3M Science. Applied to Life.™

3M™ Speedglas™ Welding Safety Catalogue 2017

Take control of your personal environment

Speedglas™

One of the most important lessons we have learned over the last 35 years is that no two welders are the same.

How to find your customized welding helmet combination

We have compiled - into this one, easy-to-reference catalogue - much of the information you'll need to select specific welding safety products and/or entire welding PPE systems.

From the choices below, pick your key selecting factor and then go directly to that chapter. Or try our main selection guide on page 24.

Is welding filter performance your key selecting factor? Then start with Your eyes on page 6.

But if choosing a welding helmet is your most important criterion, see Your eyes, face and head on page 22.

Or if respiratory protection is your highest priority, go to Your respiratory system on page 44.

Too loud may be less loud than you think, check our solutions for Your ears on page 60.

Need body support solutions when welding at heights, see Fall protection for welders on page 66.

If you are looking for a specific product you can look it up in the Parts Directory, on page 68.

Your responsibility – our solutions...

Typically, professional welders know about the hazards to their eyes and faces. But other hazards – like welding fumes – are sometimes not so well known.

It is the responsibility of the employer to identify any hazards in a work environment, and to provide the workers with adequate protection.

Hazards must be adequately explained. Then the choice of protective can be equipment made after joint consultations between employers and employees.

1. Identify the hazards

Make a list of all the risks in your welding environment (radiation, sparks, fumes, noise, trip hazards, falling objects, etc). 3M can help identify consultants and measurement tools.

2. Assess the risk levels

By evaluating every risk, you can prioritize their prevention. See more details in each section of this catalogue. If there are any doubts or ambiguities, always consult a professional safety engineer.

3. Select the right type of equipment

Determine your protection based on equipment type (e.g., eye, face, head, hearing), the level of protection needed to work in a specific application, and your users' preferences. Personal preferences - the key to user acceptance - covers issues including comfort, style, and ease of maintenance.

When all of these factors are included in the selection process, you're providing your workers not only the welding protection they need, but the ability to perform at their optimum level.

4. Training, motivation and maintenance

For maximum benefit from any piece of PPE, it pays to focus on user acceptance and proper use. 3M can help:

- On-site training by 3M personel or a visit from our Welding Safety Caravan. We'll show you equipment options based on your needs.
- 3M eAcademy - the flexible way to discover and learn throughout your busy day: **www.3m.com/3M/en_US/3m-academy/log-in**
- Other techniques, such as Toolbox Talks, educational posters for your facilities, online videos, etc.

For more information please visit **www.3M.co.uk/Speedglas** or call our helpline on **0870 60 800 60** (UK), **1 800 320 500** (Ireland) **@3M_UK_Safety**

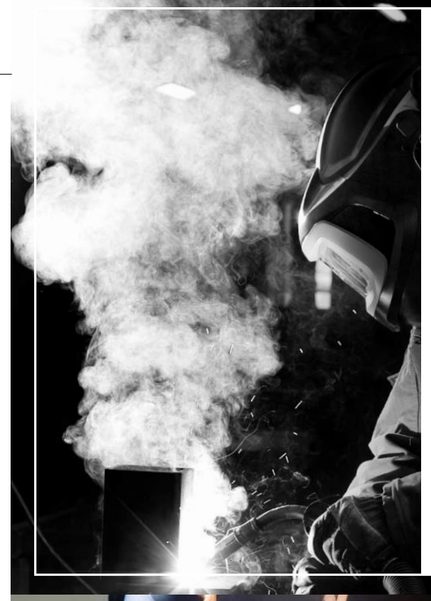
Contact information to 3M UK for reference in this catalogue, if located in other country please visit **www.3M.com** to find local contact information.

I do precise *grinding*

Check out our welding helmets with flip-up visors, they have a curved, clear protective visor underneath the welding filter:
see **page 31–33**

I want to *see* around me

We recommend our welding helmets with side windows that widen your field of vision when welding:
see **page 26**



I want to breathe *fresh air*

Our powered respirators are a favorite among many welders:
see **page 44**

I need *convenient* head protection

Safety helmet solutions tailormade for our welding shields:
see **pages 29 and 33**

I need to weld with greater *clarity*

Truer colours and contrasts with 3M™ Speedglas™ Natural Colour Technology:
see **page 14**

I like very *lightweight* welding helmets

Great! Try our most lightweight auto-darkening welding helmet: Speedglas SL,
see **page 36**

Your eyes

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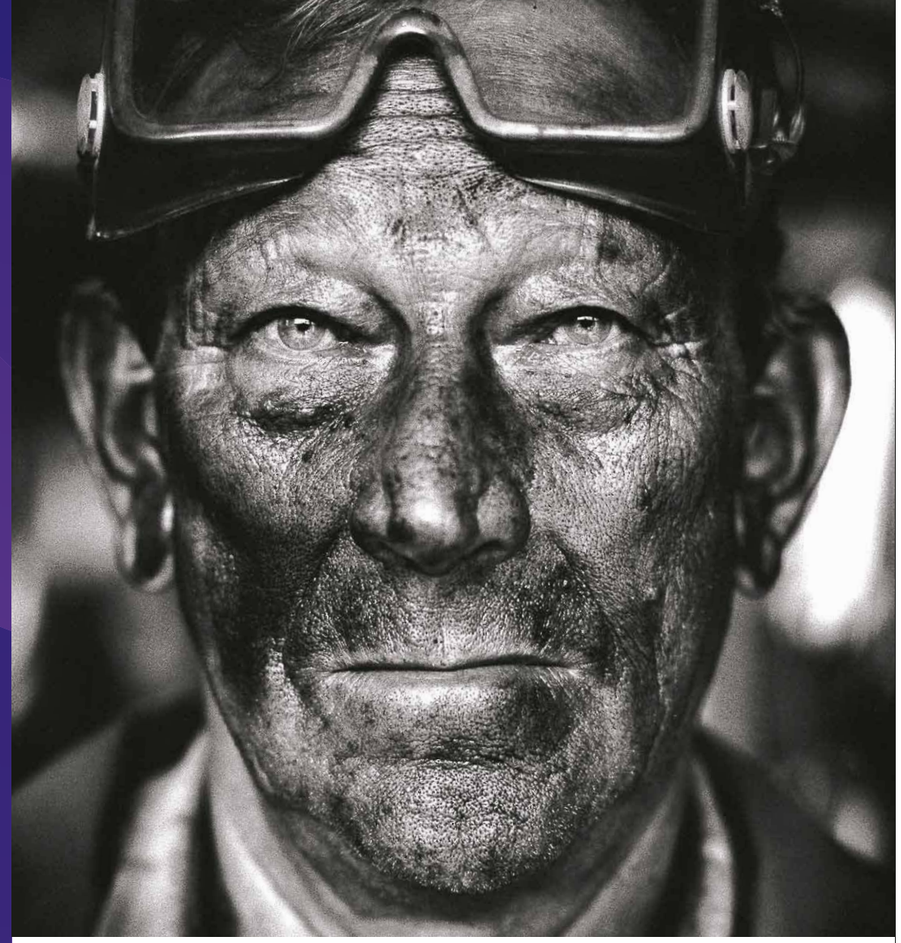


How to beat the statistics

Welding processes typically generate hazardous ultraviolet/ infrared radiation and (intense) visible light that have the potential to cause permanent eye damage. Physical eye hazards include welding spatter and grinding particles.

Controlling exposure

A well-designed welding helmet and filter has a positive influence on the protection of your face and eyes from heat, spatter and radiation.

Put simply, auto-darkening welding filters allow welders to keep their welding helmet in place much more often than passive welding filters.

If you can see well, the motivation to constantly lift your shield is significantly reduced, meaning:

- You reduce the likelihood of exposure to harmful UV/IR radiation by accidentally striking an arc. Or being exposed to the arcs of nearby welders.
- You reduce the potential for foreign body eye injuries from grinding swarf or weld spatter.

Costs associated with workplace eye injuries:

$300M/yr

Each year in the US alone, more than $300 million is spent on costs associated with workplace eye injuries, including medical expenses, workers' compensation, and lost production time.

Source: www.osha.gov/SLTC/ eyefaceprotection (01.03.2017)

90%

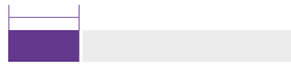
of injuries preventable with proper protection:

More than 90% of serious eye injuries at work can be prevented using appropriate protective eyewear.

Source: www.preventblindness.org/ eye-safety-work (01.03.2017)

1/4

of all welding injuries is of the eye



Eye injuries account for one quarter of all welding injuries, making them by far the most common injury for welders, according to research from the Liberty Mutual Research Institute for Safety.

UV/IR protection (the purple layer on the auto-darkening filter) is always in place and constantly providing protection from hazardous light radiation. And they consistently auto-switch from clear to dark, and back again, in just the way you want.

Improving upon what the welder sees

Your goal is to weld consistently great welds. Our goal is to provide you consistently clear, comfortable vision – with full-time eye and face protection.

"Because we make many of our own welding filter components, we can readily test and transfer new technologies," says Kristina Magnusson, Senior Optics Specialists at the 3M Welding Centre of Excellence. "And, of course, we also have much better control over the entire manufacturing process."

Kristina is one of the Centre's four full-time optics specialists. Her responsibilities include liquid crystal cells, polarizers, and interference (UV/IR) filters. She also leads an international ISO task group of experts focused on eye and face protection standards for auto-darkening welding filters.

Like many of her co-workers at the Centre, Kristina is a long-time employee. "I had just got my master's degree in engineering physics with a focus on optics when I was recruited to develop test instruments to measure the light diffusion of Speedglas welding filters. I've been here ever since.

"Of course, safety is the prime consideration when it comes to welding PPE. But the 3M optics team aims to help welders even more by continuously improving the optical experience of our welding filters. "We're constantly exploring new optical technologies that we can leverage to the welder's advantage."

How auto-darkening filters 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.

What other equipment pays for itself in two months?

Not only can you weld faster when you can see more clear, but your entire movement around your workpiece can become more efficient when you're not constantly having to raise and lower your shield.

We've studied welders and their increased efficiency when using our auto-darkening filters (ADFs) for almost four decades:

- The shorter the weld, the greater the productivity increase. Not surprising, applications requiring lots of tack welds have the most to gain.
- Where the final appearance of the weld is critical – for example, on high-value items – reduction in scrap alone (e.g., from bad starts) can quickly pay for our helmets.
- Since most welders do a combination of tack and longer welds, we use a conservative, generalized estimate of 15% gain in productivity.

So, for example, if you're paying a welder €20 per hour, a 15% improvement in productivity will pay for a €450 helmet in about two months and result in a year-end increase in savings (new profits) of €4500 when compared to continuing to use passive filters.

$28,280

Average cost of injuries to the face, including disabling and non-disabling eye injuries.[1)]

20,300

Lost work days in 2012[1)]

Ask yourself

Are you doing everything possible to maximize the amount of time your welders have their shield in the safe, down position?

1) Source: US National Safety Council's Injury Facts, 2015

Your decision tree when selecting a welding filter

1. **Would you benefit from seeing more natural colours and contrasts?**
The 3M™ Speedglas™ Auto-darkening Filters 9100XXi and 9002NC both allow you to more readily recognize colours. The light state is still shade 3, but the filter appears lighter, more detailed, and better able to view contours. More details on page 14–15.

2. **Do you occasionally change shade numbers?**
If yes, you have plenty of models to pick from: all of our auto-darkening filters have variable (selectable) dark shades, as shown in the table on page 13.

3. **What does your welding process require from your filter?**
This is a key decision factor. Using the table on page 13, pick a model that does well in the processes you use frequently.

   You might want to also consider your needs for specific dark shade levels, light-to-dark switching sensitivity, and dark-to-light delay options which are features that vary from model to model.

4. **How important is the size of welding filter's viewing area?**
For many welders, the ability to see more of their workpiece without moving their helmet or head is very important. For these “big picture” people, the 9100XX or 9100XXi models will be most appropriate.

5. **Do you do a lot of tack welding?**
Then our tack welding comfort mode may be for you. The comfort mode setting may help reduce eye fatigue caused by your eye constantly adjusting to differing light levels during tack welding. It's available on 9100XX, 9100X and 9100V filters.

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			14t	
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.

3M™ Speedglas™ Auto-Darkening Filters

Selector table

● Best[1] ● Better[1] ● Good[1] × Not Recommended[1]

Specification	9100XXi	9100XX	9100X	9100V	SL	9002NC	100V	10V
MMAW (electrode)	●	●	●	●	●	●	●	●
MIG/MAG	●	●	●	●	●	●	●	●
TIG (>20A)	●	●	●	●	●	●	●	●
TIG (1A-20A)	●	●	●	●	●	●	×	×
Plasma (welding and cutting)	●	●	●	●	●	●	×	×
Risk for hidden arc	●	●	●	●	●	●	×	×
Tack welding	●	●	●	●	●	●	●	●
Grinding	●	●	●	●	×	●	●	●
3M™ Speedglas™ Natural Colour Technology	Yes	No				Yes	No	
Switching time, dark-light	40–800 ms	40–1 300 ms			60–250 ms	60–400 ms	40–250 ms	60–250 ms
Switching time, light -dark	0,1 ms (+23° C)							
Dark state	Shade 5, 8, 9–13				Shade 8–12			
Light state	Shade 3							
UV/IR Protection (permanent)	Shade 13				Shade 12			Shade 13
Viewing area, approx. (mm)	73×107		54×107	45×93	42×93	54×107	44×93	
External grinding mode control	Yes[2]	No						
Auto ON	Yes	No			Yes	No		
Solar cell	No		Yes		No			
Battery lifetime (hours)	1 800	2 000	2 500	2 800	1 500	2 000	1 500	
Number of sensors (arc detection)	3				2			
Classification	1/1/1/2				1/1/1/2	1/1/1/2	1/2/2/2	1/2/2/2
Approval (welding filter)	EN 379							

1) The ratings (best - better - good - not recommended) 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.
2) When used with the front cover 9100XXi and the 3M™ Speedglas™ Welding Helmets 9100, 9100-QR or 9100-Air, see page 28.

Natural Color Technology.

Still seeing green?

Imagine what more realistic-looking colours and details could do for you:

- Provide better control of your weld puddle – with a view that appears lighter, brighter, and more realistic.
- Help you focus on your welding set-up, welding technique, and inspection of just-completed welds.
- Give you a clearer view of coloured welding machine controls – even with your helmet in the safe, down position.

See the difference!

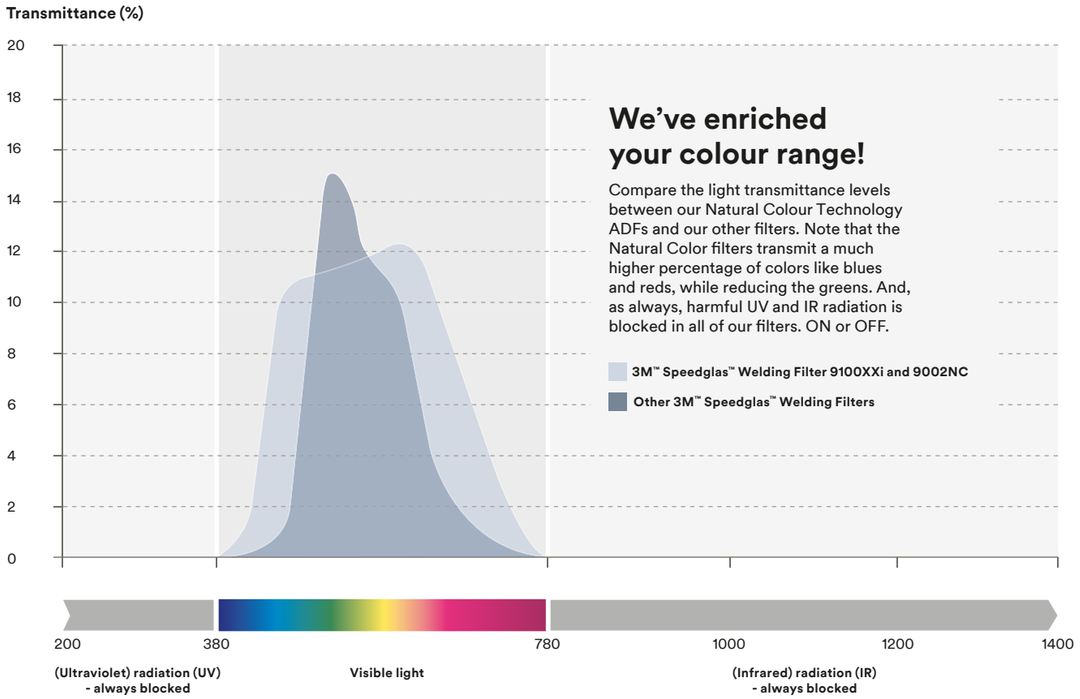
Sample competitor filter in shade 3

9100XXi and 9002NC filters in shade 3

“

The view seems lighter and less green – I can see colours far better! Even in the dark state, I see contours better.

Veteran Welder



We've enriched your colour range!

Compare the light transmittance levels between our Natural Colour Technology ADFs and our other filters. Note that the Natural Color filters transmit a much higher percentage of colors like blues and reds, while reducing the greens. And, as always, harmful UV and IR radiation is blocked in all of our filters. ON or OFF.

3M™ Speedglas™ Welding Filter 9100XXi and 9002NC

Other 3M™ Speedglas™ Welding Filters

3M™ Speedglas™ Natural Colour Technology in light state

3M™ Speedglas™ Natural Colour Technology in dark state

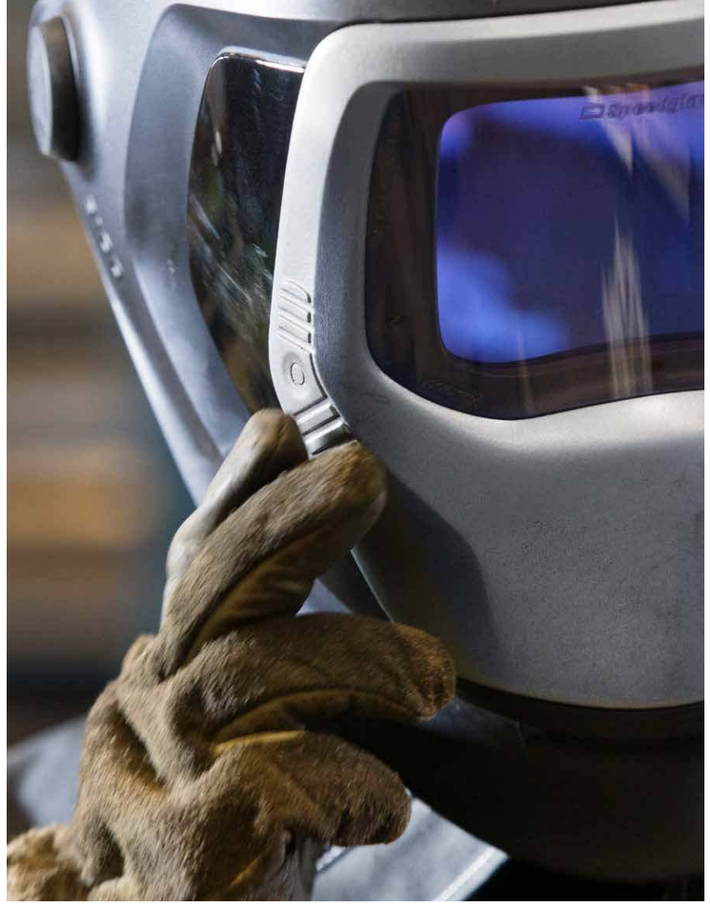
Great clarity before, during and after welding when using the 3M™ Speedglas™ Welding Filters 9100XXi or 9002NC. Such clarity can be great for seeing the nuances of curved joints.

ADF specifications: page 16 | Helmet selector: page 42

Your choice of auto-darkening filters (ADF)

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 can reduce eye strain and improve the quality of every weld.



Our top-of-the-line ADF

3M™ Speedglas™ Auto-Darkening Filter 9100XXi:

- See your welds in a new light, with more contrast and natural-looking colours.
- Grab and go welding with Auto-ON.
- 73×107 mm viewing area.
- Dark shades 5, 8, and 9 through 13.
- Delay settings allow the welder to extend the dark state for when the weld pool is still cooling.
- For all 3M™ Speedglas™ Welding Helmet Series 9100. See page 26-33.
- When used with the special 9100XXi Silver Front Panel and the Speedglas Welding Helmets 9100, 9100-Air and 9100-QR, you'll have access to the external control for both grinding and the memory modes. More details **on page 29**.

3M™ Speedglas™ Auto-Darkening Filter 9100XX

- 73×107 mm viewing area.
- Dark shades 5, 8, and 9 through 13.
- Any shade can be locked-in.
- The tack welding comfort mode may help reduce eye fatigue resulting from the eye constantly adjusting to differing light levels during tack welding. Using an intermediate light state (shade 5).
- The delay function allows the welder to set the recovery delay of the welding filter from dark to light according to welding method and current.
- For all 3M™ Speedglas™ Welding Helmet Series 9100. More information **on page 26–33.**

3M™ Speedglas™ Auto-Darkening Filter 9100X

- 54×107 mm viewing area.
- Dark shades 5, 8, and 9 through 13.
- Any shade can be "locked-in."
- The tack welding comfort mode may help reduce eye fatigue resulting from the eye constantly adjusting to differing light levels during tack welding. Using an intermediate light state (shade 5).
- The delay function allows the welder to set the recovery delay of the welding filter from dark to light according to welding method and current.
- For all 3M™ Speedglas™ Welding Helmet Series 9100. More information **on page 26–33.**

3M™ Speedglas™ Auto-Darkening Filter 9100V

- 45×93 mm viewing area.
- Dark shades 5, 8, and 9 through 13.
- Any shade can be "locked-in."
- The tack welding comfort mode may help reduce eye fatigue resulting from the eye constantly adjusting to differing light levels during tack welding. Using an intermediate light state (shade 5).
- The delay function allows the welder to set the recovery delay of the welding filter from dark to light according to welding method and current.
- For all 3M™ Speedglas™ Welding Helmet Series 9100. More information **on page 26–33.**

3M™ Speedglas™ Auto-Darkening Filter 9002NC

See your welds in a new light, with more contrast and natural-looking colours.

- 54×107 mm viewing area.
- Dark shades 8 through 12.
- For 3M™ Speedglas™ Welding Helmet series 9002NC" compatible with the old 9000 series welding helmets, more information **on page 34–35.**

3M™ Speedglas™ Auto-Darkening Filter SL

Our most lightweight auto-darkening filter.

- 42×93 mm viewing area.
- Dark shades 8 through 12.
- For 3M™ Speedglas™ Welding Helmet SL, more information

3M™ Speedglas™ Auto-Darkening Filter 100V

- 44×93 mm viewing area.
- Dark shades 8 through 12.
- For 3M™ Speedglas™ Welding Helmet Series 100 (incl 100-QR), more information **on page 38.**

3M™ Auto-Darkening Filter 10V

- 44×93 mm viewing area.
- Dark shades 8–12.
- For 3M™ Welding Helmet 10V and 10QR, more information **on page 39.**

All our auto-darkening welding filters conform to European Standard EN 379 (Personal Eye-Protection – Automatic Welding Filters) as well as other national standards in USA, Canada and Australia – to name a few. Valid standard, optical classification and shade range are marked on the welding filter.

Compatibility

We try to ensure our eyewear is compatible with other 3M products, such as our helmets, respiratory or hearing protection.

Engineered for safety, designed for style

The portfolio of 3M™ Eye Protection promises quality eyewear that helps provide an optimal balance of comfort, protection and design.

Confident protection

All 3M protective eyewear are CE-marked and approved to EN 166:2001.

Do they really fit?

Making a measured evaluation of eyewear fit

Everyone's face and head are different – so how is one model of eyewear going to fit everybody? You know the problem. Ill-fitting safety glasses cause pressure and pain in some very vulnerable areas: your temples, your ears … even the bridge of your nose. Discomfort and lack of style are often major reasons for noncompliance.

To make a meaningful, measured determination of eyewear fit and security on each of your employees, we've developed a 6-step method[1].

The 3M™ Eyewear Fit System uses coverage and gap gauge tools to assess four key elements of protective eyewear fit:

① View

Assessment to ensure the wearer can see in all directions of eye rotation without major obstruction to the field of view that would interfere with the ability to perform work tasks.

② Coverage

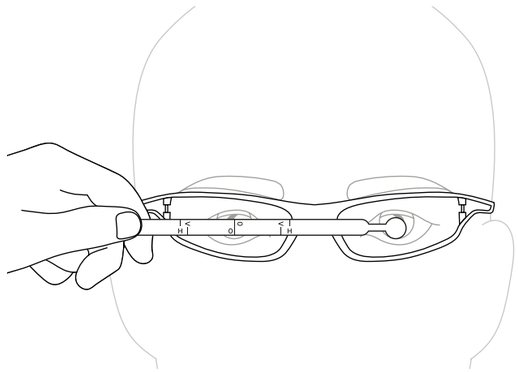
The coverage gauge assesses how well the safety eyewear covers the soft tissue area around the eyes.

③ Security

Assessment to ensure the eyewear stays in place on the wearer's head and does not fall off with head movement.

④ Gaps

The gap gauges help to identify excessive gaps between the eyewear and the face. Large gaps can provide a clear path for flying debris.



1) The full 6 step method is unique to 3M and is available free of charge (subject to terms and conditions, see website for details).
Find out more by contacting your 3M Personal Safety Sales Representative or visit www.3M.co.uk/eyewear

3M™ Solus™ 1000 Series Spectacles

A fogged lens can be frustrating and dangerous

Enjoy reliable, clearer sight longer with Scotchgard™ Anti-Fog Coating. Now available on 3M™ Solus™ 1000 Series safety eyewear in a range of lens colours: clear, grey or amber. All glasses come with polycarbonate lenses, which absorb 99.9% of UV rays.

Stable fit
Inner padding on temples for increased comfort and stability

Lightweight and comfortable
Soft cushioning on nose bridge

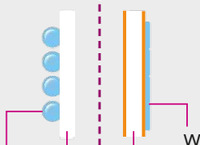
Closes the gaps
The new removable foam gasket design helps keep out debris while providing comfort and cushioning

Stylish and modern look
Slim frame with colour accented soft temple components

3M™ Scotchgard™ Anti-Fog Coating. Long-lasting clarity.

Without coating
When microscopic water droplets form on lenses, the lenses fog and reduce visibility.

With 3M™ Scotchgard™ Anti-Fog Coating
The new coating on both sides makes water droplets spread out into a thin, transparent film. More light can pass through and the view is clear.



Water droplets
Lens
Water as a transparent film
Lens plus two-sided anti-fog coating

3M™ SecureFit™ 400 Series Spectacles

Takes comfort to a higher level

To better conform to each individual's unique head profile, we designed 3M™ SecureFit™ Protective Eyewear with Pressure Diffusion Temple Technology. This sleek and streamlined technology allows the temples to naturally form to your head's unique shape.

Closes the gaps
The new removable foam gasket design helps keep out debris while providing comfort and cushioning

Forms to your face
3M™ Pressure Diffusion Temple Technology allows the spectacle temples to naturally adjust to individual head shapes

Vision enhancement
Good colour recognition and contrast enhancement

Personalize fit
Soft, adjustable, one-piece nose bridge

Stay protected
Polycarbonate lenses absorb 99.9% of UVA & UVB; meets the requirements of EN166:2001

Sleek, streamlined design
Padded temple touchpoints for added comfort over the ears

Selected 3M™ Protective Eyewear for Welders

Part No	Lens Type	Coating	EN166 Lens Marking
SF201AF-EU	PC Clear	AS/AF	2C-1.2 3M 1 FT
SF202AF-EU	PC Amber	AS/AF	2C-1.2 3M 1 FT
SF203AF-EU	PC Grey	AS/AF	5-3.1 3M 1 FT
SF401AF-EU	PC Clear	AS/AF	2C-1.2 3M 1 FT
SF403AF-EU	PC Amber	AS/AF	2C-1.2 3M 1 FT
SF402AF-EU	PC Grey	AS/AF	5-3.1 3M 1 FT
SF410AS-EU	PC Indoor/Outdoor	AS	5-1.7 3M 1 FT
SF408AS-EU	PC Blue Mirror	AS/AF	5-3.1 3M 1 FT
SF400FI	Removable foam insert	-	-
3M™ Solus 1000	PC Clear	SGAF	2C-1.2 3M 1 FT KN
3M™ Solus 1000	PC Grey	SGAF	5-3.1 3M 1 FT KN
3M™ Solus 1000	PC Amber	SGAF	2C-1.2 3M 1 FT KN

To learn more about our complete range of protective eyewear, please use our Eyewear Selection Tool to help you make the best choice. Visit **www.3M.co.uk/eyewear**

Your eyes, face and head

Content

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Premium welding helmets with/without respirator or safety helmet (non-air):
3M™ Speedglas™ Welding Helmets 9100, 9100-Air and 9100-QR 26

Flip-up welding helmets with/without respirator:
3M™ Speedglas™ Welding Helmets 9100 FX, 9100 FX-Air 28

Multiple levels of protection (head, eye, face, respiratory, hearing):
3M™ Speedglas™ Welding Helmets 9100 MP and 9100 MP-Lite 30

A legend reborn with more natural colour :
3M™ Speedglas™ Welding Helmet 9002NC 32

When your priority is super light:
3M™ Speedglas™ Welding Helmet SL 34

Helmets in masterful graphic designs:
3M™ Speedglas™ Welding Helmet Series 100 and 100-QR 36

Basic performance in robust design:
3M™ Welding Helmets 10V and 10-QR 37

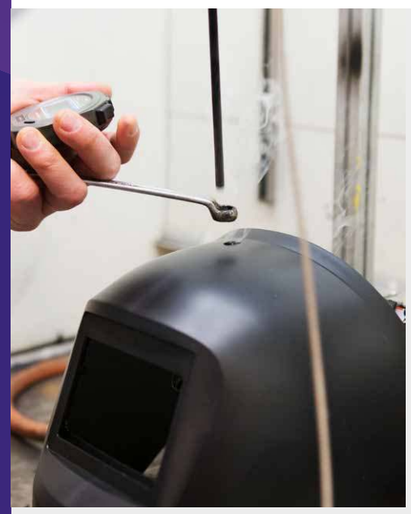
Selector 3 - refine your selection by helmet benefits 38

Selector 4 - helmets for powered and supplied air systems 40

There is no one perfect welding helmet

We have populated our helmet matrix with carefully considered design blends of protection, features, personal preferences, and performance to address the application needs of the vast majority of welders.

But for every helmet system we design, we have four driving factors:



Reliability

We know harsh welding environments: We build our products to thrive in them. From creating reliable arc sensing/ shade switching to selecting highly durable materials to designing for long-lasting mechanical operation.

Comfort

Comfort means a helmet that vents stagnant air. It means a headband that avoids scientifically determined pressure points around your head. And how a helmet provides industrial grade eye and face protection while being comfortable for a full shift.

Protection

UV/IR radiation. High speed grinding particles. Falling objects. Lung disease. List your workplace hazards - then find the right Speedglas helmet, accessories, and respiratory protection. Have a unique workplace hazard? Contact your local distributor for even more 3M solutions.

View

Every helmet design detail can affect your view. That's why we provide high-performance auto-darkening welding filters, our side windows lenses, and large, protective clear visors. Each of these, and many more, helmet design elements maximise your ability to see.

Don't just take our word for it, experience our welding helmets yourself by signing up as a Speedglas test pilot at: **goo.gl/vuEtb3** (connect using mobile device).

What do you need?

Full-featured helmet with the maximum number of options

9100 series

Our “standard” 9100 helmet

3M™ Speedglas™ 9100
See page 29

Flip-up welding filter with big clear grinding visor underneath

3M™ Speedglas™ 9100 FX
See page 31

Safety helmet head protection via quick release attachment

3M™ Speedglas™ 9100-QR
See page 29

For powered or supplied air respiratory protection

Our “standard” 9100 helmet with powered or supplied air

3M™ Speedglas™ 9100-Air
See page 29

Flip-up welding filter with big clear grinding visor underneath with powered or supplied air

3M™ Speedglas™ 9100 FX-Air
See page 31

Head protection, flip-up with clear visor, powered or supplied air, optional hearing protection

3M™ Speedglas™ 9100 MP (safety helmet) or 9100 MP-Lite (bump cap)
See page 33

These ADFs are excellent with virtually any arc welding process, including “hidden arc” applications, plus plasma welding & cutting.

9000V
See page 17

9000X
See page 17

9000XX
See page 17

9000XXi
See page 16

Helmets also available with passive filters

9100 Passive
See page 74

Robust and slim

9002NC

3M™ Speedglas™ 9002NC
See page 35

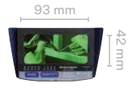
9002NC
See page 17

For MMAW, MIG/MAG & TIG >20A. Not for grinding or tack welding.

Lightweight

SL

3M™ Speedglas™ SL
See page 37



SL
See page 17

For MMAW, MIG/MAG & TIG >20A. Not for grinding or tack welding.

Graphic helmet style

100 series

11 visually striking graphic helmet designs

3M™ Speedglas™ 100
See page 38

Safety helmet head protection via quick release attachment

3M™ Speedglas™ 100-QR
See page 38

100V
See page 17

For MMAW & MIG/MAG.

Basic protection

10V

3M™ Welding Helmet 10V **See page 39**

Safety helmet head protection via quick release attachment

3M™ Speedglas™ 10-QR
See page 39

10V
See page 17

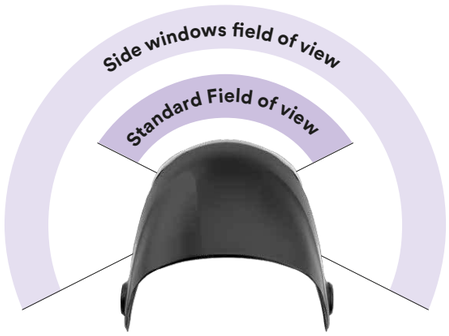
For MMAW & MIG/MAG.

When you need coverage, control, and comfort:

3M™ Speedglas™ Welding Helmet Series 9100

High-performing people need high-performing products

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 distributor for a hands-on demonstration.



Peripherial vision

The first time a welder puts on a Speedglas welding helmet with side windows you can see his startled reaction. Previously hidden peripherial hazards (beams, obstacles, other workers) are now easier to see through the two, shade 5 side filters.

Tailor to fit your personal preferences

With the 9100 headband, we've carefully avoided sensitive areas of the head while designing self-adjusting twin pads for the forehead band. By better contouring it around your head, our headband doesn't need to be overly tight to be comfortably secure.

Ergonomic fit
Adjust the shield's distance to your face. Fits head sizes 50 to 64 (S-M-L).

Stability
Ratchet for precise tightening.

Adapt to your position
Adjust the helmet tilt-angle while wearing the helmet on your head.

Less pressure
Self-adjusting "twin pads" contour to your head.

Low riding comfort
Adjust the helmet's parking position (left side) and friction (right side). Further details below.

We designed the 9100 helmet to "nest" down low, close to the headband, when raised. So you don't need to tighten the headband as much.

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

DROPS AS YOU LIKE

Drop-friction is adjusted on the wearers right hand side:

Turn the right-hand knob clockwise to increase (or counterclockwise to decrease) the effort needed to nod down the shield.

STABILITY WHEN RAISED

Helmet parking grip is adjusted on the wearers left hand side:

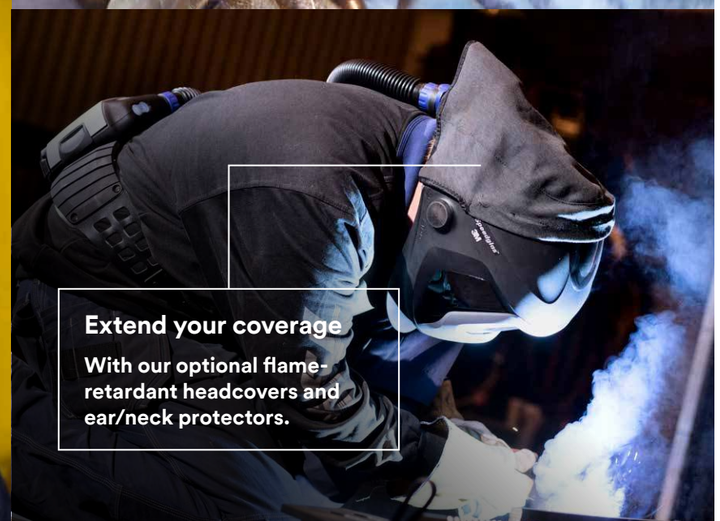
Turn the left-hand knob clockwise to increase (or counterclockwise to decrease) how tightly the shield is held in the raised "parked" position.

Simplify your workflow

The 9100XXi kit (special front and welding filter) houses external controls – enabling convenient, "gloves-on" memory mode switching – to help you weld, grind and see your finish.

Transform your safety helmet

As you attach and detach the 9100-QR helmet, you don't need to remove your safety helmet – so your head is protected at all times.



Extend your coverage

With our optional flame-retardant headcovers and ear/neck protectors.

3M™ Speedglas™ Welding Helmets 9100, 9100-Air and 9100-QR

High-performance and comfort

Features [1]	9100	9100-AIR	9100-QR
Mechanical strength (EN 166, EN 175)	CLASS B	CLASS B	CLASS B
Side windows	✓	✓	✓
Auto-ON	✓ [2]	✓ [2]	✓ [2]
Exhaust vents	✓		✓
Flip-up			
Graphics option			
Head protection			✓
Natural Colour Technology	✓ [2]	✓ [2]	✓ [2]
Powered Air EN 12941 NPF		TH2 50	
Supplied Air EN 14594 NPF		3B 200	

1) More details about the features referenced, see page 102.
2) Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.

Natural Color Technology.

9100

9100-Air

9100-QR

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.

All of these benefits can be used with powered or supplied air respiratory protection in combination with the Speedglas welding helmet 9100-Air.

If your work situation requires head protection, test out our Speedglas welding helmet 9100-QR. It quickly attaches to many of the industry's most popular safety helmets, including the 3M™ Safety Helmet H-701.

Helmet specifications: page 42 | ADF specifications: page 16–17 | Respiratory systems: page 82 | Ordering & part info: page 68

Comfortable all shift long

Versatile protection and long-lasting comfort. The 9100 FX-Air helmet readily connects to either our powered or supplied air respirators.

Stay protected

TH3-rated respiratory protection: Low inward leakage means better breathing air quality.

Expand your view:

A quick lift of the front cover and you get a big, 17×10 cm, clear view – perfect for precision grinding, even in low light conditions.

More natural colours and contrasts

The Speedglas welding filter 9100XXi helps you see your welds in a new light, providing more contrast and natural-looking colours.

3M™ Speedglas™ Welding Helmets 9100 FX and 9100 FX-Air

Flip up to wider views

Features [1]	9100 FX	9100 FX-AIR
Mechanical strength (EN 166, EN 175)	CLASS B	CLASS B
Side windows	✓	✓
Auto-ON	✓ [2]	✓ [2]
Exhaust vents	✓	
Flip-up	✓	✓
Graphics option		
Head protection		
Natural Colour Technology	✓ [2]	✓ [2]
Powered Air EN 12941 NPF		TH3 500
Supplied Air EN 14594 NPF		3B 200

1) More details about the features referenced, see page 102.
2) Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.

9100 FX

9100 FX-Air

Natural Color Technology.

Wider field of view with flip-up front – a combination welding helmet and protective visor.

A quick lift of the front and you get a big, 17×10 cm clear view – excellent for precision grinding in low-light conditions.

And if you use the 9100 FX-Air model, the clear view from the curved visor lets you keep your respiratory protection in place at all times.

Helmet specifications: page 42 | ADF specifications: page 16–17 | Respiratory systems: page 82 | Ordering & part info: page 68

Weld with confidence

Head, eye, face, hearing and respiratory – we've seamlessly integrated five levels of welder protection into one easy-to-use system.

See more of your work

A large (17×10 cm) curved protection visor with excellent views up, down, and side-to-side.

Extend coverage

All-new accessory shroud covers front and back of neck and shoulders, as well as upper chest and back. See page 40.

3M™ Speedglas™ Welding Helmets 9100MP and 9100 MP-Lite

Multiple levels of protection

Features [1]	9100 MP	9100 MP-Lite
Mechanical strength (EN 166, EN 175)	CLASS B	CLASS B
Side windows	✓	✓
Auto-ON	✓ [2]	✓ [2]
Exhaust vents		
Flip-up	✓	✓
Graphics option		
Head protection	EN 397	EN 812
Natural Colour Technology	✓ [2]	✓ [2]
Powered Air EN 12941 NPF	TH3 500	TH3 500
Supplied Air EN 14594 NPF	3B 200	3B 200

1) More details about the features referenced, see page 102.
2) Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.

9100 MP
with safety helmet

9100 MP-Lite
with bump cap

Natural Color Technology.

Have you tried multi-protection systems where some component seemed to clash with the other components?

That's why we built our 3M™ Speedglas™ Systems 9100 MP (multi-protection) just for welders. You can now work in a highly integrated, comfortable, protective envelope, with big, wide views as you weld, prep and grind.

Impact protection
9100MP

≈20% lighter
9100MP-Lite

Improved comfort

Head suspension features a smooth ratchet for easy tightening – even while wearing gloves!

Award-winning design

More than 20 years ago, the 3M™ Speedglas™ Welding Helmet 9000 set a new standard for rugged, dependable protection.

A helmet loved by many welders and internationally awarded for its ergonomic design.

Better control of the weld puddle

Improved optics in the 3M™ Speedglas™ Welding Filter 9002NC helps you see your welds in a new light, providing more contrast and natural-looking colour.

3M™ Speedglas™ Welding Helmet 9002NC

Light and narrow, for quick tasks

You asked and we listened. Many welders think our classic Speedglas helmet 9000 has the ideal blend of shape and balance.

So we've brought it back – upgraded for a totally new optical experience.

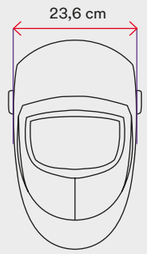
Features [1]	9002NC
Mechanical strength (EN 166, EN 175)	CLASS B
Side windows	
Auto-ON	
Exhaust vents	✓
Flip-up	
Graphics option	
Head protection	
Natural Colour Technology	✓
Powered Air EN 12941 NPF	
Supplied Air EN 14594 NPF	

1) More details about the features referenced, see page 102.

Natural Color Technology.

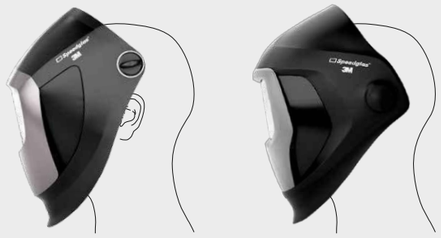
Freedom of movement

Shield width



The slim profile offers increased freedom of movement in tight places.

Coverage



Pick your preference
The 9002NC helmet (left) is slimmer and not as deep as a 9100 helmet (right), making it more maneuverable and lighter in weight. On the other hand, the deeper and wider 9100 series covers more of your ears, neck, and sides of your head.

Helmet specifications: page 42 | ADF specifications: page 17 | Ordering & part info: page 68

Easy tightening

The head suspension features a smooth ratchet for easy tightening – even while wearing gloves!

Light in weight, strong in performance

A slim and narrow helmet design, with an accompanying lightweight auto-darkening filter that's suitable for most arc welding processes.

Great for fast tasks

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

3M™ Speedglas™ Welding Helmet SL

Forever super light, narrow and fast

Features [1]	SL
Mechanical strength (EN 166, EN 175)	CLASS F
Side windows	
Auto-ON	✓
Exhaust vents	
Flip-up	
Graphics option	
Head protection	
Natural Colour Technology	
Powered Air EN 12941 NPF	
Supplied Air EN 14594 NPF	

1) More details about the features referenced, see page 102.

Light weight – only 370 gram
(including auto-darkening welding filter)

Did you know that some lightweight welding helmets can actually absorb moisture and become heavier over time? We took care to avoid that problem by making our SL (super light) helmet from strong, non-absorbent materials (also applicable for the 9100 series helmets).

We also designed a special auto-darkening filter to make both the ADF and the helmet weight a mere 370 grams – 25% lighter than any other Speedglas model.

Helmet specifications: page 42 | ADF specifications: page 17 | Ordering & part info: page 68

3M™ Speedglas™ Welding Helmet Series 100 and 100-QR

Weld with personality

Features [1]	100	100-QR
Mechanical strength (EN 166, EN 175)	CLASS B	CLASS B
Side windows		
Auto-ON		
Exhaust vents		
Flip-up		
Graphics option	✓	
Head protection		✓
Natural Colour Technology		
Powered Air EN 12941 NPF		
Supplied Air EN 14594 NPF		

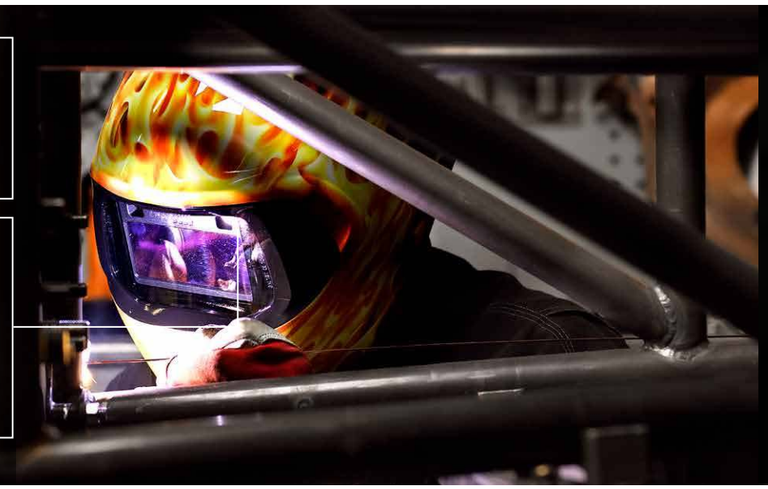
1) More details about the features referenced, see page 102.

100 Skull
The 100 helmet shown with the new Skull graphics option; standard color is black.

100-QR
with safety helmet

Get your career off to a great start with high-performance eye and face protection!

Now with a new option for head protection – the 3M™ Speedglas™ Welding Helmet 100-QR (quick release).



Want to stand out?

Make an impactful statement with one of our powerful, distinctive graphic designs. Find them all on page 78.

Variable shades for flexibility

Five adjustable dark shades 8–12. A lockable shade 3 light state for grinding. And three sensitivity settings for customized light-to-dark switching, lock-in shade 3 light state.

3M™ Welding Helmet 10V and 10-QR

Basic functions in a robust design

Features [1]	10V	10-QR
Mechanical strength (EN 166, EN 175)	CLASS B	CLASS B
Side windows		
Auto-ON		
Exhaust vents		
Flip-up		
Graphics option		
Head protection		✓
Natural Colour Technology		
Powered Air EN 12941 NPF		
Supplied Air EN 14594 NPF		

1) More details about the features referenced, see page 98.

10V

10-QR
with safety helmet

Designed for all-round MIG/MAG and MMAW (electrode or “stick”) welding, with user selectable dark shades of 10, 11 or 12.

Confident protection

Robust, industrial helmet design. Complies to the European Standards EN 175, EN 166 and EN 379.

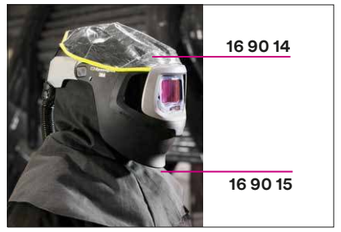
Performance made affordable

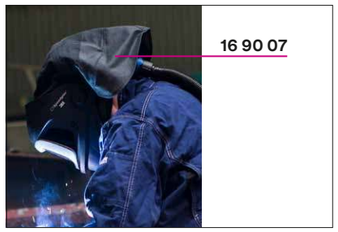
Auto-darkening filter performance at a price that won’t break the bank.

We got you covered

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.

Plus, we now offer a new generation of additional coverage products made in flame-retardant textiles for protection against molten metal, sparks and flames.





Quick guide to extend your protection

3M™ Speedglas™ Welding Helmet	9002NC	100	SL	9100 + 9100-Air	9100FX + 9100 FX-Air	9100-QR 100-QR 10/10-QR	9100 MP 9100 MP-Lite
Head protection (Part No)	16 40 09			16 90 05	16 90 07 (large) 16 90 06 (small)	–	16 90 14
Material	Cotton / Para-aramid			Cotton / Para-aramid	Cotton / Para-aramid	–	Reflective
Neck protection (Part No)	16 90 01[1]			16 90 10		16 40 05	16 90 15
Material	Cotton / Para-aramid			Cotton / Para-aramid		Leather	Cotton/ Para-aramid
Hood (Part No)	16 91 00					–	–
Material	Cotton / Para-aramid					–	–
Breathing tube cover (Part No)	–			83 40 18		–	83 40 18
Material	–			Flame-retardant		–	Flame-retardant

1) Alternative neck protection available in leather (part no 16 40 05).

Time to upgrade your visibility?

Getting too close to your arc?

Start with the easiest solution first: replace your filter's outer protection plates more frequently!

If you still can't see the detail you need, try one of our magnifying lenses. They come in x1.0, x2.0 and x3.0 strengths. For details, see the Accessories and Spare Parts section for each helmet.

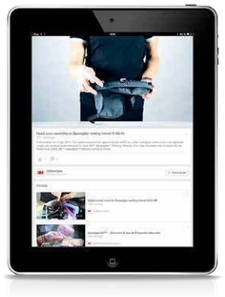
Need an even darker shade?

Welding at very high amperages can create such an intense weld pool that you may feel eye strain, even when using a dark shade selection. On the welding filter series 9100, 9000 and 100, you can replace the standard (clear) inner protection plate with either our +1 or +2 shade plates. For details, see page 69.

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.
Welding helmets with respirator	Face seal	At least every 2 months	Replace earlier in relly dirty environments or whenever the seal becomes unhygienic.
Welding helmets with respirator	Breathing tube	If damaged, deformed or leaking any air	To extend the life of breathing tube, use a tube cover or a heavy-duty rubber breathing tube.

Important information. Note that higher-than-normal levels of pollutants, heat, and sparks will require more frequent replacements 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, page 68.

Learn more about product maintenance from Speedglas YouTube channel! Scan the QR code or visit youtube.com/3MSpeedglas



Refine your helmet selection based on your preferences

Specification Welding helmets (non-air)	9100	9100-QR	9100 FX	9002NC	SL	100	100-QR	10V	10-QR
Eye and Face Protection (Approval) Welding Helmets Protection Plates Visor Plates	EN 175:B EN 166:BT –	EN 175:B EN 166:BT –	EN 175:B EN 166:BT EN 166:BT	EN 175:B EN 166:BT –	EN 175:F EN 166:FT –	EN 175:B EN 166:BT –	EN 175:B EN 166:BT –	EN 175:B EN 166:BT –	EN 175:B EN 166:BT –
Head protection (Approval)	–	EN 397[2]	–	–	–	–	EN 397[2]	–	EN 397[2]
Respiratory protection[1]	All helmets are compatible with 3M disposable or resusable respirators; see page 56-59. See next page for helmets available with powered and supplied air respiratory protection.								
Hearing protection – optional (see page 65)	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs	Earplugs	Earplugs	Earplugs	Earplugs	Earplugs	Earplugs
1 Exhaust vents	YES	YES	YES	YES	–	–	–	–	–
2 Side windows	Optional	YES	YES	–	–	–	–	–	–
3 High-comfort headband 9100	YES	–	YES	YES	YES	YES	–	–	–
4 Flip-up with clear visor	–	–	YES	–	–	–	–	–	–
Graphics option	–	–	–	–	–	YES	–	–	–
Auto-darkening filter options (see page 16-17)	9100V, 9100X, 9100XX, 9100XXi	9100V, 9100X, 9100XX, 9100XXi	9100V, 9100X, 9100XX, 9100XXi	9002NC	SL	100-V	100-V	10V	10V

1) This overview shows only our helmets without air delivery connection. Helmets for powered or supplied air respirator systems see page 43.
2) With 3M™ Safety Helmet H-701.

1 Exahaust vents – exhaled air is channeled out via side vents.

2 Side windows – shade 5 filters that widen your field of vision.

3 High-comfort Speedglas headband 9100 with smooth ratchet for precise tightening.

4 Big, curved 17×10 cm clear protective visor, in-creasing your peripherial vision.

Specification Welding helmet systems (air)	9100 FX-Air	9100-Air	9100 MP	9100 MP-Lite
Eye and Face Protection (Approval) Welding Helmets Protection Plates Visor Plates	EN 175:B EN 166:BT EN 166:BT	EN 175:B EN 166:BT –	EN 175:B EN 166:BT EN 166:BT	EN 175:B EN 166:BT EN 166:BT
Head protection (Approval)	–	–	EN 397 Safety Helmet	EN 812 Bump Cap
Respiratory protection (Approval)[3] Adflo Powered Air Respirator Versaflo Supplied Air Regulator V-500E	EN 12941 (TH3) NPF 500 EN 14594 (3B) NPF 200	EN 12941 (TH2) NPF 50 EN 14594 (3B) NPF 200	EN 12941 (TH3) NPF 500 EN 14594 (3B) NPF 200	EN 12941 (TH3) NPF 500 EN 14594 (3B) NPF 200
Hearing protection – optional (see page 65)	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs
2 Side windows	YES	YES	YES	YES
3 High-comfort headband 9100	YES	YES	–	–
4 Flip-up with clear visor	YES	–	YES	YES
Auto-darkening filter options (see page 16-17)	9100V, 9100X, 9100XX, 9100XXi	9100V, 9100X, 9100XX, 9100XXi	9100V, 9100X, 9100XX, 9100XXi	9100V, 9100X, 9100XX, 9100XXi

3) 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.

Specification Visors and Helmets (air)	M-107	M-307	M-407
Eye and Face Protection (Approval) Visor Plates	EN 166 1:BT:3	EN 166 1:BT:3	EN 166 1:BT:3
Head protection (Approval)	–	EN 397	EN 397
Respiratory protection (Approval)[3] Adflo Powered Air Respirator Versaflo Supplied Air Regulator	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
Hearing protection – optional (see page 65)	Ear muffs Ear plugs	Ear muffs Ear plugs	Ear muffs Ear plugs
Flame-retardant shroud	–	–	YES
Type of protective visor	Clear-coated polycarbonate	Clear-coated polycarbonate	Clear-coated polycarbonate

3) 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.

Your respiratory system

Content

Welding fume hazards 45

Reducing welding fumes & exposure 46

General guide to respiratory protection for welders 48

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3M™ Versaflo™ Supplied Air Regulators 54

3M™ Reusable Respirators 56

3M™ Disposable Welding Respirator 58

What's happening to my welders?

What do increased clumsiness, ulcers, and flu symptoms have in common? They - and many more symptoms - might be caused by overexposure to welding fumes.

Potential immediate health effects of certain welding fumes

- Eye, nose and throat irritation
- Dizziness
- Nausea
- Headaches
- Metal fume fever. Notably, it is more likely to occur after time away from the job (weekends, holidays, etc.)[1]

Potential long-term health effects of certain welding fumes

- Lung function abnormalities, including bronchial asthma, chronic obstructive pulmonary disease (COPD), pneumoconiosis and other pulmonary fibrosis (chronic beryllium disease, cobalt lung), and lung cancer.[2]
- Larynx and urinary tract cancers.[3]
- Certain fumes can lead to stomach ulcers, kidney damage, and nervous system damage.[3]

When good enough isn't enough

Occupational Exposure Limits (OEL) are typically country specific. It's legally within many country regulations to inhale 11 grams of zinc oxide every year. How?

11 gram of welding particles

To illustrate a general example: working with an OEL of 5 mg/m^3 for zinc oxide, a full-time welder may inhale up to 11 grams of zinc every year.[4]

TH2

TH2 rated respirator systems have a Nominal Protection Factor of 50, meaning that when the respirator is used correctly, the wearer's exposure should be reduced to 1/50th. In this example, approximately 0.22mg (the area above the purple line).

TH3

With a TH3 rated respirator, the Nominal Protection Factor is 500 meaning that the when the respirator is used correctly, the wearer's exposure should be reduced to 1/500th to approximately 0.022mg (too small amount to illustrate here). It's getting more common that countries set TH3 as the standard for welding protection.

1) "Prevalence and association of welding related systemic and respiratory symptoms in welders," Occupational & Environmental Medicine, El-Zein M., Malo J-L., Infante-Rivard C., Gautrin D., 2003;60:655-661.

2) "Welding-Related Respiratory Diseases" article, (translated from) Medycyna Pracy (Occupational Medicine), Wittczak T., Walusiak J., Pałczyński C., 2009;60(3):201-8.

3) "Controlling Hazardous Fumes and Gases during Welding," OSHA Fact Sheet, U.S. Department of Labor, DSG FS-3647, March, 2013.

4) The example is based on a typical respiratory rate of 20 litres of air per minute or 2300 m3 of air per year. The reference used here is the OEL of zinc for Sweden, 2015 (5mg/m^3).

Reducing welding fumes & exposure

Welding creates a mixture of respirable gases and/or fumes (particles). To address these hazards and risks, it is best practise to use a hierarchy of controls. The idea is that the highest priority items on the hierarchy not only do the most to reduce fumes and worker exposure, but that they also put the least burden of responsibility on the welder. However, every welding fume control has its limitations:

1

Modify or substitute your welding process to other processes that generate less fumes and/or eliminate the most toxic contaminants.

Control Limitations: Substitutions may not be possible. For example, when the end-product requires stainless steel (chromium).

2

Engineering controls include modifying enclosures around the welder, or the general ventilation of the workshop, or local exhaust controls.

Control Limitations: Ventilation can be difficult to achieve due to conflicting needs, for instance heating/cooling or shielding gases.

3

Work practices include having the welder keep their head out of the plume.

Control Limitations: Space-restricted workpieces or the welding situation may not allow alternative placement of the welder's head.

4

Personal respiratory equipment. As an addition to steps 1 through 3 we recommend personal respiratory protection for the welder to achieve the best protection and comfort.

Control Limitations: Companies should establish a respiratory protection program that includes selection of respirators and their filters, training and maintenance.

FACTS:

Inadequate respiratory protection is the 4th most frequently cited workplace violation.[1)]

40–50 welders

in UK are hospitalised every year with pneumonia caused by welding fume. Two of these welders die every year.[2)]

1) Top 10 Most Frequently Cited Standards, OSHA, U.S. Department of Labor, for 2015.
2) Source: www.hse.gov.uk/welding/illness.htm (02.03.2017)

An overview of metals, welding processes, and respirator selection

The following is a general outline to the type of 3M™ Respiratory Protection that may be appropriate for your welding applications.

The overview looks at the metals to be joined, welding processes, and ventilation conditions. It then lists the types of respiratory protection that your Industrial Hygienist may recommend as determined by their hazard assessments.

P = Particle filtration via disposable respirator, reusable respirator, or powered air respirator with a high efficiency particulate filter (P) installed.

P + ABE = Particle and gas filtration via powered air respirator with both a high efficiency particulate filter (P) and a A1B1E1 (or A2) filter installed.

S = Supplied air via regulator and filtration unit.

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	P	P / P + ABE	S	Powered and supplied air respirators must never be used in atmospheres Immediately Dangerous to Life or Health (IDLH). Always consult your Safety Engineer.
	TIG	P	P / P + ABE	S	
	MMA (stick)	P	P / P + ABE	S	
Stainless steel	MIG	P	P / P + ABE	S	
	TIG	P	P / P + ABE	S	
	MMA (stick)	P	P / P + ABE	S	
	PLASMA (Welding and Cutting)	P	P + ABE / S	S	
Steel not coated or painted	MIG/MAG	P	P	S	
	STICK WELDING	P	P	S	
	PLASMA (Welding and Cutting)	P	P / S	S	
Steel painted (lead based paints)	MIG/MAG	P	P	S	
	MMA (stick)	P	P	S	
	PLASMA (Welding and Cutting)	P	P / S	S	
Steel galvanised	MIG/MAG	P	P	S	
	MMA (stick)	P	P	S	
	PLASMA (Welding and Cutting)	P	P / S	S	
Steel coated with 2-component paints or insulated with 2-part polyurethanes (risk of isocyanates)	MIG/MAG	S	S	S	
	MMA (stick)	S	S	S	
	PLASMA (Welding and Cutting)	S	S	S	
Material cleaned with trichloroethylene	MIG	S	S	S	
	TIG	S	S	S	
	MMA (stick)	S	S	S	
	PLASMA (Welding and Cutting)	S	S	S	

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.

Which style of respirator suits your needs?

The following is an overview of the four general types of 3M respiratory protection found in this catalogue. In addition to your application's specific filtration requirements, your selection process may include factors such as equipment style/configuration, personal preference/comfort, and maintenance considerations.

Read more **on page 50**

3M™ Adflo™ Powered Air Respirator

- NPF[1] of up to 500 (TH3).
- Can be used specifically for high efficient particle filtration (only) or for the filtration of both particulates and gases, depending on filter selection.
- Cannot be used to protect against substances with poor warning properties (taste/smell).
- Four welding helmet and three protective visor configurations to pick from.
- Provides a constant nominal airflow rate of either 170 lpm or 200 lpm (based on user settings).
- The respirator's slim turbo design allows highly mobile use.

Read more **on page 54**

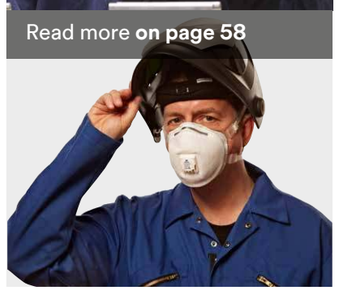
3M™ Versaflo™ Supplied Air Regulators

- NPF of 200 (3B).
- Can be used to protect against substances with poor warning properties (taste/smell).
- Four welding helmet and three protective visor configurations to pick from.
- Belt-mounted regulator with user control over airflow: from 170 lpm to 305 lpm.
- Requires compressed air, an air filtration unit, and appropriate air supply lines.

Read more **on page 56**

3M™ Reusable Respirators

- NPFs of either 10 or 50, depending on model.
- All provide protection against solid and liquid particles.
- Specific products for organic vapour/inorganic vapours + acid gas/ammonia.
- Fits under all 3M™ Speedglas™ Welding Helmet Series 9100.
- Maintenance-free or reusable models available.


Read more **on page 58**

3M™ Disposable Welding Respirators

- NPF of 10.
- For moderate levels of fine dust particles; oil- and water-based mists; metal fume; and ozone (10 x OEL).[2]
- Lightweight.
- No maintenance – disposable.
- Fits under virtually any welding helmet.

1) NPF = Nominal Protection Factor. 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.
2) OEL = Occupational Exposure Limit

Better for backs

The ergonomic leather belt, shaped for maximum freedom, is extra wide around the turbo unit for additional back support.

A system for your needs

System components are designed to work securely together, combining head, eye, face and respiratory protection.

Move around

The slim profile and ergonomic turbo design makes it easier to go into tight spaces. The robust 3M™ Adflo™ Powered Air Respirator provides all of the features you would expect in a premium system, including easy-to-use functionality.

Go higher

At higher altitudes, air is less dense. To compensate, we offer the 3M™ Adflo™ High Altitude Powered Air Respirator.

Suitable for 0 to 3000 meters above sea level, or 0 to 1500 meters with gas filters.

3M™ Adflo™ Powered Air Respirator

Your own filtered atmosphere... ...mobile and adaptable

Is there a way to both increase your respiratory protection against harmful welding fumes while increasing the comfort around your face and head? Tackle workplace hazards with a respiratory protection solution workers will want to wear.

As one of the most popular respirators of its kind in the world, the 3M™ Adflo™ Powered Air Respirator is designed to provide welders a constant nominal airflow rate of 170 litres per minute, regardless of the battery's charge or the particle loading of the filter.

Green for go

As soon as you turn on your Adflo powered air respirator, a display indicates the status of the filter. Green light means that the unit is working normally. Red light indicates that the filter is clogging up.

1. Particle filter is new	2. Three green indicator lights come on as the filter begins to clog	3. Three green and one red light: expect a shorter battery runtime. Particle filter replacement is recommended.	4. Three green and two red lights: the particle filter is clogged and must be replaced.

An adaptable system that saves money

With the right type of filter, the Adflo respirator helps effectively protect 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.

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 at the standard 170 l/m airflow setting with a new particle filter and a new, fully-charged battery.

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 Airflow: for your maximum comfort, a diffuser evenly distributes filtered air throughout the entire breathing zone of the helmet. Plus, the intelligent turbo unit keeps the airflow rate at a constant, preset level.

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.

System overview: page 82 | Ordering & part info: page 84–85

Increase your comfort

Braces 83 50 20

Backpack BPK-01

There are two specific accessories for the Adflo respirator we want to highlight, to maximize your comfort:

Braces (835020), to be combined with the leather belt and a backpack (BPK-01) for additional back support, when using the Adflo respirator.

For maximum safety and performance, make it a regular habit to check and change the following items at the intervals recommended below.

Adflo component	Typically replaced [1]	Notes
Prefilter	Once a week	Regular replacement of the prefilter extends the life of the particle filter, saving money while also increasing the battery run-time.
Particle filter	At least every month	Replace when particle filter indicator becomes red. Otherwise, replace whenever the battery operating time becomes too short, or when the low airflow alarm is triggered by a fully loaded filter.
Gas filter	According to regulations at your work place	Smell and taste is not recommended as a measure of change.
Odour filter	Any time you smell unpleasant odours	Note: odour filter is not required if a gas filter is used.
Spark arrestor	As needed	Replace if deformed and no longer fitting well.

1) 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 page 84.

High quality air

The airline supply must be air of breathable quality meeting the requirements of EN 12021. On page 86 you will find air cleaning stations from 3M.

Stay aware

If your air supply would ever fall below 170 lpm, the regulator's warning whistle will sound.

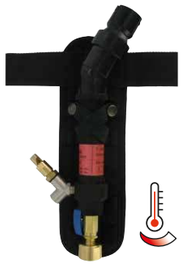
Many helmet options

Achieve a Nominal Protection Factor of 200 when you combine the 3M™ Versaflo™ Belt Mounted Regulators with our 3M™ Speedglas™ Welding Helmets 9100-Air, 9100 FX-Air, 9100 MP or 9100 MP-Lite.

3M™ Versaflo™ Supplied Air Regulators

Light on your belt and soft on your ears

V-100E Air Cooling



V-200E Air Heating

V-500E Flow Controlled

The balanced, belt-worn, V–500E regulator consistently delivers the airflow level you set (170-305 l/min). An integrated silencer keeps the noise level equivalent to a typical conversation.

There are two alternative regulators to either cool (V-100E) or heat (V-200E) the airflow by as much as 28°C. These regulators are excellent choices for workers exposed to uncomfortable temperature ranges.

System overview: page 82 | Ordering & part info: page 86-87

Soft on your face, easy on your lungs

Soft facepieces and face seals, along with excellent exhalation valves.

3M™ Reusable Respirators

An easy choice for a tough world

Get your customized combination of respiratory protection and personal comfort preferences. Our half mask respirators are extremely popular throughout industry. The filters/respirators featured here can be appropriate for numerous welding applications, while being compatible with most 3M™ Speedglas™ Welding Helmets.[1)]

3M™ Half Masks Series 4000

- Maintenance-free: save time with pre-installed filters.
- Less heat and moisture build-up due to the central exhalation valve.
- Reuse multiple times until damaged, clogged with particulates, or saturated with gas.

3M™ Half Mask Series 6500QL

- Our lightest silicone facepiece keeps it shape, even in high-heat environments.
- Low-profile, wide field-of-view design.
- Easy on and off with our convenient Quick Latch (QL) Drop-Down Mechanism.
- Easier breathing with 3M™ CoolFlow™ Exhalation Valve.

3M™ Half Mask Series 7500

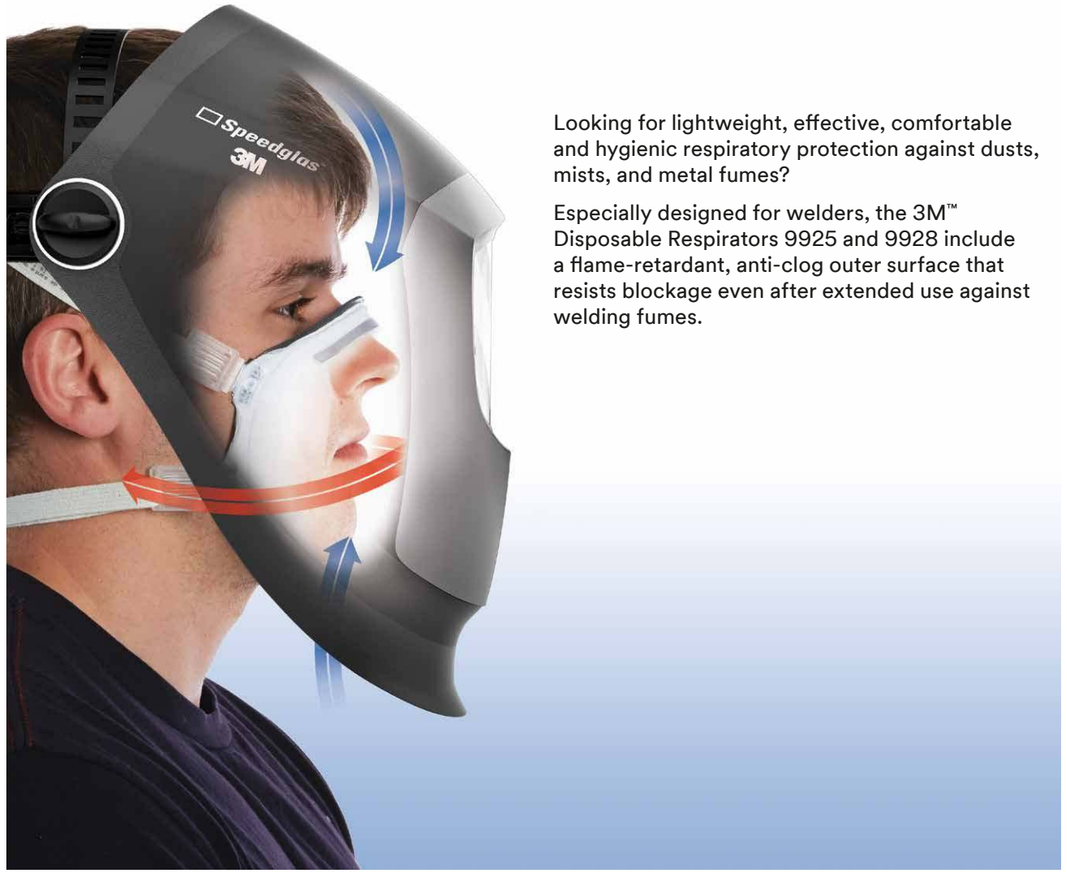
- Soft silicone face piece material for great comfort and durability.
- Easier breathing with 3M™ CoolFlow™ Exhalation Valve.
- Convenient Drop-Down Mechanism.

3M™ Reusable Respirators	Performance level	Approval
Half masks 6500QL or 7500 with Filter 2128	10 x OEL[3)] for Ozone 12 x OEL[3)] for solid and liquid particles (P2 R) Plus relief from nuisance level acid gas/organic vapours.	EN140:1998 (masks) EN143:2000 + A1:2006
Half masks 6500QL or 7500 with Filter 2138	10 x OEL[3)] for Ozone 50 x OEL[3)] for solid and liquid particles (P3 R) Plus relief from nuisance level acid gas/organic vapours.	EN140:1998 (masks) EN143:2000 + A1:2006
Half mask 4255	10 x OEL[3)] for organic vapour[4)] 50 x OEL[3)] for particles	EN405:2001 + A1:2009 FFA2P3 R D
Half mask 4277	10 x OEL[3)] organic vapours[4)] , inorganic vapours and acid gases 50 x OEL[3)] for particles	EN405:2001 + A1:2009 EN405:2001 + A1:2009 FFABE1P3 R D

1) Since everyone's head size and shape is different, we recommend that you work with your 3M™ distributor to find the respirator models that are most compatible with your welding helmet(s). The filter option reference is for particle filtration. The 3M™ Half masks can be combined with many other types of filters for both gases and vapours. Please visit www.3M.com to find other options.
3) OEL = Occupational Exposure Limit - please use local exposure limit.
4) Organic vapours boiling point >65 degrees C

3M™ Welding Fume Disposable Respirators

Light, convenient and comfortable protection



Looking for lightweight, effective, comfortable and hygienic respiratory protection against dusts, mists, and metal fumes?

Especially designed for welders, the 3M™ Disposable Respirators 9925 and 9928 include a flame-retardant, anti-clog outer surface that resists blockage even after extended use against welding fumes.

3M™ Particulate Filters	Model	Approval	Substance
	9925 – Without faceseal, non-reusable.	EN149:2001 + A1:2009 FFP2 NR D	Organic vapours, ozone, particles / 10 x OEL[2]. Nuisance level odours below OEL[2].
	9928 – With soft, PVC inner faceseal. Improves comfort and can be hygienically cleaned (can be used for more than one shift).	EN149:2001 + A1:2009 FFP2 R D	Organic vapours, ozone, particles / 10 x OEL[2]. Nuisance level odours below OEL[2].

2) OEL = Occupational Exposure Limit - please use local exposure limit.

Your ears

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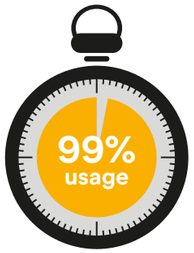
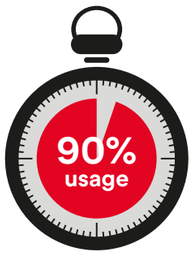
The challenge of hearing protection for welders

Gives the expected protection.



Significantly reduces protection.



Virtually no protection.

Five minutes of carelessness per day significantly reduces the effect of the protection

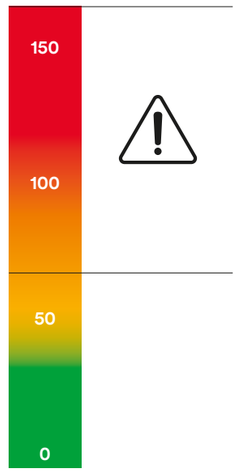
That's right: if you're in a harmfully loud workplace – at or above 85 decibels – then not having your ear protection in place just 10% of the time offers you virtually no protection. Noise-induced hearing loss (NIHL) is caused by the damage and eventual death of the ear's hair cells. Unlike some other cells, human ear hair cells never grow back.[1)]

Too loud may be less loud than you think

Think of all of the noises that surround you at your welding shop. Your tools, of course. But also the sudden, short, yet very loud noises: metal falling onto metal or hammers banging metal into place. Those sudden noisy spikes, at or above 85 decibels, could be damaging your hearing unless your hearing protection is always in place.

Work Scale Decibels (dBA)[1)]

Jet Engine	120–140
Sand Blasting	110–120
Punch Press	100–110
Tractor	97
Belt Sander	93
Risk of hearing loss	**85**
Air Conditioning Unit	60
Electrical Transformer	45
Watch Ticking	20



1) https://www.nidcd.nih.gov/health/noise-induced-hearing-loss

Moving towards 100% usage

Measure the noise

Determine where your facility falls on the regulations' scale of Exposure Action Values (see table below) by having a professionally designed audiometric testing assessment.

Create a Hearing Conservation Programme

Between the lower and upper Exposure Action Values, it is required to:

1. Provide information on potential hearing loss risks.
2. Provide the appropriate hearing protection devices.
3. Provide training.

Select hearing protection that your workers want to wear

This is the most important step in moving towards 100% usage. The following pages offer Hearing Protection Equipment (HPE) options for virtually every welder's needs and preferences.

Exposure Action Values	
87dB (A) **140dB (C) Peak** LEX, 8h	**Limit Value** Cannot be exceeded at any time. Can be achieved with HPE.
85dB (A) **137dB (C) Peak** LEX, 8h	**Upper Exposure Action Value** HPE must be used and a Hearing Conservation Programme initiated.
80dB (A) **135dB (C) Peak** LEX, 8h	**Lower Exposure Action Value** HPE must be made available on request.

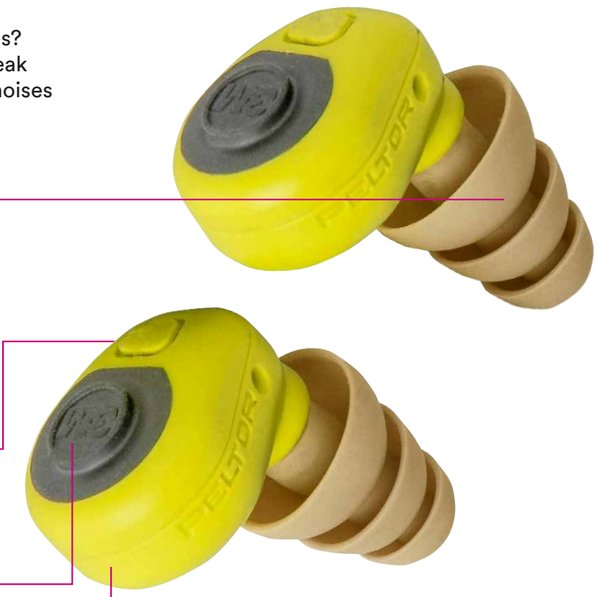
Despite industry regulations, 40 million workers are exposed to loud noise and 13 million suffer from hearing disorders.[1)]

1) European Agency for Safety and Health at Work 2016

3M™ PELTOR™ Level Dependent Ear Plug LEP-100 EU

Stay aware and communicate

How can you protect your hearing but still communicate in workplaces with loud noises? The 3M™ PELTOR™ LEP-100 EU amplifies weak sounds (like voices) while attenuating loud noises – even sudden loud noises.



Added convenience
Replaceable eartips are available in small, medium, and large sizes and two different designs to accommodate most user's ear canals:

- UltraFit™ Eartips, SNR of 32 dB
- Torque Eartips, SNR of 38 dB.

Rain or wind
Water resistant microphone port also helps minimise wind noise.

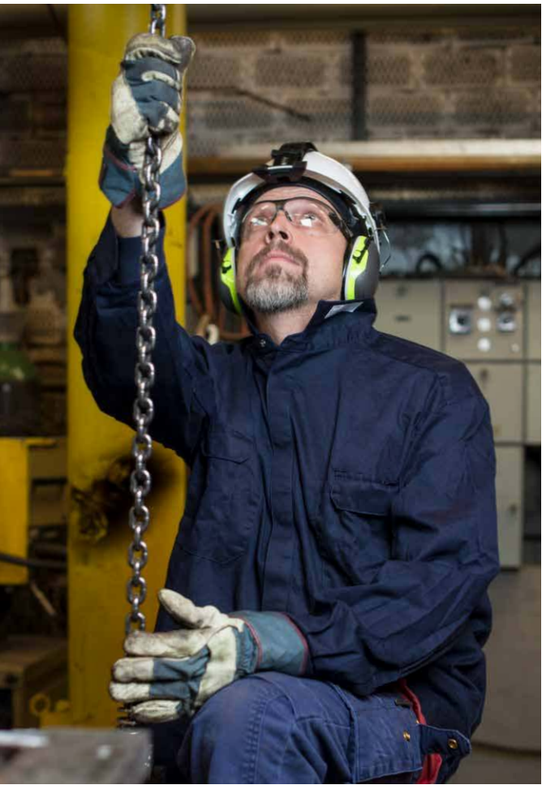
Easy operation
Intuitive one-button operation turns the unit on and off, and selects volume settings.

Long usage time
The rechargeable Li-ion battery provides up to 16 hours of continuous operation.

3M | PELTOR™

Improve situational awareness and communications with noise level dependent ear plugs.

Specifications and ordering info: page 65.



3M™ PELTOR™ Earmuffs X-Series

No compromises
Ear cups have a streamlined design that doesn't compromise noise attenuation.

Helmet mounted
Integrated design for more robustness

Comfortable
Lightweight dual mould cups to help minimise heat and moisture build-up

Stylish and reliable
New ear cushion foam technology for an effective acoustic seal and reliable protection

Specifications and ordering info: page 65.

3M™ PELTOR™ Welding Earmuffs H505B

Good fit
Fit nicely under 3M™ Speedglas™ 9100 Series and other welding helmets

Less scratch sound
Semi-soft cup surface helps minimize scratch sound transmission

Reliable noise reduction
Soft ear cushions provide a comfortable seal and help reduce loud noise exposure

Stays in place
Two-point suspension and wire headband for a secure, comfortable fit

Specifications and ordering info: page 65.

Hearing protection for welders

A selection of 3M™ Earmuffs and Ear Plugs[1)]

3M™ PELTOR™ Earmuffs and Level Dependent Ear Plug	H505B	X1 Earmuffs	X2 Earmuffs	X3 Earmuffs	X4 Earmuffs	X5 Earmuffs	LEP-100 EU
Design	Neckband	Helmet mounted	Helmet mounted	Helmet mounted	Slim, fluorescent, helmet mounted	Helmet mounted	Level dependent ear plug
SNR	24dB	26dB	30dB	32dB	32dB	36dB	32dB / 38dB
Part No	H505B	X1P3	X2P3	X3P3	X4P3	X5P3	LEP-100
With 3M™ Welding Helmet							
Speedglas 9100	●						●
Speedglas 9100 Air	●						●
Speedglas 9100-QR		●	●	●	●	●	●
Speedglas 9100 FX	●						●
Speedglas 9100 FX-Air							●
Speedglas 9100 MP/ MP-Lite[2)]		●	●	●	●	●	●
Speedglas 9002NC	●						●
Speedglas 100	●						●
Speedglas 100-QR							●
3M 10V							●
3M 10-QR							●
Versaflo M-series[2)]	●	●	●	●	●	●	●

1) These recommendations are general and are based on usage with 3M™ Welding Helmets. Your personal preferences may result in different selections: for additional product information and technical specifications, please visit www.3m.co.uk/hearing
2) Please add assembly part number Z3AF/2 when ordering X-series earmuffs for the headtops 9100MP/MP-Lite and Versaflo™ M-Series.

3M™ Earplug[3)]	E-A-R™ Classic	3M 1100	E-A-R™ Pulsar	E-A-R™ Ultrafit	3M NoTouch	E-A-R™ Ultrafit X
Design	Disposable roll-down earplug (small/large sizes)	Disposable roll-down earplug (high attenuation)	Ergonomic, wear Behind-the-Head	Reusable pre molded earplug with cord	Soft foam earplugs with cord and stem (easy and hygenic)	Corded, pre molded earplugs
SNR	28dB	37dB	23dB	32dB	32dB	35dB
Part No	PP-01-002	1100F	PN-01-010A	UF-01-100	PN-01-004	UF-01-014

3) The 3M™ E-A-R™ Hearing Protection listed here were selected for use in a typical welding environment. For additional 3M hearing protection selections, and to get more product information and specifications, please visit www.3m.co.uk/hearing

Protecta® Pro™ Welders Harness

Fall protection harness for high heat environments

Pro™ Welders Harness

For hot work use

Fire and sparks are a major concern in jobs such as welding, cutting and other high temperature applications. Keeping safe requires special materials to resist these hazards.

The Protecta® Pro™ Welders Harness is specifically designed to resist the potential heat damage experienced in welding applications. Featuring highly durable heat resistant and flame retardant modacrylic over Kevlar® webbing and a lightweight design providing excellent body support solutions for welding at height.

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- **3M™ Protective Visor DIN 5** 97

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As the outer protection plate becomes deeply pitted, scratched or too dirty to clean with soft cloth, it's probably time to replace it. Ensure you order the right plate to your filter:

Outer protection plate		For welding filter model							
Part No	Description	9100V	9100X	9100XX 9100XXi	9100 Passive	SL	100 Series	10V	9002NC
12 60 00	Standard							●	
42 60 00	Standard								●
42 70 00	Scratch resistant								●
42 70 71	Heat resistant								●
52 60 00	Standard	●	●	●	●				
52 70 00	Scratch resistant	●	●	●	●				
52 70 01	Extra Scratch resistant	●	●	●	●				
52 70 70	Heat resistant	●	●	●	●				
72 60 00	Standard					●			
72 70 00	Scratch resistant					●			
77 60 00	Standard						●		
77 70 00	Scratch resistant						●		
77 70 70	Heat resistant						●		

The table shows our current program of welding filters, if you have an older helmet model check page 81 for consumables.

Regularly clean the inner cover plate with a soft cloth and replace if any pits or scratches occur. Ensure you order the right plate to your filter:

Inner cover plate			For welding filter model							
Part No	Description	L x H (mm)	9100V	9100X	9100XX 9100XXi	9100 Passive 100 Passive	SL	100S 100V	10V	9002NC
12 60 00	Clear	110×90				●				
42 80 00	Clear	91×42					●	●	●	
42 80 10	Clear	103×53								●
42 80 30	+1 Shade	103×53								●
42 80 50	+2 Shade	103×53								●
52 80 05	Clear	117×50	●							
52 80 06	+1 Shade	117×50	●							
52 80 07	+2 Shade	117×50	●							
52 80 15	Clear	117×61		●						
52 80 16	+1 Shade	117×61		●						
52 80 17	+2 Shade	117×61		●						
52 80 25	Clear	117×77			●					
52 80 26	+1 Shade	117×77			●					
52 80 27	+2 Shade	117×77			●					

The table shows our current program of welding filters, if you have an older helmet model check page 81 for consumables.

3M™ Speedglas™ Welding Helmet 9100

50 18 26

50 18 00

50 00 26

50 00 01

50 00 05

50 00 15

50 00 25

Helmets with side windows – auto-darkening filter

Part No	Description
50 18 15	With Speedglas welding filter 9100X (54×107 mm).
50 18 25	With Speedglas welding filter 9100XX (73×107 mm).
50 18 26	With Speedglas filter kit 9100XXi, incl welding filter and front cover 9100XXi (73×107 mm).

Helmets without welding filter

Part No	Description
50 11 00	Welding helmet 9100 without side windows, with headband and silver front.
50 18 00	Welding helmet 9100 with side windows, headband and front cover.

Welding filters

Part No	Description
50 00 01	Passive filter kit 9100 shade 11 (90×110 mm).
50 00 05	Auto-darkening filter 9100V, variable shade 5, 8, 9 – 13 (45×93 mm).
50 00 15	Auto-darkening filter 9100X, variable shade 5, 8, 9 – 13 (54×107 mm).
50 00 25	Auto-darkening filter 9100XX, variable shade 5, 8, 9 – 13 (73×107 mm).
50 00 26	Auto-darkening filter 9100XXi variable shade 5, 8, 9 – 13 (73×107 mm).

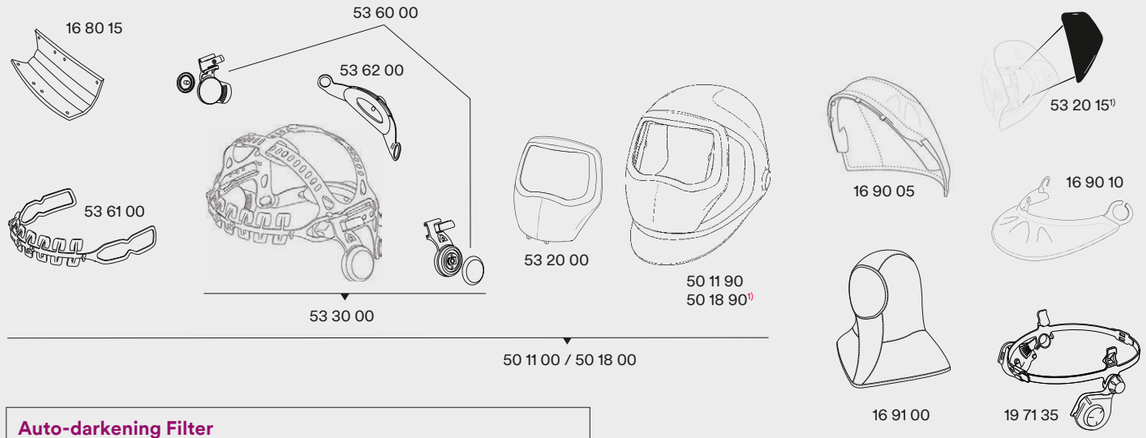
3M™ Speedglas™ Welding Filter Kit 9100XXi

Our top-of-the-line welding filter with improved optics and a special designed front cover with external controls for grinding and memory modes. This complete kit (front cover and welding filter) is compatible with Speedglas welding helmet models 9100, 9100-Air and 9100-QR.

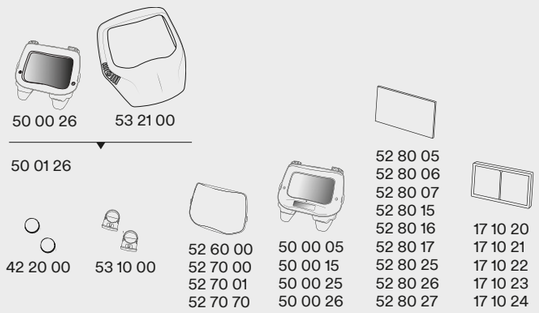
Read more about the new 9100XXi welding filter on page 16.

Part No:
50 01 26 Welding filter and front cover 9100XXi

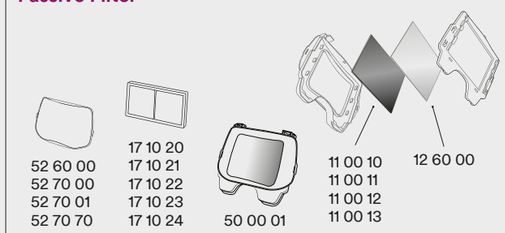
Spare parts & accessories for 3M™ Speedglas™ Welding Helmet 9100



Auto-darkening Filter



Passive Filter



Part No	Description
11 00 10	Passive welding filter lens shade 10 (90×110).
11 00 11	Passive welding filter lens shade 11 (90×110).
11 00 12	Passive welding filter lens shade 12 (90×110).
11 00 13	Passive welding filter lens shade 13 (90×110).
12 60 00	Inner cover plate for passive filter 9100.
16 80 15	Comfort sweatband, pkg of 3.
16 90 05	Head protection.
16 90 10	Neck protection.
16 91 00	Hood.
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 35	Safety helmet adapter 9100, with assembly parts.
42 20 00	Battery, pkg of 2.
50 00 01	Speedglas passive welding filter kit 9100 (shade 11).
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.
50 01 26	Speedglas welding filter kit 9100XXi (incl front cover and welding filter).
50 11 00	Welding helmet without side windows, with headband.
50 11 90	Welding helmet without side windows, without headband, with front cover 9100.
50 18 00	Welding helmet with side windows and headband, with front cover 9100.
50 18 90[1]	Welding helmet with side windows, without headband, with front cover.
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.
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 117×50.
52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.
52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.
52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.
52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117×77.
52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.
52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.
53 10 00	Battery holder, pkg of 2.
53 20 00	Heat-reflecting front cover 9100.
53 20 15[1]	Side windows cover plate, 2 pairs.
53 21 00	Heat-reflecting front cover 9100XXi.
53 30 00	Headband with assembly parts.
53 60 00	Pivot mechanism, left and right.
53 61 00	Headband front part.
53 62 00	Headband back part.

1) Please use Part No 50 18 90 when new side windows are required.

3M™ Speedglas™ Welding Helmet 9100 FX

Helmets with side windows – and auto-darkening filter

Part No	Description
54 18 15	With Speedglas welding filter 9100X (54×107 mm).
54 18 25	With Speedglas welding filter 9100XX (73×107 mm).
54 18 26	With Speedglas welding with filter 9100XXi (73×107 mm).

Helmet without welding filter

Part No	Description
54 18 00	Welding helmet 9100 FX with side windows, headband and front cover.

Alternative 3M™ Speedglas™ Welding Filters

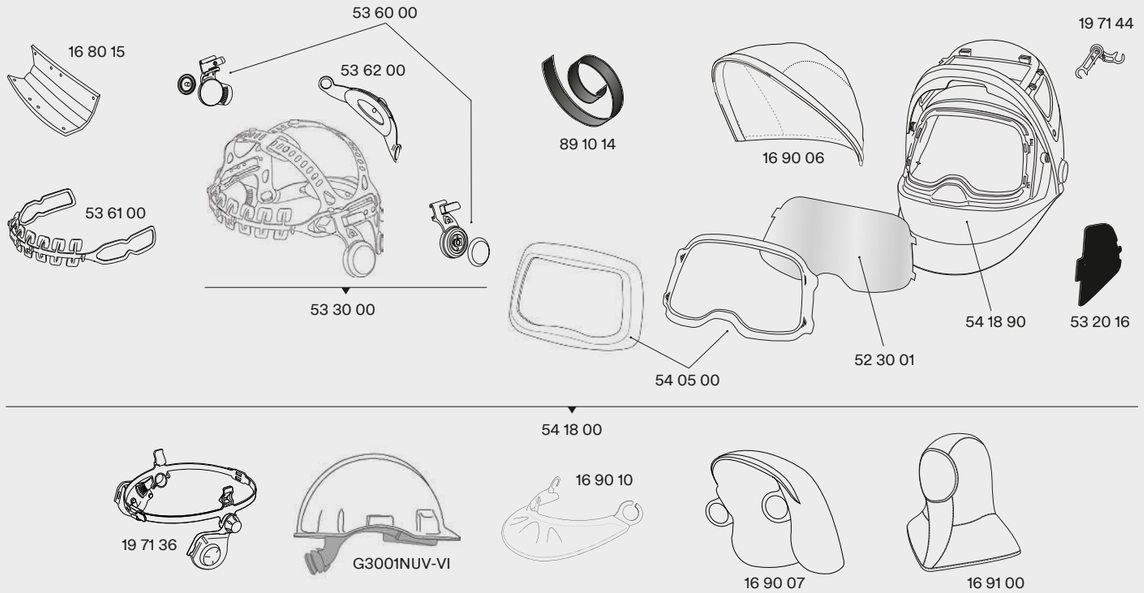
Part No	Description
50 00 01	Passive filter kit 9100 shade 11 (90×110 mm).
50 00 05	Auto-darkening filter 9100V, variable shade 5, 8, 9 –13 (45×93 mm).
50 00 15	Auto-darkening filter 9100X, variable shade 5, 8, 9 –13 (54×107 mm).
50 00 25	Auto-darkening filter 9100XX, variable shade 5, 8, 9 –13 (73×107 mm).
50 00 26	Auto-darkening filter 9100XXi variable shade 5, 8, 9 –13 (73×107 mm).

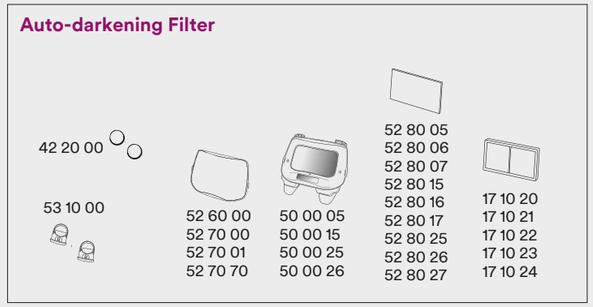
Passive filters combined in flip-up helmets

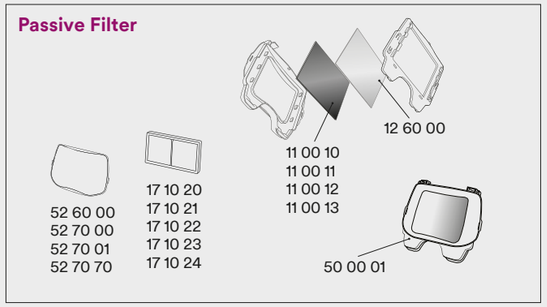
With the 3M™ Speedglas™ Flip-up Welding Helmets, the side windows offer additional peripherial welding vision. Now also compatible with passive welding filters appropriate for long, continuous welds and less sensitive to humidity and heat.

Excellent low-cost options for large, 110 × 90 mm welding viewing area. And you can easily upgrade to a high performance Speedglas auto-darkening filter at any time.

Spare parts & accessories for 3M™ Speedglas™ Welding Helmet 9100 FX







Part No	Description
11 00 10	Passive welding filter lens shade 10.
11 00 11	Passive welding filter lens shade 11.
11 00 12	Passive welding filter lens shade 12.
11 00 13	Passive welding filter lens shade 13.
12 60 00	Inner cover plate for passive filter 9100.
16 80 15	Comfort sweatband, pkg of 3.
16 90 06	Head protection (small).
16 90 07	Head protection (large).
16 90 10	Neck protection, black.
16 91 00	Hood, black/grey.
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 36	Safety helmet adapter 9100FX, with assembly parts.
19 71 44	Hinge mechanism, 2 pcs
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.
50 00 01	Speedglas passive welding filter kit 9100 (shade 11).
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.
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 117×50.
52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.
52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.
52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.
52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117×77.
52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.
52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.
53 10 00	Battery holder, pkg of 2.
53 20 16	Side windows cover plate, 2 pairs.
53 30 00	Headband with assembly parts.
53 60 00	Pivot mechanism, left and right.
53 61 00	Headband front part.
53 62 00	Headband back part.
54 05 00	Front cover kit.
54 18 00	Welding helmet, without welding filter, with headband.
54 18 90	Welding helmet, without welding filter, without headband.
89 10 14	Velcro for Headcover, pkg of 2.
53 62 00	Headband back part.
G3001NUV-VI	3M™ Safety Helmet G3001, white (unvented).

3M™ Speedglas™ Welding Helmet 9100-QR

58 36 25

58 26 25

50 00 26

50 00 01

50 00 05

50 00 15

50 00 25

Welding helmets – with 3M™ Safety Helmet H-701

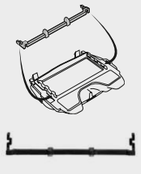
Part No	Description
58 36 15	With Speedglas welding filter 9100X, with rail and safety helmet (54×107 mm).
58 36 25	With Speedglas welding filter 9100XX (73×107 mm).
58 36 26	With Speedglas welding filter kit 9100XXi, incl welding filter (73×107 mm) and front cover 9100XXi.

Welding helmets – without safety helmet

Part No	Description
58 26 00	With QR rail, without welding filter.
58 26 15	With QR rail and Speedglas welding filter 9100X.
58 26 25	With QR rail and Speedglas welding filter 9100XX (54×107 mm).
58 26 26	With QR rail and Speedglas welding filter kit 9100XXi and rail, incl welding filter (73×107 mm) and front cover.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
50 00 01	Passive filter kit 9100, shade 11 (90×110 mm).
50 00 05	Auto-darkening filter 9100V, variable shade 5, 8, 9–13 (45×93 mm).
50 00 15	Auto-darkening filter 9100X, variable shade 5, 8, 9–13 (54×107 mm).
50 00 25	Auto-darkening filter 9100XX, variable shade 5, 8, 9–13 (73×107 mm).
50 00 26	Auto-darkening filter 9100XXi variable shade 5, 8, 9–13 (73×107 mm).



Distance bar

To avoid scratches on the larger welding filters (9100X, 9100XX, 9100XXi) when raising the welding helmet, we recommend using this distance bar (included when you buy a complete helmet with these welding filters). Also sold as spare part.

Part No 53 11 00

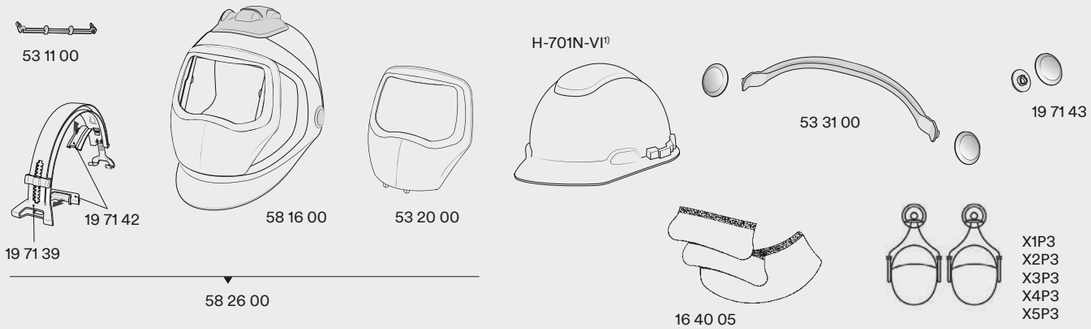
Ear muff bar

When using ear muffs, we recommend you to install this ear muff bar to widen the 9100-QR welding helmet.

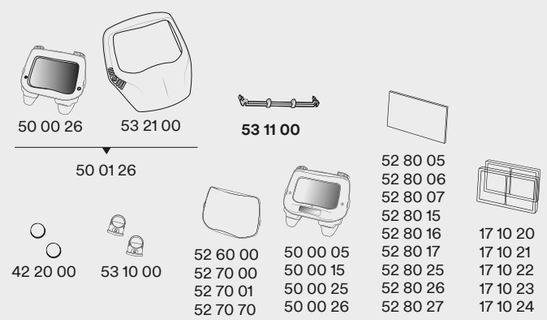
Sold as separate accessory.

Part No 53 31 00

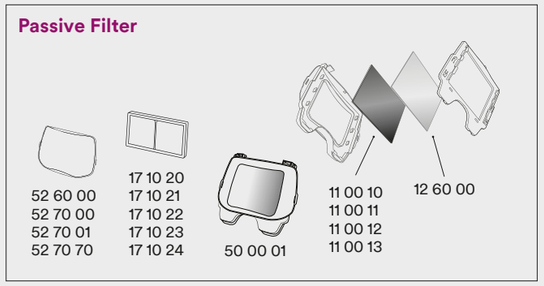
Spare parts & accessories for 3M™ Speedglas™ Welding Filters & Helmet 9100-QR parts



Auto-darkening Filter



Passive Filter



Part No	Description
11 00 10	Passive welding filter lens shade 10.
11 00 11	Passive welding filter lens shade 11.
11 00 12	Passive welding filter lens shade 12.
11 00 13	Passive welding filter lens shade 13.
12 60 00	Inner cover plate for passive filter 9100.
16 40 05	Ear and neck protection in leather.
19 71 39	Quick release rail for safety helmet.
19 71 42	Rubber friction pads for quick release rail.
19 71 43	Pivot cover plate kit for quick release welding helmets, pkg of 2.
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.
50 00 01	Speedglas passive welding filter kit 9100 (shade 11).
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.
50 01 26	Speedglas welding filter kit 9100XXi (incl front cover and welding filter).
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.
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 117×50.
52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.
52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.
52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.
52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
52 80 25	Inner cover plate for 9100XX filter, pkg of 5. Plate marking 117×77.
52 80 26	Inner cover plate, +1 shade for 9100XX filter, pkg of 3.
52 80 27	Inner cover plate, +2 shade for 9100XX filter, pkg of 3.
53 10 00	Battery holder for welding filter series 9100, pkg of 2.
53 11 00	Distance bar for welding filters 9100X, 9100XX and 9100XXi.
53 21 00	Heat-reflecting front cover for welding filter kit 9100XXi.
53 31 00	Ear muff bar for Speedglas welding helmet 9100-QR.
58 16 00	Welding helmet 9100-QR without rail, without welding filter, without safety helmet.
58 26 00	Welding helmet 9100-QR with rail, without welding filter, without safety helmet.
H-701N-VI[1]	3M™ Safety Helmet H-701R, white (unvented).
X1P3	3M™ Peltor™ Ear Muffs X1 (26 dB) helmet attachment.
X2P3	3M™ Peltor™ Ear Muffs X2 (30 dB) helmet attachment.
X3P3	3M™ Peltor™ EarMuffs X3 (32 dB) helmet attachment.
X4P3	3M™ Peltor™ Ear Muffs X4 (33 dB) helmet attachment.
X5P3	3M™ Peltor™ Ear Muffs X5 (36 dB) helmet attachment.

1) Many alternative colours available, see page 95

3M™ Speedglas™ Welding Helmet 9002NC

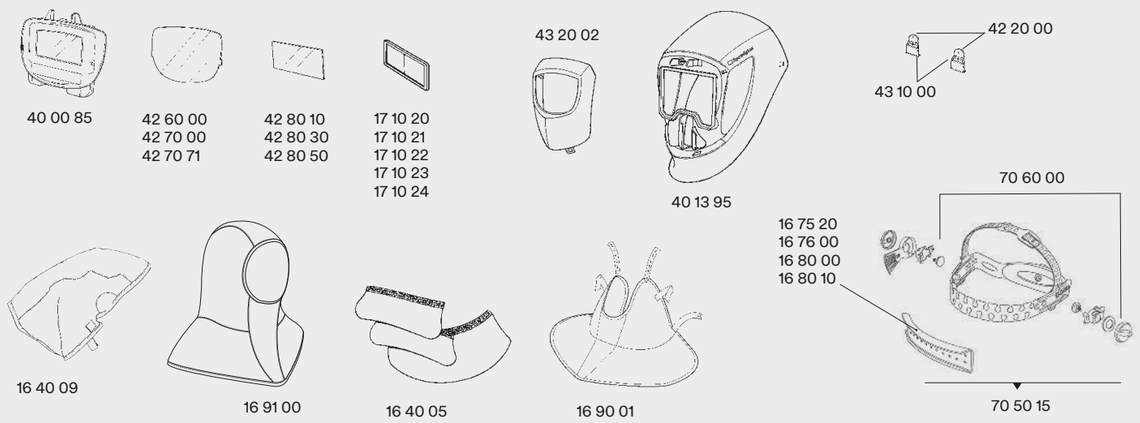
Helmet with auto-darkening filter

Part No	Description
40 13 85	Welding helmet without side windows, with welding filter 9002NC, variable shade 8–12 (54×107 mm).

Welding filter (only)

Part No	Description
40 00 85	3M™ Speedglas™ Welding Filter 9002NC, variable shade 8–12 (54×107 mm).

Spare parts & accessories for 3M™ Speedglas™ Welding Helmet 9002NC



Part No	Description
16 40 05	Ear and neck protection in leather.
16 40 09	Head protection.
16 75 20	Sweatband towelling, pkg of 2.
16 76 00	Sweatband towelling, pkg of 20.
16 80 00	Sweatband, leather.
16 80 10	Sweatband, fleecy cotton, pkg of 2.
16 90 01	Neck protection.
16 91 00	Hood.
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.
40 13 95	Welding helmet 9000, without Side windows, without front, without headband, without filter.

Part No	Description
40 00 85	Speedglas welding filter 9002NC, shade 8–12.
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.
42 60 00	Outer protection plate, standard, pkg of 10. Plate marking 42 01 50.
42 70 00	Outer protection plate, scratch resistant, pkg of 10. Plate marking 42 01 00.
42 70 71	Outer protection plate, heat resistant, pkg of 10. Plate marking 42 01 71 HEAT.
42 80 10	Inner cover plate pkg of 5. Plate marking 42 02 10.
42 80 30	Inner cover plate, +1 Shade, pkg of 5.

Part No	Description
42 80 50	Inner cover plate, +2 Shades, pkg of 5.
43 10 00	Battery cover, pkg of 2.
43 20 02	Front cover
70 50 15	Headband with assembly parts.
70 60 00	Assembly parts for headband.

3M™ Speedglas™ Welding Helmet SL

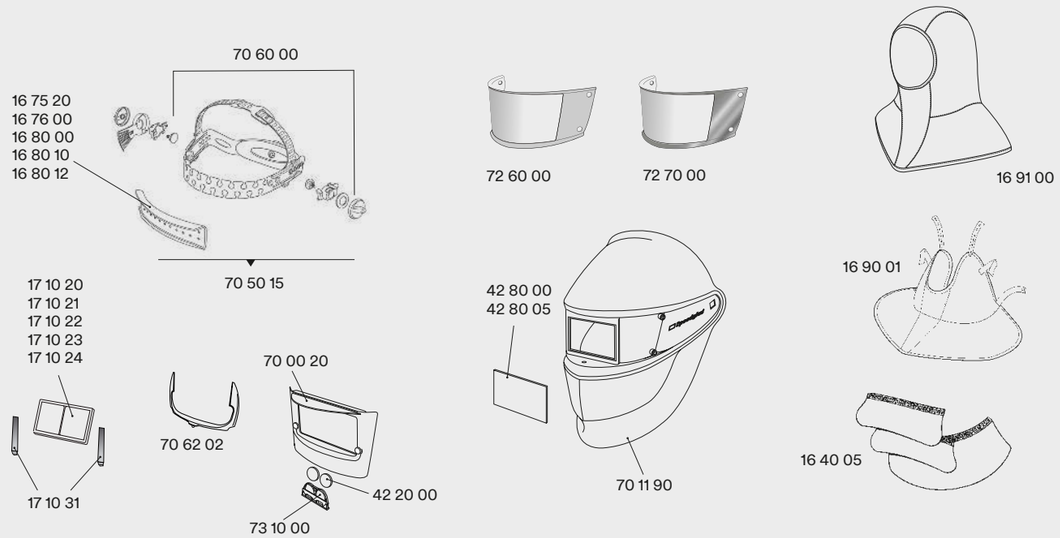
Helmet with auto-darkening filter

Part No	Description
70 11 20	Welding helmet SL with welding filter, variable shade 8 –12 (42×93 mm).

Welding filter (only)

Part No	Description
70 00 20	3M™ Speedglas™ Welding Filter SL, variable shade 8–12 h(42×93 mm).

Spare parts & accessories for 3M™ Speedglas™ Welding Helmet SL



Part No	Description
16 40 05	Ear and neck protection in leather (3 parts).
16 75 20	Sweatband, towelling, purple, pkg of 2.
16 76 00	Sweatband, towelling, pkg of 20.
16 80 00	Sweatband, leather.
16 80 10	Sweatband, fleecy cotton, pkg of 2.
16 80 12	Sweatband, fleecy cotton, pkg of 2.
16 90 01	Neck protection.
16 91 00	Hood black/grey.

Part No	Description
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.
17 10 31	Holder for magnifying lens.
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.
42 80 00	Inner cover plate pkg of 5. Plate marking 42 02 00.
42 80 05	42 80 00, pkg of 200.
70 00 20	Speedglas welding filter SL.

Part No	Description
70 11 90	Welding helmet, without headband.
70 50 15	Headband with assembly parts.
70 60 00	Assembly parts for headband.
70 62 02	Filter locking frame, pkg of 2.
72 60 00	Outer protection plate, standard, pkg of 5. Plate marking 030226.
72 70 00	Outer protection plate, scratch resistant, pkg of 5. Plate marking 030248.
73 10 00	Battery cover.

3M™ Speedglas™ Welding Helmet Series 100/100-QR

75 11 10

3M™ Speedglas™ Welding Helmet 100 (black)

Part No	Description
75 11 01	With passive welding filter, shade 11.
75 11 20	With Speedglas welding filter 100V, variable shade 8–12 (44×93 mm).
75 11 90	Without welding filter, without headband.

78 35 20

3M™ Speedglas™ Welding Helmet 100-QR

Part No	Description
78 25 20	Welding helmet 100-QR without welding filter, without safety helmet, with QR rail.
78 35 20	Welding helmet 100-QR with 3M safety helmet H-701R QR rail and welding filter 100-V (44×93 mm).

75 00 10

75 00 11

75 00 20

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
75 00 10	Auto-darkening filter 100S-10, single shade 10 (44×93 mm).
75 00 11	Auto-darkening filter 100S-11, single shade 11 (44×93 mm).
75 00 20	Auto-darkening filter 100-V, variable shade 8–12 (44×93 mm).

Skull helmet

Part No	Description
75 28 20	With filter 100V.

Motor helmet

Part No	Description
75 29 20	With filter 100V.

Ice Hot helmet

Part No	Description
75 25 20	With filter 100V.

Xterminator helmet

Part No	Description
75 22 20	With filter 100V.

Razor Dragon helmet

Part No	Description
75 24 20	With filter 100V.

Raging Skull helmet

Part No	Description
75 26 20	With filter 100V.

Trojan Warrior helmet

Part No	Description
75 16 20	With filter 100V.

Blaze helmet

Part No	Description
75 12 20	With filter 100V.

Aces High helmet

Part No	Description
75 17 20	With filter 100V.

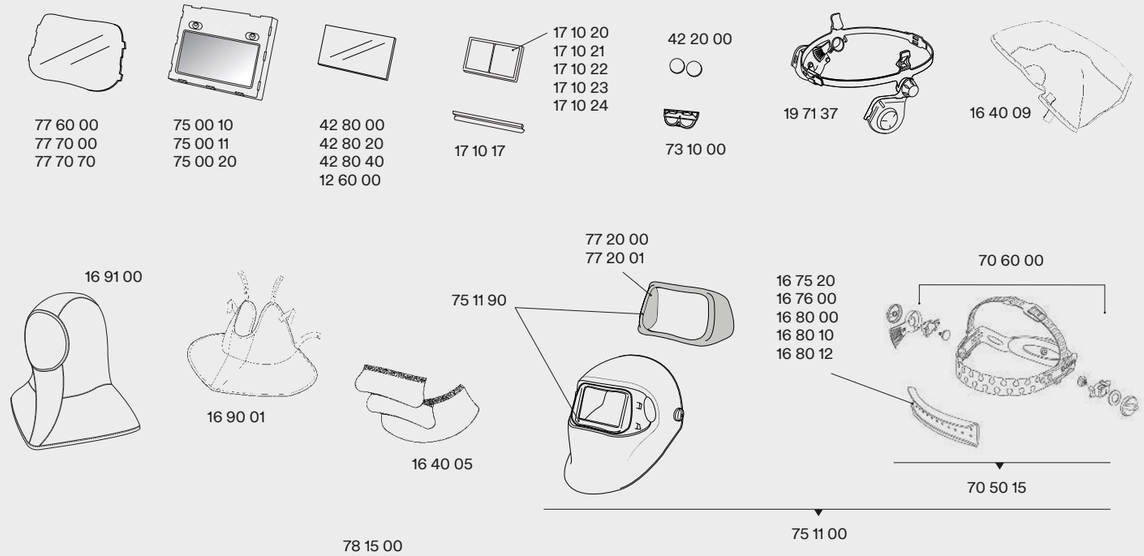
Steel Rose helmet

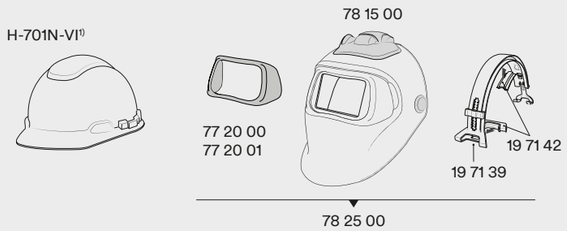
Part No	Description
75 18 20	With filter 100V.

Wild 'n' Pink helmet

Part No	Description
75 20 20	With filter 100V.

Spare parts & accessories for 3M™ Speedglas™ Welding Helmet Series 100/100-QR





Part No	Description
12 60 00	Inner cover plate for 100 passive filter.
16 40 05	Ear and neck protection in leather.
16 40 09	Head protection.
16 75 20	Sweatband, towelling purple, pkg of 2.
16 76 00	Sweatband, towelling purple, pkg of 20.
16 80 00	Sweatband, leather.
16 80 10	Sweatband, fleecy cotton, pkg of 2.
16 80 12	Sweatband, fleecy cotton (short), pkg of 2.
16 90 01	Neck protection.
16 91 00	Hood.
17 10 17	Holder for magnifier (older models of welding filters).
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 37	Safety helmet adapter (loop), with assembly parts.
19 71 39	Quick release rail for safety helmet.
19 71 42	Rubber friction pads for quick release rail.
19 71 43	Pivot cover plate kit for quick release welding helmets (QR), pkg of 2.
42 20 00	Battery CR2032 Lithium 3V, 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	Headband with assembly parts.
70 60 00	Assembly parts for headband.
73 10 00	Battery cover.
75 00 10	Speedglas welding filter 100S-10, single shade 10.
75 00 11	Speedglas welding filter 100S-11, single shade 11.
75 00 20	Speedglas welding filter 100V, variable shade 8–12.
75 05 11	Speedglas 100 passive kit: 110×90 mm passive welding filter shade 11, inner cover plate, outer protection plate and filter frame (not shown).
75 11 00	100 welding helmet black, without filter, with headband.
75 11 90	100 welding helmet black, without filter, without headband.
77 20 00	Front frame, silver.
77 20 01	Front frame, black.
77 60 00	Outer protection plate, standard, pkg of 10.
77 70 00	Outer protection plate, scratch resistant, pkg of 10.
77 70 70	Outer protection plate, heat resistant, pkg of 10.
78 15 00	Welding helmet 100-QR without rail, without filter, without safety helmet.
78 25 00	Welding helmet 100-QR with rail, without welding filter, without safety helmet.
78 35 20	Welding helmet 100-QR with rail and 3M™ Safety Helmet H-701R with filter 100-V.
H-701N-VI[1)]	White 3M™ Safety Helmet H-701R (unvented), with ratchet suspension.

1) Many alternative colours available, see page 95

3M™ Welding Helmets 10V/10-QR

3M™ Welding Helmet 10V

Part No	Description
10 11 01	with welding filter 10V, variable shade 10-12 (44×93 mm).

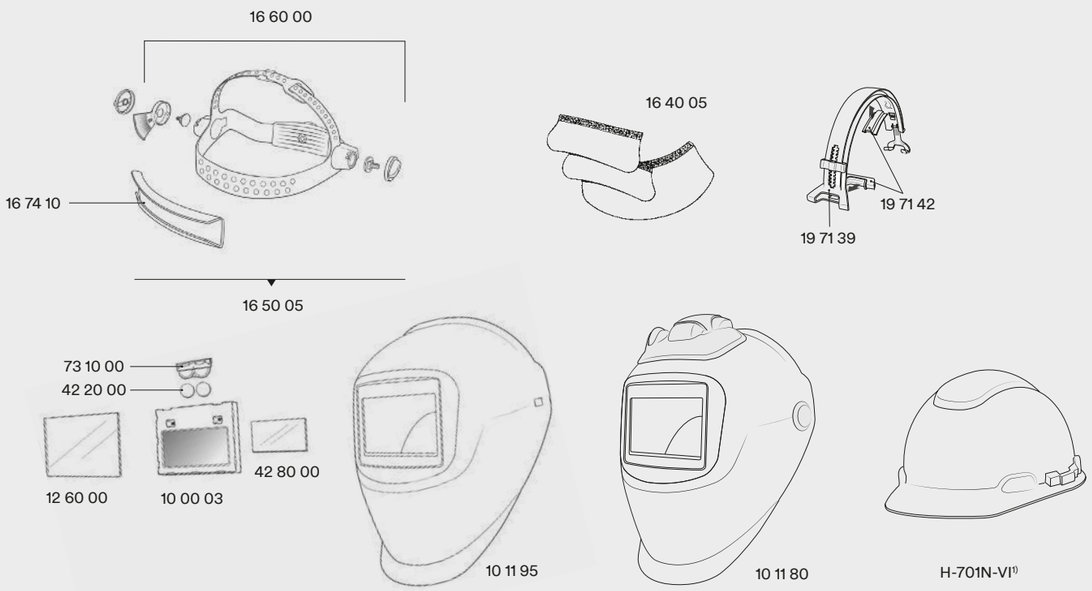
3M™ Welding Helmet 10-QR

Part No	Description
10 11 03	With welding filter 10V, QR rail and 3M™ Safety Helmet H-701

3M™ Welding Filter 10V

Part No	Description
10 00 03	Welding filter 10V, variable shade 10-12 (44×93 mm).

Spare parts & accessories for 3M™ Welding Helmets 10V/10-QR

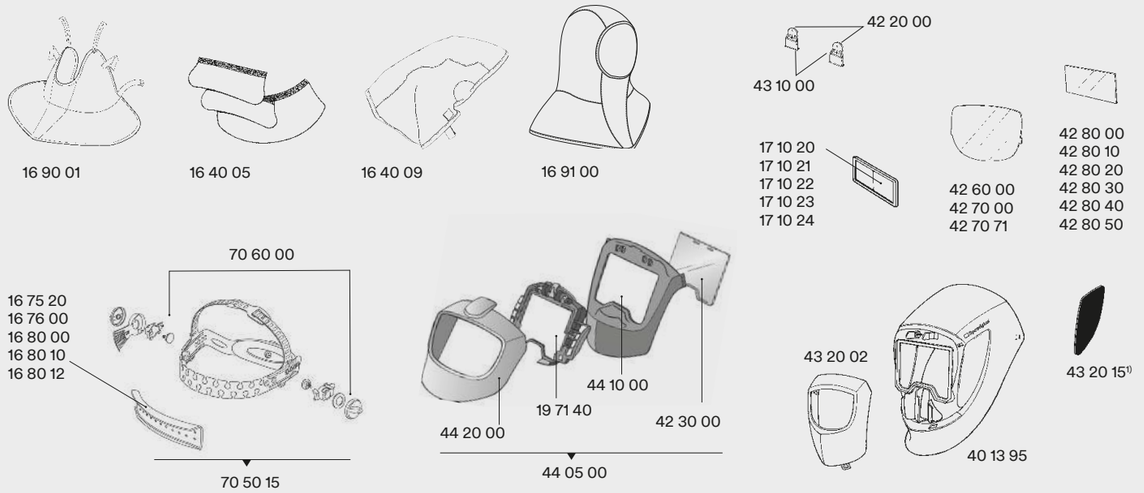


Part No	Description
10 00 03	3M welding filter 10V, shade 10–12.
10 11 80	Welding helmet 10-QR, without filter, without safety helmet.
10 11 95	Welding helmet 10V without headband, without welding filter.
12 60 00	Outer protection plate.
16 40 05	Ear and neck protection in leather (3 parts).
16 50 05	Headband with assembly parts.
16 60 00	Assembly parts for headband.
16 74 10	Sweatband.
19 71 39	Quick release rail for safety helmet.
19 71 42	Rubber friction pads for quick release rail.
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.
42 80 00	Inner cover plate pkg of 5. Plate marking 42 02 00.
73 10 00	Battery cover.
H-701N-VI1)	White 3M™ Safety Helmet H-701R (unvented), with ratchet suspension.

1) Many alternative colours available, see page 95

3M™ Speedglas™ Welding Helmets FlexView / ProTop / Utility

Spare parts for 3M™ Speedglas™ Welding Helmets FlexView / ProTop / Utility



Part No	Description
16 40 05	Ear and neck protection in leather.
16 40 09	Head protection.
16 75 20	Sweatband towelling, pkg of 2.
16 76 00	Sweatband towelling, pkg of 20.
16 80 00	Sweatband, leather.
16 80 10	Sweatband, fleecy cotton (long), pkg of 2.
16 90 01	Neck protection.
16 91 00	Hood.
17 10 15	Holder for magnifying lens (not shown).
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 40	Holder for welding filter (FlexView).
19 71 41	Locking wedge kit, holder welding filter (FlexView).
42 20 00	Battery CR2032 Lithium 3V, 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.
42 70 00	Outer protection plate, scratch resistant, pkg of 10. Plate marking 42 01 00.
42 70 71	Outer protection plate, heat resistant, pkg of 10. Plate marking 42 01 71 HEAT.
42 80 00	Inner cover plate (42×91 mm) pkg of 5. Plate marking 42 02 00.
42 80 10	Inner cover plate (53×103 mm) pkg of 5. Plate marking 42 02 10.
42 80 20	Inner cover plate (42×91 mm), +1 Shade for 9002D/9002V filters, pkg of 5.
42 80 30	Inner cover plate (53×103 mm), +1 Shade pkg of 5.
42 80 40	Inner cover plate (42×91 mm), +2 Shade pkg of 5.
42 80 50	Inner cover plate (53×103 mm), +2 Shade pkg of 5.
43 10 00	Battery cover, pkg of 2.
43 20 02	Front cover.
40 13 95	Helmet without side windows, without headband, without welding filter.
43 20 15[1)]	Side windows cover plate (sticker), 5 pairs.
44 05 00	Speedglas FlexView Conversion Kit.
44 10 00	Middle helmet FlexView, black.
44 20 00	Front cover FlexView, silver.
70 50 15	Headband with assembly parts.
70 60 00	Assembly parts for headband.

1) Please use Part No 40 18 90 when new side windows are required.

Welding and grinding respiratory systems

3M™ Speedglas™ Welding Helmets

9100 FX-Air

9100 Air

9100 MP

9100 MP-Lite

3M™ Versaflo™ Headtops

M-107

M-307

M-407

3M™ Adflo™ Powered Air Respirator

3M™ Adflo™ High-Altitiude Powered Air Respirator[2]

3M™ Versaflo™ Supplied Air Regulators

V-100E
Air Cooling

V-200E
Air Heating

V-500E
Flow Controlled

Breathing tubes[3]

The QRS (Quick Release Swivel) breathing tubes allow fast and easy connection. Most systems comes with the self-adjusting length for improved fit, made in polyurethane (834016). As an alternative the high durability rubber tube (834017) is sold separatelly.

Breathing tubes

The QRS (Quick Release Swivel) breathing tubes allow fast and easy connection. Most systems comes with the self-adjusting length for improved fit, made in polyurethane (834016). As an alternative the high durability rubber tube (834017) is sold separatelly.

Filters and accessories

1. **Prefilter**[1]
2. **Particle filter**[1]
3. **Odour filter**
   Not needed when you use gas filter.
4. **Heavy-duty battery**
   Extends the operation hours to 10–13 hours (7–9 hours with standard battery).
5. **Gas filter A1B1E1**[3]
6. **Gas filter A2**[3]
7. **Braces**
8. **Backpack**

More information about Adflo accessories **see page 84.**

Air Supply

1. **3M™ Aircare™ Filtration Units** (wall-mounted or stand alone)
2. **Couplings and branch sets**
3. **Air supply tubes** (7,5–30 m)

More information about air supply **see page 86.**

1) Included as standard when you order a complete respiratory system with welding helmet and air delivery unit; must always be used.
2) For welders working at higher altitudes there is a special respirator version to adjust for changes in air density: 3M™ Adflo™ High Altitude Turbo.
3) Gas filter must always be used together with a particle filter and we recommend to use a heavy-duty battery (sold separately: 83 76 31). In some configurations it is also required to use a breathing tube with silencer (non-QRS: 83 40 08) in combination with a QRS breathing tube adapter (53 35 05), always verify approved combinations with your Safety Engineer or contact a certified Industrial Hygenist for advice.

Still using an older version of our welding respiratory helmets?

Did you know you can easily upgrade to our current premium welding helmets, without buying a new Adflo or Versaflo system?

Our 9100 series helmets feature the QRS (Quick Release Swivel) type of breathing tube, which enables one-handed connection and release.

Below you will find ordering information to get a helmet kit, including welding filter and breathing tube. To help protect your new helmet system from scratches, we include a special Speedglas storage bag for free.

3M™ Speedglas™ Welding Helmet 9100-Air

Part No	Description
56 90 15	Welding helmet 9100-Air with welding filter 9100X (54×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
56 90 25	Welding helmet 9100-Air welding filter 9100XX (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
56 90 26	Welding helmet 9100-Air welding filter 9100XXi (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.

3M™ Speedglas™ Welding Helmet 9100 FX-Air

Part No	Description
54 90 15	Welding helmet 9100 FX-Air welding filter 9100X (54×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
54 90 25	Welding helmet 9100 FX-Air welding filter 9100XX (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
54 90 26	Welding helmet 9100 FX-Air welding filter 9100XXi (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.

3M™ Speedglas™ Welding Helmet 9100MP

Part No	Description
57 90 15	Welding helmet 9100MP welding filter 9100X (54×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
57 90 25	Welding helmet 9100MP welding filter 9100XX (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.
57 90 26	Welding helmet 9100MP welding filter 9100XXi (73×107 mm), self-adjusting QRS breathing tube (52.5 to 85 cm) and storage bag.

3M™ Adflo™ Powered Air Respirator

Respirator without headtop – standard battery

Part No	Description
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.

For gas filter configuration we recommend using the Adflo respirator with heavy-duty battery.

Respirator without headtop – heavy duty battery

Part No	Description
83 77 31	Adflo respirator with self-adjusting breathing tube QRS, breathing tube adapter, airflow indicator, prefilter, spark arrestor, particle filter, heavy-duty battery, belt and charger.

For gas filter configuration please add these items to above order:
83 72 42 for gas filter A1B1E1, or
83 75 42 for gas filter A2.

High Altitude Respirator – standard or heavy duty battery

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

For gas filter configuration please add these items to above order:
83 72 42 for gas filter A1B1E1, or
83 75 42 for gas filter A2.

Standard battery

Don't get weighted down. A lightweight lithium-ion battery pack designed for the Adflo respirator.

- Run time 7–9 hours[1)]
- Charging time 4 hours
- Compact and lightweight

Heavy-duty battery

Find your endurance. A high-capacity lithium-ion battery pack extends the operating hours of the respirator.

- Long run time 10–13 hours[1)]
- Charging time 5.5 hours
- Compact and lightweight

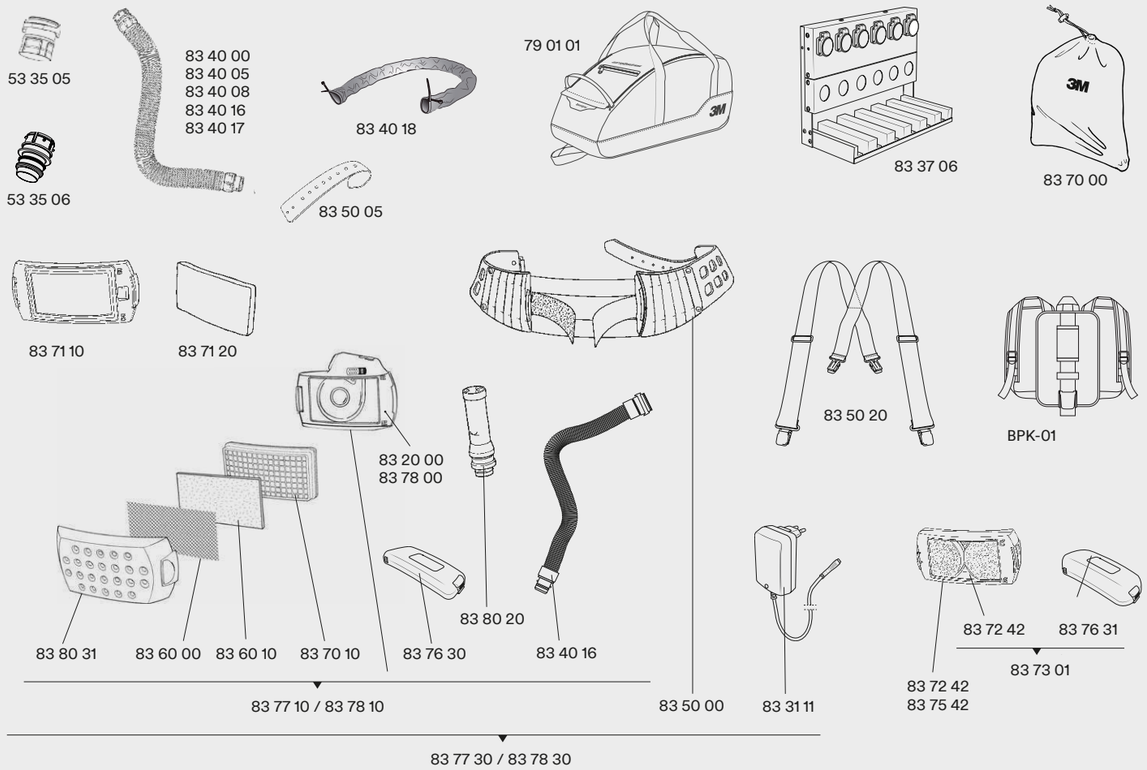
3M™ Adflo™ Battery Charger Organizing Stand

The 6-position battery charger organizing stand for Adflo battery chargers 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

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

Spare parts & accessories 3M™ Adflo™ Powered Air Respirator



Part No	Description
53 35 05	Adapter for non-QRS breathing tubes when using Speedglas welding helmet series 9100.
53 35 06	Adapter for QRS breathing tubes when using Speedglas welding helmet series 9000.
79 01 01	Product carry bag.
80 60 20	Backpack.
83 20 00	Turbo assembly, without filter, without filter cover.
83 31 11	Battery charger for Li-ion batteries.
83 37 06	Battery charger organizing stand 6-position.
83 40 00	Breathing tube, lightweight, non-QRS.
83 40 05	Breathing tube, heavy-duty rubber, non-QRS.
83 40 08	Breathing tube with silencer, non-QRS.
83 40 16	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.
83 40 17	Breathing tube, heavy-duty rubber (80 cm), with QRS connection.
83 40 18	Flame resistant breathing tube cover.
83 50 00	Belt.
83 50 05	Front part, belt.
83 50 10	Quick connection for belt (not shown).
83 50 20	Braces.
83 60 00	Spark arrestor.
83 60 10	Prefilter, pkg of 5.
83 60 80	Prefilter, pkg of 80.
83 70 00	Storage bag.
83 70 10	Particle filter P SL.
83 70 12	Particle filter P SL, pkg of 2.
83 70 20	Particle filter P SL, pkg of 20.
83 70 80	Particle filter P SL, pkg of 80.
83 71 10	Odour filter.
83 71 20	Odour filter pad.
83 72 42	Gas filter A1B1E1.
83 73 01	Gas filter kit: A1B1E1 filter and Li-ion Heavy-Duty battery.
83 75 42	Gas filter A2.
83 76 30	Li-ion Battery (standard).
83 76 31	Li-ion Battery Heavy-Duty.
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 78 00	Turbo assembly High Altitude, without filter, without filter cover.
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 80 20	Airflow indicator.
83 80 31	Filter cover black.
BPK-01	Backpack.

3M™ Versaflo™ Supplied Air Regulators

Versaflo supplied air regulator V-500

Part No	Description
V-500E	Flow controlled supplied air regulator, including belt.

Versaflo supplied air regulator V-100

Part No	Description
V-100E	Air cooling supplied air regulator, including belt.

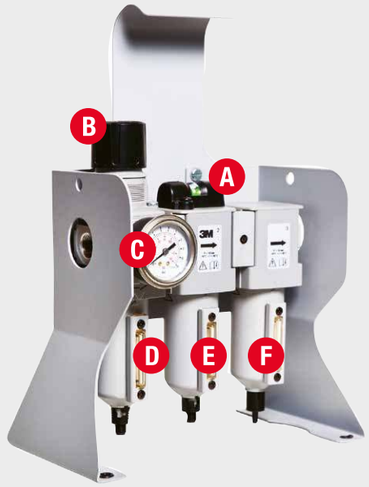
Versaflo supplied air regulator V-200

Part No	Description
V-200E	Air heating supplied air regulator, including belt.

3M™ Aircare™ Filtration Systems

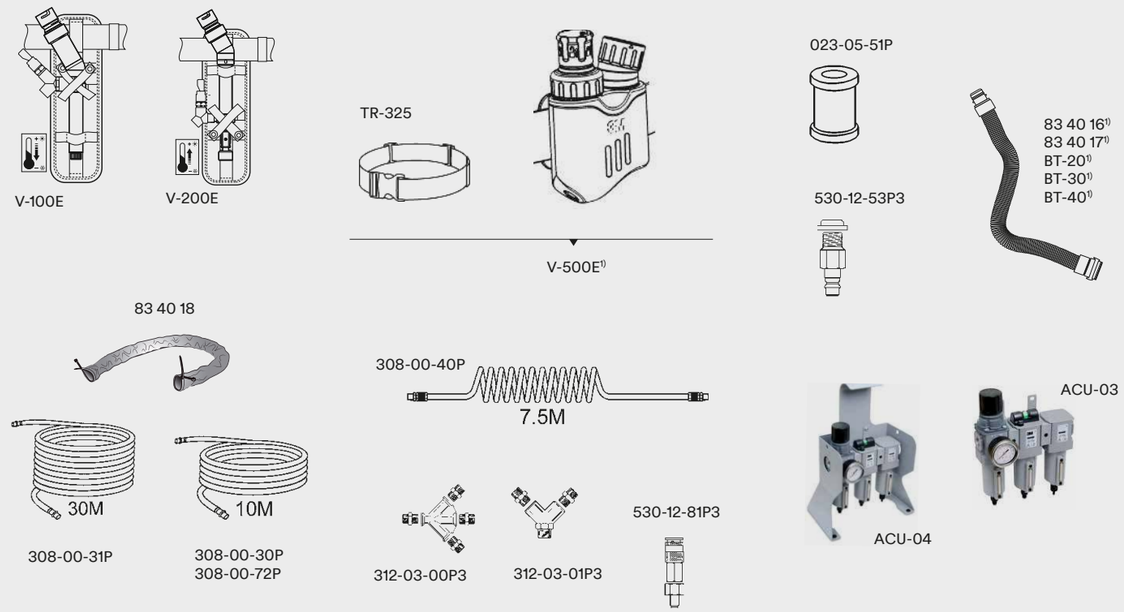
To make the quality of the air supply breathable, oil aerosols, water vapour, particulates, and non-toxic, unpleasant odours must be removed to EN 12021 requirements. The 3M™ Aircare™ Filtration Systems ACU-3 (wall mount) and ACU-4 (floor mount) provide three-stage filtration for up to three users or two users plus an air tool.

- **A** Differential pressure indicator
- **B** Pressure regulator (lockable)
- **C** Pressure gauge
- **D** Pre-filter
  Semi Auto Drains (stage 1, 2) and Manual Drain (stage 3)
- **E** Coalescing filter
- **F** Absorber filter with activated charcoal



Select type of regulator	Select Belt Unit Coupling Plug (1/4" BSP)	Select type of Air Supply Tube (Output 3/8" BSP - both ends)	Select Coupling Set for Air Supply Tube (3/8" BSP)	Select type of Branch Set (incl 3/8" BSP adapters)	Select Air Filtration Unit Input: 1/2" or 3/8" female thread BSP. (2 adapters included – 3/8" BSP to 3/8" male pipe thread BSP. Output: 3/8" BSP.
V-100E: Air cooling regulator V-100.	**530-12-52P3:** Coupling plug Rectus 25.	**308-00-30P:** 10 m standard duty hose.	**530-12-81P3:** Coupling set Rectus 95.	**312-03-00P3:** 3-Way Branch Set.	**ACU-03:** 3M™ Aircare™ Filtration System (wall mounted)
V-200: Air heating regulator V-200.	**530-12-53P3:** Coupling plug Rectus 95.	**308-0031P:** 30 m standard duty hose.	**530-12-82P3:** Coupling set Rectus 25.	**312-03-01P3:** 2-Way Branch Set.	**ACU-04:** 3M™ Aircare™ Filtration System (stand alone).
V-500E: Flow controlled regulator V-500.		**308-00-40P:** 7.5 m coiled hose.			
		308-00-72P: 10 m standard duty, antistatic, high temperature hose.			

Spare parts & accessories for 3M™ Versaflo™ Supplied Air Regulators



Part No	Description	Part No	Description	Part No	Description
83 40 16[1)]	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection for Speedglas welding helmets.	**312-03-00P3**	3-way manifold.	**BT-30[1)]**	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection, for Versaflo headtops M-Series.
83 40 17[1)]	Breathing tube, heavy-duty rubber (80 cm), with QRS connection for Speedglas welding helmets.	**312-03-01P3**	2-way manifold.	**BT-40[1)]**	Breathing tube, heavy-duty rubber (80 cm), with QRS connection, for Versaflo headtops M-Series.
83 40 18	Flame resistant breathing tube cover.	**530-12-53P3**	Belt unit coupling plug - CEJN.	**TR-325**	Belt.
023-05-51P	Carbon filter.	**530-12-81P3**	Socket and plug - CEJN.	**V-100E**	Versaflo air cooling supplied air regulator V-100E, with belt.
308-00-30P	Standard duty air supply tube, 10 m.	**ACU-03**	3M™ Aircare™ Filtration System (wall mounted).	**V-200E**	Versaflo air heating supplied air regulator V-200E, with belt.
308-00-31P	Standard duty air supply tube, 30 m.	**ACU-04**	3M™ Aircare™ Filtration System (stand alone).	**V-500E**	Versaflo flow controlled supplied air regulator V-500E with belt.
308-00-40P	Coiled air supply tube, 7.5 m.	**BT-20L[1)]**	Breathing tube with QRS connection, polyurethane (length 96,5 cm), for Versaflo headtops M-Series.		
308-00-72P	Standard duty, anti-static, high temp air supply tube, 10 m.	**BT-20S[1)]**	Breathing tube with QRS connection, polyurethane (length 73,5 cm), for Versaflo headtops M-Series.		

1) When the V-500E regulator is used with Versaflo headtops M-Series, the BT-Series breathing tubes must be used.

3M™ Speedglas™ Welding Helmet 9100-Air Systems

Helmet systems with powered air

Part No	Description
56 77 00[1]	Without welding filter, with Adflo powered air respirator.
56 77 15[1]	With Speedglas welding filter 9100X (54×107 mm) and Adflo powered air respirator.
56 77 25[1]	With Speedglas welding filter 9100XX (73×107 mm) and Adflo powered air respirator.
56 77 26[1]	With Speedglas welding filter kit 9100XXi, incl welding filter (73×107 mm) and front cover, with Adflo powered air respirator.

Helmet systems with supplied air

Part No	Description
56 85 00[1]	Without welding filter, with Versaflo supplied air regulator V-500E.

Please note, supplied air regulators with heating or cooling (V-100/V-200) only as separate order (not as system), see page 17 and 20.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
50 00 01	Passive filter kit 9100 (90×110 mm), shade 11.
50 00 05	Auto-darkening filter 9100V (45×93 mm), variable shade 5, 8, 9–13.
50 00 15	Auto-darkening filter 9100X (54×107 mm), variable shade 5, 8, 9–13.
50 00 25	Auto-darkening filter 9100XX (73×107 mm), variable shade 5, 8, 9–13.
50 00 26	Auto-darkening filter 9100XXi (73×107 mm), variable shade 5, 8, 9–13.

Maintenance tips for 3M™ Speedglas™ Welding Helmet 9100-Air

Subscribe to our YouTube channel to learn more about product features and maintenance. A few examples:

Scan QR-code or use this URL:

www.youtube.com/3MSpeedglas

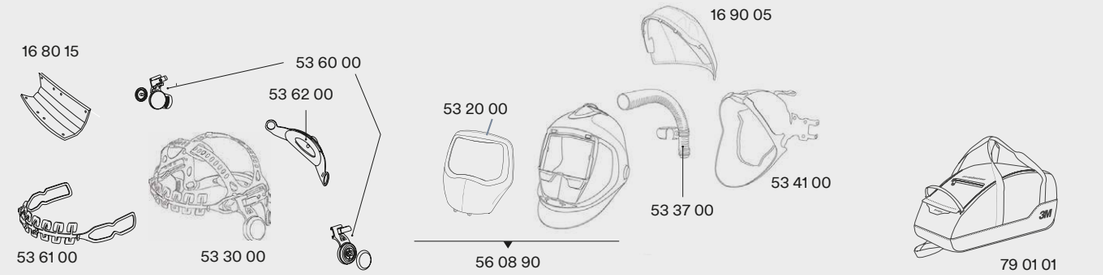
Adjust the air duct length to your personal preferences.

A face seal in good working order is essential at all times. Do you know how to replace it?

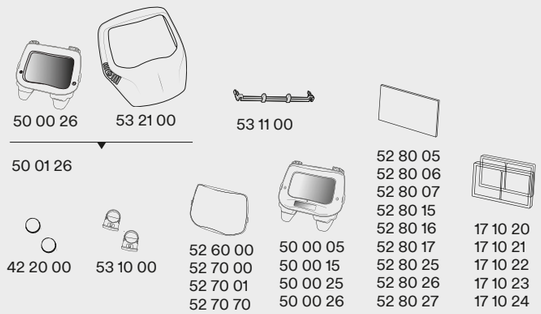
For additional protection against sparks or to cover for inside glare the extended head cover might be useful.

1) With storage bag (79 01 01)

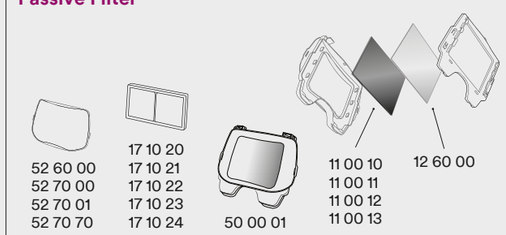
Spare parts & accessories for 3M™ Speedglas™ Welding Helmet 9100-Air



Auto-darkening Filter



Passive Filter



Part No	Description
16 80 15	Comfort sweatband, pkg of 3.
16 90 05	Head protection.
16 90 10	Neck protection.
16 91 00	Hood.
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.
42 20 00	Battery CR2032 Lithium 3V, 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
50 01 26	Speedglas welding filter kit 9100XXi (incl front cover and welding filter).
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.
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 117×50.
52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.
52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.
52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.
52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
52 80 25	Inner cover plate for 9100XX/9100XXi filters, pkg of 5. Plate marking 117×77.
52 80 26	Inner cover plate, +1 shade for 9100XX/9100XXi filters, pkg of 3.
52 80 27	Inner cover plate, +2 shade for 9100XX/9100XXi filters, pkg of 3.
53 10 00	Battery holder, pkg of 2.
53 20 00	Heat-reflecting front cover 9100.
53 20 15[1]	Side windows cover plate, 2 pairs.
53 21 00	Heat-reflecting front cover 9100XXi.
53 30 00	Headband with assembly parts.
53 37 00	Air duct.
53 41 00	Face seal.
53 60 00	Pivot mechanism, left and right.
53 61 00	Headband front part.
53 62 00	Headband back part.
56 08 90[1]	Speedglas welding helmet 9100 Air without headband, without air duct, without face seal, without welding filter.
56 28 00	Speedglas welding helmet 9100 Air, without welding filter.
79 01 01	Product storage bag.

1) Please use Part No 56 08 90 when new side windows are required.

3M™ Speedglas™ Welding Helmet 9100 FX-Air

Helmet systems with powered air

Part No	Description
54 77 00[1]	Without welding filter, with Adflo powered air respirator.
54 77 15[1]	With Speedglas welding filter 9100X (54×107 mm) and Adflo powered air respirator.
54 77 25[1]	With Speedglas welding filter 9100XX (73×107 mm) and Adflo powered air respirator.
54 77 26[1]	With Speedglas welding filter kit 9100XXi, incl welding filter (73×107 mm) and front cover, with Adflo powered air respirator.

Helmet systems with supplied air

Part No	Description
54 88 00[1]	Without welding filter, with Versaflo supplied air regulator V-500E.

Please note, supplied air regulators with heating or cooling (V-100/V-200) only as separate order (not as system), see page 17 and 20.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
50 00 01	Passive filter kit 9100 (90×110 mm), shade 11.
50 00 05	Auto-darkening filter 9100V (45×93 mm), variable shade 5, 8, 9–13.
50 00 15	Auto-darkening filter 9100X (54×107 mm), variable shade 5, 8, 9–13.
50 00 25	Auto-darkening filter 9100XX (73×107 mm), variable shade 5, 8, 9–13.
50 00 26	Auto-darkening filter 9100XXi (73×107 mm), variable shade 5, 8, 9–13.

Maintenance tips for 3M™ Speedglas™ Welding Helmet 9100 FX-Air

Subscribe to our YouTube channel to learn more about product features and maintenance. A few examples:

Scan QR-code or use this URL:

www.youtube.com/3MSpeedglas

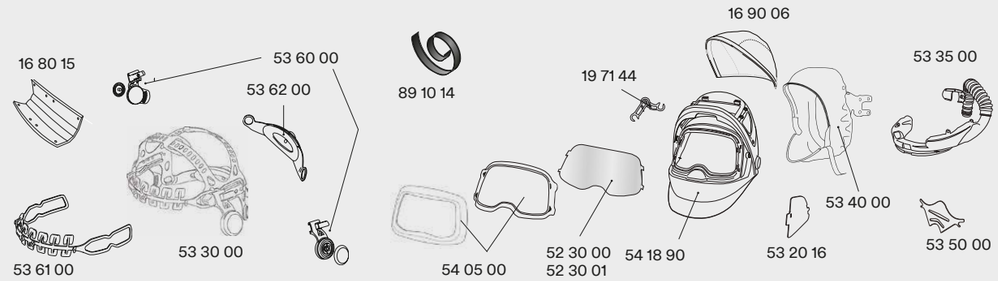
It is important that the face seal is correctly mounted and fitted to provide the correct protection factor.

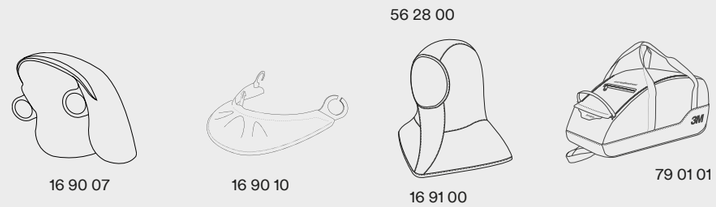
Is your clear visor not so clear anymore, after periods of frequent grinding? From our YouTube channel you will learn how to replace it.

If you need additional protection for your head, find out how to assemble the head cover for additional protection against sparks here.

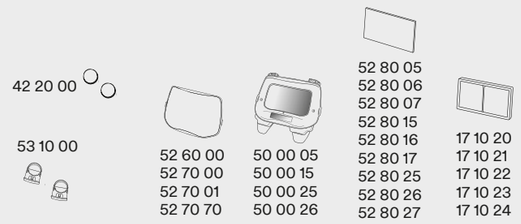
1) With storage bag (79 01 01)

Spare parts & accessories for 3M™ Speedglas™ Welding Helmet 9100 FX-Air

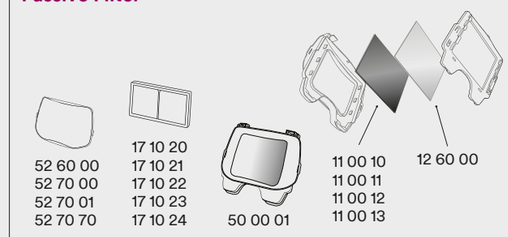




Auto-darkening Filter



Passive Filter



Part No	Description
16 80 15	Comfort sweatband, pkg of 3.
16 90 06	Head protection, (small).
16 90 07	Head protection, (large).
16 90 10	Neck protection.
16 91 00	Hood.
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 44	Hinge mechanism, 2 pcs
42 20 00	Battery CR2032 Lithium 3V, 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 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.
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 117×50.
52 80 06	Inner cover plate, +1 shade for 9100V filters, pkg of 3.
52 80 07	Inner cover plate, +2 shade for 9100V filters, pkg of 3.
52 80 15	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.
52 80 16	Inner cover plate, +1 shade for 9100X filter, pkg of 3.
52 80 17	Inner cover plate, +2 shade for 9100X filter, pkg of 3.
52 80 25	Inner cover plate for 9100XX/9100XXi filters, pkg of 5. Plate marking 117×77.
52 80 26	Inner cover plate, +1 shade for 9100XX/9100XXi filters, pkg of 3.
52 80 27	Inner cover plate, +2 shade for 9100XX/9100XXi filters, pkg of 3.
53 10 00	Battery holder, pkg of 2.
53 20 16	Side windows cover plate, 2 pairs.
53 30 00	Headband with assembly parts.
53 35 00	Air duct.
53 40 00	Face seal.
53 50 00	Air deflector parts.
53 60 00	Pivot mechanism, left and right.
53 61 00	Headband, front part.
53 62 00	Headband, back part.
54 05 00	Front cover kit.
54 18 90	Helmet without welding filter, without face seal, without air duct, without headband.
54 28 00	Helmet without welding filter, with headband.
79 01 01	Product storage bag.
89 10 14	Velcro for head cover, pkg of 2.
89 10 15	9100 FX Air service kit (not shown).

3M™ Speedglas™ Welding Helmets 9100 MP/9100 MP-Lite

Helmet systems with powered air

Part No	Description
57 77 00[1]	Welding helmet 9100MP without welding filter, with Adflo powered air respirator.
59 77 00[1]	Welding helmet 9100MP-Lite without welding filter, with Adflo powered air respirator.
57 77 15[1]	Welding helmet 9100MP with welding filter 9100X (54×107 mm) and Adflo powered air respirator.
57 77 25[1]	Welding helmet 9100MP welding filter 9100XX (73×107 mm) and Adflo powered air respirator.
57 77 26[1]	Welding helmet 9100MP welding filter 9100XXi (73×107 mm) and Adflo powered air respirator.

Helmet systems with supplied air

Part No	Description
57 85 00[1]	Welding helmet 9100MP without welding filter, with Versaflo supplied air regulator V-500E.
59 88 00[1]	Welding helmet 9100MP-Lite without welding filter, with Versaflo supplied air regulator V-500E.

Please note, supplied air regulators with heating or cooling (V-100/V-200) only as separate order (not as system), see page 15 and 20.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
50 00 01	Passive filter kit 9100 (90×110 mm), shade 11.
50 00 05	Auto-darkening filter 9100V (45×93 mm), variable shade 5, 8, 9–13.
50 00 15	Auto-darkening filter 9100X (54×107 mm), variable shade 5, 8, 9–13.
50 00 25	Auto-darkening filter 9100XX (73×107 mm), variable shade 5, 8, 9–13.
50 00 26	Auto-darkening filter 9100XXi (73×107 mm), variable shade 5, 8, 9–13.

Maintenance tips for 3M™ Speedglas™ Welding Helmet 9100 MP

Subscribe to our YouTube channel to learn more about product features and maintenance. A few examples:

Scan QR-code or use this URL:

www.youtube.com/3MSpeedglas

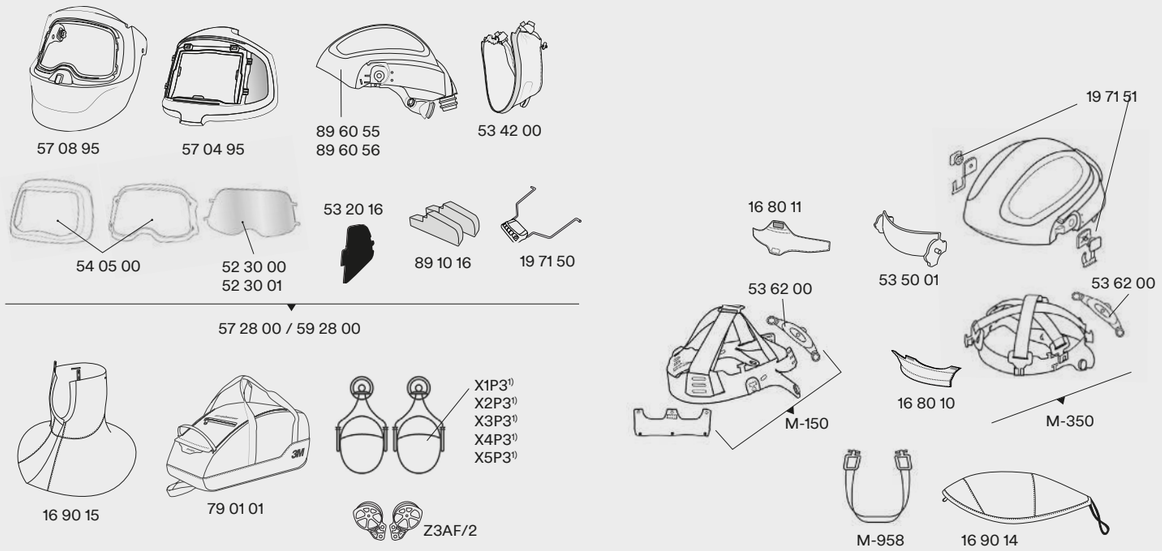
Need to re-fresh the head protection on your 9100MP? Find out how to remove the safety helmet.

Learn how to install the heat-reflecting, silver-coated helmet cover, helping to shed dust and particles from your helmet.

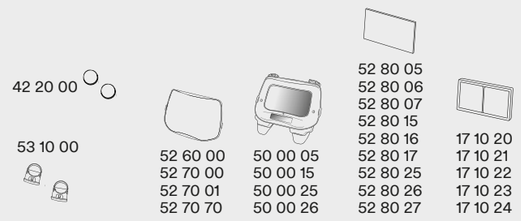
Need higher attenuation for your hearing protection, or is it just time to replace the old ones? See how to assemble the ear muffs in this video.

1) With storage bag (79 01 01)

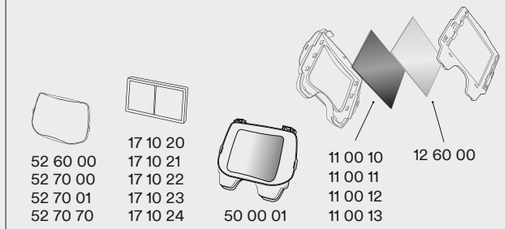
Spare parts & accessories for 3M™ Speedglas™ Welding Helmets 9100 MP/9100 MP-Lite



Auto-darkening Filter



Passive Filter

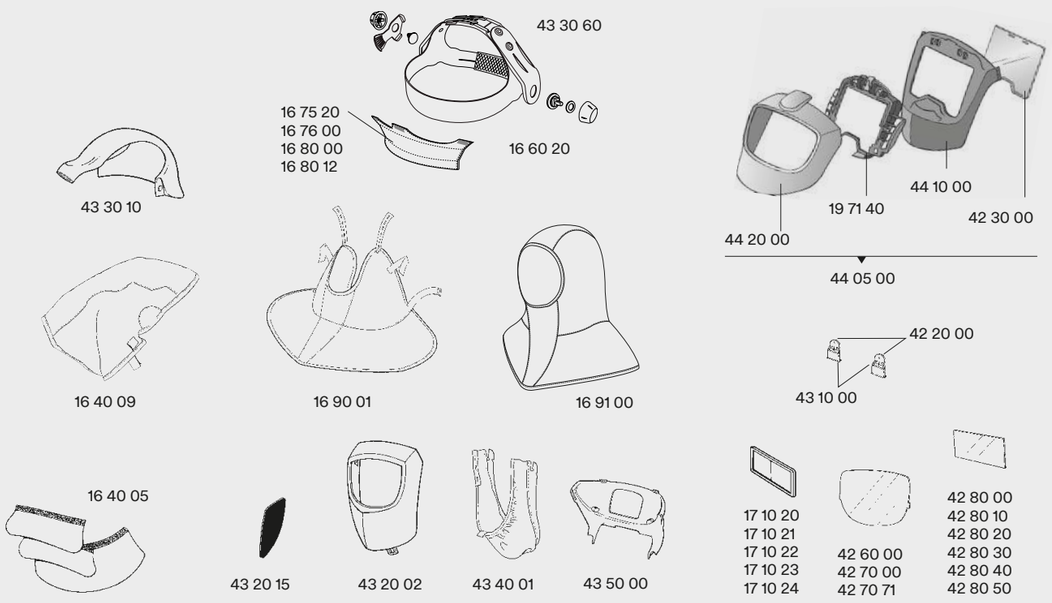


Part No	Description	Part No	Description	Part No	Description
16 80 10	Sweatband 9100 MP, pkg of 2.	**52 70 01**	Outer protection plate extra scratch resistant, pkg of 10.	**53 50 01**	Helmet air flow deflector for 9100 MP-Lite.
16 80 11	Sweatband 9100 MP-Lite, for TH3 level of protection pkg of 2 (not included in M-150).	**52 70 70**	Outer protection plate heat resistant, pkg of 10.	**53 62 00**	Headband ratchet.
16 90 01	Neck protection.	**52 80 05**	Inner cover plate for 9100V filter, pkg of 5. Plate marking 117×50.	**54 05 00**	Front cover kit.
16 90 14	Safety helmet cover.	**52 80 06**	Inner cover plate, +1 shade for 9100V filters, pkg of 3.	**57 04 95**	Outer shield.
16 90 15	Shroud.	**52 80 07**	Inner cover plate, +2 shade for 9100V filters, pkg of 3.	**57 08 95**	Inner shield.
17 10 20	Magnifying lens 1.0.	**52 80 15**	Inner cover plate for 9100X filter, pkg of 5. Plate marking 117×61.	**57 28 00**	Welding helmet 9100MP, without welding filter.
17 10 21	Magnifying lens 1.5.	**52 80 16**	Inner cover plate, +1 shade for 9100X filter, pkg of 3.	**59 28 00**	Welding helmet 9100 MP-Lite, without welding filter.
17 10 22	Magnifying lens 2.0.	**52 80 17**	Inner cover plate, +2 shade for 9100X filter, pkg of 3.	**89 60 55**	Safety helmet 9100 MP, incl head suspension and sweatband.
17 10 23	Magnifying lens 2.5.	**52 80 25**	Inner cover plate for 9100XX/9100XXi filters, pkg of 5. Plate marking 117×77.	**89 60 56**	Safety helmet 9100 MP-Lite, incl head suspension and sweatband.
17 10 24	Magnifying lens 3.0.	**52 80 26**	Inner cover plate, +1 shade for 9100XX/9100XXi filters, pkg of 3.	**79 01 01**	Product storage bag.
19 71 50	Flip-up mechanism.	**52 80 27**	Inner cover plate, +2 shade for 9100XX/9100XXi filters, pkg of 3.	**M-150**	Head suspension for 9100 MP-Lite.
19 71 51	Pivot kit.	**53 10 00**	Battery holder, pkg of 2.	**M-350**	Head suspension for 9100 MP.
42 20 00	Battery CR2032 Lithium 3V, pkg of 2.	**53 20 16**	SideWindow cover plates.	**M-958**	Chin strap.
50 00 05	Speedglas welding filter 9100V.	**53 42 00**	Face seal.	**X1P3**	3M™ Peltor™ Ear Muffs X1 (26 dB).[1]
50 00 15	Speedglas welding filter 9100X.			**X2P3**	3M™ Peltor™ Ear Muffs X2 (30 dB).[1]
50 00 25	Speedglas welding filter 9100XX.			**X3P3**	3M™ Peltor™ Ear Muffs X3 (32 dB).[1]
50 00 26	Speedglas welding filter 9100XXi.			**X4P3**	3M™ Peltor™ Ear Muffs X4 (32 dB).[1]
52 30 00	Visor plate, standard, pkg of 5.			**X5P3**	3M™ Peltor™ Ear Muffs X5 (36 dB).[1]
52 30 01	Visor plate, anti-fog, pkg of 5.			**Z3AF/2**	Helmet assembly parts for Peltor X-series ear muffs, left and right.
52 60 00	Outer protection plate, standard, pkg of 10.				
52 70 00	Outer protection plate scratch resistant, pkg of 10.				

1) Please add assembly parts Z3AF/2 when ordering ear muffs for 9100 MP and 9100 MP-Lite welding helmets.

3M™ Speedglas™ Welding Helmet Series 9000 for respiratory protection

Spare parts & accessories



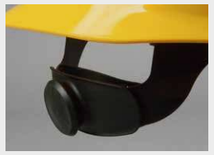
Part No	Description	Part No	Description	Part No	Description
16 40 05	Ear and neck protection in leather.	**42 60 00**	Outer protection plate, standard, pkg of 10. Plate marking 42 01 50.	**43 20 02**	Front cover.
16 40 09	Head protection.	**42 70 00**	Outer protection plate, scratch resistant, pkg of 10. Plate marking 42 01 00.	**43 20 15**	Side windows cover plate (sticker), 5 pairs.
16 60 20	Assembly parts for headband.	**42 70 71**	Outer protection plate, heat resistant, pkg of 10. Plate marking 42 01 71.	**43 30 00**	Headband with air duct.
16 75 20	Sweatband, towelling, pkg of 2.	**42 80 00**	Inner cover plate (42 × 91 mm), pkg of 5. Plate marking 42 02 00.	**43 30 10**	Air duct.
16 76 00	Sweatband, towelling, pkg of 20.	**42 80 10**	Inner cover plate (53 × 103 mm), pkg of 5. Plate marking 42 02 10.	**43 30 60**	Headband without air duct.
16 80 00	Sweatband, leather.	**42 80 20**	Inner cover plate (42×91 mm), +1 Shade, pkg of 5.	**43 40 01**	Face seal.
16 80 12	Sweatband, fleecy cotton, pkg of 2.	**42 80 30**	Inner cover plate (53×103 mm), +1 Shade, pkg of 5.	**43 50 00**	Air spreader.
16 90 01	Neck protection.	**42 80 40**	Inner cover plate (42×91 mm), +2 Shade, pkg of 5.	**44 05 00**	FlexView kit.
16 91 00	Hood.	**42 80 50**	Inner cover plate (53×103 mm), +2 Shade, pkg of 5.	**44 10 00**	Middle helmet FlexView, black.
17 10 20	Magnifying lens 1.0.	**43 10 00**	Battery cover, pkg of 2.	**44 20 00**	Heat-reflecting front cover FlexView, silver.
17 10 21	Magnifying lens 1.5.			**80 31 10**	Tightening kit for Speedglas 9000 welding helmet, not shown.
17 10 22	Magnifying lens 2.0.				
17 10 23	Magnifying lens 2.5.				
17 10 24	Magnifying lens 3.0.				
19 71 40	Holder for welding filter (FlexView).				
42 20 00	Battery CR 2032 Lithium 3V, pkg of 2.				
42 30 00	Protective visor plate FlexView, pkg of 10.				

3M™ Safety Helmet H-701

The 3M™ Speedglas™ Quick Release (QR) Rail allows you to attach a Speedglas welding helmet to many of the industry's most popular safety helmets.
3M offers complete QR welding helmet system including the white, unvented 3M™ Safety Helmet H-701. The safety helmet is available in 6 colours when you buy it separately, see below.

Internal slots for accessory earmuffs.

Ventilated headband and ratchet suspension for improved comfort.



For Quick Release (QR) welding helmets we offer the unvented safety helmet model (H-701N-VI) for optimal protection of sparks and radiation.

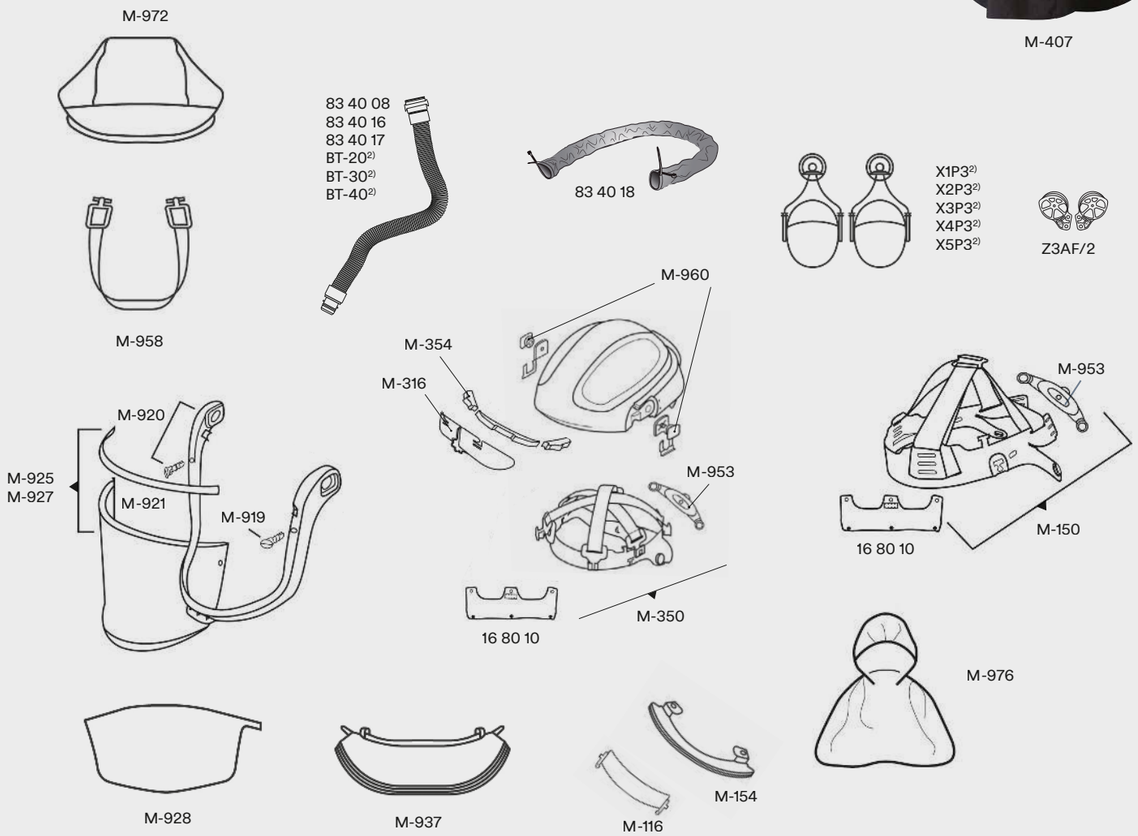
Applicable to
EN397:2012 + A1:2012.
Very low temperatur (-30 C)
Molten metal splash (MM)
Electrical insulation (440 Vac)

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

H-701N-GU | H-701N-VI | H-701N-OR | H-701N-GP | H-701N-BB | H-701N-RD

3M™ Versaflo™ M-Series Headtops

Spare parts & accessories



Part No	Description
16 80 10	Sweatband, fleecy cotton, pkg of 2.
83 40 08	Breathing tube with silencer, non-QRS.
83 40 16	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.
83 40 17	Breathing tube, heavy-duty rubber, with QRS connection.
83 40 18	Flame resistant breathing tube cover.
84 77 20	Versaflo faceshield M-107 with Adflo powered air respirator.
85 77 20	Versaflo helmet M-307 with Adflo powered air respirator.
BT-20 S&L[1)]	Breathing tube, polyurethane (in two lengths), with QRS connection.
BT-30[1)]	Breathing tube, self-adjusting (52,5 to 85 cm), with QRS connection.
BT-40[1)]	Breathing tube, heavy-duty rubber, with QRS connection.
M-116	Airflow deflector (M-107).
M-150	Head suspension (M-107).
M-154	Forehead seal (M-107).
M-316	Airflow deflector (M-307).
M-350	Head suspension (M-307).
M-354	Forehead seal (M-307).
M-919	Visor frame buttons.
M-920	Visor frame.
M-921	Visor gasket.
M-925	Visor standard (uncoated), molten metal splash protection to EN166.
M-927	Visor coated.
M-928	Peel-off visor cover.
M-937	Flame resistant faceseal.
M-953	Ratchet.
M-956	Ratchet comfort pad.
M-958	Chin strap.
M-960	Pivot kit.
M-972	Flame resistant headtop cover.
M-976	Head, neck and shoulder cover.
X1P3	3M™ Peltor™ Ear Muffs X1 (26 dB).[2)]
X2P3	3M™ Peltor™ Ear Muffs X2 (30 dB).[2)]
X3P3	3M™ Peltor™ Ear Muffs X3 (32 dB).[2)]
X4P3	3M™ Peltor™ Ear Muffs X4 (32 dB).[1)]
X5P3	3M™ Peltor™ Ear Muffs X5 (36 dB).[1)]
Z3AF/2	Helmet assembly parts for Peltor X-series ear muffs, left and right.
M-107	Faceshield M-107
M-307	Helmet M-307
M-407	Helmet with shroud M-407.

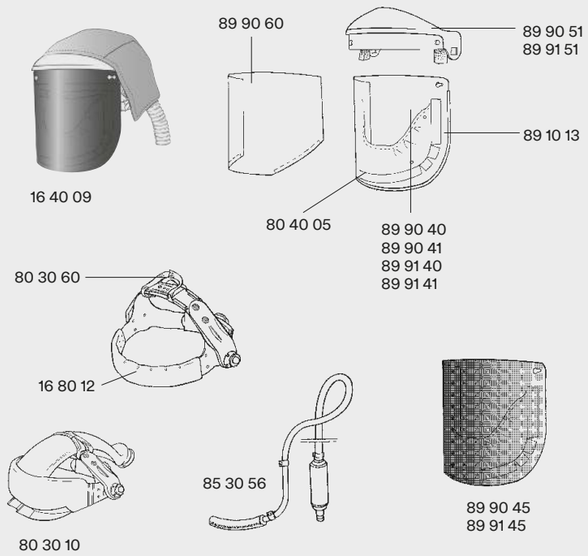
For powered air respirator options, please see page 18. For supplied air regulator options, see page 20.

1) When the V-500E regulator is used with Versaflo headtops M-Series, the BT-Series breathing tubes must be used.
2) Please add assembly parts Z3AF/2 when ordering ear muffs for Versaflo Headtops M-Series.

3M™ Protective Visor for respiratory protection

Spare parts

Part No	Description
16 40 09	Head cover 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.
85 30 56	Breathing tube, with nipple, silencer and fastening details.
89 10 13	Hook and loop Velcro face seal, pkg of 2.
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 (powered air).
89 90 60	Protection film, pkg of 5.
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 (supplied air).



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Product features

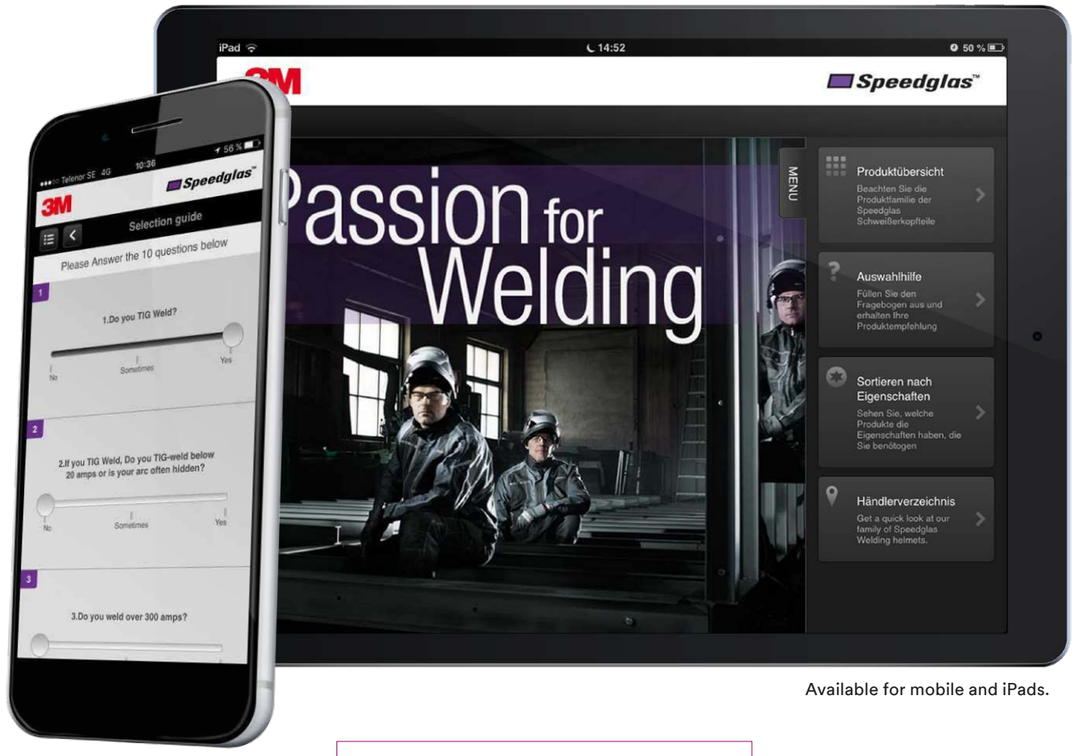
More details about the product features referenced on pages 29–39

Auto-ON	A motion-sensor instantly turns ON the 3M™ Speedglas™ Welding Filter 9100XXi when you pick up the helmet.
Exhaust vents	Exhaust vents readily direct your exhaled air out of the helmet and reduces the likelihood of a foggy welding filter.
Flip-up	The 3M™ Speedglas™ Welding Helmets 9100 FX and 9100 FX-Air have a flip-up combination of an auto-darkening welding helmet and a big, curved 17×10 cm clear protective visor. In a quick lift of the silver front you get a clear view, great for precision grinding in low light conditions.
Graphics	3M™ Speedglas™ Welding Helmet Series 100 deliver impressive protection with distinctive graphic designs – all with a specific identity. Find them all at page 78.
Head protection	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. The 3M™ Speedglas™ Welding Helmet 9100 MP offers a safety helmet approved to EN 397 440 Vac, LD. As a lighter alternative we now introduce the 3M™ Speedglas™ Welding Helmet 9100 MP-Lite, incorporating a bump cap approved according to EN 812.
Mechanical strength	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). **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). 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.
Natural Colour Technology	3M™ Speedglas™ Natural Colour Technology may allow you to see your weld pool more accurately. And read surfaces better. Plus you can better discern coloured machine controls and displays while looking through the welding filter. More details on page 14-15.
Powered air respirator	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%.
Side windows	Side windows – shade 5 filters that widen your field of vision. The first time a welder puts on a Speedglas welding helmet with side windows you can see his startled reaction. Previously hidden peripherial hazards (beams, obstacles, other workers) are now easier to see through the two, shade 5 side filters.
Supplied air	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.

Helmet selection guide

Which welding helmet?

Your personal guidance to Speedglas™ Welding Helmets.
Answer 10 questions on your mobile to find recommendations to the welding helmets best suited to your specific needs.



Available for mobile and iPads.

Just scan this QR-code or use the webaddress:

app.speedglas.com

The selector geotarget your location, see the available country versions listed below:

3M Welding Centre of Excellence

Hundreds of thousands of times each day, welders all over the world rely on their 3M™ Speedglas™ products to achieve their best welding performance. A result of our close cooperation with welders, safety engineers and ergonomic specialists to constantly improve the performance and comfort of our products.

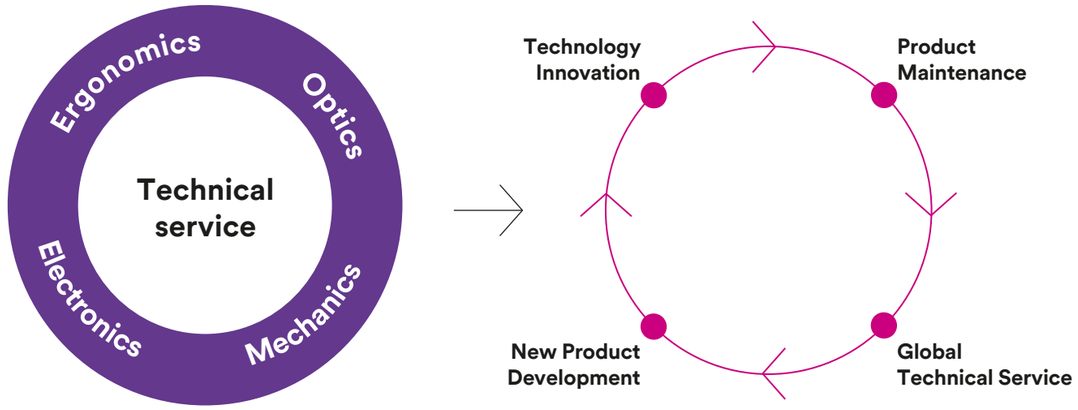
35 More than 35 years ago we turned the world of welding on its head by introducing the auto-darkening welding filter.

The Welding Lab in Gagnef has currently 25 employees and our business effort is that 3M should become the No 1 supplier of welding PPE that improves productivity and customers' profitability.

12 International Design Awards since 1996

8 **3M Program Awards:**
Circle of Technical Excellence & Innovation x3
Golden Step Award x3
Ace Award x2

3M Welding Lab Gagnef – Expert Areas



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Improving Situational Awareness & Communication in Noisy Environments

Date	Language	Speaker	Time (GMT)	Time (local)
20th Feb	English	Mohammed Saleem/ Magnus Johansson	10am-11am	10am-11am
21st Feb	French	Aldo Alaïs	10am-11am	11am-midday
22nd Feb	German	Joao Rosario	10am-11am	11am-midday
23rd Feb	Italian	Roberto Arteconi	10am-11am	11am-midday
24th Feb	Spanish	Juan José Caballero	10am-11am	11am-midday

Understanding Protection Factors (APFs/NPFs) in Respiratory Protective Equipment

Date	Language	Speaker	Time (GMT)	Time (local)
20th Mar	English	Stewart Ayrey	10am-11am	10am-11am
21st Mar	French	Remi Lepron	10am-11am	11am-midday
22nd Mar	German	Mario-Alexander	10am-11am	11am-midday
23rd Mar	Italian	Claudio Galbiati	10am-11am	11am-midday
24th Mar	Spanish	Javier de Isusi	10am-11am	11am-midday

Hearing Conservation Programmes & the Power of Fit Validation

Date	Language	Speaker	Time (GMT)	Time (local)
18th Apr	English	Mohammed Saleem	10am-11am	10am-11am
18th Apr	French	Martial Bouvin	10am-11am	11am-midday
19th Apr	German	Joao Rosario	10am-11am	11am-midday
20th Apr	Italian	Roberto Arteconi	10am-11am	11am-midday
21st Apr	Spanish	Juan José Caballero	10am-11am	11am-midday

A Guide to PPE Selection for Welders

Date	Language	Speaker	Time (GMT)	Time (local)
22nd May	English	Carina Haglund	10am-11am	10am-11am
23rd May	French	Aldo Alaïs/Manuel Froment	10am-11am	11am-midday
24th May	German	Christian Ripken	10am-11am	11am-midday
25th May	Italian	Miryam Lilov	10am-11am	11am-midday
26th May	Spanish	Juan José Caballero	10am-11am	11am-midday

Selection Considerations for Eye, Face & Head Protection

Date	Language	Speaker	Time (GMT)	Time (local)
25th Sept	English	Ian Kelsall	10am-11am	10am-11am
26th Sept	French	Martial Bouvin	10am-11am	11am-midday
27th Sept	German	Joao Rosario	10am-11am	11am-midday
28th Sept	Italian	Roberto Arteconi	10am-11am	11am-midday
29th Sept	Spanish	Patricia Pinheiro	10am-11am	11am-midday

The Importance of PPE Compatibility

Date	Language	Speaker	Time (GMT)	Time (local)
23rd Oct	English	Stewart Ayrey	10am-11am	10am-11am
24th Oct	French	Wahib Ouazzani	10am-11am	11am-midday
25th Oct	German	Georg Frank-Zumtobel	10am-11am	11am-midday
26th Oct	Italian	Miryam Lilov	10am-11am	11am-midday
27th Oct	Spanish	Javier de Isusi	10am-11am	11am-midday

Engineered Fall Protection Lifelines & Anchorages: The Essentials

Date	Language	Speaker	Time (GMT)	Time (local)
20th Nov	English	Stuart Linnitt	10am-11am	10am-11am
21st Nov	French	Manual Froment	10am-11am	11am-midday
22nd Nov	German	Stefan Haase	10am-11am	11am-midday
23rd Nov	Italian	Carlo Fiore Dragone	10am-11am	11am-midday
24th Nov	Spanish	Sergio Granero	10am-11am	11am-midday

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Source: HSE Research Report RR720 'Real world use and performance of hearing protection'

Notes

Ongoing customer support

To help keep your equipment working as it should, and to ensure you get the most from your investment, our support team at 3M is able to offer assistance on several levels:

Care & Maintenance Posters

Guidance on the appropriate maintenance checks is provided in the user instructions supplied with all new equipment. Our Care & Maintenance Posters make this information available on a day-to-day basis and are a strong and visual reminder.

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Based across the country and supporting 3M distributor network, our welding specialists have a sound understanding of national health and safety laws coupled with years of experience in the welding market.

Helpline

Call **0870 60 800 60 (UK)** or **1 800 320 500 (Ireland)** for any technical queries. For other countries please find your local contact information at **www.3M.com**.

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All the support material featured on this page can be downloaded and printed. Just visit:
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