welding.

### 3M™ Speedglas™ Welding Helmet 9100

## Designed for ultimate protection

Protecting your eyes and face from radiation, heat and sparks – while providing a precise view of your work – makes your Speedglas welding helmet 9100 one of your most important welding tools.



A selection of welding filters with superior optical performance for continuous viewing comfort. Arc detection down to 1 amp TIG.

High-comfort Speedglas Headband 9100.

Large coverage for ear and side of head.

Ultraviolet (UV) and infrared (IR) protection at all times, in all states.

SideWindows: Shade 5 filters that widen your field of vision.

Exhaled air is channelled out via side exhaust vents.

Meets the requirements of mechanical resistance to high speed particles according to EN 175 class B.



**Exhaust vents** readily direct your exhaled air out of the helmet and reduces the likelihood of a foggy welding filter.

### 3M™ Speedglas™ Welding Helmet 9100 Air

## Respiratory welding helmet

All of the benefits of the 9100 welding helmets can be used in combination with powered or supplied air respiratory protection. See further details of respirator compatibility on page 52.



**Airflow:** The middle channel keeps the filter virtually fog-free, while two side channels provide smoothly distributed air to the area of your mouth and nose.

#### Extended protection:

A flame-retardant headcover (used in this application) and an ear/neck protection are available as accessories.



### 3M™ Speedglas™ Welding Helmet 9100 FX

## Wider field of view with flip-up front

Speedglas welding helmet 9100 FX, a flip-up combination of an auto-darkening welding helmet and a protective visor. Not only is the viewing area larger compared to previous

models, we totally redesigned the geometry of the helmet for a wider field of view in all directions.



SideWindows: Shade 5 filters that widen your field of vision.

Spark- and spatter-retardant fabric head cover.

High-comfort Speedglas headband 9100.

Exhaled air is channelled out via side exhaust vents.



100% compatible with our top-of-the-line series of Speedglas welding filter series 9100.

The big, 17 x 10 cm clear protective visor is curved, increasing your peripheral vision.

Meets the requirements of mechanical resistance to high speed particles according to EN 175:B and EN 166:B.



Using the safety helmet adapter, you can easily fit many of the industry's safety helmets with the Speedglas welding helmet 9100 FX.



As additional head and neck coverage there are flame-retardant accessories for protection of molten metal, sparks and flames.



### 3M™ Speedglas™ Welding Helmet 9100 FX Air

## Excellent view and respiratory protection!

For constant TH3-rated respiratory protection and excellent vision in a flip-up model – meet the Speedglas welding helmet 9100 FX Air.

It readily connects both to powered and supplied air respirator systems. See further details of respirator compatibility on page 52.



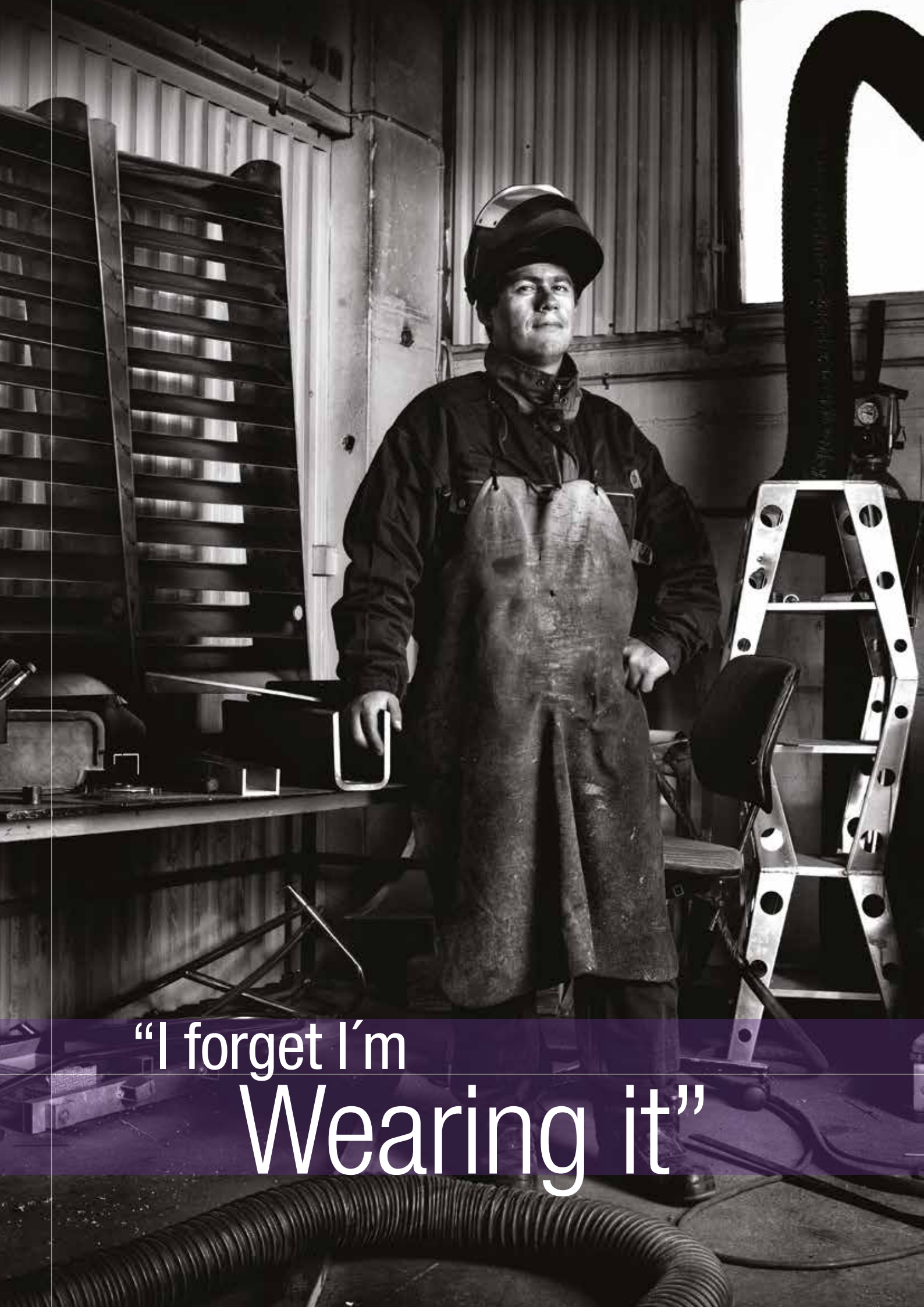
\* When used with 3M™ Adflo™ Powered Air Respirator.



A diffuser spreads out the airflow for your maximum comfort.



A quick lift of the silver front and you get a big, 17 x 10 cm, clear view – perfect for precision grinding in low light conditions, while maintaining respiratory protection.



“I forget I’m  
Wearing it”

## 3M™ Speedglas™ Welding Helmet SL

# When your #1 priority is super light

At a mere 360 grams – including its auto-darkening filter – the Speedglas welding helmet SL is 25% lighter than any other Speedglas model.



reddot design award  
winner 2007



product design award  
2008



Five adjustable dark shades 8–12 and a light shade of 3. Four sensitivity settings.

Grab & Go:  
A motion sensor automatically turns ON the welding filter when you pick up the helmet.

Our narrowest helmet:  
perfect for many super tight spaces.

Appropriate for most arc welding processes – such as MMA, MIG/MAG, TIG and plasma welding.

## Quick and light, perfect for fast tasks

Using specialised manufacturing techniques, we greatly reduced the weight of the auto-darkening filter. And unlike other lightweight helmets that can absorb moisture and become heavy, the Speedglas helmet SL is made from a strong, non-absorbent material.

Designed specifically for quick welding tasks, a motion sensor automatically turns ON the welding filter when you pick up the helmet.





Premium Made  
Affordable

## 3M™ Speedglas™ Welding Helmet Series 100

### High-end features, low-end price

Speedglas welding helmet series 100 allow you to take advantage of excellent optical quality and reliable light-to-dark switching at a highly affordable price.

In addition to the black model, you can choose from several highly expressive graphic helmet designs.

Appropriate for most arc welding processes, including MMA and MIG/MAG. The Speedglas welding filter 100V is also appropriate for high amp TIG welding.

For grinding, lock-in shade 3 light state, only applicable for the Speedglas welding filter 100V.

High impact rating according to the requirements of the European Standard EN 175:B.

The Speedglas welding helmets series 100 is compatible with most 3M™ Disposable Particulate Respirators.



Switching speed (light to dark) of 0.1 ms. The Delay function also allows you to set the dark-to-light opening time.

Speedglas welding filter 100V: five adjustable dark shades 8-12 and a light shade of 3. Three sensitivity settings.

Magnification made easy. The magnifying lens holder is built into the welding filter, making lens installation easier and more secure.

Speedglas welding filters 100S-10 and 100S-11 have single dark shades of 10 and 11, respectively, and a light shade of 3.

Using shades +1 or +2 inner plate covers, you can increase your dark shades accordingly.

### Flexible head protection

The easy-to-use Speedglas welding helmet 100 is the ideal auto-darkening helmet for the occasional welder. We can now offer a new option for head protection with the 3M™ Speedglas™ Quick Release Welding Helmets (QR): The rail swiftly clasps onto your safety helmet via a releasable ratcheting mechanism. With the rail installed, you can easily detach the welding visor so your safety helmet remains in place for non-welding tasks. No more welding without head protection. And no more wearing a welding helmet when you do not need it.



3M™ Speedglas™ Welding Helmet 100-QR



Image is  
Everything

## Make a visual impact

### 3M™ Speedglas™ Graphic Welding Helmet Series 100

Speedglas welding helmets 100 deliver impressive protection and performance with distinctive graphic designs – all with a specific identity.



**Future Combatant**



**Ice Hot**



**Xterminator**



**Razor Dragon**



**Raging Skull**



**Trojan Warrior**



**Blaze**



**Aces High**

## Female graphic edition

Inspired by women welders, 3M launched the first line of women specific designs. Our design team took direct inspiration from women welders to work with intricate patterns and graphics. The resulting designs are an avenue for personal expression.



### **Steel Rose**

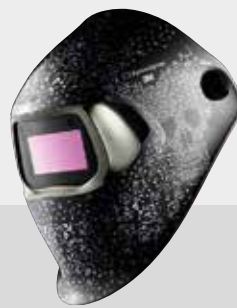
Toughness and patinated grace. Strong, fearless, and feminine at the same time. Steel aesthetics emphasize the protective qualities of the helmet.

Designed by Veryday



### **Wild-N-Pink**

Pretty in pink, but do not touch! A vivacious vine flourishes behind a protective overlay of barbed wire and razor-sharp metal sculpture. Admire from a distance.



### **Skull Jewels**

An elaborate floral grill motif emerges into a decorative skull and covers the entire helmet. The skull and flowers engage in visual interplay as one becomes the other, and vice-versa.

Designed by Veryday



### **Steel Eyes**

Projecting inner strength, with focused eyes looking through a blaze of lilac flames.

Designed by Veryday

### 3M™ Adflo™ Powered Air Respirator

# Cooler, cleaner and more comfortable welding

Since its launch, 3M™ Adflo™ Powered Air Respirator has become one of the most popular powered air respirators in the world. The Adflo powered air respirator is specifically designed to meet your welding needs. Its continuous airflow provides filtered air that takes much of the heat and sweat out of welding. By using the Adflo respirator, you get both increased protection and comfort all day long.

## Full mobility

The slim profile and ergonomic design makes it easier to go into tight welding spaces and offers the quality and functions you should expect from a robust and easy-to-use respiratory protection. The new Li-ion batteries makes it even more lightweight and balanced for even greater comfort during the full shift.

## An adaptable system that saves money

With the right type of filter, the Adflo respirator effectively protects you against both particles and gases – all in one system. And you can selectively replace either the particle or the gas filter as needed: you don't need to change both filters at the same time.



## Constant flow of clean air

The airflow is always a constant nominal rate of 170 litres per minute, regardless of the battery's charge or the particle loading of the filter. For hot, humid jobs, you can increase the airflow to 200 litres per minute by simply pushing the ON button a second time.

## Higher altitudes

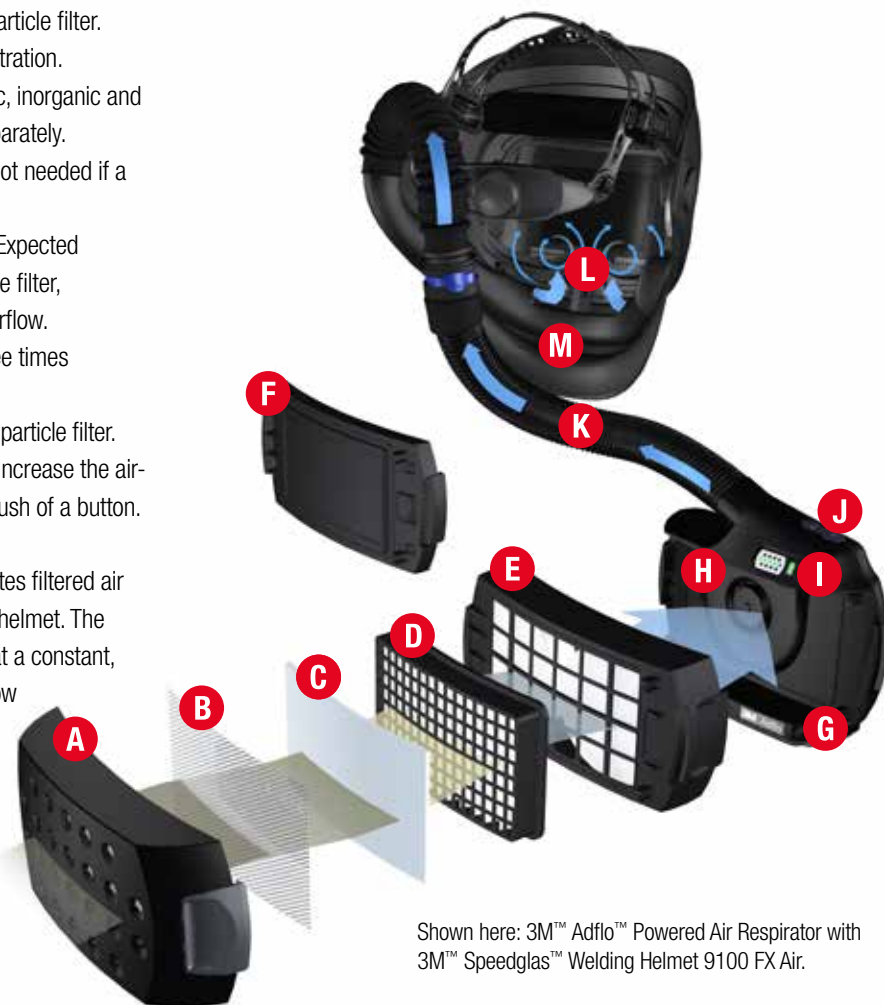


For welders working in higher altitude locations, where the regular Adflo respirator might not work properly, there is a special respirator version that adjusts for changes in air density; 3M™ Adflo™ High Altitude Powered Air Respirator. With this version you can work at altitudes between 0–3000 meters above sea level (0–1500 meters with gas filter).





- A Filter cover:** holds the different available Adflo filters
- B Spark arrestor.**
- C Prefilter:** increases the service life of the particle filter.
- D Particle filter:** high efficiency particulate filtration.
- E Gas filter:** (A1B1E1 or A2) captures organic, inorganic and acid gases and vapours. Gas filters sold separately.
- F Odour filter:** removes unpleasant smells (not needed if a gas filter is installed); sold separately.
- G Li-ion battery:** fully charges in 4,5 hours. Expected operating time is 7-9 hours with new particle filter, new fully-charged battery and a standard airflow.
- H Brushless motor:** with an average life three times longer than conventional motors.
- I Filter Indicator:** indicates the status of the particle filter.
- J Airflow Plus:** for hot, humid jobs, you can increase the airflow from 170 l/min to 200 l/min with the push of a button.
- K Breathing tube:** different options available
- L Exclusive airflow pattern:** evenly distributes filtered air throughout the entire breathing zone of the helmet. The intelligent turbo unit keeps the airflow rate at a constant, preset level. A diffuser spreads out the airflow pattern for your maximum comfort.
- M Soft, flexible face seal (removed here for clarity):** creates a positive pressure environment within the helmet, keeping the surrounding pollutants at bay.



Shown here: 3M™ Adflo™ Powered Air Respirator with 3M™ Speedglas™ Welding Helmet 9100 FX Air.



## 3M™ Adflo™ Battery Charging Stand

The new 6-position battery charging stand for Adflo batteries provides the ability to charge six batteries at the same time. Saving both time and hassle. Compatible with legacy NiMH batteries and the new Li-ion batteries. Flexible installation: either mount on wall or stand-alone.

Part No 83 37 06



“It’s Like My Own  
Private Oasis”

### 3M™ Speedglas™ Welding Helmet 9100 Air with 3M™ Adflo™ Powered Air Respirator

Ergonomic auto-darkening welding protection with optimal mobility and ease-of-use.



Part no\* – Speedglas welding helmet 9100 Air and Adflo respirator, with particle filter:

- 56 77 05 with Speedglas welding filter 9100V (45 x 93 mm)
- 56 77 15 with Speedglas welding filter 9100X (54 x 107 mm)
- 56 77 25 with Speedglas welding filter 9100XX (73 x 107 mm)
- 56 77 26 with Speedglas welding filter 9100XXi (73 x 107 mm)
- 56 77 00 without welding filter
- 50 00 01 Speedglas passive welding filter 9100, shade 11 (order welding helmet system separately).\*\*

### 3M™ Speedglas™ Welding Helmet 9100 FX Air with 3M™ Adflo™ Powered Air Respirator

A flip-up combination of an auto-darkening welding helmet and a 17 x 10 cm clear visor for weld preparations. Excellent for low-light conditions and continuous eye, face, TH3-rated respiratory protection.



Part no\* – Speedglas welding helmet 9100 FX Air and Adflo respirator with particle filter:

- 54 77 05 with Speedglas welding filter 9100V (45 x 93 mm)
- 54 77 15 with Speedglas welding filter 9100X (54 x 107 mm)
- 54 77 25 with Speedglas welding filter 9100XX (73 x 107 mm)
- 54 77 00 without welding filter
- 50 00 01 Speedglas passive welding filter 9100, shade 11 (order welding helmet system separately).\*\*

### 3M™ Speedglas™ Welding Helmet 9100 MP with 3M™ Adflo™ Powered Air Respirator

Welding and safety helmet with auto-darkening welding filter and a 17 x 10 cm clear visor for weld preparations. Five levels of welder protection: head, eye, face, respiratory and hearing into one comfortable and easy-to-use system.



Part no\* – Speedglas welding helmet 9100 MP and Adflo respirator with particle filter:

- 57 77 05 with Speedglas welding filter 9100V (45 x 93 mm)
- 57 77 15 with Speedglas welding filter 9100X (54 x 107 mm)
- 57 77 25 with Speedglas welding filter 9100XX (73 x 107 mm)
- 57 77 00 without welding filter
- 50 00 01 Speedglas passive welding filter 9100, shade 11 (order welding helmet system separately).\*\*

### 3M™ Adflo™ High Altitude Powered Air Respirator

For welders working at higher altitudes there is a special respirator version to adjust for changes in air density. Fits with all Speedglas welding helmet series 9100.



Part no\*:

- 83 78 30 Adflo high altitude powered air respirator with particle filter (helmet and welding filter can be ordered separately).

\* For gas protection add any of these part numbers to your order: 83 72 42 for gas filter A1B1E1, or 83 75 42 for gas filter A2. These filters require a breathing tube with silencer (83 40 08) and the heavy-duty battery (83 76 31).

\*\* Passive welding filters can work well for welders that perform long continuous welds rather than tack welds. Further details on page 48.

3M™ Versaflo™ Supplied Air Regulator V-500E

## Light in weight, with higher airflows

3M™ Versaflo™ Supplied Air Regulator V-500E is a balanced, belt-worn, easy-to-adjust regulator that consistently delivers the airflow level you set – from 170 l/m to 305 l/m. An integrated silencer keeps the noise level equivalent to a typical conversation. The regulator’s warning whistle sounds if there is low airflow from the regulator. Air tools can be connected to a port on the regulator without reducing the airflow to your helmet.

The Versaflo regulator V-500E, combined with the 3M™ Speedglas™ Welding Helmets 9100 Air, 9100 FX Air or 9100 MP helmet air delivery system achieves a Nominal Protection Factor (NPF) of 200.



### Quick Connections

The belt-mounted regulator connects to an approved breathing tube with a quick release connector system. The airline supply to the regulator must be air of breathable quality meeting the requirement of EN 12021. Oil mist, water vapour, or non-toxic, unpleasant odours in the air supply can be removed with an air cleaning station, such as the 3M™ Filtration Systems ACU-1 and ACU-2.



### 3M™ Speedglas™ Welding Helmet 9100 Air with 3M™ Versaflo™ Regulator V-500E

Welding Helmet with auto-darkening welding filter combined with a supplied air regulator.



Part no – Speedglas welding helmet 9100 Air with Versaflo regulator V-500E:

- 56 85 05 with Speedglas welding filter 9100V (45 x 93 mm).
- 56 85 15 with Speedglas welding filter 9100X (54 x 107 mm).
- 56 85 25 with Speedglas welding filter 9100XX (73 x 107 mm).
- 56 85 26 with Speedglas welding filter 9100XXi (73 x 107 mm).
- 56 85 00 without welding filter.
- 50 00 01 3M™ Speedglas™ Passive Welding Filter Kit 9100, shade 11.  
Order with 56 85 00\*

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### 3M™ Speedglas™ Welding Helmet 9100 FX Air with 3M™ Versaflo™ Regulator V-500E

Welding helmet with auto-darkening welding filter and a 17 x 10 cm clear visor for weld preparations. Excellent for low-light conditions and continuous eye, face and respiratory protection.



Part no – Speedglas welding helmet 9100 FX Air with Versaflo regulator V-500E:

- 54 88 05 with Speedglas welding filter 9100V (45 x 93 mm).
- 54 88 15 with Speedglas welding filter 9100X (54 x 107 mm).
- 54 88 25 with Speedglas welding filter 9100XX (73 x 107 mm).
- 54 88 00 without welding filter.
- 50 00 01 3M™ Speedglas™ Passive Welding Filter Kit 9100, shade 11.  
Order with 54 88 00\*

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### 3M™ Speedglas™ Welding Helmet 9100 MP with 3M™ Versaflo™ Regulator V-500E

Welding helmet with auto-darkening welding filter and a 17 x 10 cm clear visor for weld preparations. Five levels of welder protection: head, eye, face, respiratory and hearing into one system.



Part no – Speedglas welding helmet 9100 MP with Versaflo regulator V-500E:

- 57 88 00 without welding filter.
- 57 88 05 with Speedglas welding filter 9100V (45 x 93 mm).
- 57 88 15 with Speedglas welding filter 9100X (54 x 107 mm).
- 57 88 25 with Speedglas welding filter 9100XX (73 x 107 mm).
- 57 88 00 without welding filter
- 50 00 01 3M™ Speedglas™ Passive Welding Filter Kit 9100, shade 11.  
Order with 57 88 00\*

\* 9100 Passive welding filters can work well for welders that perform long continuous welds rather than tack welds. Further details on page 48.

3M™ Versaflo™ Faceshield and Helmet M-Series

# Highly versatile rigid headtops

The 3M™ Versaflo™ Headtops M-series feature light-weight, compact and well-balanced faceshields and helmets that can offer integrated protection from a range of respiratory, head, eye and hearing hazards,

with offerings for neck and shoulder coverage.

The Versaflo helmet M-307 and faceshield M-107 can be used in combination with 3M™ Adflo™ Powered Air Respirator or 3M™ Versaflo™ Supplied Air Regulator V-500.

Fully-adjustable suspension that includes textile straps for optimal fit and weight distribution.

A deflector allows users to direct the airflow inside the headtop for increased control and comfort.

Accessories include ear-muffs, peel-off's, head covers and a chin strap. Spare parts and accessories are quick and easy to replace; for example, visors easily slide into place and are secured by quickly snapping two buttons.

The visor design combines excellent peripheral and downward vision with good optical clarity. Coated visors provide added chemical and scratch resistance.

To suit a wide range of needs, industries and applications, Versaflo M-Series headtops offer face seals and shrouds in various fabrics.



## Excellent airflow

3M™ Versaflo™ M-Series Headtops direct a comfortable stream of flowing air to where workers need it most: the head and face. The moving airflow can make hot environments more tolerable while greatly reducing visor fogging.



## 3M™ Versaflo™ Faceshield M-107

Lightweight, compact and well-balanced faceshield offers integrated protection from a range of eye, face and hearing hazards. Features a flame-retardant face seal for protection against hot particles.



Part no:

84 77 20 Versaflo faceshield M-107 with 3M™ Adflo™ Powered Air Respirator.\*

M-107 Versaflo faceshield M-107 only.  
(3M™ Versaflo™ Supplied Air Regulator V-500E can be ordered separately, see page 54).

## 3M™ Versaflo™ Helmet M-307

Features a flame-retardant face seal for protection against hot particles. Fabric material: Polyester. Head protection approved according to EN 397.



Part no:

85 77 20 Versaflo helmet M-307 with 3M™ Adflo™ Powered Air Respirator.\*

M-307 Versaflo helmet M-307 only.  
(3M™ Versaflo™ Supplied Air Regulator V-500E can be ordered separately, see page 54)

## 3M™ Versaflo™ Helmet with Shroud M-407

Features a flame-retardant shroud for protection against hot particles. Fabric material: Polyaramid. Head protection approved according to EN 397. When used with the Adflo powered air respirator, we recommend using the breathing tube with silencer; further details below.



Part no:

M-407 Versaflo helmet with shroud.

53 35 05 Adapter for non-QRS breathing tubes.

83 77 30 3M™ Adflo™ Powered Air Respirator.\*

83 40 08 Breathing tube with silencer, non QRS connection.

## 3M™ Protective Visor Shade 5

Eye, face and respiratory protection for bright lighting conditions, for example gas or plasma cutting. Visor in polycarbonate, shade 5.



Part no:

89 90 35 Protective visor shade 5 with 3M™ Adflo™ Powered Air Respirator.\*

83 77 30 3M™ Adflo™ Powered Air Respirator.\*

\* Particle filter included. For gas protection add any of these part numbers to your order: 83 72 42 for gas filter A1B1E1, or 83 75 42 for gas filter A2. These filters require a breathing tube with silencer (83 40 08) and the heavy-duty battery (83 76 21). Combination with M-407 requires a breathing tube with silencer (83 40 08) regardless of filter type.

# Frequently asked questions about welding fumes

## 1) Which respirator do I need when welding stainless steel?

When welding stainless steel with MIG or MMA, the welding fumes often contains particles of nickel and chromium, both three and six worth depending on method. A powered air respirator with particle filter offers you excellent protection in this application. TIG welding does not usually emit much welding fume but can create large quantities of ozone gas: read more under point 6. Plasma cutting and plasma welding give rise to high temperatures, which can emit damaging oxides of nitrogen: read more under point 7.

## 2) Do I really need respiratory protection when welding ordinary steel?

Although welding fumes from normal steel is not one of the more hazardous types, it is far from good for your health. Among other things, it contains particles of iron oxide, which can cause siderosis (chronic inflammation of the lungs). When welding with MIG/MAG or stick, there are heavy fume emissions, meaning that both a respirator and good ventilation in the workplace are necessary. When welding ordinary steel, a powered air respirator with particle filter is recommended.

## 3) What sort of respirator is needed when welding surface-treated material?

When welding surface-treated material, a number of hazardous pollutants can be released. When welding galvanised steel, zinc oxide particles are released. These can cause zinc ague, also known as fume fever. If you weld painted material you should be especially careful, as many paints can give off very hazardous air pollutants. When welding galvanised steel or material painted with lead primer, it is recommended that you use a powered air respirator with a particle filter and an odour filter to minimise unpleasant smells. If the material is painted with two component paint or insulated with polyurethane, you should always contact a Safety Engineer. There is a large risk that you will be exposed to isocyanates, which are very hazardous to inhale and difficult to detect. In these cases it is recommended that a supplied air respirator is used.

## 4) What respiratory protection do I need in restricted areas?

If you are welding in restricted or semi-ventilated areas – where there is a potential for build up of higher levels of contaminant and/or a reduction in oxygen levels – a supplied air respirator is suggested, regardless of welding method.





With a supplied air respirator, providing breathable quality air, you can be confident of getting sufficient oxygen, as well as high levels of protection against gas and particulate contaminants. Powered or supplied air respirators are never to be used in atmospheres immediately dangerous to life or health (IDLH). Always follow the recommendations of your Safety Engineer for each application!

### 5) Do shielding gases and alloyed electrodes affect my working environment?

When welding with MIG and TIG, the noble gases argon and helium are used as shielding gases. Neither argon nor helium is considered hazardous, but they can displace oxygen in unventilated areas. In such cases, a supplied air respirator is required. When welding with MAG, carbon dioxide, or a mixture of carbon dioxide and a noble gas, is used as a shielding gas. Since parts of the shielding gas can be converted into carbon monoxide when the gas reaches the air, large quantities of carbon monoxide can form around the welding arc. Carbon monoxide cannot be filtered away. If the ventilation is bad, the oxygen level must be monitored and a supplied air respirator used. Alloyed electrodes are common when welding with MAG. The alloys often contain manganese or silicates. This means that large quantities of manganese oxide and silicates are

diffused into the surrounding air when you are welding.

A powered air respirator with particle filter usually offers sufficient protection against alloy particles.

### 6) When does ozone form?

When welding aluminium not only are particles of aluminium oxide produced but ozone gas is formed by the action of the UV radiation from the arc breaking down molecular oxygen. Ozone is also produced when welding stainless steel with TIG. Eventually ozone will be converted back to oxygen, a process that is speeded up when the ozone comes into contact with solid surfaces. Ozone cannot be filtered from the atmosphere but relies on being converted back to oxygen. Activated carbon of any sort is effective at decomposing ozone. Using a gas filter together with a particle filter will decompose ozone efficiently.

### 7) What are nitrogen gases?

Nitrogen dioxide and nitric oxide are examples of nitrogen gases that are formed when you weld with high amperage creating high temperatures. Nitrous gases are formed by a reaction in the air between nitrogen and oxygen and are hazardous to inhale in high concentrations, e.g. when welding in confined, poorly ventilated areas. It is recommended that a supplied air respirator is used in such cases.




















# A general guide to respiratory protection

3M offers a wide range of personal respiratory protection, providing unequalled comfort and protection in the toughest conditions.

- P Powered air respirator with particle filter, page 24.
- ABE Powered air respirator with A1B1E1 gas filter, page 24.
- S Supplied air regulator, page 28.

## How to use this guide:

Identify the material to be welded and the welding process to be used. The concentration levels of the pollutants are affected by the ventilation conditions in the workplace. Choose the appropriate description of the working environment to determine the most suitable type of respiratory protection.\*

Material to be welded	Welding method	Ventilation conditions of your working environment			
		Good environment, with forced ventilation	Limited ventilation	Restricted space	Classified as IDLH
Aluminium	MIG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	Powered and supplied air respirators must never be used in atmospheres Immediately Dangerous to Life or Health (IDLH). Always consult your Safety Engineer.
	TIG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Stainless steel	MIG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	TIG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> + <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">E</span> / <span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Steel not coated or painted	MIG/MAG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Steel painted (lead based paints)	MIG/MAG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Steel galvanised	MIG/MAG 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">P</span>	<span style="border: 1px solid black; padding: 0 2px;">P</span> / <span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Steel coated with 2-component paints or insulated with 2-part polyurethanes (risk of isocyanates)	MIG/MAG 	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
Material cleaned with trichloroethylene	MIG 	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	TIG 	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	STICK WELDING 	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	
	PLASMA (Welding and Cutting)	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	<span style="border: 1px solid black; padding: 0 2px;">S</span>	

\* 3M accepts no liability for the incorrect choice of respiratory protective equipment. This chart is only an outline. It is designed to help focus on the most appropriate respirators in the 3M range for particular applications. It should not be used as the only means of selecting a respirator. Details regarding performance and limitations are set out on the respirator packaging and user instructions.

# Respiratory filter guide

## Code Type of filter

<b>E</b>	Acid gases.
<b>A</b>	Organic gases, boiling point >65 °C.
<b>AX</b>	Organic gases, boiling point <65 °C.
<b>P</b>	Particle filter.
<b>B</b>	Inorganic gases.

## Remarks

<b>H =</b>	The chemical can be absorbed through the skin.
<b>K =</b>	The chemical can be cancer-inducing.
<b>S =</b>	The chemical can be a sensitizer.

- Argon and helium are inert gases which are not generally absorbed by canister type filters. These gases are not in themselves hazardous but can displace oxygen from the air when present in confined spaces.
- Ozone cannot be filtered from the atmosphere but relies on being converted back to oxygen. Activated carbon of any sort is effective at decomposing ozone. Using gas filter together with particle filter will decompose ozone efficiently. For further information please contact 3M Technical Service at your local 3M office.
- Chemical constituents of a welding fume with very low Occupational Exposure Limits can pose special hazards and are sometimes best protected against by using a Supplied Air Regulator System. If in doubt, always seek professional advice from your Safety Engineer.

Occupational Exposure Limits (OELs) are given in each individual country's national safety requirements.

**Get information for the UK on [www.hse.gov.uk](http://www.hse.gov.uk)**

Suggested Filter Type				
Chemical	Particle	Gas	Supplied Air	Remarks
Aluminium	P			
Argon			Supplied Air	1
Beryllium	P		Supplied Air	K, S 3
Bromine		B		
Cadmium	P			K
Carbon Dioxide			Supplied Air	
Carbon Monoxide			Supplied Air	
Chlorine		B		H
Chlorine Dioxide		B		
Chromium Hexavalent	P			K
Chromium Trivalent	P			
Copper	P			
Fluorides	P			
Fluorine			Supplied Air	
Helium			Supplied Air	1
Isocyanates			Supplied Air	S
Hydrogen Chloride		B	Supplied Air	3
Hydrogen Cyanide		B	Supplied Air	H3
Hydrogen Fluoride		B	Supplied Air	3
Hydrogen Sulphide		B		
Iron Oxide	P			
Lead	P			
Magnesium	P			
Manganese	P			
Nickel	P			S
Nitrogen Dioxide			Supplied Air	
Nitric Oxide			Supplied Air	
Ozone	P	ABE	Supplied Air	2, K
Phosgene			Supplied Air	3
Phosphine			Supplied Air	
Silicon Dioxide	P			
Sulphur Dioxide		E		
Trichloroethylene		A		K
Vanadium Oxide	P			
White Spirit		A		
Zinc	P			
Zinc Chloride	P			
Zinc Oxide	P			

# How ADFs Work



## Before:

With the helmet in the safe down position, you have a clear view through the welding filter. Both of your hands are free and the electrode can be precisely positioned.



## During:

Within 0,1 milliseconds of the arc strike, the filter has switched to the dark state.



## After:

The filter automatically returns to the clear state after welding is complete, allowing your immediate and safe inspection of the weld pool, as well as preparation for the next weld.

## Eye protection that increases your performance

The key to remember with 3M™ Speedglas™ Auto Darkening Welding Filters (or ADFs) is consistency. They enable constant, comfortable vision. They provide constant protection from ultraviolet and infrared (UV/IR) radiation. And they consistently auto-switch from clear to dark, and back again, in just the way you want.

## Awkward made easier

Speedglas Welding Filters also eliminate the neck-strain of “helmet flipping,” while greatly increasing the accuracy of electrode placement. This, in turn, reduces the need for grinding and rework. In addition, you can get into tight, cramped spaces with your eye and face protection already in place. The filters’ constant, clear views make even extremely awkward welds a lot easier.

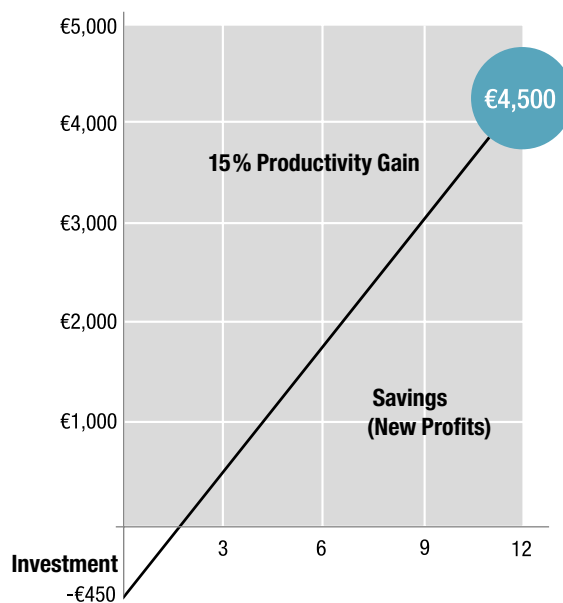
## How fast does a 3M™ Speedglas™ Welding Helmet pay for itself?

If profitability is defined in terms of protection, one day is enough. But while “protection” sometimes can be difficult to measure, efficiency and weld quality are much easier to gauge. Studies show that you can increase efficiency substantially when using Speedglas ADFs. Not only can you work faster when you can always see, but you move more efficiently, placing electrodes more precisely.

Most “bad weld starts” can be eliminated. Fewer bad welds mean less grinding and higher overall quality levels.

## For example:

Productivity gains are, of course, dependent on the application. If you do lots of tack welds, you will have much greater productivity gains than a welder doing long seam welds. With that said, this example uses a conservative 15% gain in productivity. If cost for salary is € 20 per hour, the welding helmet will pay for itself in two months. In one year, the productivity gain will be € 4500 in savings (also known as new profits).

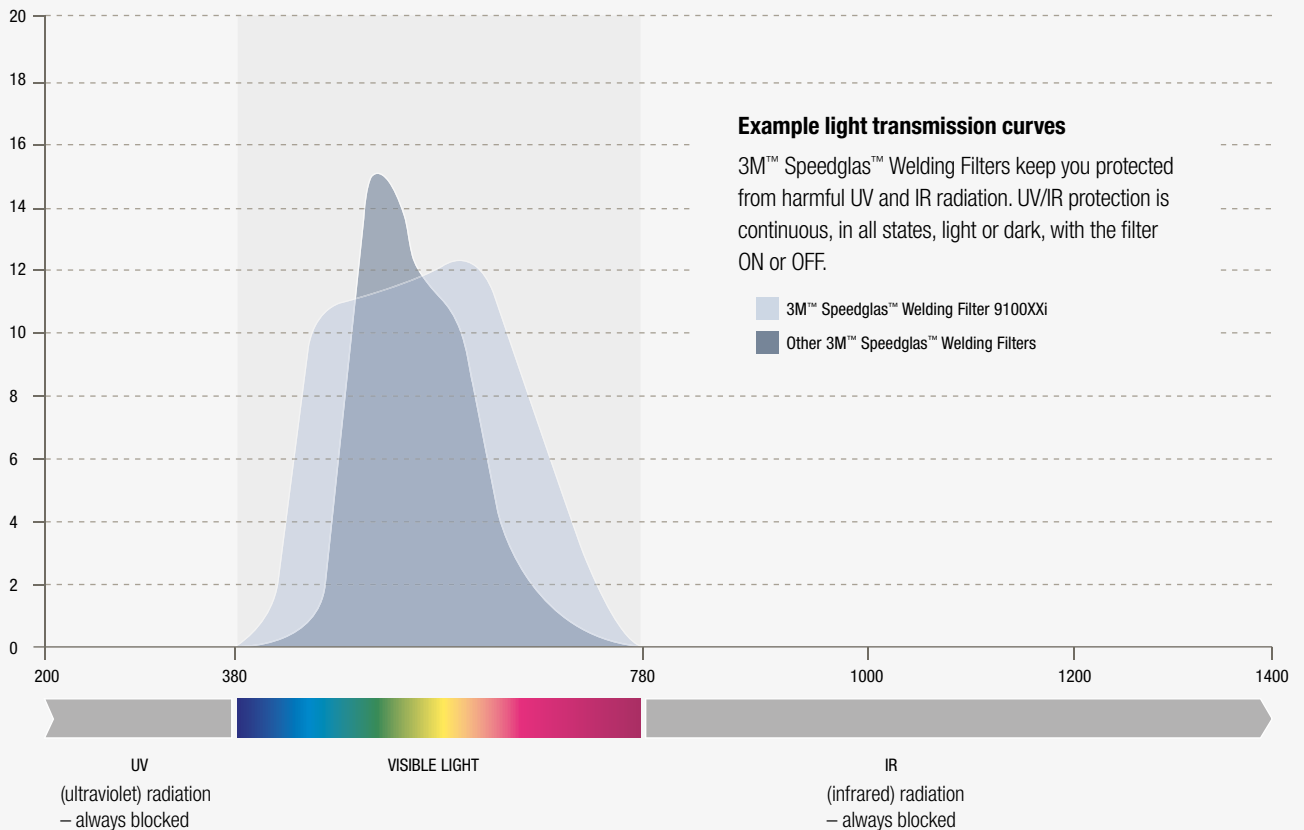


# Recommended shade numbers according to EN 379:2003

Welding process	Current in amperes A																								
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600				
MMA (covered electrodes)	8						9		10		11		12		13			14							
MAG	8								9	10		11			12				13						
TIG				8		9			10		11			12		13									
MIG									9	10		11			12		13		14						
MIG with light alloys											10	11		12		13		14							
Air-arc gouging	10												11	12		13		14		15					
Plasma jet cutting									9	10	11	12			13										
Microplasma arc welding	4	5		6		7	8	9	10		11		12												
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600				

The table recommends best dark shade of welding filter for various working applications. According to the conditions of use, the next greater or the next smaller scale number can be used.

## Transmittance (%)



# CE approvals and European standards

In Europe, all personal protective equipment (PPE) must be CE marked and in compliance with the PPE Directive 89/686/EEC before they can be placed on the market. The PPE must also be in compliance with applicable, national, harmonized standards that ensure that the basic safety requirements in the PPE Directive are met.

## European classification of eye and face protection

Welding helmets incorporating protective filters are covered by the standards EN 175, EN 166 and EN 169 (passive filters) or EN 379 (auto-darkening filters). The protective visors are covered by EN 166. In EN 175 and EN 166, the PPE is classified according to its mechanical strength: increased robustness (S) or resistance to high speed particles (F or B).

In EN 166, it is optional to complement the classification for mechanical strength with the letter (T) for extremes of temperatures (-5° C and +55° C). In addition there are classifications regarding field of use: “9” for protection against splashes of molten metals and penetration of hot solids; “3” for protection against liquids (droplets or splashes); and “8” for protection from electric arcs due to a short circuit in electrical equipment. For the standards EN 166 and EN 379, optical quality of the welding filter or faceshield are classified from 1 to 3, where 1 is the best. For passive welding filters and visors, there is only one classification of optical class. For auto-darkening welding filters, there are four parts of the classification: optical class/diffusion of light/ variations in luminous transmittance/ angle dependence.

## Grinding and mechanical strength

The mechanical strength of all 3M™ Speedglas™ Welding Helmet Series 9100 are approved to EN 175 class “B,” while 3M™ Speedglas™ Welding Helmet 9000 with SideWindows is approved to EN 175 class “F.” Therefore, if you need the SideWindows option and you use your Speedglas helmet for grinding, 3M strongly recommends the choice



### Classification of mechanical strength

Class S	Increased robustness (drop ball test 5,1 m/s).
Class F	Resistance to high speed particles at low energy impact (45 m/s).
Class B	Resistance to high speed particles at medium energy impact (120 m/s).
Class T	The letter “T” indicates that the test for resistance to high speed particle was conducted at extremes of temperature (-5° and +55°C) (optional).

Note: Products classified in class B are not made to give total protection under all possible circumstances, e.g. when using grinding wheels/grinding machines.

of Speedglas 9100 or Speedglas 9100 FX welding helmets with SideWindows over the older Speedglas 9000 models with SideWindows. You can find the classification for our products in the technical data table on page 64-65. For more details on European Standards, or to purchase European Standards, contact your National Standards Institute

## European standards for powered air respirators

The European standard for a complete powered air filtering device incorporating a face helmet or visor is EN 12941. There is no separate classification for particle filters (P) in the standard EN 12941 as the particle filter is part of the system classification. Standard EN 12941 defines three classes of performance (TH1, TH2 and TH3). The numbers define the level of performance (inward leakage) and the pull strength of the breathing tubes and couplings within the classification. Inward leakage for classification TH1 is maximum 10%, for TH2 maximum 2% and for TH3 maximum 0.2%.

Gas filters have letters and colour codes that indicate which gases the filter provides protection against, as defined by the standard EN 12941. For example: “A” for organic, “B” for inorganic, and “E” for acid gases. For powered air filtering respirators, the capacity of a gas filter is determined by testing the unit at its airflow rate. The gas filter’s numbers indicate its capacity: “1” for low capacity, “2” for medium capacity, or “3” for high capacity. For example, one of the gas filters available for the 3M™ Adflo™ Respirator is classified as A1B1E1.



## European standards for supplied air respirators

Respiratory protection devices with supplied air line breathing apparatus is in scope of EN 14594\*. The apparatus is not self-contained and the air line supply must be air of breathable quality meeting the requirements in EN 12021.

\* EN 270 has been replaced by EN 14594 and new systems will be approved to EN 14954.

# Parts directory

## 3M™ Speedglas™ Welding Helmets (non-respiratory models)

Speedglas™ Welding Helmet 9100	45
Speedglas™ Welding Helmet 9100 FX	46
Speedglas™ Welding Helmet 9100-QR	47
Speedglas™ Welding Filter Adapter 9100 for Passive Lens	48
Speedglas™ Welding Helmet SL	48
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Speedglas™ Welding Helmet Series 100-QR	50
Speedglas™ Welding Helmet Adapter for 3M™ Speedglas™ Welding Helmets 9100 / 9100 FX / 100	50
Speedglas™ Welding Helmet 9000 / FlexView / ProTop / Utility	51

## 3M™ Respiratory Protection

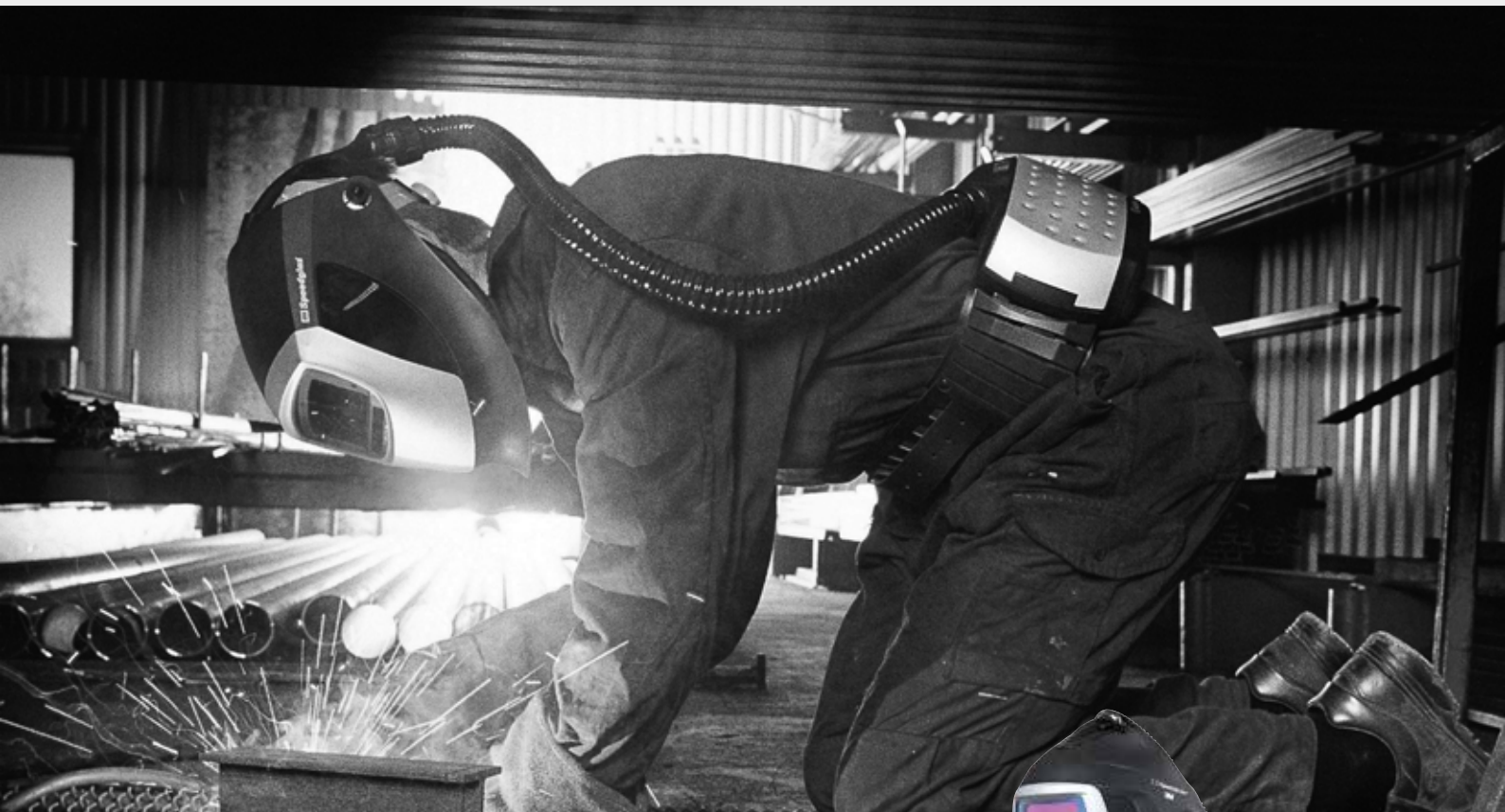
Adflo™ Powered Air Respirator	53
Versaflo™ Supplied Air Regulator V-500E	54
Spare parts for Fresh-air™ C Supplied Air Regulator	54

## 3M™ Headtops for Respiratory Protection

Speedglas™ Welding Helmet 9100 Air	55
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Speedglas™ Welding & Safety Helmet 9100 MP	57
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## Easy upgrade to the latest helmet systems!

Still using an older welding system? Did you know you can easily upgrade your current 3M™ Adflo™ Powered Air Respirator System with one of our new premium welding helmets, without buying a new respirator? Below you will find a list of various upgrade kits within our top-of-the-line 3M™ Speedglas™ Welding Helmet Series 9100. These welding helmets feature the QRS type of breathing tube (Quick Release Swivel), which enables one-handed connection and release.

To protect your new helmet system from scratches, we include a special Speedglas bag for free when ordering any of the upgrade kits.



**SPECIAL SPEEDGLAS BAG INCLUDED!**



Part No – all with breathing tube (83 40 16) and carry bag:

54 90 05	Spedglas welding helmet 9100 FX-Air, with 9100V filter
54 90 15	Spedglas welding helmet 9100 FX-Air, with 9100X filter
54 90 25	Spedglas welding helmet 9100 FX-Air, with 9100XX filter
56 90 05	Spedglas welding helmet 9100 Air, with 9100V filter
56 90 15	Spedglas welding helmet 9100 Air, with 9100X filter
56 90 25	Spedglas welding helmet 9100 Air, with 9100XX filter
57 90 15	Speedglas welding helmet 9100 MP with 9100X filter
57 90 25	Speedglas welding helmet 9100 MP with 9100XX filter

## Revitalize your welding respirator!

If you are using an older 3M™ Adflo™ Powered Air Respirator, you can easily upgrade to a new level of performance, incorporating a Li-ion battery, making the turbo almost 20% lighter in weight. As a special offer we include a free set of both particle filter and pre-filters. Regular replacement of the pre-filter extends the life of the particle filter, saving money while also increasing the battery run-time.

Read more about the new Adflo respirator on **page 24** or visit [www.3M.eu/adflo](http://www.3M.eu/adflo)



### Part no Adflo upgrade kit:

- 83 76 35 Li-ion standard battery pack with charger, particle filter and set of pre-filters.
- 83 76 37 Li-ion heavy-duty battery pack with charger, particle filter and set of pre-filters.



**NEW**

## 3M™ Speedglas™ Welding Filter Kit 9100XXi

Our latest welding filter with improved optics, external controls for grinding and memory modes. Compatible with Speedglas welding helmets 9100, 9100 Air and 9100-QR.

Read more about the new Speedglas welding filter kit on **page 9**



### Part No:

50 01 26 Welding filter 9100XXi with new silver front

# Head and hearing protection

The 3M™ Speedglas™ Quick Release (QR) Rail allows you to attach a Speedglas auto-darkening welding helmet to many of the industry's most popular safety helmets. 3M offers a complete welding helmet system including the 3M™ Safety Helmet H-701. The H-701 is a full-featured safety helmet capable of accepting 3M integrated eyewear and earmuffs in addition to the 3M™ Speedglas™ Welding Helmet 9100-QR.

Internal slots for accessory earmuffs

Ventilated headband for improved comfort

Smooth ratchet for precision headband adjustment.

Short brim and compact design for increased user mobility and visibility.



**PELTOR™**

## 3M™ Peltor™ Earmuffs X-Series

Featured accessory to 3M™ Speedglas™ Welding Helmet 9100 MP and other Speedglas welding helmets combined with 3M™ Safety Helmets.

- New ear cushion foam technology for an effective acoustic seal and reliable protection
- Streamlined cups without compromising attenuation
- Lightweight dual mould cups with maximum space inside to help minimise heat and moisture build-up
- Integrated design for more robustness
- Colour-coded for ease of selection
- Easy to clean



**3M™ Peltor™ Earmuffs X1**  
SNR: 27dB\*



**3M™ Peltor™ Earmuffs X2**  
SNR: 31dB\*



**3M™ Peltor™ Earmuffs X3**  
SNR: 33dB\*




































































**3M™ Peltor™ Earmuffs X4**  
SNR: 33dB\*













**3M™ Peltor™ Earmuffs X5**  
SNR: 37dB\*

\* For further attenuation information please visit [www.3M.eu/PPEsafety](http://www.3M.eu/PPEsafety)

# 3M™ Speedglas™ Welding Helmets – sorted by features

	3M™ Speedglas™ Welding Helmet 9100						 *			
	3M™ Speedglas™ Welding Helmet 9100 Air						 *			
	3M™ Speedglas™ Welding Helmet 9100-QR						 *			
	3M™ Speedglas™ Welding Helmet 9100 FX						 *			
	3M™ Speedglas™ Welding Helmet 9100 FX Air						 *			
	3M™ Speedglas™ Welding Helmet 9100 FX (with safety helmet)						 *			
	3M™ Speedglas™ Welding Helmet 9100 MP						 *			
	3M™ Speedglas™ Welding Helmet SL									
	3M™ Speedglas™ Welding Helmet 100									
	3M™ Speedglas™ Welding Helmet 100-QR									

-  Premium eye protection
-  Side windows
-  Hearing protection\*\*
-  Exhaust vents
-  Respiratory system
-  Passive option
-  Head protection
-  Auto-on
-  Flip-up
-  Graphics option

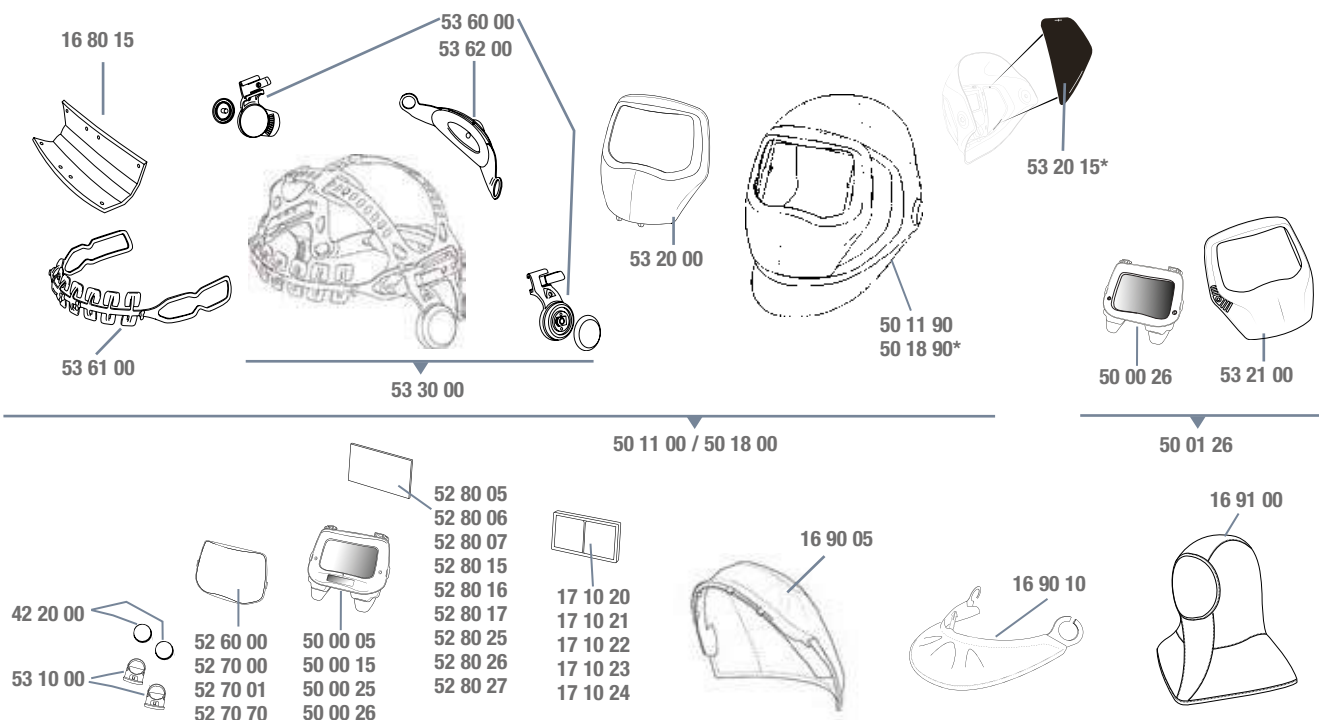
\* Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi \*\* 3M™ Peltor™ Hearing Protection available as accessories, see each welding helmet parts list.

# 3M™ Speedglas™ Welding Helmet 9100



50 18 26

Part No	Description	Part No	Description	Part No	Description
50 11 05	Speedglas welding helmet 9100 without SideWindows, with filter 9100V.	50 18 05	Speedglas welding helmet 9100 with SideWindows and filter 9100V.	50 18 26	Speedglas welding helmet 9100 with SideWindows and welding filter kit 9100XXi (incl filter and silver front 9100XXi).
50 11 15	Speedglas welding helmet 9100 without SideWindows, with filter 9100X.	50 18 15	Speedglas welding helmet 9100 with SideWindows and filter 9100X.		
50 11 25	Speedglas welding helmet 9100 without SideWindows, with filter 9100XX.	50 18 25	Speedglas welding helmet 9100 with SideWindows and filter 9100XX.		



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
16 80 15	Comfort sweatband, pkg of 3.	50 11 90	Welding helmet without SideWindows, without headband, with silver front.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
16 90 05	Head protection, black.	50 18 00	Welding helmet with SideWindows and headband, with silver front.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
16 90 10	Neck protection, black.	50 18 90*	Welding helmet with SideWindows, without headband.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.
16 91 00	Hood, black/grey.	52 60 00	Outer protection plate standard, pkg of 10.	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.
17 10 20	Magnifying lens 1.0.	52 70 00	Outer protection plate scratch resistant, pkg of 10.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.
17 10 21	Magnifying lens 1.5.	52 70 01	Outer protection plate extra scratch resistant, pkg of 10.	53 10 00	Battery holder, pkg of 2.
17 10 22	Magnifying lens 2.0.	52 70 70	Outer protection plate heat resistant, pkg of 10.	53 20 00	Heat-reflecting silver front.
17 10 23	Magnifying lens 2.5.	52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.	53 20 15*	SideWindows cover plate, 2 pairs.
17 10 24	Magnifying lens 3.0.	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 21 00	Heat-reflecting silver front for welding filter kit 9100XXi.
42 20 00	Battery, pkg of 2.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	53 30 00	Speedglas 9100 headband with assembly parts.
50 00 05	Speedglas welding filter 9100V, variable shade 5, 8, 9-13.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	53 60 00	Pivot mechanism, left and right.
50 00 15	Speedglas welding filter 9100X, variable shade 5, 8, 9-13.			53 61 00	Headband front part.
50 00 25	Speedglas welding filter 9100XX, variable shade 5, 8, 9-13.			53 62 00	Headband back part.
50 00 26	Speedglas welding filter 9100XXi variable shade 5, 8, 9-13.				
50 01 26	Speedglas welding filter kit 9100XXi (incl new silver front and welding filter)				
50 11 00	Welding helmet without SideWindows, with headband.				

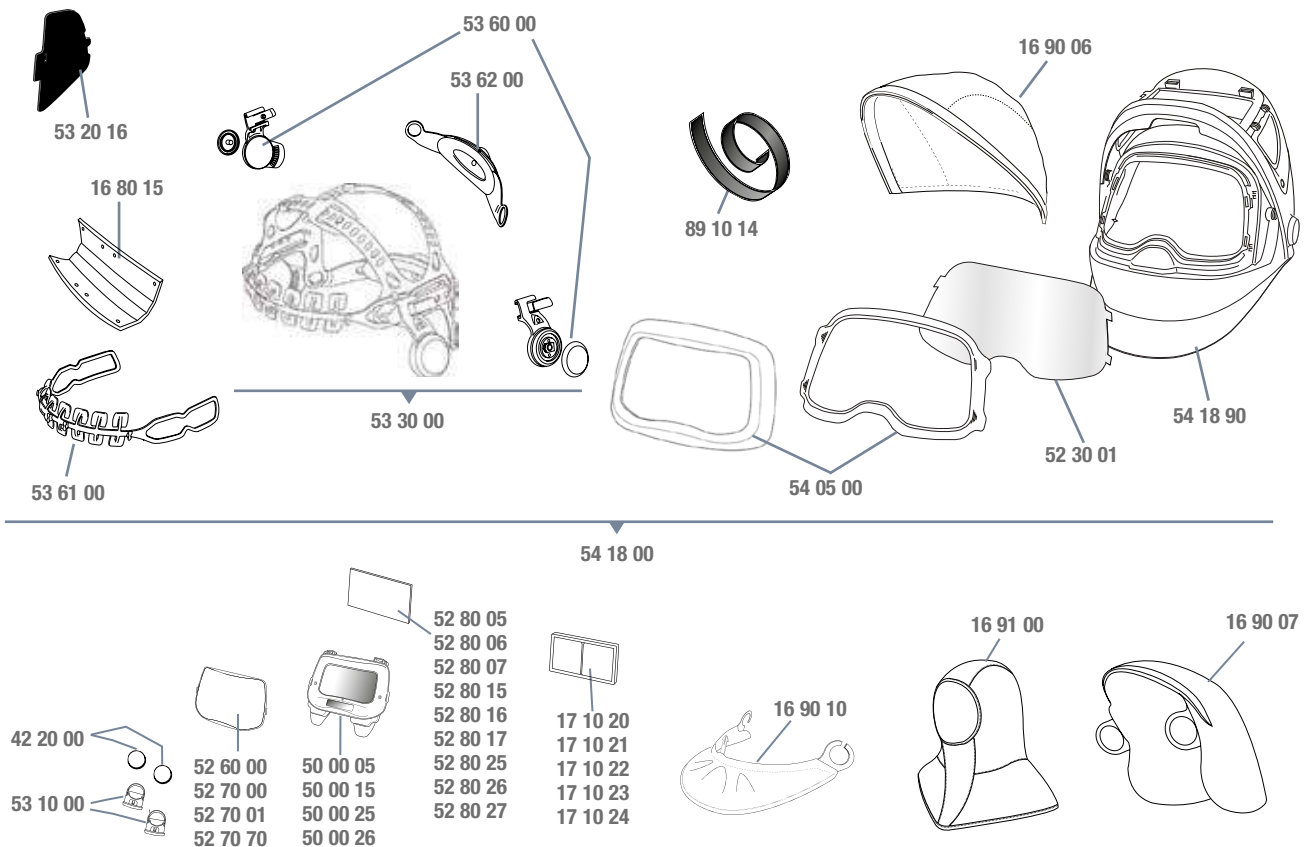
\* Please use Part No 50 18 90 when new SideWindows are required.

# 3M™ Speedglas™ Welding Helmet 9100 FX



54 18 25

Part No	Description	Part No	Description	Part No	Description
54 18 05	Speedglas welding helmet 9100 FX with SideWindows and filter 9100V.	54 18 15	Speedglas welding helmet 9100 FX with SideWindows and filter 9100X.	54 18 25	Speedglas welding helmet 9100 FX with SideWindows and filter 9100XX.



## Accessories and spare parts

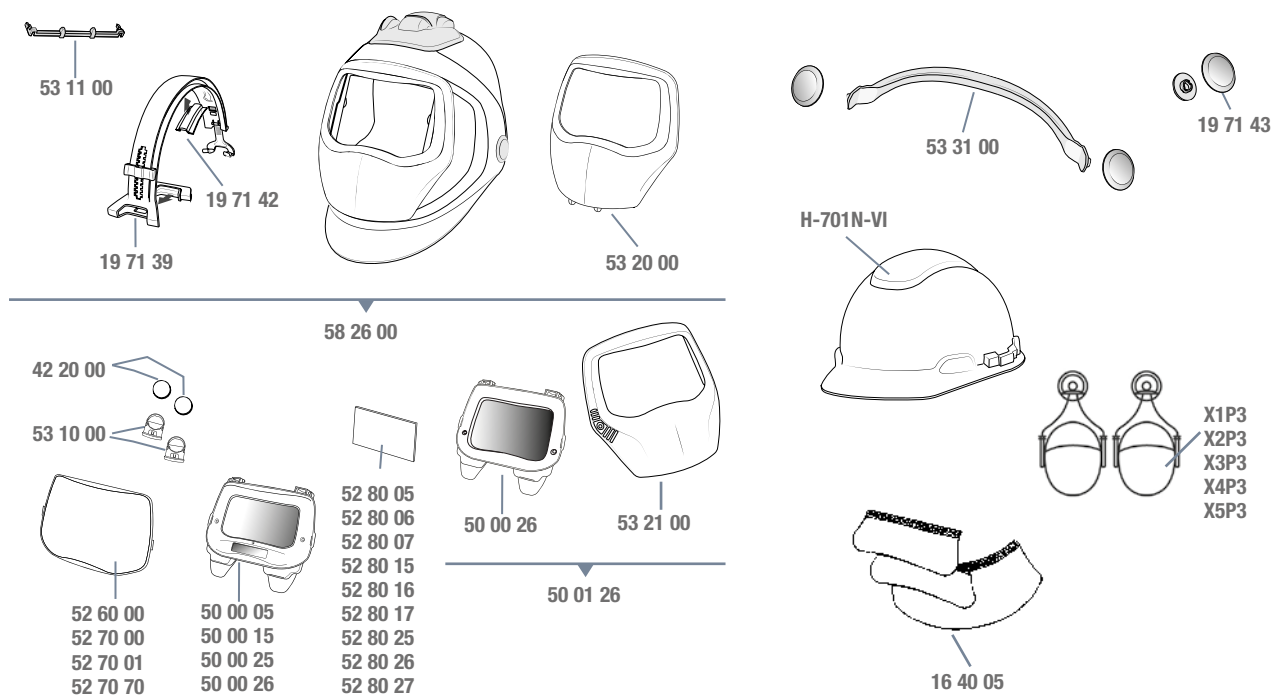
Part No	Description	Part No	Description	Part No	Description
16 80 15	Comfort sweatband, pkg of 3.	52 70 01	Outer protection plate extra scratch resistant, pkg of 10.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.
16 90 06	Head protection (small).	52 70 70	Outer protection plate, heat resistant pkg of 10.	53 10 00	Battery holder, pkg of 2.
16 90 07	Head protection (large).	52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.	53 20 16	SideWindows cover plate, 2 pairs.
16 90 10	Neck protection, black.	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 30 00	Speedglas headband 9100, with assembly parts.
16 91 00	Hood, black/grey.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	53 60 00	Pivot mechanism, left and right.
17 10 20	Magnifying lens 1.0.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	53 61 00	Headband front part.
17 10 21	Magnifying lens 1.5.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	53 62 00	Headband back part.
17 10 22	Magnifying lens 2.0.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	54 05 00	Front cover kit.
17 10 23	Magnifying lens 2.5.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.	54 18 00	Welding helmet, without welding filter, with headband.
17 10 24	Magnifying lens 3.0.	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.	54 18 90	Welding helmet, without welding filter, without headband.
42 20 00	Battery, pkg of 2.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.	89 10 14	Velcro for Headcover, pkg of 2.
50 00 05	Speedglas welding filter 9100V.				
50 00 15	Speedglas welding filter 9100X.				
50 00 25	Speedglas welding filter 9100XX.				
50 00 26	Speedglas welding filter 9100XXi.				
52 30 01	Visor plate anti-fog, pkg of 5.				
52 60 00	Outer protection plate standard, pkg of 10.				
52 70 00	Outer protection plate scratch resistant, pkg of 10.				

# 3M™ Speedglas™ Welding Helmet 9100-QR



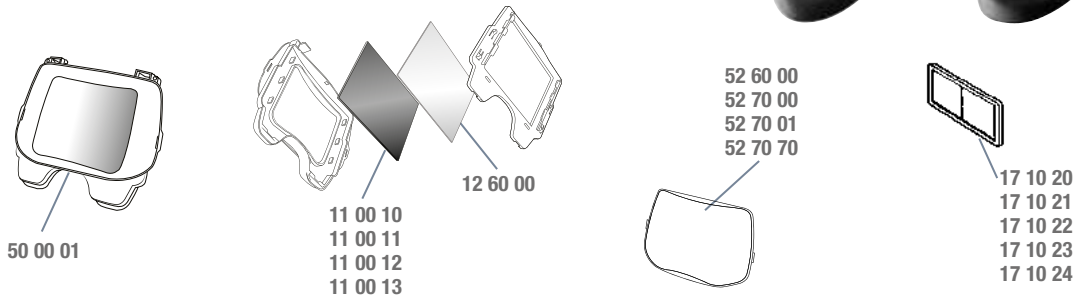
58 26 25

Part No	Description	Part No	Description	Part No	Description
58 26 05	3M™ Speedglas™ Welding Helmet 9100-QR with 3M™ Speedglas™ Welding Filter 9100V.	58 26 25	3M™ Speedglas™ Welding Helmet 9100-QR with 3M™ Speedglas™ Welding Filter 9100XX.	58 36 15	Speedglas welding helmet 9100-QR with 9100X welding filter.
58 26 15	3M™ Speedglas™ Welding Helmet 9100-QR with 3M™ Speedglas™ Welding Filter 9100X.	58 36 05	Speedglas welding helmet 9100-QR with 9100V welding filter.	58 36 25	Speedglas welding helmet 9100-QR with 9100XX welding filter.



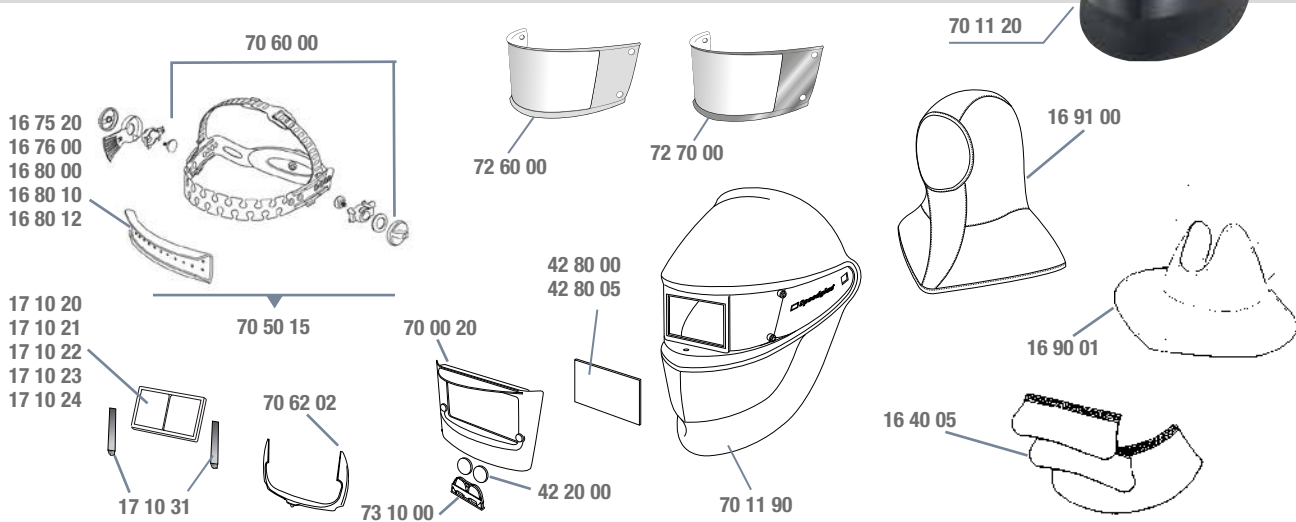
Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather.	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 31 00	Ear muff bar for Speedglas welding helmet 9100-QR.
19 71 39	Quick release rail for safety helmet.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	58 16 00	Welding helmet 9100-QR without quick release rail, without welding filter, without safety helmet.
19 71 42	Rubber friction pads for quick release rail.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	58 26 00	Welding helmet 9100-QR with quick release rail, without welding filter, without safety helmet.
19 71 43	Pivot cover plate kit for quick release welding helmets (QR), pkg of 2.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	H-701N-VI	3M™ Safety Helmet H-701R (unvented).
42 20 00	Battery, pkg of 2.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	X1P3	3M™ Peltor™ Ear Muffs X1 (26 dB) for safety helmet.
50 00 05	Speedglas welding filter 9100V.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.	X2P3	3M™ Peltor™ Ear Muffs X2 (30 dB) for safety helmet.
50 00 15	Speedglas welding filter 9100X.	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.	X3P3	3M™ Peltor™ Ear Muffs X3 (32 dB) for safety helmet.
50 00 25	Speedglas welding filter 9100XX.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.	X4P3	3M™ Peltor™ Ear Muffs X4 (33 dB) for safety helmet.
50 00 26	Speedglas welding filter 9100XXi.	53 10 00	Battery holder for welding filter series 9100 , pkg of 2.	X5P3	3M™ Peltor™ Ear Muffs X5 (36 dB) for safety helmet.
50 01 26	Speedglas welding filter kit 9100XXi (incl new silver front and welding filter)	53 11 00	Distance bar for welding filters 9100X and 9100XX, pkg of 2.		
52 60 00	Outer protection plate standard, pkg of 10.	53 21 00	Heat-reflecting silver front for welding filter kit 9100XXi.		
52 70 00	Outer protection plate scratch resistant, pkg of 10.				
52 70 01	Outer protection plate extra scratch resistant, pkg of 10.				
52 70 70	Outer protection plate heat resistant, pkg of 10.				
52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.				

# 3M™ Speedglas™ Welding Filter Adapter 9100 for Passive Lens



Part No	Description	Part No	Description	Part No	Description
11 00 10	Passive welding filter lens shade 10 (90x110).	12 60 00	Inner cover plate (90x110 mm).	52 60 00	Outer protection plate, standard, pkg of 10.
11 00 11	Passive welding filter lens shade 11 (90x110).	17 10 20	Magnifying lens 1.0.	52 70 00	Outer protection plate scratch resistant, pkg of 10.
11 00 12	Passive welding filter lens shade 12 (90x110).	17 10 21	Magnifying lens 1.5.	52 70 01	Outer protection plate extra scratch resistant, pkg of 10.
11 00 13	Passive welding filter lens shade 13 (90x110).	17 10 22	Magnifying lens 2.0.	52 70 70	Outer protection plate, heat resistant pkg of 10.
		17 10 23	Magnifying lens 2.5.		
		17 10 24	Magnifying lens 3.0.		
		50 00 01	Speedglas passive welding filter kit 9100 (shade 11).		

# 3M™ Speedglas™ Welding Helmet SL



Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather (3 parts).	17 10 22	Magnifying lens 2.0.	70 50 15	New headband (Sept 2012) with assembly parts.
16 75 20	Sweatband, towelling, purple, pkg of 2.	17 10 23	Magnifying lens 2.5.	70 60 00	Assembly parts for headband.
16 76 00	Sweatband, towelling, pkg of 20.	17 10 24	Magnifying lens 3.0.	70 62 02	Filter locking frame, pkg of 2.
16 80 00	Sweatband, leather.	17 10 31	Holder for magnifier.	72 60 00	Outer protection plate, standard, pkg of 5. Plate marking 030226.
16 80 10	Sweatband, fleecy cotton, pkg of 2.	42 20 00	Battery, pkg of 2.	72 70 00	Outer protection plate, scratch resistant, pkg of 5. Plate marking 030248.
16 80 12	Sweatband, fleecy cotton (short), pkg of 2.	42 80 00	Inner cover plate (42 x 91 mm), pkg of 5. Plate marking 42 02 00.	73 10 00	Battery cover.
16 90 01	Neck protection black/grey.	42 80 05	42 80 05, pkg Of 200.		
16 91 00	Hood black/grey.	70 00 20	Speedglas welding filter SL, variable shade 8-12.		
17 10 20	Magnifying lens 1.0.	70 11 20	Speedglas welding helmet SL, with welding filter, variable shade 8-12.		
17 10 21	Magnifying lens 1.5.	70 11 90	Welding helmet, without headband.		

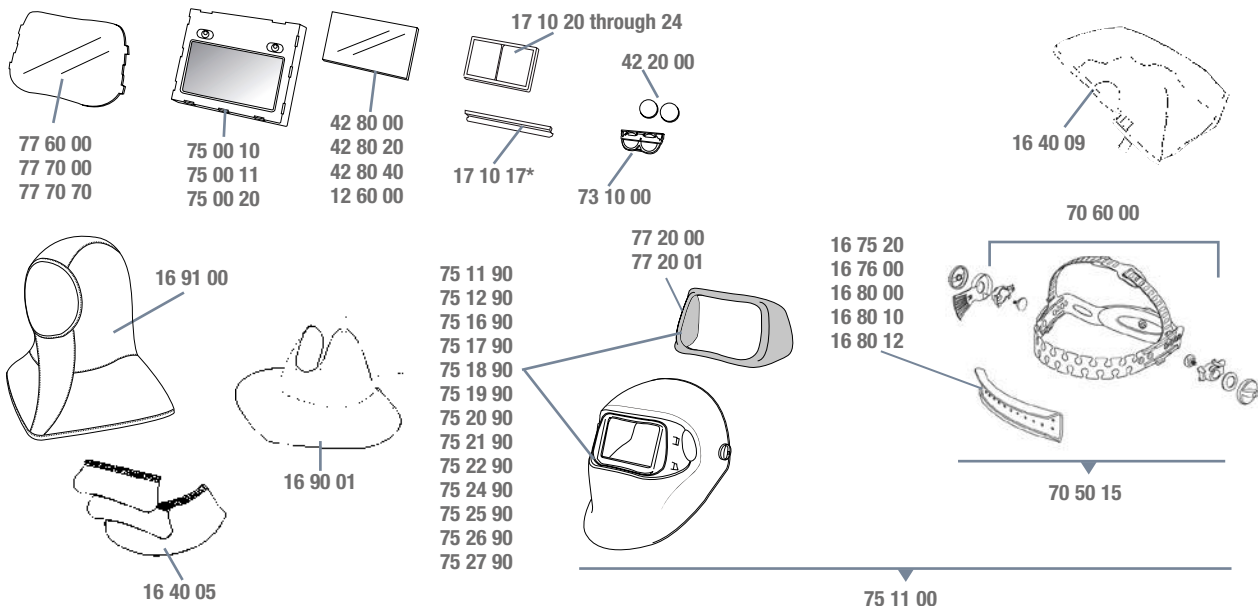


# 3M™ Speedglas™ Welding Helmet Series 100



75 25 20

Part No	Description	Part No	Description	Part No	Description
75 11 01	Speedglas welding helmet 100 Black, including passive filter shade 11.	75 17 20	Speedglas welding helmet 100 Aces High with 100V filter.	75 24 20	Speedglas welding helmet 100 Razor Dragon with 100V filter.
75 11 10	Speedglas welding helmet 100 Black with 100S-10 filter.	75 18 20	Speedglas welding helmet 100 Steel Rose with 100V filter.	75 25 20	Speedglas welding helmet 100 Ice Hot with 100V filter.
75 11 11	Speedglas welding helmet 100 Black with 100S-11 filter.	75 19 20	Speedglas welding helmet 100 Skull Jewels with 100V filter.	75 26 20	Speedglas welding helmet 100 Raging Skull with 100V filter.
75 11 20	Speedglas welding helmet 100 Black with 100V filter.	75 20 20	Speedglas welding helmet 100 Wild 'n' Pink with 100V filter.	75 27 20	Speedglas welding helmet 100 Future Combatant with 100V filter.
75 12 20	Speedglas welding helmet 100 Blaze, with 100V filter.	75 21 20	Speedglas welding helmet 100 Steel Eyes with 100V filter.		
75 16 20	Speedglas welding helmet 100 Trojan Warrior with 100V filter.	75 22 20	Speedglas welding helmet 100 Xterminator with 100V filter.		



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
12 60 00	Inner cover plate (90x110 mm) for 100 passive filter.	70 60 00	Assembly parts for headband.	75 19 90	100 welding helmet Skull Jewels, without welding filter, without headband.
16 40 05	Ear and neck protection in leather.	73 10 00	Battery cover.	75 20 90	100 welding helmet Wild n' Pink, without welding filter, without headband.
16 40 09	Head protection, black/grey.	75 00 10	Speedglas welding filter 100S-10, single shade 10.	75 21 90	100 welding helmet Steel Eyes, without welding filter, without headband.
16 75 20	Sweatband, towelling purple, pkg of 2.	75 00 11	Speedglas welding filter 100S-11, single shade 11.	75 21 90	100 welding helmet Steel Eyes, without welding filter, without headband.
16 76 00	Sweatband, towelling purple, pkg of 20.	75 00 20	Speedglas welding filter 100V, variable shade 8-12.	75 22 90	100 welding helmet Xterminator, without welding filter, without headband.
16 80 00	Sweatband, leather.	75 05 11	Speedglas 100 passive kit: 110x90 mm passive welding filter shade 11, inner cover plate, outer protection plate and filter frame (not shown).	75 24 90	100 welding helmet Razor Dragon, without welding filter, without headband.
16 80 10	Sweatband, fleecy cotton, pkg of 2.	75 11 00	100 welding helmet black, without welding filter, without headband.	75 25 90	100 welding helmet Ice Hot, without welding filter, without headband.
16 80 12	Sweatband, fleecy cotton (short), pkg of 2.	75 11 90	100 welding helmet black, without welding filter, without headband.	75 26 90	100 welding helmet Raging Skull, without welding filter, without headband.
16 90 01	Neck protection, black/grey.	75 12 90	100 welding helmet Blaze, without welding filter, without headband.	75 27 90	100 welding helmet Future Combatant, without welding filter, without headband.
16 91 00	Hood black/grey.	75 16 90	100 welding helmet Trojan Warrior, without welding filter, without headband.	77 20 00	Front frame, silver.
17 10 17	Holder for magnifier.	75 17 90	100 welding helmet Aces High, without welding filter, without headband.	77 20 01	Front frame, black.
17 10 20	Magnifying lens 1.0.	75 18 90	100 welding helmet Steel Rose, without welding filter, without headband.	77 60 00	Outer protection plate, standard, pkg of 10.
17 10 21	Magnifying lens 1.5.	75 19 90	100 welding helmet Steel Rose, without welding filter, without headband.	77 70 00	Outer protection plate, scratch resistant, pkg of 10.
17 10 22	Magnifying lens 2.0.	75 20 90	100 welding helmet Steel Rose, without welding filter, without headband.	77 70 70	Outer protection plate, heat resistant, pkg of 10.
17 10 23	Magnifying lens 2.5.	75 21 90	100 welding helmet Steel Eyes, without welding filter, without headband.		
17 10 24	Magnifying lens 3.0.	75 22 90	100 welding helmet Xterminator, without welding filter, without headband.		
42 20 00	Battery, pkg of 2.				
42 80 00	Inner cover plate, pkg of 5. Plate marking 42 02 00.				
42 80 20	Inner cover plate, +1 shade, pkg of 5.				
42 80 40	Inner cover plate, +2 shade, pkg of 5.				
70 50 15	New headband (Sept 2012) with assembly parts.				

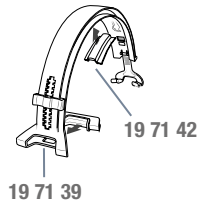
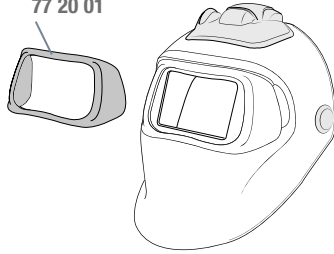
\* Needed for older models

# 3M™ Speedglas™ Welding Helmet 100-QR

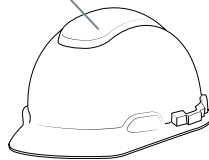


78 25 20

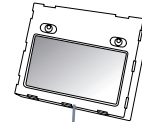
77 20 00  
77 20 01



H-701C-VI



77 60 00  
77 70 00  
77 70 70



75 00 10  
75 00 11  
75 00 20



42 80 00  
42 80 20  
42 80 40



42 20 00  
73 10 00

78 25 00

Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather.	75 00 10	Speedglas welding filter 100S-10, single shade 10.	77 70 70	Outer protection plate, heat resistant, pkg of 10.
19 71 39	Quick release rail for safety helmet.	75 00 11	Speedglas welding filter 100S-11, single shade 11.	78 15 00	Welding helmet 100-QR without quick release rail, without welding filter, without safety helmet.
19 71 42	Rubber friction pads for quick release rail.	75 00 20	Speedglas welding filter 100V, variable shade 8-12.	78 25 00	Welding helmet 100-QR with quick release rail, without welding filter, without safety helmet.
19 71 43	Pivot cover plate kit for quick release welding helmets (QR), pkg of 2.	77 20 00	Front frame, silver.	78 25 20	3M™ Speedglas™ Welding Helmet 100-QR with 3M™ Speedglas™ 100V 3M™ Safety Helmet H-701R (unvented)
42 20 00	Battery, pkg of 2	77 20 01	Front frame, black.	H-701C-VI	
42 80 00	Inner cover plate, pkg of 5. Plate marking 42 02 00.	77 60 00	Outer protection plate, standard, pkg of 10.		
42 80 20	Inner cover plate, +1 shade, pkg of 5.	77 70 00	Outer protection plate, scratch resistant, pkg of 10.		
42 80 40	Inner cover plate, +2 shade, pkg of 5.				
73 10 00	Battery cover for welding filter series 100.				

# Safety Helmet Adapter for 3M™ Speedglas™ Welding Helmets 9100 / 9100 FX / 100



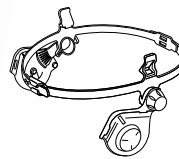
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58 38 15  
58 38 25



78 31 20

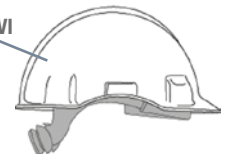


54 38 05  
54 38 15  
52 38 25



19 71 35  
19 71 36  
19 71 37

G3001NUV-VI



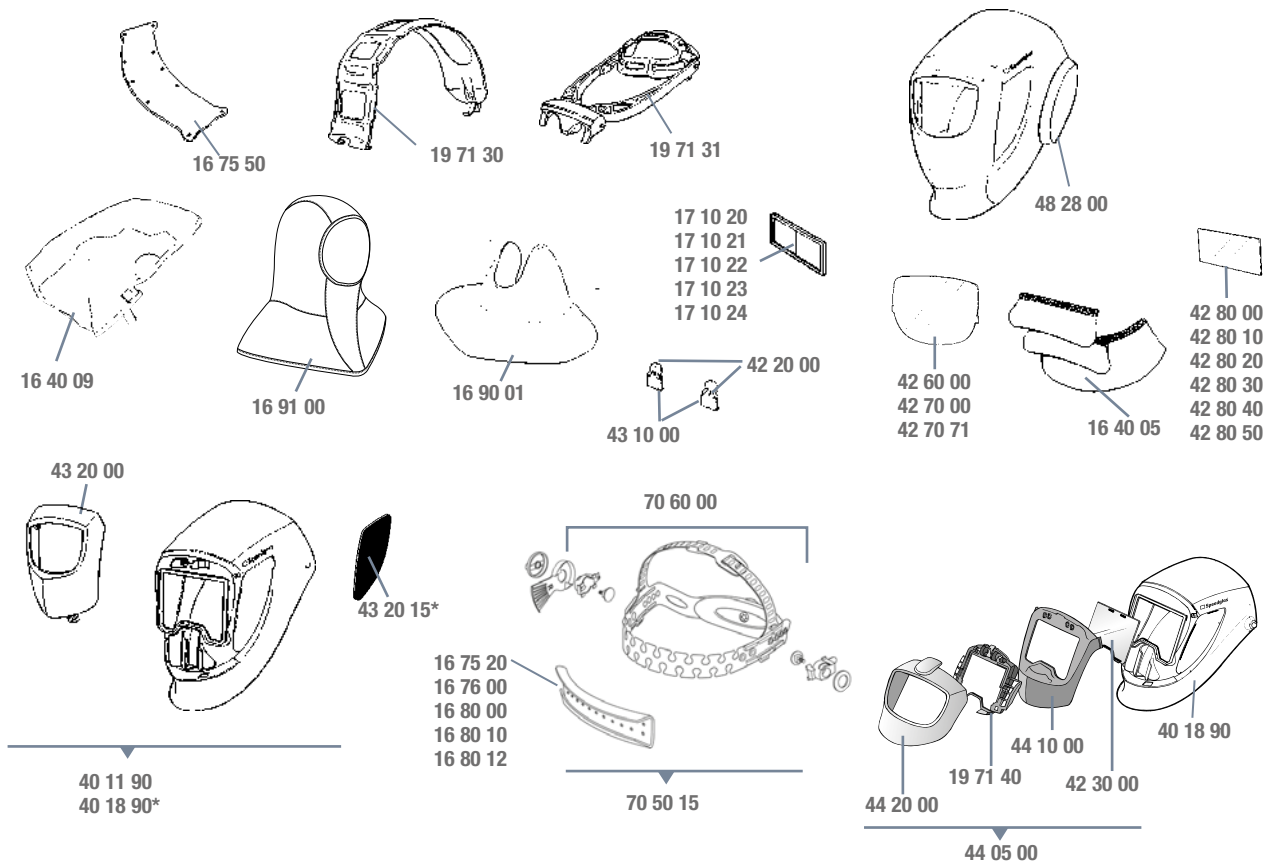
Part No	Description	Part No	Description	Part No	Description
19 71 35	Safety helmet adapter for Speedglas welding helmet 9100, with assembly parts.	54 38 15	Speedglas welding helmet 9100 FX with 3M safety helmet G3001, with welding filter 9100X.	58 38 25	Speedglas welding helmet 9100 with 3M safety helmet G3001, with welding filter 9100XX.
19 71 36	Safety helmet adapter for Speedglas welding helmet 9100 FX, with assembly parts.	54 38 25	Speedglas welding helmet 9100 FX with 3M safety helmet G3001, with welding filter 9100XX.	78 31 20	Speedglas welding helmet 100 with 3M safety helmet G3001, with welding filter 100V.
19 71 37	Safety helmet adapter for Speedglas welding helmet 100, with assembly parts.	58 38 05	Speedglas welding helmet 9100 with 3M safety helmet G3001, with welding filter 9100V.	G3001NUV-VI	3M safety helmet G3001
54 38 05	Speedglas welding helmet 9100 FX with 3M safety helmet G3001, with welding filter 9100V.	58 38 15	Speedglas welding helmet 9100 with 3M safety helmet G3001, with welding filter 9100X.		

# 3M™ Speedglas™

## Welding Helmets 9000 / FlexView / ProTop / Utility

### Accessories and spare parts\*\*

Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather.	40 18 90*	Speedglas welding helmet 9000 with SideWindows, without headband, without filter.	42 80 50	Inner cover plate, +2 Shade for 9002X/9000XF filters, pkg of 5.
16 40 09	Head protection, black/grey.	42 20 00	Battery, pkg of 2.	43 10 00	Battery cover, pkg of 2.
16 75 20	Sweatband towelling, pkg of 2.	42 30 00	Protective visor plate FlexView, pkg of 10.	43 20 00	Heat-reflecting front, silver.
16 75 50	Sweatband ProTop, pkg of 2.	42 60 00	Outer protection plate, standard, pkg of 10. Plate marking 42 01 50.	43 20 15*	SideWindows cover plate (sticker), 5 pairs.
16 76 00	Sweatband towelling, pkg of 20.	42 70 00	Outer protection plate, scratch resistant, pkg of 10. Plate marking 42 01 00.	44 05 00	Speedglas FlexView Conversion Kit.
16 80 00	Sweatband, leather.	42 70 71	Outer protection plate, heat resistant, pkg of 10. Plate marking 42 01 71 HEAT.	44 10 00	Middle helmet FlexView, black.
16 80 10	Sweatband, fleecy cotton, pkg of 2.	42 80 00	Inner cover plate (42x91 mm) for 9002D/9002V filters, pkg of 5. Plate marking 42 02 00.	44 20 00	Heatreflecting front FlexView, silver.
16 80 12	Sweatband, fleecy cotton (short), pkg of 2.	42 80 10	Inner cover plate (53x103 mm) for 9002X/9000XF filters, pkg of 5. Plate marking 42 02 10.	48 28 00	Speedglas welding helmet ProTop, with SideWindows, without safety helmet, without welding filter.
16 90 01	Neck protection, black/grey.	42 80 20	Inner cover plate, +1 Shade for 9002D/9002V filters, pkg of 5.	70 50 15	New headband (Sept 2012) with assembly parts.
16 91 00	Hood black/grey.	42 80 30	Inner cover plate, +1 Shade for 9002X/9000XF filters, pkg of 5.	70 60 00	Assembly parts for headband.
17 10 15	Holder for magnifying lens (not shown)	42 80 40	Inner cover plate, +2 Shade for 9002D/9002V filters, pkg of 5.		
17 10 20	Magnifying lens 1.0.				
17 10 21	Magnifying lens 1.5.				
17 10 22	Magnifying lens 2.0.				
17 10 23	Magnifying lens 2.5.				
17 10 24	Magnifying lens 3.0.				
19 71 30	Safety helmet assembly parts ProTop.				
19 71 31	Welding helmet mechanism parts ProTop.				
19 71 40	Holder for welding filter (FlexView).				
19 71 41	Locking wedge kit, holder welding filter (FlexView).				
40 11 90	Speedglas welding helmet 9000, without SideWindows, without headband, without filter.				



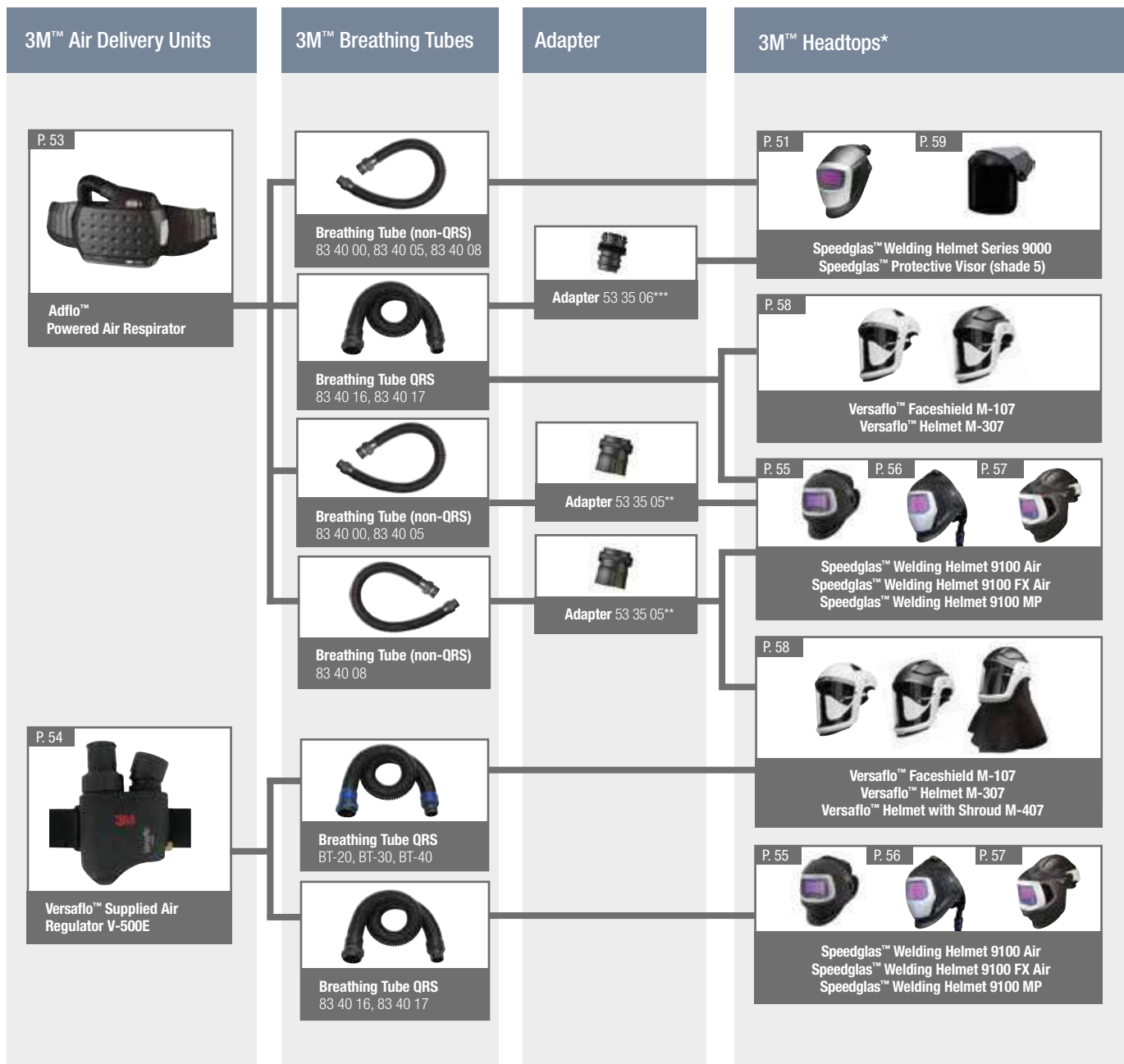
\* Please use Part No 40 18 90 when new SideWindows are required.

\*\* Speedglas welding helmets 9100, 9100 Air, 9100 FX and 9100 FX Air replace the welding helmets 9000 and 9000 FlexView.

# Compatibility of 3M™ Air Delivery Units and Headtops

The new welding helmets and faceshields from 3M feature the QRS type of breathing tube (Quick Release Swivel), which enables one-handed connection and release. Older types of breathing tubes (non-QRS) can be used by adding the helmet breathing tube adapter (part no 53 35 05).

The new type of QRS breathing tubes are also approved for 3M™ Speedglas™ Welding Helmet Series 9000 and 3M™ Speedglas™ Protective Visors by adding a specific helmet breathing tube adapter (part no 53 35 06).



\* The Speedglas welding helmet series 9100 replaces most of the Speedglas welding helmet series 9000. Accessories and spare parts for the 9000 helmets will be available for 3-5 years.

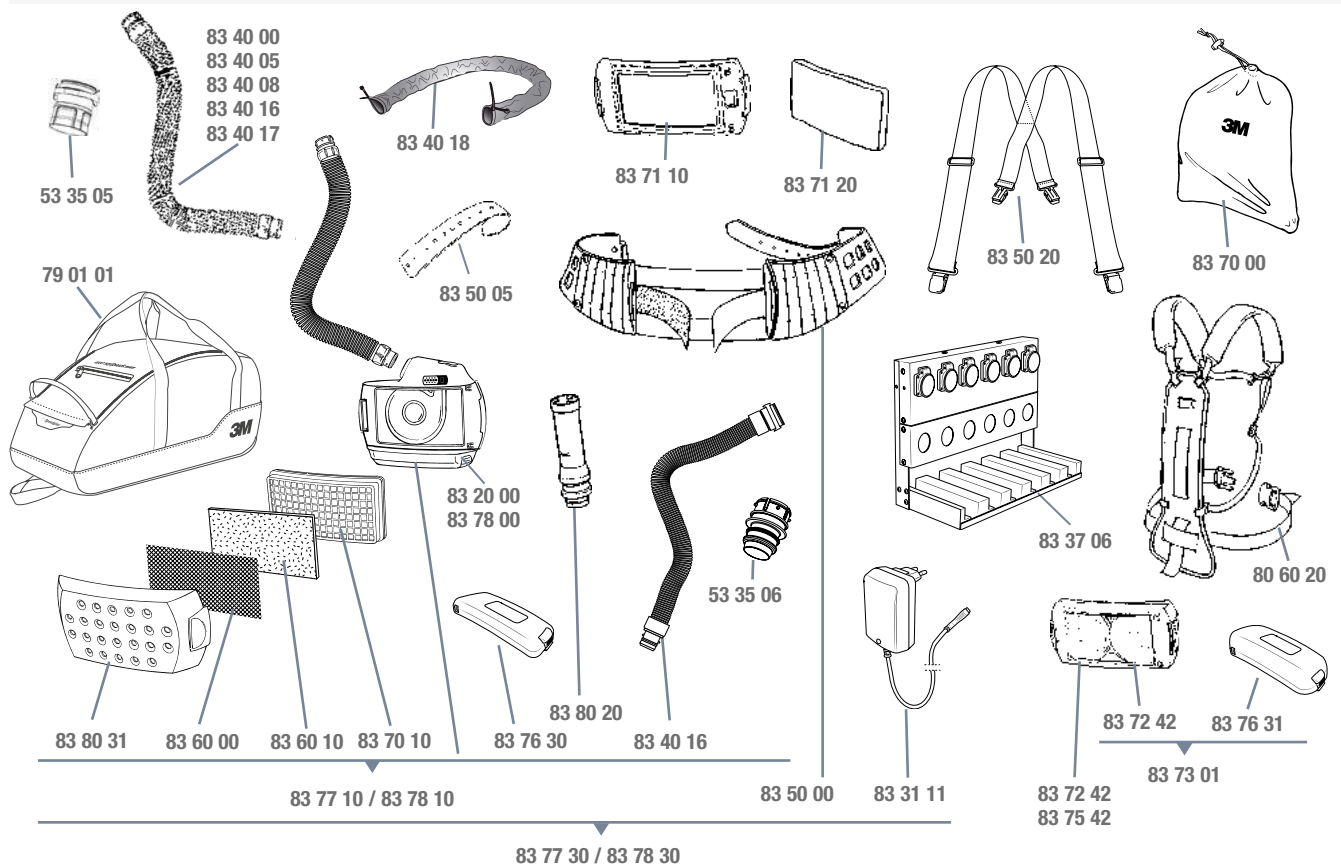
\*\* The protection class of Speedglas welding helmet 9100 FX Air is reduced to TH2 when the adapter (53 35 05) is used.

\*\*\* When you buy a new complete respirator or regulator with the new breathing tube QRS, it includes the adapter 53 35 06, needed for connecting the Speedglas welding helmet series 9000 and Speedglas visors to the new type of breathing tube.

# 3M™ Adflo™ Powered Air Respirator



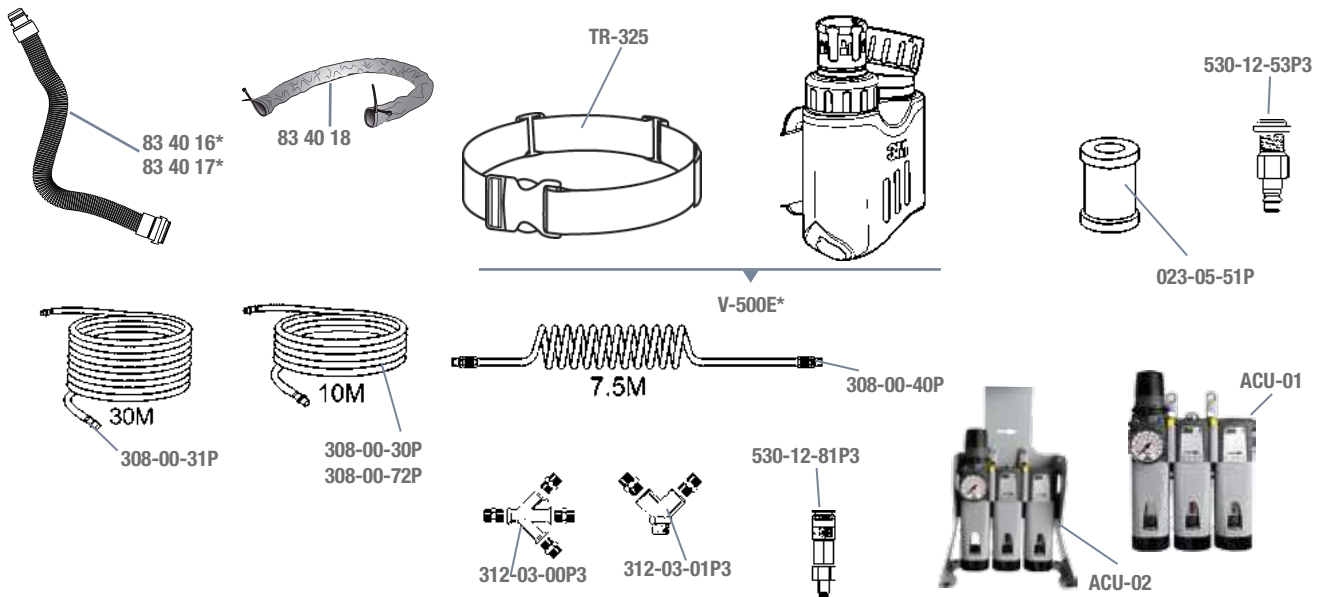
Part No	Description	Part No	Description	Part No	Description
83 77 10	Adflo respirator with self-adjusting breathing tube QRS, adapter (53 35 06), airflow indicator, prefilter, spark arrestor, particle filter and battery.	83 77 31	Adflo respirator as in 83 77 30, but with heavy-duty battery.		adapter (53 35 06), airflow indicator, prefilter, spark arrestor, particle filter, battery, belt and charger.
83 77 30	Adflo respirator with self-adjusting breathing tube QRS, breathing tube adapter, airflow indicator, prefilter, spark arrestor, particle filter, battery, belt and charger.	83 78 10	Adflo High Altitude respirator with self-adjusting breathing tube QRS, adapter (53 35 06), airflow indicator, prefilter, spark arrestor, particle filter and battery.	83 78 31	High Altitude Adflo respirator as in 83 78 30 but with heavy-duty battery.
		83 78 30	Adflo High Altitude respirator with self-adjusting breathing tube QRS,		



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
53 35 05	Adapter for non-QRS breathing tubes when using Speedglas welding helmet series 9100.	83 40 08	Breathing tube with silencer, non-QRS.	83 70 80	Particle filter P SL, pkg of 80.
53 35 06	Adapter for QRS breathing tubes when using Speedglas welding helmet series 9000.	83 40 16	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.	83 71 10	Odour filter.
79 01 01	Product carry bag.	83 40 17	Breathing tube, heavy-duty rubber, with QRS connection.	83 71 20	Odour filter pad.
80 60 20	Backpack.	83 40 18	Flame resistant breathing tube cover.	83 72 42	Gas filter A1B1E1.
83 20 00	Turbo assembly, without filter, without filter cover.	83 50 00	Belt.	83 73 01	Gas filter kit: A1B1E1 filter and Li-ion Heavy-Duty battery.
83 31 01	Battery charger for NiMh batteries.	83 50 05	Belt.	83 75 42	Gas filter A2.
83 31 11	Battery charger for Li-ion batteries.	83 50 10	Quick connection for belt (not shown).	83 76 20	NiMh Battery (standard).
83 37 06	Battery charging stand 6-position.	83 50 20	Braces.	83 76 21	NiMh Battery Heavy-Duty.
83 40 00	Breathing tube, lightweight, non-QRS.	83 60 00	Spark arrestor.	83 76 30	Li-ion Battery (standard).
83 40 05	Breathing tube, heavy-duty rubber, non-QRS.	83 60 10	Prefilter, pkg of 5.	83 76 31	Li-ion Battery Heavy-Duty.
		83 60 80	Prefilter, pkg of 80.	83 78 00	Turbo assembly High Altitude, without filter, without filter cover.
		83 70 00	Storage bag.	83 80 20	Airflow indicator.
		83 70 10	Particle filter P SL.	83 80 31	Filter cover black.
		83 70 20	Particle filter P SL, pkg of 20.		

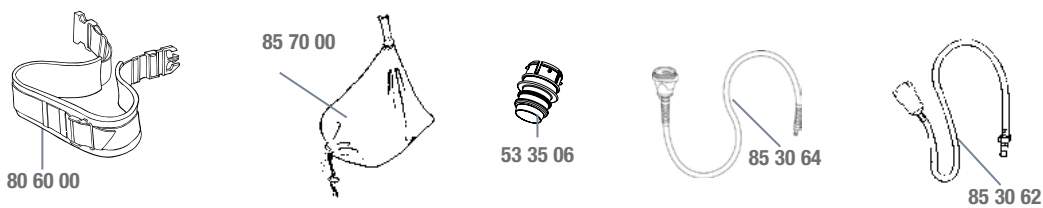
# 3M™ Versaflo™ Supplied Air Regulator V-500E



Part No	Description	Part No	Description	Part No	Description
83 40 16	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.	308-00-31P	Standard duty air supply tube, 30 m.	530-12-81P3	Socket and plug - CEJN.
83 40 17	Breathing tube, heavy-duty rubber, with QRS connection.	308-00-40P	Coiled air supply tube, 7.5 m.	ACU-01	3M™ Aircare™ Filtration System (wall mounted).
83 40 18	Flame resistant breathing tube cover.	308-00-72P	Standard duty, anti-static, high temperature air supply tube, 10 m.	ACU-02	3M™ Aircare™ Filtration System (stand alone).
023-05-51P	Carbon filter.	312-03-00P3	3-way manifold.	TR-325	Belt.
308-00-30P	Standard duty air supply tube, 10 m.	312-03-01P3	2-way manifold.	V-500E	Versaflo regulator V-500E with belt.
		530-12-53P3	Belt unit coupling plug - CEJN.		

\* When used with Versaflo headtops M-Series, the BT-Series breathing tubes must be used.

# Spare parts for 3M™ Fresh-air™ C Supplied Air Regulator



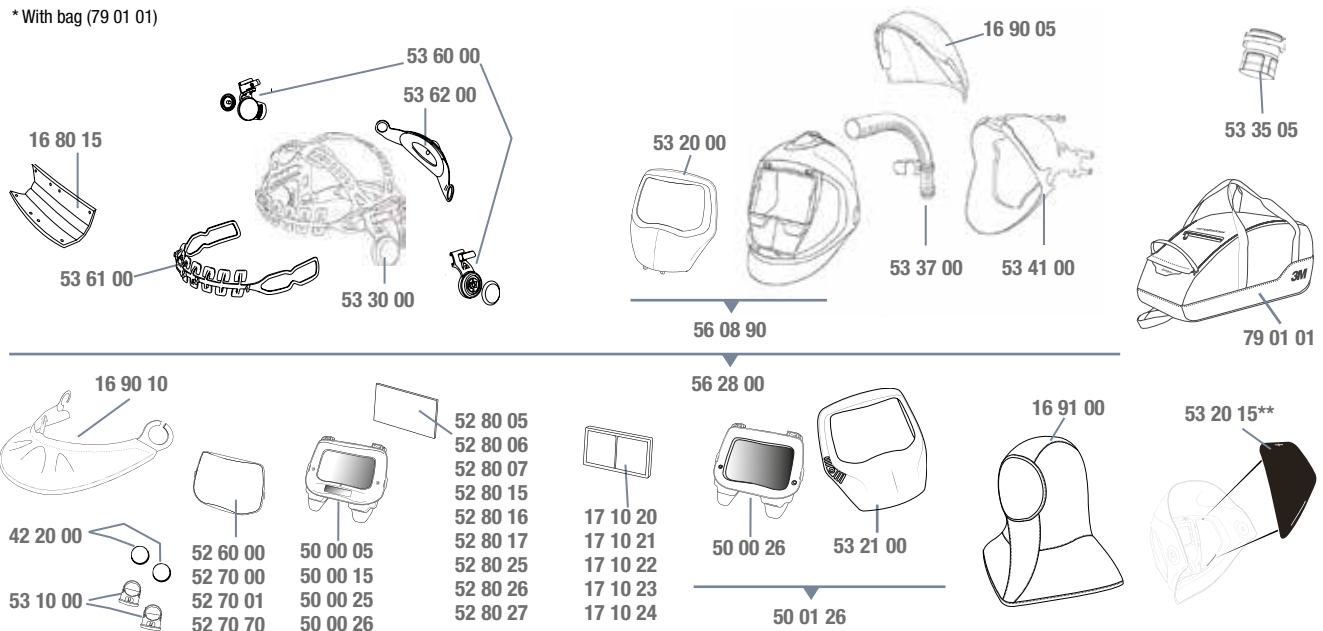
Part No	Description	Part No	Description	Part No	Description
53 35 06	Adapter for QRS breathing tubes when using Speedglas welding helmet series 9000.	80 60 00	Comfort belt.	85 30 64	Breathing tube (blue) with nipple and QRS connection.
		85 30 62	Breathing tube (transparent) with nipple, without QRS connection.	85 70 00	Storage bag.

# 3M™ Speedglas™ Welding Helmet 9100 Air



Part No	Description	Part No	Description	Part No	Description
56 77 00*	Speedglas welding helmet 9100 Air without welding filter, with Adflo powered air respirator.	56 85 00*	Speedglas welding helmet 9100 Air without welding filter, with Versaflo supplied air regulator V-500E.	56 90 05*	Upgrade kit for Adflo respirator: welding helmet with 9100V filter, breathing tube (834016) and bag.
56 77 05*	Speedglas welding helmet 9100 Air with 9100V filter and Adflo powered air respirator.	56 85 05*	Speedglas welding helmet 9100 Air with 9100V filter, with Versaflo supplied air regulator V-500E.	56 90 15*	Upgrade kit for Adflo respirator: welding helmet with 9100X filter, breathing tube (834016) and carry bag.
56 77 15*	Speedglas welding helmet 9100 Air with 9100X filter, with Adflo powered air respirator.	56 85 15*	Speedglas welding helmet 9100 Air with 9100X filter, with Versaflo supplied air regulator V-500E.	56 90 25*	Upgrade kit for Adflo respirator: welding helmet with 9100XX filter, breathing tube (834016) and carry bag.
56 77 25*	Speedglas welding helmet 9100 Air with 9100XX filter, with Adflo powered air respirator.	56 85 25*	Speedglas welding helmet 9100 Air with 9100XX filter, with Versaflo supplied air regulator V-500E.		
56 77 26*	Speedglas welding helmet 9100 Air with 9100XXi welding filter kit and Adflo powered air respirator.	56 85 26*	Speedglas welding helmet 9100 Air with 9100XXi welding filter kit and Versaflo supplied air regulator V-500E.		

\* With bag (79 01 01)



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
16 80 15	Comfort sweatband, pkg of 3.	52 70 70	Outer protection plate, heat resistant pkg of 10.	53 20 00	Heat-reflecting silver front.
16 90 05	Head protection, black.	52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.	53 20 15*	SideWindows cover plate, 2 pairs.
16 90 10	Neck protection, black.	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 21 00	Heat-reflecting silver front for welding filter kit 9100XXi.
16 91 00	Hood, black/grey.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	53 30 00	Speedglas headband 9100 with assembly parts.
17 10 20	Magnifying lens 1.0.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	53 35 05	Welding helmet adapter when using old type of breathing tube (non-QRS).
17 10 21	Magnifying lens 1.5.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	53 37 00	Air duct.
17 10 22	Magnifying lens 2.0.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	53 41 00	Face seal.
17 10 23	Magnifying lens 2.5.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.	53 60 00	Pivot mechanism, left and right.
17 10 24	Magnifying lens 3.0.	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.	53 61 00	Headband front part.
42 20 00	Battery, pkg of 2.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.	53 62 00	Headband back part.
50 00 05	Speedglas welding filter 9100V.	53 10 00	Battery holder, pkg of 2.	56 08 90*	Speedglas welding helmet 9100 Air without headband, without air duct, without face seal, without filter.
50 00 15	Speedglas welding filter 9100X.			56 28 00	Speedglas welding helmet 9100 Air, without welding filter.
50 00 25	Speedglas welding filter 9100XX.			79 01 01	Product carry bag.
50 00 26	Speedglas welding filter 9100XXi				
50 01 26	Speedglas welding filter kit 9100XXi (incl front and welding filter).				
52 60 00	Outer protection plate, standard, pkg of 10.				
52 70 00	Outer protection plate, extra scratch resistant, pkg of 10.				

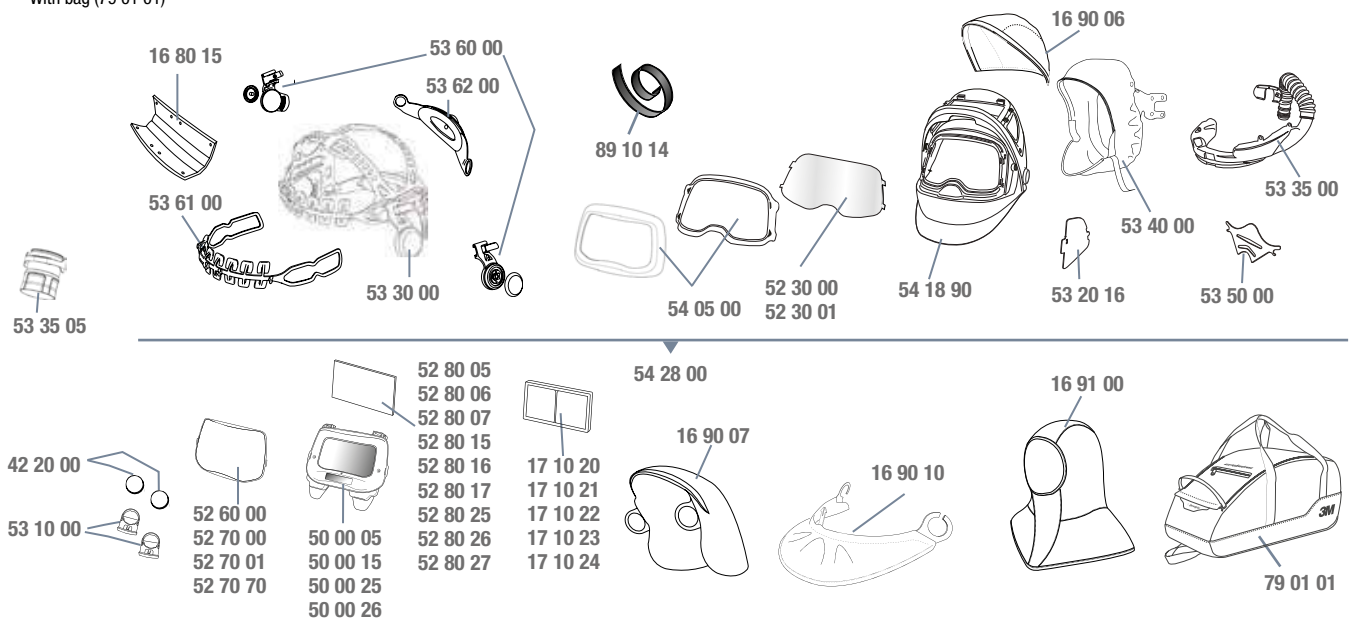
\*\* Please use Part No 56 08 90 when new SideWindows are required.

# 3M™ Speedglas™ Welding Helmet 9100 FX Air



Part No	Description	Part No	Description	Part No	Description
54 77 00*	Speedglas welding helmet 9100 FX Air, without welding filter, with Adflo powered air respirator.	54 88 00*	Speedglas welding helmet 9100 FX Air, without welding filter, with Versaflo supplied air regulator V-500E.	54 90 05*	Upgrade kit: welding helmet with 9100V filter, breathing tube (834016) and carry bag.
54 77 05*	Speedglas welding helmet 9100 FX Air with 9100V filter, with Adflo powered air respirator.	54 88 05*	Speedglas welding helmet 9100 FX Air with 9100V filter, with Versaflo supplied air regulator V-500E.	54 90 15*	Upgrade kit: welding helmet with 9100X filter, breathing tube (834016) and carry bag.
54 77 15*	Speedglas welding helmet 9100 FX Air with 9100X filter, with Adflo powered air respirator.	54 88 15*	Speedglas welding helmet 9100 FX Air with 9100X filter, with Versaflo supplied air regulator V-500E.	54 90 25*	Upgrade kit: welding helmet with 9100XX filter, breathing tube (834016) and carry bag.
54 77 25*	Speedglas welding helmet 9100 FX Air with 9100XX filter, with Adflo powered air respirator.	54 88 25*	Speedglas welding helmet 9100 FX Air with 9100XX filter, with Versaflo supplied air regulator V-500E.		

\* With bag (79 01 01)



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
16 80 15	Comfort sweatband, pkg of 3.	52 70 70	Outer protection plate, heat resistant, pkg of 10.	53 30 00	Speedglas headband 9100, with assembly parts.
16 90 06	Head protection, (small).	52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.	53 35 00	Air duct.
16 90 07	Head protection, (large).	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 35 05	Adapter for non-QRS breathing tubes when using Speedglas welding helmet series 9100.
16 90 10	Neck protection, black.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	53 40 00	Face seal.
16 91 00	Hood, black/grey.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	53 50 00	Air deflector.
17 10 20	Magnifying lens 1.0.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	53 60 00	Pivot mechanism, left and right.
17 10 21	Magnifying lens 1.5.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	53 61 00	Headband, front part.
17 10 22	Magnifying lens 2.0.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.	53 62 00	Headband, back part.
17 10 23	Magnifying lens 2.5.	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.	54 05 00	Front cover kit.
17 10 24	Magnifying lens 3.0.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.	54 18 90	Speedglas welding helmet 9100 FX Air, without filter, without face seal, without air duct, without headband.
42 20 00	Battery, pkg of 2.	53 10 00	Battery holder, pkg of 2.	54 28 00	Speedglas welding helmet 9100 FX Air, without welding filter, with headband.
50 00 05	Speedglas welding filter 9100V.	53 20 16	SideWindows cover plate, 2 pairs.	79 01 01	Product carry bag.
50 00 15	Speedglas welding filter 9100X.			89 10 14	Velcro for Head cover, pkg of 2.
50 00 25	Speedglas welding filter 9100XX.			89 10 15	9100 FX Air service kit (not shown).
50 00 26	Speedglas welding filter 9100XXi.				
52 30 00	Visor plate, standard, pkg of 5.				
52 30 01	Visor plate, anti-fog, pkg of 5.				
52 60 00	Outer protection plate, standard, pkg of 10.				
52 70 00	Outer protection plate scratch resistant, pkg of 10.				
52 70 01	Outer protection plate extra scratch resistant, pkg of 10.				



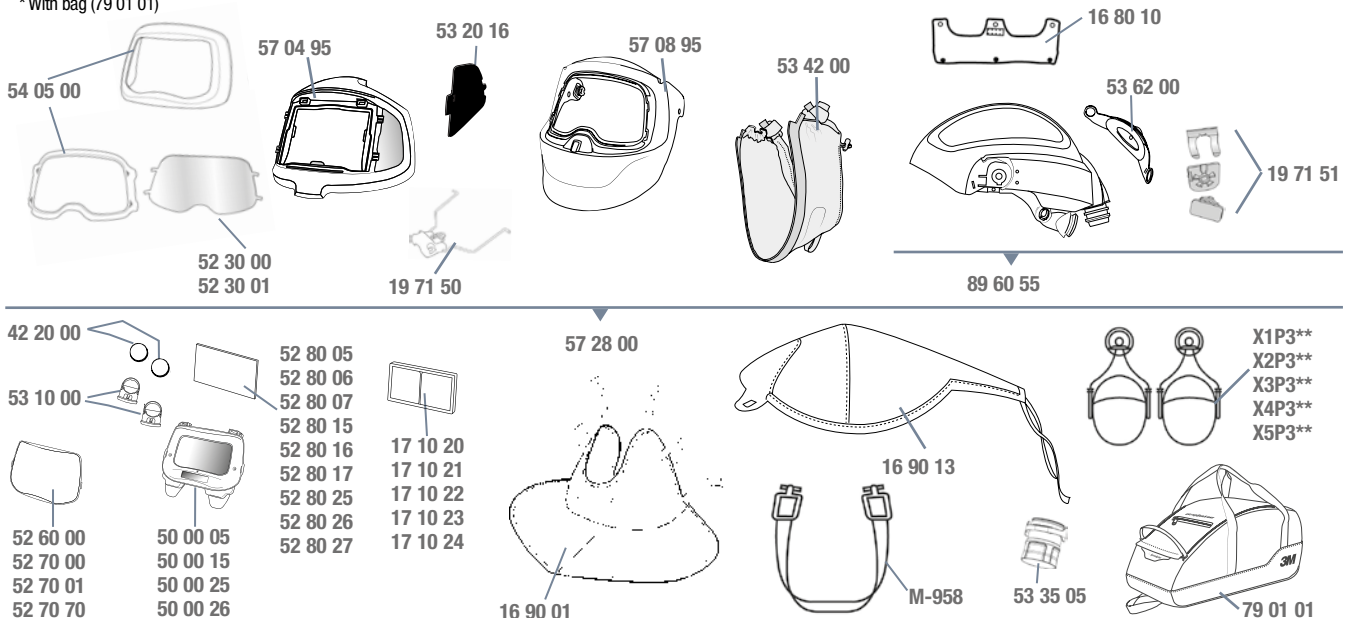
# 3M™ Speedglas™ Welding Helmet 9100 MP



57 90 15

Part No	Description	Part No	Description	Part No	Description
57 77 00*	Speedglas welding helmet 9100 MP without welding filter, with Adflo powered air respirator.	57 77 25*	Speedglas welding helmet 9100 MP with 9100XX filter, with Adflo powered air respirator.	57 88 15*	Speedglas welding helmet 9100 MP with 9100X filter, with Versaflor supplied air regulator V-500E.
57 77 05*	Speedglas welding helmet 9100 MP with 9100V filter, with Adflo powered air respirator.	57 88 00*	Speedglas welding helmet 9100 MP without welding filter, with Versaflor supplied air regulator V-500E.	57 88 25*	Speedglas welding helmet 9100 MP with 9100XX filter, with Versaflor supplied air regulator V-500E.
57 77 15*	Speedglas welding helmet 9100 MP with 9100X filter, with Adflo powered air respirator.	57 88 05*	Speedglas welding helmet 9100 MP with 9100V filter, with Versaflor supplied air regulator V-500E.	57 90 15*	Speedglas welding helmet 9100 MP with 9100X filter and breathing tube.
				57 90 25*	Speedglas welding helmet 9100 MP with 9100XX filter and breathing tube.

\*With bag (79 01 01)



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
16 80 10	Sweatband, fleecy cotton, pkg of 2.	52 70 70	Outer protection plate, heat resistant pkg of 10.	53 35 05	Welding helmet adapter when using old type of breathing tube (non-QRS).
16 90 01	Neck protection, black/grey.	52 80 05	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117x50.	53 42 00	Face seal.
16 90 13	Safety helmet cover 9100 MP.	52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	53 62 00	Headband ratchet.
17 10 20	Magnifying lens 1.0.	52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	54 05 00	Front cover kit.
17 10 21	Magnifying lens 1.5.	52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117x61.	57 04 95	Outer shield.
17 10 22	Magnifying lens 2.0.	52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	57 08 95	Inner shield.
17 10 23	Magnifying lens 2.5.	52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	57 28 00	Speedglas welding and safety helmet 9100 MP, without welding filter.
17 10 24	Magnifying lens 3.0.	52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117x77.	89 60 55	Safety helmet incl pivot kit.
19 71 50	Flip-up mechanism .	52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.	79 01 01	Product carry bag.
19 71 51	Pivot kit.	52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.	M-350	Versaflor head suspension M-300 (not shown above).
42 20 00	Battery, pkg of 2.	53 10 00	Battery holder, pkg of 2.	M-958	Chin strap.
50 00 05	Speedglas welding filter 9100V.	53 20 16	SideWindow cover plates.	X1P3	3M™ Peltor™ Ear Muffs X1 (26 dB). **
50 00 15	Speedglas welding filter 9100X.			X2P3	3M™ Peltor™ Ear Muffs X2 (30 dB). **
50 00 25	Speedglas welding filter 9100XX.			X3P3	3M™ Peltor™ Ear Muffs X3 (32 dB). **
50 00 26	Speedglas welding filter 9100XXi.			X4P3	3M™ Peltor™ Ear Muffs X4 (33 dB). **
52 30 00	Visor plate, standard, pkg of 5.			X5P3	3M™ Peltor™ Ear Muffs X5 (36 dB). **
52 30 01	Visor plate, anti-fog, pkg of 5.			Z3AF/2	Helmet assembly parts for Peltor X-series ear muffs, left and right (not shown above).
52 60 00	Outer protection plate, standard, pkg of 10.				
52 70 00	Outer protection plate scratch resistant, pkg of 10.				
52 70 01	Outer protection plate extra scratch resistant, pkg of 10.				

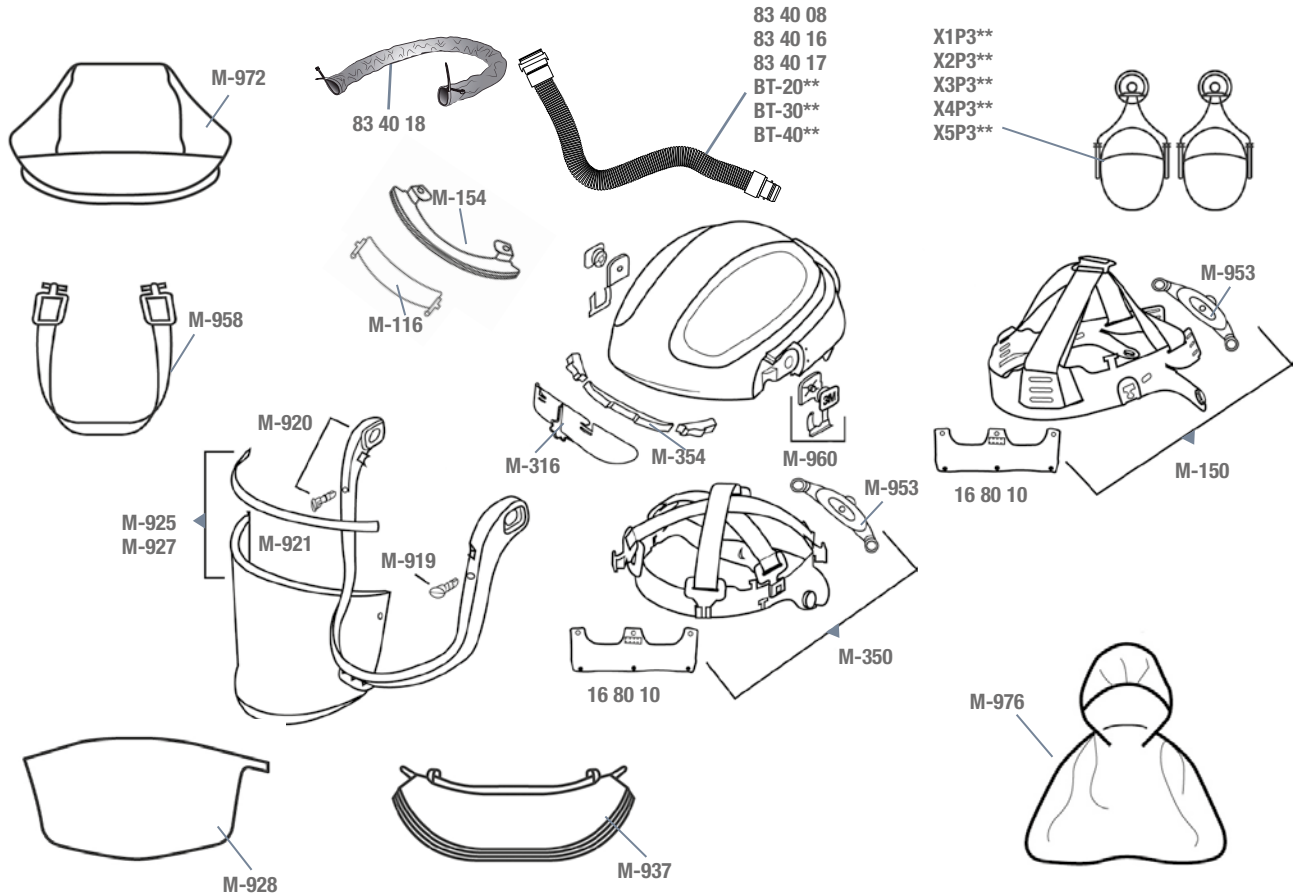
\*\* Please add assembly parts Z3AF/2 when ordering hearing protection for 9100MP welding helmet.

# 3M™ Versaflo™ Headtops M-Series



Part No	Description	Part No	Description	Part No	Description
84 77 20	Versaflo Faceshield M-107 with Adflo respirator.	85 77 20	Versaflo Helmet M-307 with Adflo respirator.	M-107*	Versaflo Faceshield M-107.
				M-307*	Versaflo Helmet M-307.
				M-407*	Versaflo Helmet with shroud M-407.

\* For supplied air respirator system, please see page 54 to order regulator. For M-407 helmet with powered air respirator, please see page 53 for further details.



## Accessories and spare parts

Part No	Description	Part No	Description	Part No	Description
16 80 10	Sweatband, fleecy cotton, pkg of 2	M-154	Forehead seal (M-107).	M-972	Flame resistant headtop cover.
83 40 08	Breathing tube with silencer, non-QRS.	M-316	Airflow deflector (M-307).	M-976	Head, neck and shoulder cover.
83 40 16	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.	M-350	Head suspension (M-307).	X1P3	3M™ Peltor™ Ear Muffs X1 (26 dB).***
83 40 17	Breathing tube, heavy-duty rubber, with QRS connection.	M-354	Forehead seal (M-307).	X2P3	3M™ Peltor™ Ear Muffs X2 (30 dB).***
83 40 18	Flame resistant breathing tube cover.	M-919	Visor frame buttons.	X3P3	3M™ Peltor™ Ear Muffs X3 (32 dB).***
BT-20 S&L**	Breathing tube, polyurethane (in two lengths), with QRS connection.	M-920	Visor frame.	X4P3	3M™ Peltor™ Ear Muffs X4 (33 dB).***
BT-30**	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.	M-921	Visor gasket.	X5P3	3M™ Peltor™ Ear Muffs X5 (36 dB).***
BT-40**	Breathing tube, heavy-duty rubber, with QRS connection.	M-925	Visor standard (uncoated), molten metal splash protection to EN166.	Z3AF/2	Helmet assembly parts for Peltor X-series ear muffs, left and right (not shown above).
M-116	Airflow deflector (M-107).	M-927	Visor coated.		
M-150	Head suspension (M-107).	M-928	Peel-off visor cover.		
		M-937	Flame resistant facesal.		
		M-953	Ratchet.		
		M-956	Ratchet comfort pad.		
		M-958	Chin strap.		
		M-960	Pivot kit.		

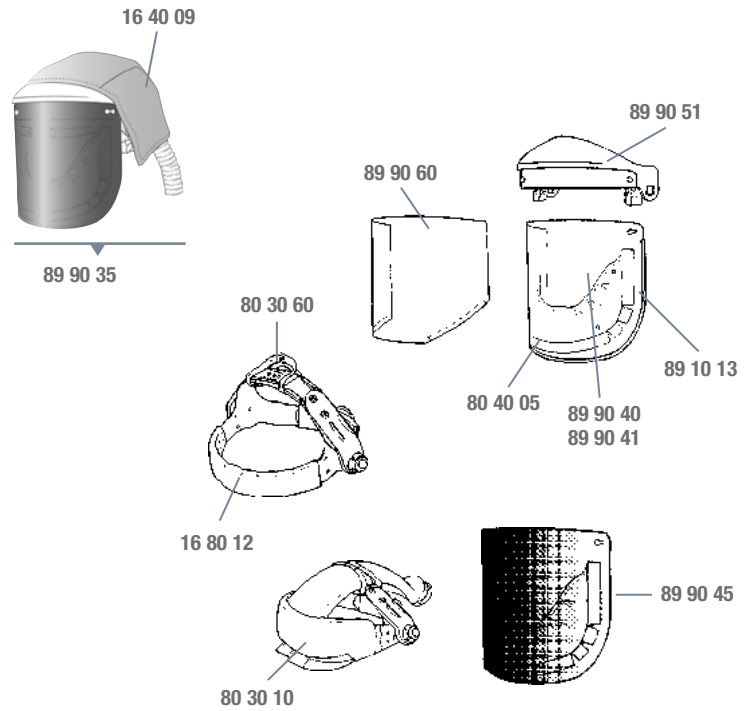
\*\* When used with 3M™ Versaflo™ Supplied Air Regulator V-500E, the 3M™ Versaflo™ Breathing Tubes BT-series must be used.

\*\*\* Please add assembly parts Z3AF/2 when ordering hearing protection for the M-series headtops.

# 3M™ Protective Visor with 3M™ Adflo™ Respirator



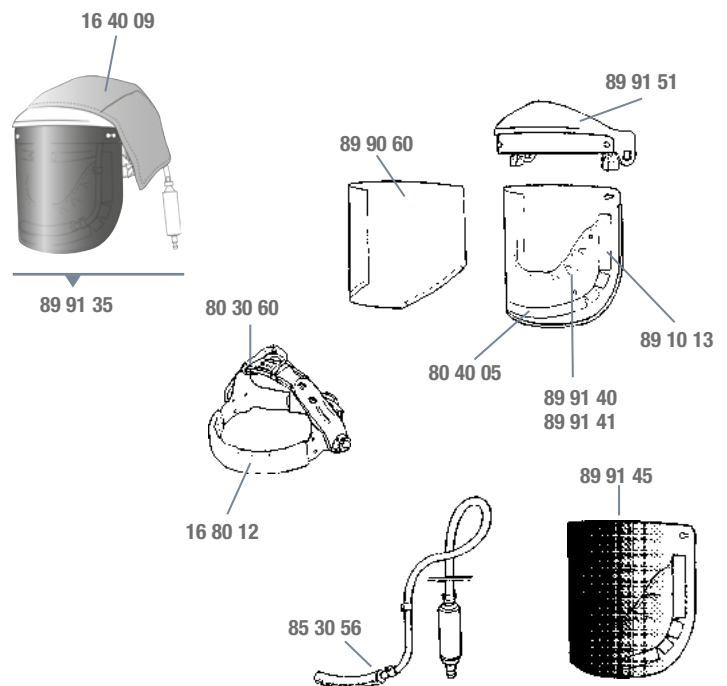
Part No	Description
16 40 09	Head protection flame-resistant.
16 80 12	Sweatband.
80 30 10	Headband, with air duct.
80 30 60	Headband, without air duct.
80 40 05	Face seal.
89 10 13	Velcro face seal, pkg of 2.
89 90 35	Protective Visor, DIN 5, polycarbonate, with head protection.
89 90 40	Protective Visor, clear, polycarbonate, with face seal, without brow protection.
89 90 41	Protective Visor, clear, acetate, with face seal, without brow protection.
89 90 45	Protective Visor, DIN 5, polycarbonate, with face seal, without brow protection.
89 90 51	Brow protection.
89 90 60	Protection film, pkg of 5.



# Spare parts 3M™ Protective Visor for legacy 3M™ Fresh-air C Regulator\*

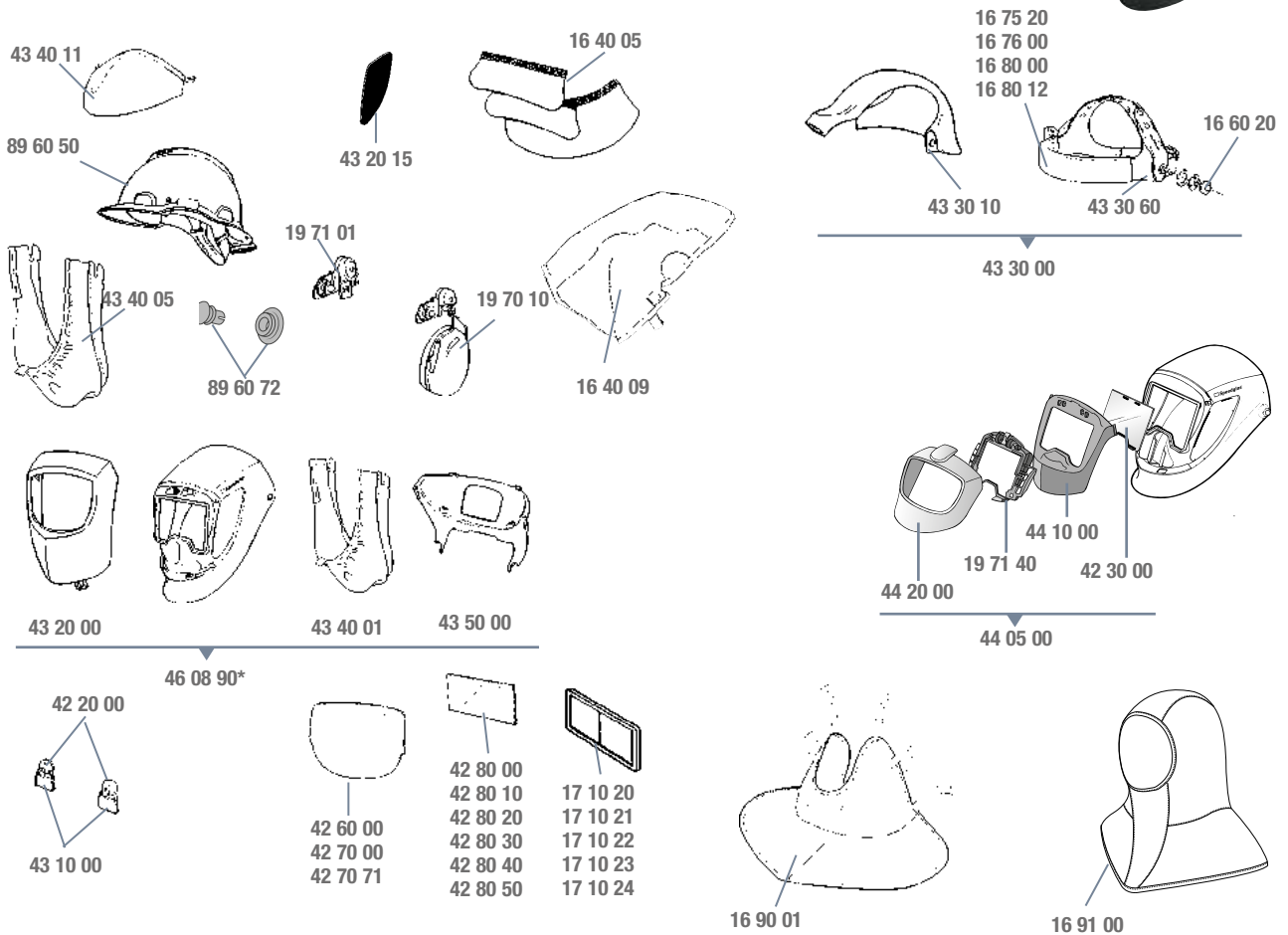


Part No	Description
16 40 09	Head protection, flame-resistant.
16 80 12	Sweatband.
80 30 60	Headband, without air duct.
80 40 05	Face seal.
85 30 56	Breathing tube, with nipple, silencer and fastening details.
89 10 13	Velcro face seal, pkg of 2.
89 90 60	Protection film, pkg of 5.
89 91 35	Protective Visor, DIN 5, polycarbonate, with head protection.
89 91 40	Protective Visor, clear, polycarbonate, with face seal, without brow protection.
89 91 41	Protective Visor, clear, acetate, with face seal, without brow protection.
89 91 45	Protective Visor DIN 5, polycarbonate, with face seal, without brow protection.
89 91 51	Brow protection.



\* Fresh-air C regulator no longer available

# 3M™ Speedglas™ Welding Helmets 9000 Series for Respiratory Protection



## Accessories and spare parts\*

Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather.	42 70 00	Outer protection plate, scratch resistant, pkg of 10. Plate marking 42 01 00.	43 30 10	Air duct.
16 40 09	Head protection.	42 70 71	Outer protection plate, heat resistant, pkg of 10. Plate marking 42 01 71.	43 30 60	Headband without air duct.
16 60 20	Assembly parts for headband.	42 80 00	Inner cover plate (42x91 mm) for 9002D/9002V Filters, pkg of 5. Plate marking 42 02 00.	43 40 01	Face seal.
16 75 20	Sweatband, towelling, pkg of 2.	42 80 10	Inner cover plate (53x103 mm) for 9002X/9000XF Filters, pkg of 5. Plate marking 42 02 10.	43 40 05	Face seal for 9000 welding helmet with safety helmet.
16 76 00	Sweatband, towelling, pkg of 20.	42 80 20	Inner cover plate, +1 Shade, for 9002D/9002V Filters, pkg of 5.	43 50 00	Air spreader.
16 80 00	Sweatband, leather.	42 80 30	Inner cover plate, +1 Shade, for 9002X/9000XF Filters, pkg of 5.	44 05 00	FlexView kit.
16 80 12	Sweatband, fleecy cotton, pkg of 2.	42 80 40	Inner cover plate, +2 Shade, for 9002D/9002V Filters, pkg of 5.	44 10 00	Middle helmet FlexView, black.
16 90 01	Neck protection black/grey.	42 80 50	Inner cover plate, +2 Shade, for 9002X/9000XF Filters, pkg of 5.	44 20 00	Heatreflecting front FlexView, silver.
16 91 00	Hood black/grey.	43 10 00	Battery cover, pkg of 2.	44 30 00	Passive welding filter shade 11 (not shown).
17 10 20	Magnifying lens 1.0.	43 20 00	Heat-reflecting, front silver.	80 31 10	Tightening kit for Speedglas 9000 welding helmet, not shown.
17 10 21	Magnifying lens 1.5.	43 20 15*	SideWindows cover plate (sticker), 5 pairs.	89 60 50	Safety helmet with air duct.
17 10 22	Magnifying lens 2.0.	43 30 00	Headband with air duct.	89 60 72	Fastening details to face seal, for welding helmet with safety helmet.
17 10 23	Magnifying lens 2.5.				
17 10 24	Magnifying lens 3.0.				
19 70 10	Ear muffs for safety helmet with assembly parts.				
19 71 01	Fastening details for safety helmet with assembly parts.				
19 71 40	Holder for welding filter (FlexView).				
42 20 00	Battery, pkg of 2.				
42 30 00	Protective visor plate FlexView, pkg of 10.				
42 60 00	Outer protection plate, standard, pkg of 10. Plate marking 42 01 50.				

\* Please use Part No 46 08 90 to replace the SideWindows.



# Featured accessories – additional protection

Every welder is different, and each day your tasks can change. As the owner of a 3M™ Speedglas™ Welding Helmet, you have a variety of accessories available to maximize your protection and comfort. Each welding helmet model can offer additional coverage products made in flame-retardant textiles for protection against molten metal, sparks and flames.

More details can be found for each welding helmet model in this parts directory.



3M™ Speedglas™ Welding Helmet	Head protection	Neck protection	Hood	Welding cap
3M™ Speedglas™ Welding Helmet Series 100/9000	Part No 16 40 09	Part No 16 90 01	Part No 16 91 00	Part No 95 44 10
3M™ Speedglas™ Welding Helmet SL	N/A			
3M™ Speedglas™ Welding Helmets 9100/9100 Air	Part No 16 90 05	Part No 16 90 10		
3M™ Speedglas™ Welding Helmets 9100FX / 9100FX Air	Part No 16 90 07 (large) Part No 16 90 06 (small)			
3M™ Speedglas™ Welding Helmet 9100 MP	Part No 16 90 13 Safety helmet cover (reflective)	Part No 16 90 01		

Subscribe to [youtube.com/3MSpeedglas](https://www.youtube.com/3MSpeedglas) to learn more about new product features, as well as performance and maintenance tips for your 3M™ Speedglas™ Welding Helmet.



# Care and maintenance

Every day welding sparks, heat, fumes, and normal wear-and-tear grind away at your protection equipment. Therefore, we designed all 3M™ Speedglas™ Personal Protective Equipment with ease of maintenance in mind. All replacement parts can be installed by hand, without tools. For maximum safety and comfort, make it a regular habit to check and change the following items at the intervals recommended below.



System	Component	Typically replaced	Notes
Welding Filters	Outer Protection Plate	Once a week	Replace anytime the plate becomes deeply pitted, scratched or too dirty to clean with soft cloth or lens paper.
Welding Filters	Inner Cover Plate	Once a month	Regularly clean with a soft cloth and replace if any pits or scratches occur.
Welding Helmets	Visor Plate	Every two weeks	Replace more often if visibility is reduced.
Welding Helmets	Sweatband	Once a month	Replace more often if sweatband becomes unhygienic.
Respirators	Prefilter	Once a week	Regular replacement of the prefilter extends the life of the particle filter, saving money while also helping the battery run-time.
Respirators	Particle Filter	At least every month	For Adflo respirator, replace when particle filter indicator becomes red. Otherwise, replace whenever the battery operating time becomes too short, or when "fully loaded" filter triggers low airflow alarm.
Respirators	Gas Filter	As needed	Replace the gas filter according to your work place requirements. It is not recommended to wait until you can sense odours or smells.
Respirators	Odour filter	Any time you smell unpleasant odours	Odour filter is not required if gas filter is used.
Respirators	Spark arrestor	As needed	Replace if deformed and no longer fitting well.
Respirators	Breathing Tube	If damaged, deformed or leaking any air	To extend the life of the breathing tube, use a tube cover or a heavy-duty rubber breathing tube.
Welding Helmets with Respirators	Face Seal	At least every 2 months	Replace earlier in really dirty environments or whenever the seal becomes unhygienic.

Important information. Note that higher-than-normal levels of pollutants, heat, and sparks will require more frequent replacement of components. Chart assumes minimum 4 hours usage per day. Ordering information for each series of welding helmet can be found in the Parts Directory.

# 3M™ Speedglas™ Welding Helmets and Welding Filters

- Best\*\*\***
- Better\*\*\***
- Good\*\*\***
- Not Recommended\*\*\***



Technical specification	3M™ Speedglas™ Welding Helmets 9100, 9100 Air and 9100-QR				3M™ Speedglas™ Welding Helmet 9100 MP	
	9100XXi	9100XX	9100X	9100V	9100XXi	9100XX
3M™ Speedglas™ Welding Filter						
MMAW (Electrode)						
MIG/MAG						
TIG (>20A)						
TIG (1A-20A)						
Plasma (welding and cutting)						
Risk for hidden arc						
Tack welding						
Grinding (welding filter)						
Grinding (clear visor)	N/A					
Viewing area (welding filter)	73x107 mm		54x107 mm	45x93 mm	73x107 mm	
Battery lifetime	1 800 hours	2 000 hours	2 500 hours	2 800 hours	1 800 hours	2 000 hours
Solar cell	No		Yes		No	
Safety Helmet options	Yes (non air version)				Yes	
Classification	1 / 1 / 1 / 2				1 / 1 / 1 / 2	
Dark state	Shade 5, 8, 9–13				Shade 5, 8, 9–13	
Light state	Shade 3				Shade 3	
UV/IR Protection	Shade 13 (permanent)				Shade 13 (permanent)	
Auto ON	Yes	No			Yes	No
Switching time, light -dark	0,1 ms (+23° C)				0,1 ms (+23° C)	
Memory mode	Yes	No			No	
Delay (switching time, dark-light)	40–800 ms	40–1 300 ms			40–800 ms	40–1 300 ms
SideWindows option	Yes				Yes	
Exhaust vents	Yes (non air version)				N/A	
Number of sensors (arc detection)	3				3	
Approvals Eye and Face protection Welding helmet Welding filter Protection plates Visor plate	EN175:B EN 379 EN166:BT* N/A				EN175:B, EN 166 B EN 379 EN166:BT* EN166:BT*	
Approval Head protection Safety helmet	440 Vac (3M™ Safety Helmet H-701)				EN 397 440 Vac, LD	
Approval Respiratory Protection / NPF** Adflo Powered Air Respirator Versaflo V-500 Supplied Air Regulator	with Speedglas welding helmet 9100 Air EN 12941 (TH2) / NPF 50 EN 14594 (3B) / NPF 200				EN12941 (TH3) / NPF 500 EN14594 (3B) / NPF 200 N/A	

\* According to the European Standards the mechanical strength (for this product) is classified as B; resistance to high speed particles at medium energy impact (120 m/s). The letter T indicates that the test for resistance to high speed particle was conducted at extremes of temperatures (-5° to +55°C).

\*\* The nominal protection factor based on laboratory-measured performance data according to European Standards. The protection factor is assigned by local authorities in each European country and can therefore be different for each country.

\*\*\* The ratings (good - better - best) above refer to the products listed in this chart and should be seen as general recommendations based on differences in product comfort features and configuration options when using these selected Speedglas welding helmet series.





# Technical Specifications of 3M™ Air Delivery Units for Welding Safety

Technical Specifications	3M™ Adflo™ Powered Air Respirator	3M™ Versaflo™ Supplied Air Regulator V-500E
Filters	Particle filter Gas Filter (A1B1E1 or A2) Odour filter	N/A
Airflow	170 l/min (Nominal) 200 l/min (Airflow Plus Mode)	170 - 305 l/min
Air Pressure Air Quality	N/A N/A	3,5–8 bar Breathable supplied air conforming to EN12021
Weight Respirator / Regulator	950 g	514 g
Battery Charging time Operating hours*	Li-ion 4-5,5 h 7-9 hours (Standard), 10-13 hours (Heavy Duty)	N/A
Belt Optional extension	Leather, 75–115 cm +25 cm	Polyester, 75–127 cm
Temperature range Operation Storage	-5 °C to + 55 °C -20 °C to + 55 °C	-5 °C to + 40 °C -10 °C to + 50 °C

\* Expected operating times are when using a new, fully-charged battery, new particle filter, and standard airflow setting.

# Technical Specifications of 3M™ Protective Visors and Helmets

Technical Specifications	3M™ Versaflo™ Faceshield M-107	3M™ Versaflo™ Helmet M-307	3M™ Versaflo™ Helmet M-407	3M™ Speedglas™ Protective Visor (shade 5)
Material Visor Faceseal	Clear-coated polycarbonate Flame-retardant polyester	Clear-coated polycarbonate Flame-retardant polyester	Clear-coated polycarbonate Flame-retardant polyaramid	Shade 5 polycarbonate Flame-retardant cotton
Approval Eye and Face protection Protective Visor (M-927) Protective Visor (M-925) Protective Visor shade 5	EN 166 1:BT:3 EN 166 1:BT:3:9 N/A	EN 166 1:BT:3 EN 166 1:BT:3:9 N/A	EN 166 1:BT:3 EN 166 1:BT:3:9 N/A	N/A N/A EN 166 1:BT:3:9
Approval Head protection Helmet	N/A	EN 397	EN 397	N/A
Approval Respiratory Protection / NPF* Adflo powered air respirator Versaflo supplied air regulator V-500E	EN 12941 (TH2) / NPF 50 EN 14594 2B / NPF 50	EN 12941 (TH2) / NPF 50 EN 14594 3B / NPF 200	EN 12941 (TH2) / NPF 50 EN 14594 3B / NPF 200	EN 12941 (TH2) / NPF 50 N/A

\* The nominal protection factor based on laboratory-measured performance data according to European Standards.  
The assigned protection factor is assigned by local authorities in each European country and can therefore be different for each country.

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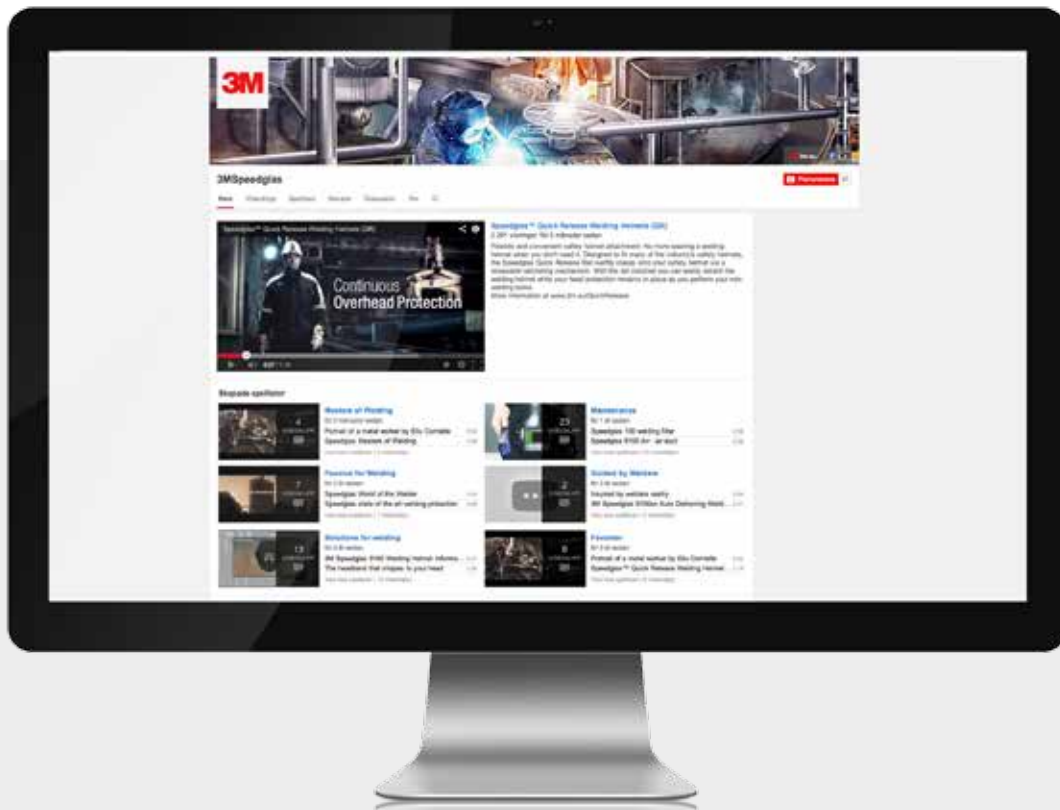
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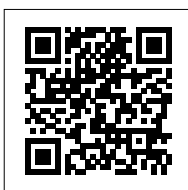
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