



 **Speedglas™**
Welding Safety

3M™ Speedglas™ Welding Safety Catalog 2018

Do your best with our best welding helmets

#3MScienceofSafety



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 catalog—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.

If choosing a welding helmet is your most important criteria, see [Your eyes, face and head](#) on page 22.

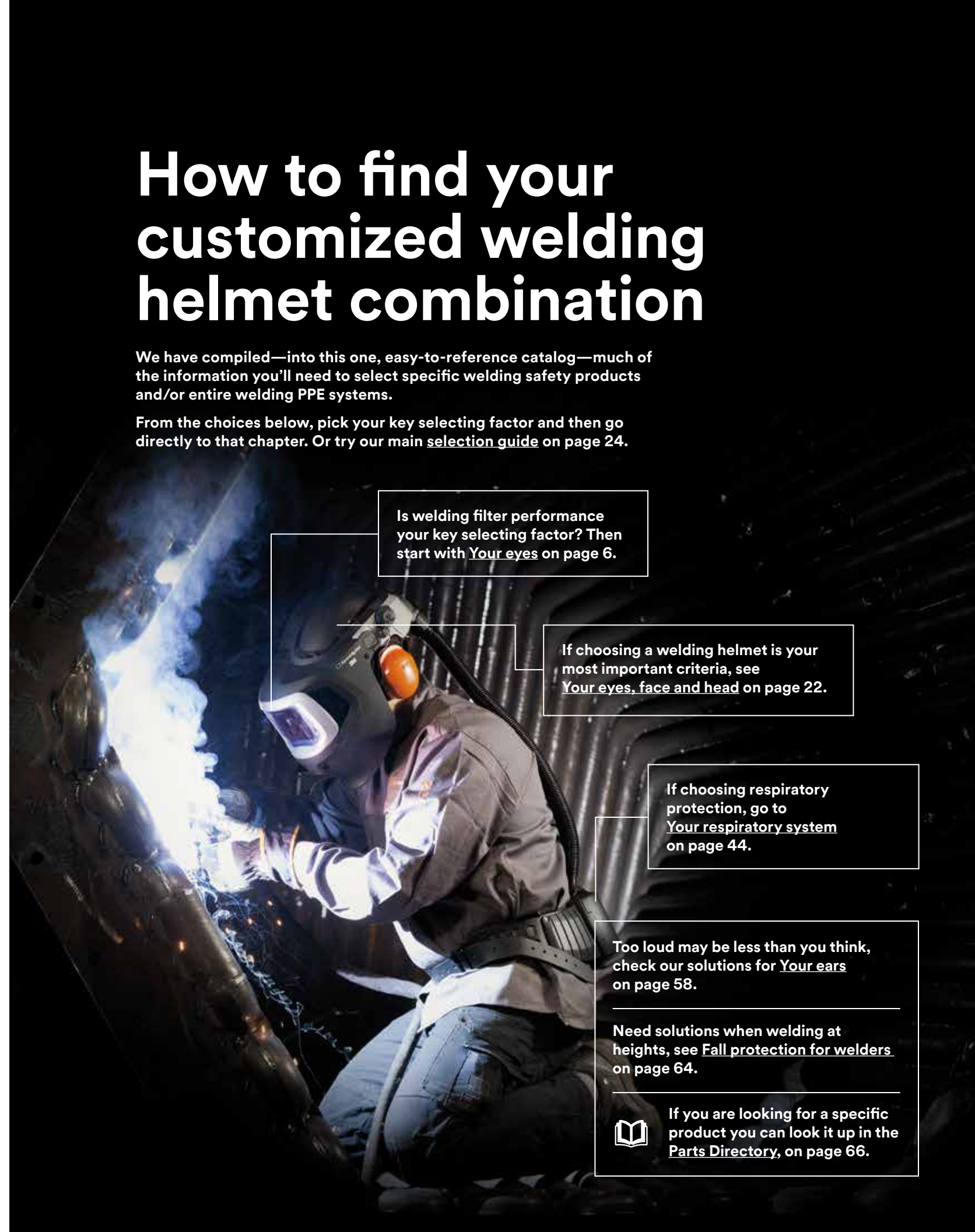
If choosing respiratory protection, go to [Your respiratory system](#) on page 44.

Too loud may be less than you think, check our solutions for [Your ears](#) on page 58.

Need solutions when welding at heights, see [Fall protection for welders](#) on page 64.



If you are looking for a specific product you can look it up in the [Parts Directory](#), on page 66.

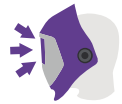


Your responsibility— our solutions...

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 ideally the choice of protective equipment can be made after a joint consultation between employers and employees.



1. Identify the hazards

Make a list of all the hazards in your welding environment (radiation, sparks, fumes, noise, trip hazards, falling objects, etc).



2. Assess the risk levels

By evaluating every hazard, you can prioritize their mitigation. See more details in each section of this catalog. If there are any doubts or ambiguities, always consult a professional health and 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 - a key to user acceptance - covers issues including comfort, style, and ease of maintenance.



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 personnel or a visit from our Safety Roadshow. 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.com/Speedglas or call our helpline 1-800-328-1667 [@3M_US_Safety](https://twitter.com/3M_US_Safety)



I need to weld with greater clarity

Truer colors and contrasts with 3M™ Speedglas™ Natural Color Technology: see page 14



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

Hard hat solutions tailor-made for our welding shields: see pages 29 and 33



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 like 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 may 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 may 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.

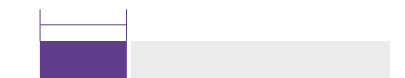
Source: www.osha.gov/SLTC/eyefaceprotection (01.03.2017)

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.

<https://ohsonline.com/Articles/2007/02/Preventing-Eye-Injuries-When-Welding.aspx> (01.03.2017)



When the helmet is worn properly, the UV/IR bandpass filter is always in place and will provide protection from hazardous light radiation. This protection is maintained throughout the entire welding process.

Improving upon what the welder sees

Your goal is to weld consistently great welds. Our goal is to provide you with eye and face protection and also improved optics for better clarity.

“Because we make many of our own welding filter components, we can readily test and transfer new technologies,” says Kristina Magnusson, Senior Optics Specialist at the 3M Welding Center of Excellence. “And, of course, this allows better control over the entire manufacturing process.”

Kristina is one of the Center’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, 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 a millisecond of the arc strike (for 3M™ Speedglas™ Welding Filters, see page 13), the filter has switched to the dark state.



After:

The filter automatically returns to the clear state after welding is complete, allowing your immediate 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 an estimate of 15% gain in productivity. Of course, results may vary depending on your specific operation.

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. Note: USD amounts are approximate and may vary.



\$28,280

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

20,300

Lost work days in 2012¹⁾

Ask yourself

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

A sample decision tree when selecting a welding filter

- 1 Would you benefit from seeing more natural colors and contrasts?**
The 3M™ Speedglas™ Auto-darkening Filters 9100XXi and 9002NC both allow you to more readily recognize colors. 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 the 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 ANSI Z49.1:2012

Welding process	Current in amperes A																									
	1.5	6	10	20	30	40	60	80	100	125	150	160	200	225	250	300	350	400	450	500	600	700	800	900	1000	
Shielded Metal Arc								10				12					14									
Gas Metal Arc Welding								11				12					14									
Gas Tungsten Arc Welding			10					12					14													
Air Carbon Arc Cutting									12															14		
Plasma Arc Welding			6–8			10						12												14		
Plasma Arc Cutting			4		5	6	8					9				12							14			
Carbon Arc Welding																										

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

Specification	● Best ¹⁾ ● Better ¹⁾ ● Good ¹⁾ × Not Recommended ¹⁾							
	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 Color 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.	2.8" x 4.2" (73x107 mm)		2.1" x 4.2" (54x107 mm)	1.8" x 3.7" (45x93 mm)	1.68" x 3.57" (43x91 mm)	2.13" x 4.09" (54x107 mm)	1.73" x 3.66" (44x93 mm)	
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 (perEN 379)	1/1/1/2				1/1/1/2	1/1/1/2	1/2/2/2	1/2/2/2
Approval (welding filter)	ANSI Z87.1 - 2010				ANSI Z87.1 - 2003	ANSI Z87.1 - 2015	ANSI Z87.1 - 2003	ANSI Z87.1 - 2010

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.



Still seeing green?

Imagine what more realistic-looking colors 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 colored 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

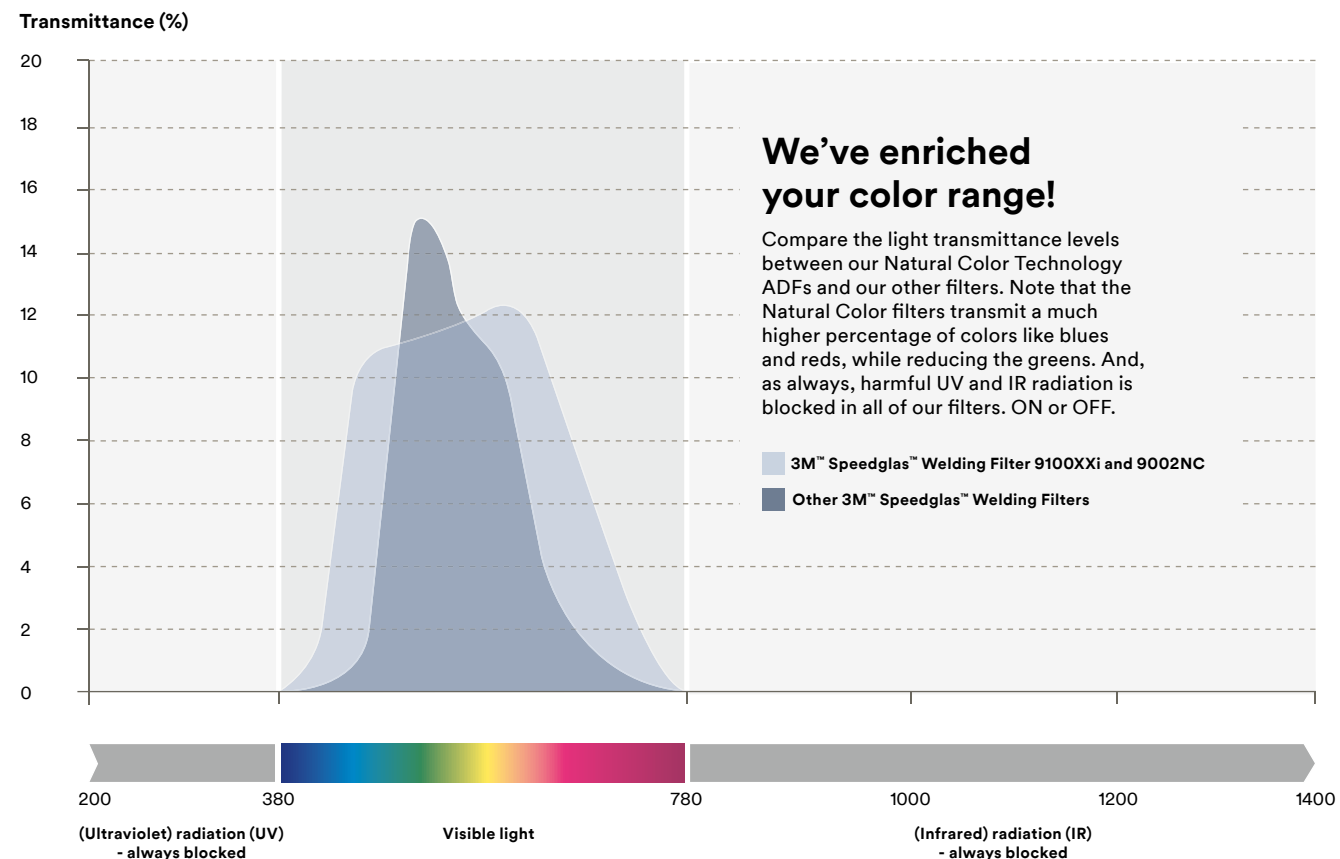


“

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

”

Veteran Welder



3M™ Speedglas™ Natural Color Technology in light state

3M™ Speedglas™ Natural Color 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.

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 colors.
- Grab and go welding with Auto-ON.
- 2.8 × 4.2 in. 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.



Always read and follow all User Instructions.

3M™ Speedglas™ Auto-Darkening Filter 9100XX



- 2.8 × 4.2 in. 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



- 2.1 × 4.2 in. 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



- 1.8 × 3.7 in. 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 colors.

- 2.1 × 4.2 in. 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.

- 1.8 × 3.7 in. viewing area.
- Dark shades 8 through 12.
- For 3M™ Speedglas™ Welding Helmet SL, more information on page 36–37.



3M™ Speedglas™ Auto-Darkening Filter 100V

- 1.7 × 3.7 in. 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

- 1.7 × 3.7 in. 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 ANSI Z87 (American National Standard for Occupational and Educational Personal Eye and Face Protection Devices) as well as other national standards in Europe, Canada and Australia—to name a few. Valid standard, optical classification and shade range are marked on the welding filter. Always read and follow all User Instructions.

Secure and snug fit

3M™ Pressure Diffusion Temple (PDT) Technology helps provide a secure and comfortable fit.



Protection with options

You can choose from several lens coating options, including 3M™ Scotchgard™ Anti-fog Coating and multiple lens colors.

Durable lenses

All 3M protective eyewear meet the requirements of ANSI Z87.1 Impact Standard.

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 not wearing safety eyewear.

To make a meaningful, measured determination of eyewear fit and security on each of your employees, we've developed a 6-step method¹⁾.

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**

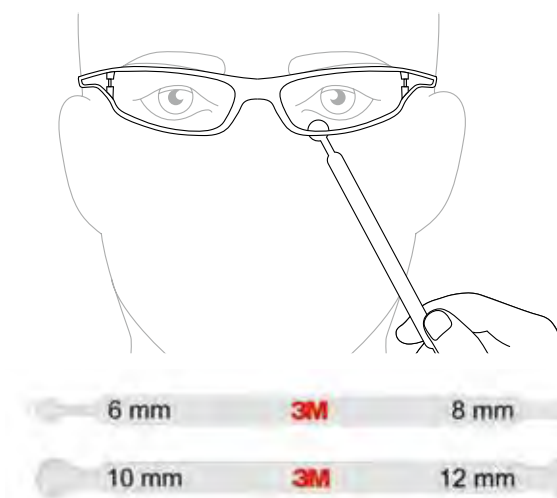
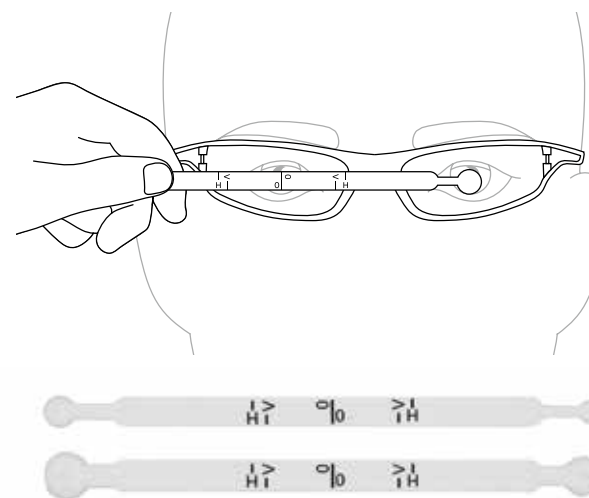
The coverage gauge assesses how well the safety eyewear covers the soft tissue area around the eyes.

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.

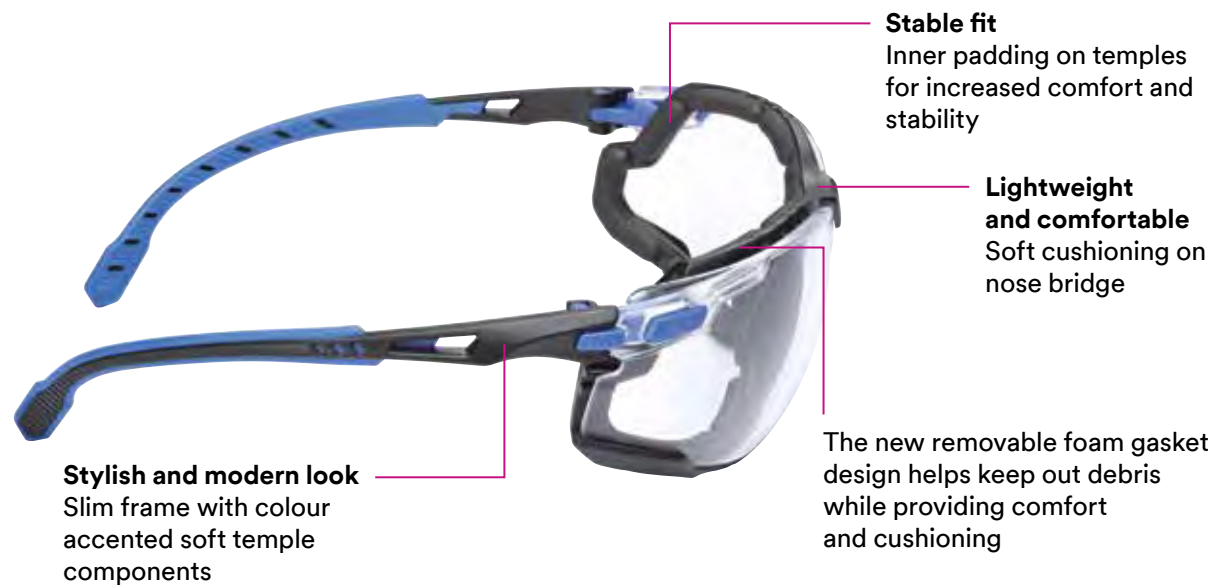


¹⁾ The full 6 step method is unique to 3M and is available free of charge (subject to terms and conditions, see website for details). Find out more by contacting your 3M Personal Safety Sales Representative or visit www.3M.com/workersafety

3M™ Solus™ 1000 Series Spectacles

A fogged lens can be frustrating and dangerous

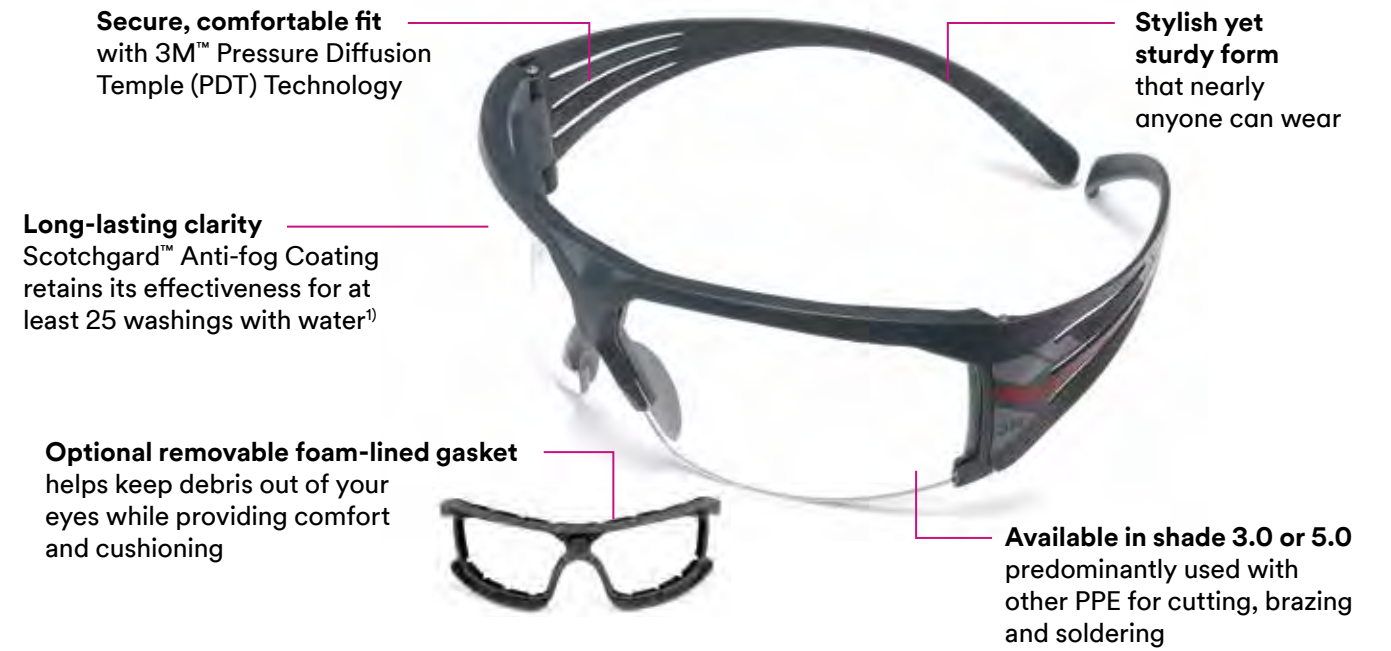
Enjoy reliable, clearer sight longer with Scotchgard™ Anti-Fog Coating. Now available on 3M™ Solus™ 1000 Series safety eyewear in a range of lens colours: clear, grey or amber. All glasses come with polycarbonate lenses, which absorb 99.9% of UV rays.



3M™ SecureFit™ 600 Series Protective Eyewear

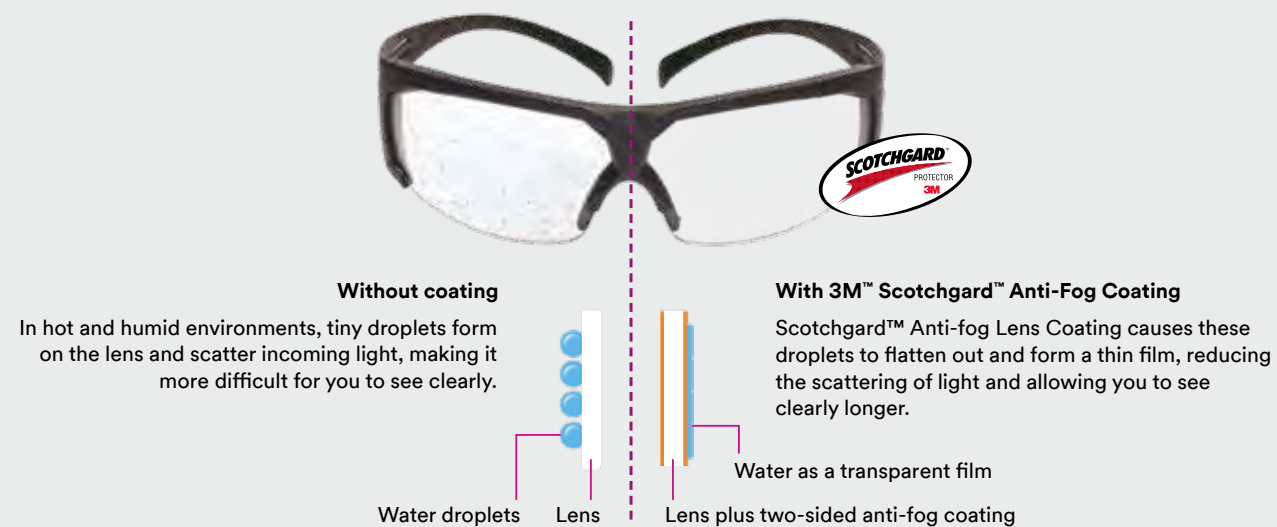
Premium quality you can see

The quality, durability and versatility of the 3M™ SecureFit™ 600 Protective Eyewear Series bring higher performance to workplace needs, with a variety of features that include lens options such as Scotchgard™ Anti-fog Coating, lens colors, polarization and reader options.



¹⁾ Based on 3M internal testing per EN 168 test method when compared with traditional anti-fog coatings.

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



Selected 3M™ Protective Eyewear for Welders

Part No	Lens Type	Coating	Description
SF601SGAF	PC Clear	Scotchgard™ Anti-fog	SecureFit 600 series eyewear with clear lens.
SF601SGAF-FM	PC Clear with Foam Gasket	Scotchgard™ Anti-fog	SecureFit 600 series eyewear with clear lens and removable foam-lined gasket.
SF617AS	PC Amber Low IR	Anti-scratch	SecureFit 600 series eyewear with amber lens.
SF630AS	PC Shade 3.0	Anti-scratch	SecureFit 600 series eyewear with shade 3.0 lens.
SF650AS	PC Shade 5.0	Anti-scratch	SecureFit 600 series eyewear with shade 5.0 lens.
SF600FI	Replacement Foam Gasket	-	For SecureFit 600 series eyewear
S1101SGAF	PC Clear	Scotchgard™ Anti-fog	Solus 1000 Series, blue/black eyewear with clear lens.
S1101SGAF-KT	PC Clear with Foam Gasket	Scotchgard™ Anti-fog	KIT: Solus 1000 Series, blue/black eyewear with clear lens, removable foam-lined gasket and strap.
S1103SGAF	PC Amber	Scotchgard™ Anti-fog	Solus 1000 Series, blue/black eyewear with amber lens.

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.com/workersafety

Always read and follow all User Instructions.

Your eyes, face and head

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Multiple levels of protection (head, eye, face, respiratory, hearing): 3M™ Speedglas™ Welding Helmet 9100 MP	32
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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 many common application needs.

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

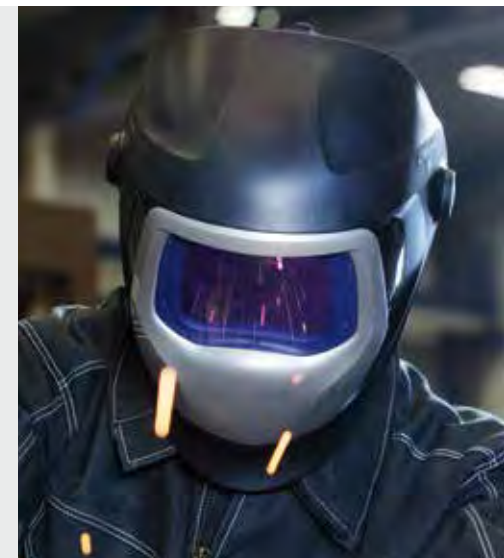


Reliability

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



Protection

UV/IR radiation. High speed grinding particles. Falling objects. Respiratory hazards. 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

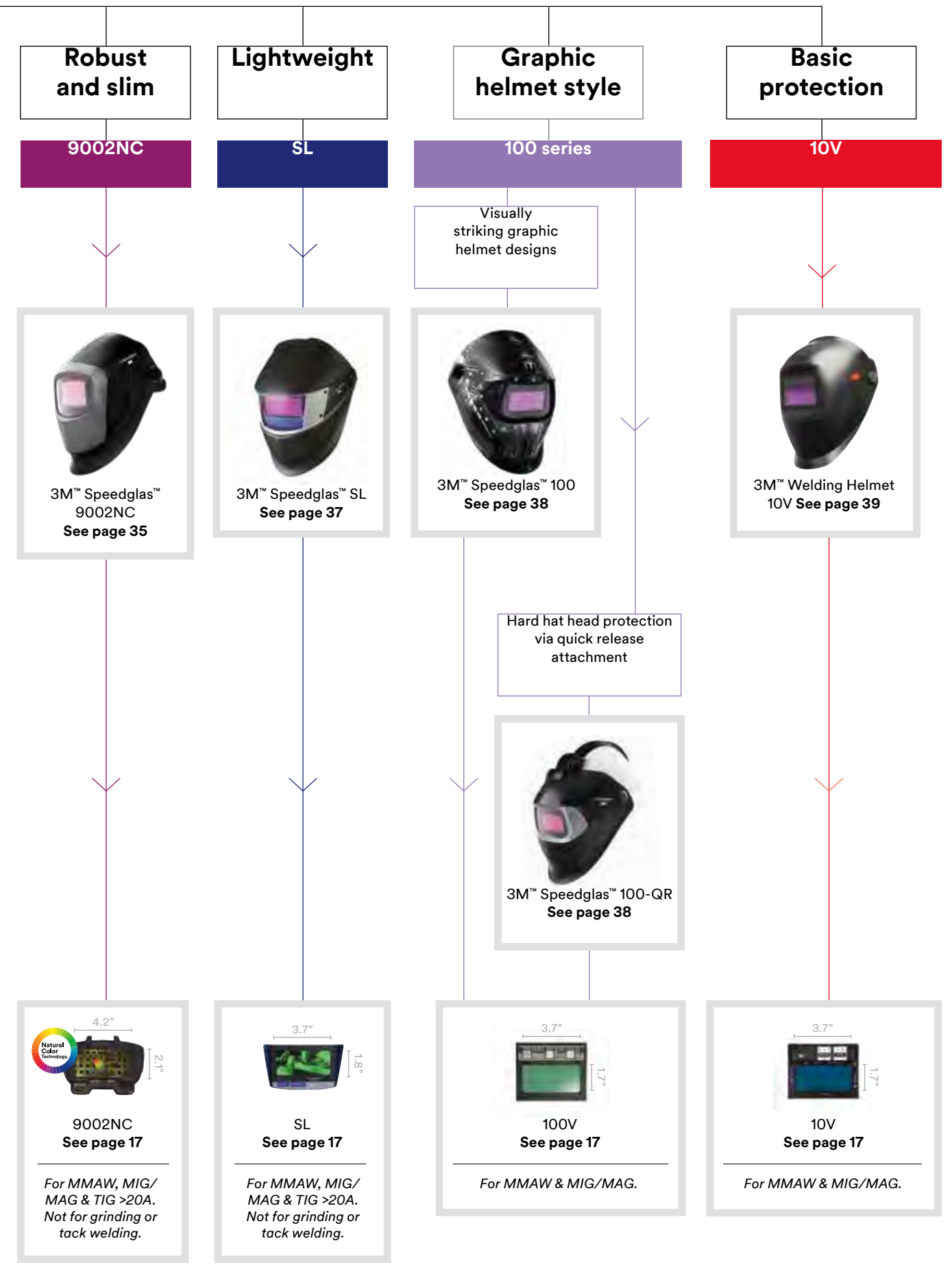
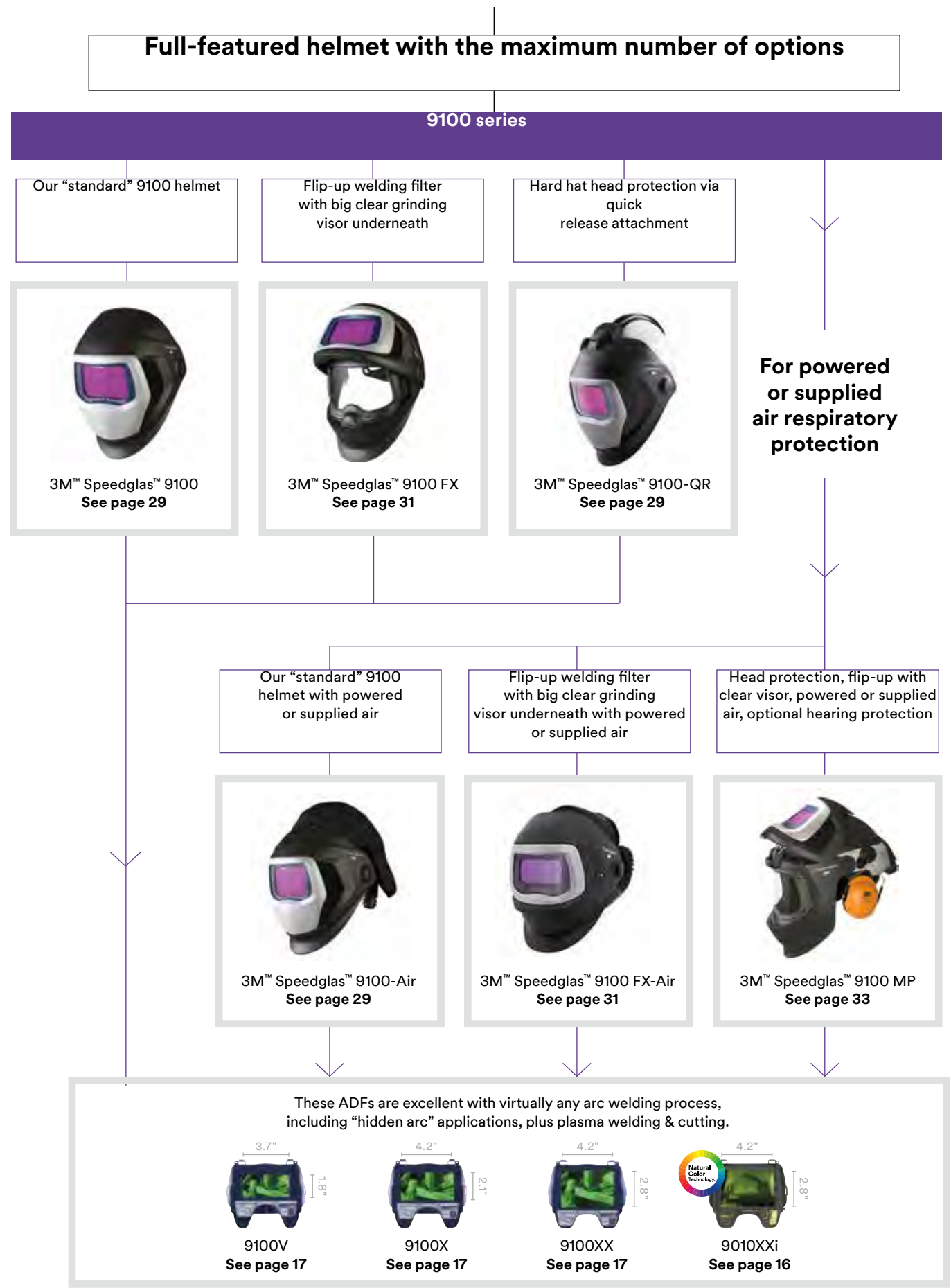
Every helmet design detail can affect your view. That's why we provide high-performance auto-darkening welding filters, our side windows lenses, and large, protective clear visors. Each of these, and many more, helmet design elements maximize your ability to see.



Need Help Finding the Right Speedglas Product?
www.3m.com/3M/en_US/speedglas-welding-helmets-us/speedglas-education/choosing-welding-safety-equipment/

Always read and follow all User Instructions.

What do you need?



When you need coverage, control, and comfort:

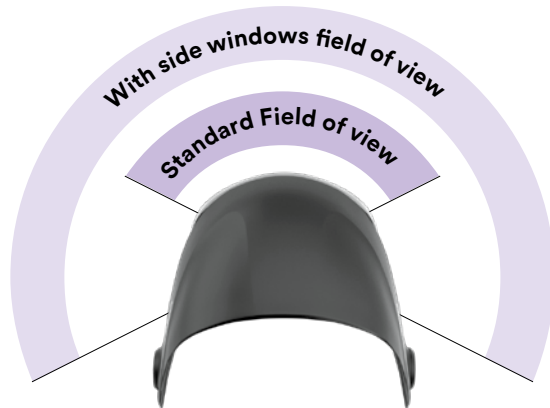
3M™ Speedglas™ Welding Helmet Series 9100



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.



Peripheral vision

The first time a welder puts on a Speedglas welding helmet with side windows you can see his startled reaction. Previously hidden peripheral 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 S-M-L, 6.25" to 8" (50-64 cm) approx.

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 wearer's 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.



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

High-performance and comfort

Features	9100	9100-AIR	9100-QR
Approval ANSI Z87.1 - 2010	✓	✓	✓
Side windows	✓	✓	✓
Auto-ON	✓ ¹⁾	✓ ¹⁾	✓ ¹⁾
Exhaust vents	✓		✓
Flip-up			
Graphics option			
Hard hat	✓ ²⁾		✓
Natural Color Technology	✓ ¹⁾	✓ ¹⁾	✓ ¹⁾
Powered Air APF 25		✓	
Supplied Air APF 25		✓	

1) Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.
2) Hard hat adaptor available, (Part No 06-0014-00NR).



9100



9100-Air



9100-QR

Simplify your workflow

The 9100XXi kit (special front and welding filter) houses external controls—enabling convenient, “gloves-on” switching between welding and grinding.

Transform your hard hat

As you attach and detach the 9100-QR helmet, you don’t need to remove your hard hat—so your head is protected at all times.

Extend your coverage

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



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 hard hats, including the 3M™ Hard hat H-701.

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

Designed to ignite your confidence and productivity all shift long—APF 25.

Expand your view:

A quick lift of the front cover and you get a big, (approx. 8" x 4.25"), clear view—excellent for precision grinding, even in low light conditions.

More natural colors and contrasts

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

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

Flip up to wider views

Features	9100 FX	9100 FX-AIR
Approval ANSI Z87.1 - 2010	✓	✓
Side windows	✓	✓
Auto-ON	✓ ¹⁾	✓ ¹⁾
Exhaust vents	✓	
Flip-up	✓	✓
Graphics option		
Hard hat	✓ ²⁾	
Natural Color Technology	✓ ¹⁾	✓ ¹⁾
Powered Air APF 25		✓
Supplied Air APF 25		✓

1) Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.
2) Hard hat adaptor available (Part No 06-0614-00NR).



9100 FX



9100 FX-Air



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, (approx. 8"x 4.25") 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.



Weld with confidence
 Head, eye, face, hearing and respiratory—we have the ability to integrate 5 levels of welder protection into 1 easy-to-use system.

See more of your work
 A large (approx. 8" x 4.25") curved protection visor with excellent views up, down, and side-to-side.

Extend coverage
 Accessory shrouds to extend coverage for front and back of neck and shoulders, as well as upper chest and back. See page 40.

3M™ Speedglas™ Welding Helmet 9100MP

Multiple levels of protection



Features	9100 MP
Approval ANSI Z87.1 - 2010	✓
Side windows	✓
Auto-ON	✓ ¹⁾
Exhaust vents	
Flip-up	✓
Graphics option	
Hard hat	✓
Natural Color Technology	✓ ¹⁾
Powered Air APF 25	✓
Supplied Air APF 25	✓

¹⁾ Only in combination with 3M™ Speedglas™ Welding Filter 9100XXi.



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.

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 color.



3M™ Speedglas™ Welding Helmet 9002NC

A legend reborn

You asked, and we listened. For over 20 years, the 3M™ Speedglas™ Welding Helmet 9000 set the standard for rugged, dependable protection. Now we've incorporated the best features—giving a new generation of welders excellent performance at a price that won't break the bank.

This helmet incorporates 3M Speedglas' newest natural color technology. Advanced auto-darkening optics are easily adjusted to meet your working conditions for a lighter, brighter and more detailed view of your welds. And a lighter weight, slim profile means less constriction in tight spaces.



Features	9002NC
Approval ANSI Z87.1 - 2015	✓
Side windows	
Auto-ON	
Exhaust vents	✓
Flip-up	
Graphics option	
Hard hat	✓ ¹⁾
Natural Color Technology	✓
Powered Air	
Supplied Air	

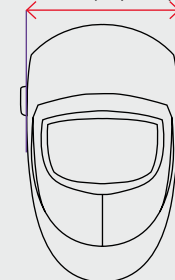
¹⁾ Hard hat adaptor available (Part No 07-0014-00NR).



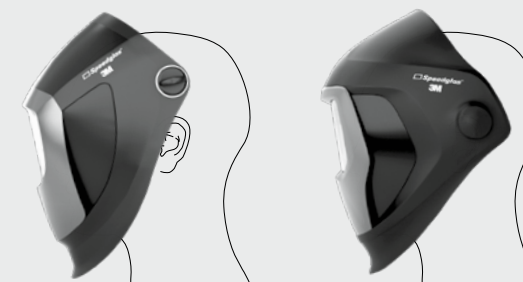
Freedom of movement

Shield width

9.3 in (23,6 cm)



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.

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

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

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.

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.

3M™ Speedglas™ Welding Helmet SL

Light, narrow and fast



i **Light weight—only 13 oz**
(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 13 oz—25% lighter than any other Speedglas model.

Features	SL
Approval ANSI Z87-2003	✓
Side windows	
Auto-ON	✓
Exhaust vents	
Flip-up	
Graphics option	
Hard hat	
Natural Color Technology	
Powered Air	
Supplied Air	

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

Weld with personality



100 Tribute



100-QR
with hard hat

Features	100	100-QR
Approval ANSI Z87-2003	✓	✓
Side windows		
Auto-ON		
Exhaust vents		
Flip-up		
Graphics option	✓	
Hard hat	✓ ¹⁾	✓
Natural Color Technology		
Powered Air		
Supplied Air		

¹⁾ Hard hat adaptor available (Part No 07-0014-00NR).

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).

3M™ Welding Helmet 10V

Basic functions in a robust design



Features	10V
Approval ANSI Z87.1 - 2010	✓
Side windows	
Auto-ON	
Exhaust vents	
Flip-up	
Graphics option	
Hard hat	✓ ¹⁾
Natural Color Technology	
Powered Air	
Supplied Air	

¹⁾ Hard hat adaptor available (Part No 07-0014-00NR).

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

Want to stand out?

Make an impactful statement with one of our powerful, distinctive graphic designs. Find them all on page 76.

Variable shades for flexibility

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



Confident protection

Robust, industrial helmet design. Complies to the standard ANSI Z87.1 - 2010.

Performance made affordable

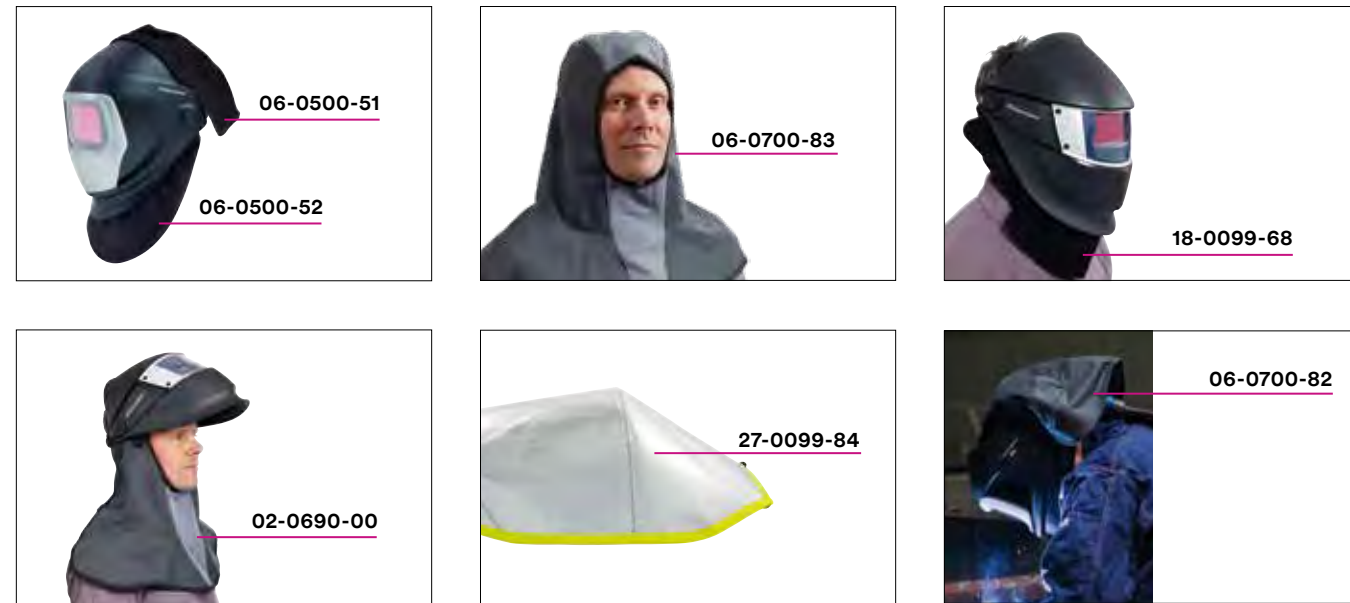
Auto-darkening filter performance at a price that won't break the bank.



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 help you 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 help extend your protection

3M™ Speedglas™ Welding Helmet	9002NC	100	SL	9100 + 9100-Air	9100FX + 9100 FX-Air	9100-QR 100-QR 10V	9100 MP	
Head protection (Part No)	16-0099-30			06-0500-51	06-0700-82 (large) 06-0700-81 (small)	–	27-0099-84	
Material	Cotton / Para-aramid			Cotton / Para-aramid	Cotton / Para-aramid	–	Reflective	
Neck protection (Part No)	02-0690-00 ¹⁾			06-0500-52		18-0099-68	27-0099-85 27-0099-87	
Material	Cotton / Para-aramid			Cotton / Para-aramid		Leather	Cotton/ Para-aramid	
Hood (Part No)	06-0700-83						–	–
Material	Cotton / Para-aramid						–	–
Breathing tube cover (Part No)	–			SG-15		–	SG-15	
Material	–			Flame-retardant		–	Flame-retardant	

1) Alternative neck protection available in leather (part no 18-0099-68).

Always read and follow all User Instructions.

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 x1.5, x2.0, x2.5, and x3.0 strengths. For details, see the Accessories and Spare Parts section for each helmet.



Consumables to get you started

Starter kit of sweatband, inner and outer protection plates to your 3M™ Speedglas™ Welding Helmet Series 9100. For ordering information, see parts list section for each helmet type.

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 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 66.

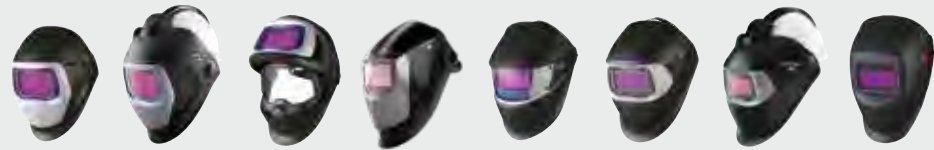
Information summary for quick reference only; always read and follow User Instructions.



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 3M Welding helmets (non-air)	Speedglas 9100	Speedglas 9100-QR	Speedglas 9100 FX	Speedglas 9002NC	Speedglas SL	Speedglas 100	Speedglas 100-QR	3M 10V
Eye and Face Protection (Approval) Welding helmet, welding filter and protection plates	ANSI Z87.1-2010			ANSI Z87.1 -2015	ANSI Z87.1 -2003	ANSI Z87.1 -2010	ANSI Z87.1 -2010	ANSI Z87.1 -2010
Head protection (Approval) ANSI Z89.1-2009 Type 1	Class C, G, E ²⁾						Class C, G, E ²⁾	
Respiratory protection ¹⁾	All helmets are compatible with 3M disposable or reusable respirators; see page 54-57. See next page for helmets available with powered and supplied air respiratory protection.							
Hearing protection —optional (see page 63)	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs 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

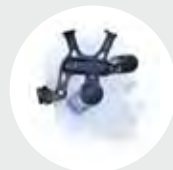
1) This overview shows only our helmets without air delivery connection. Helmets for powered or supplied air respirator systems see page 43.
2) With 3M™ Hard hat H-701.



1 Exhaust 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
(approx. 8"x 4.25") clear
protective visor, increasing
your peripheral vision.



Specification 3M Welding helmet systems (air)	Speedglas 9100 FX-Air	Speedglas 9100-Air	Speedglas 9100 MP	Speedglas L-705SG/ L-905SG
Eye and Face Protection (Approval) Welding helmet, welding filter and protection plates	ANSI Z87.1-2010	ANSI Z87.1-2010	ANSI Z87.1-2010	ANSI Z87.1-2003
Head protection (Approval)	-	-	ANSI Z89.1-2009 Type 1, Class G	ANSI Z89.1-2003 Type II, Class G
Respiratory protection (Approval) ³⁾ Adflo Powered Air Respirator Fresh-air III Supplied Air Regulator	APF 25 APF 25	APF 25 APF 25	APF 25 APF 25	APF 25 APF 1000 ³⁾
Hearing protection —optional (see page 63)	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs
2 Side windows	YES	YES	YES	NO
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) APF 1000 = L-905SG when used in conjunction with Adflo, TR-300, TR-600, GVP, and Supplied Air.



Specification 3M™ Faceshields and Helmets (air)	Versaflo M-207	Versaflo M-307	Versaflo M-407
Eye and Face Protection (Approval) Visor plate	ANSI Z87.1-2010	ANSI Z87.1-2010	ANSI Z87.1-2010
Head protection (Approval)	Bumpcap	ANSI Z89.1-2009 Type 1 Class G	ANSI Z89.1-2009 Type 1 Class G
Respiratory protection (Approval) Adflo Powered Air Respirator Fresh-air III Supplied Air Regulator	APF 25 APF 25	APF 25 APF 25	APF 1000 ⁴⁾ APF 1000 ⁴⁾
Hearing protection —optional (see page 63)	Earmuffs Earplugs	Earmuffs Earplugs	Earmuffs Earplugs
Flame-retardant shroud	YES	YES	YES
Type of protective visor	Clear-coated polycarbonate	Clear-coated polycarbonate	Clear-coated polycarbonate

4) APF 1000 = M-407 when used in conjunction with Adflo, TR-300, TR-600, GVP, and Supplied Air. See 3M Technical Data Bulletin 175 for more details.

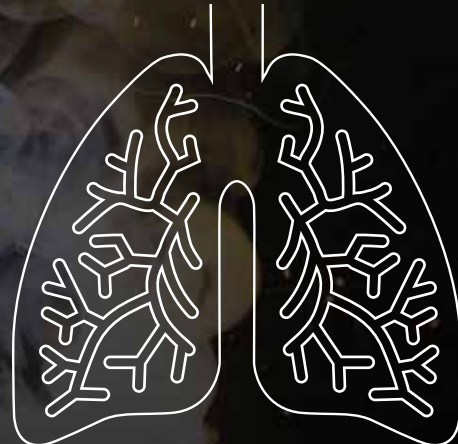
Your respiratory system

Content

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Health effects of welding fumes

The respiratory hazards of metalworking are real. Welding fumes swirling around in your work environment can potentially result in health-related issues. Some exposure limits for welding fumes are set by regulations, and others are advisory. These limits aren't always the same.



When good enough isn't enough...

To help reduce the risk of adverse health effects caused by exposures to airborne materials such as manganese, the United States Occupational Safety and Health Administration (OSHA) has established permissible exposure limits (PELs) which are law. In addition, the American Conference of Governmental Industrial Hygienists (ACGIH) sets threshold limit values (TLVs) which are airborne exposure limit guidelines.

PEL 5.0 mg/m³

Current Federal OSHA PEL for manganese compounds, including manganese fume, is 5 milligram per cubic meter of air.¹⁾

TLV 0.02 mg/m³

Since 2013 ACGIH Threshold Limit Value for Manganese exposure is 0.02 milligram per cubic meter of air.¹⁾



¹⁾ This is a graphical illustration constructed by 3M for the estimated annual dose. The illustration is based on certain important assumptions. Learn more at: 3M.com/respmanagense.

Always read and follow all User Instructions.

Reducing welding fumes & exposure

Welding creates a mixture of respirable gases and/or fumes (particles). To address these hazards and risks, it is best practice 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; here are some examples:

1

Modify or substitute your welding process to other processes that generate less fumes and/or reduce exposure to airborne contaminants.

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

2

Engineering controls include actions such as 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 protection. If steps 1 through 3 do not eliminate the respiratory hazards, respiratory protection for the welder can provide protection and comfort.

Control Limitations: Companies must establish a respiratory protection program in accordance with 29 CFR 1910.134 that includes selection of respirators and their filters, training and maintenance.

FACTS:

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

¹⁾ Top 10 Most Frequently Cited Standards, OSHA, U.S. Department of Labor, for 2015. Always read and follow all User Instructions.

Which style of respirator best suits you?

The following is an overview of the four general types of 3M respiratory protection found in this catalog. 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 48

3M™ Adflo™ Powered Air Respirator

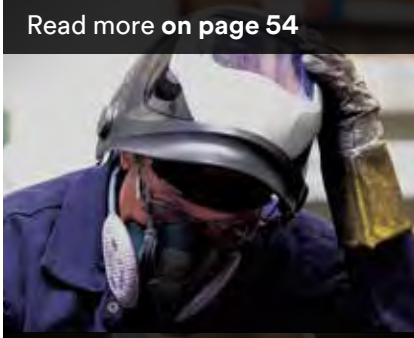
- APF¹⁾ of up to 1000 based on headtop configuration.
- Can be used specifically for particle filtration (only), or for the filtration of both particulates and gases, depending on filter selection.
- Four welding helmet and three protective visor configurations to pick from.
- Provides a constant nominal airflow rate of 205 lpm.
- The respirator's slim turbo design allows highly mobile use.



Read more on page 52

3M™ Speedglas™ Fresh-air III Supplied Air Regulators

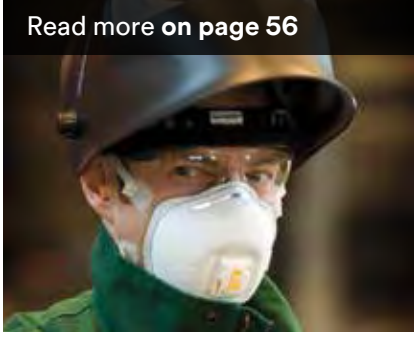
- APF¹⁾ of up to 1000 based on headtop configuration.
- Can be used to protect against substances including particle or gas/vapor.
- Four welding helmet and three protective visor configurations to pick from.
- Belt-mounted regulator with user control over airflow: from 170 lpm to 424 lpm.
- Requires Grade D breathable air, filter and regulator panel, and approved 3M supplied air hoses.



Read more on page 54

3M™ Reusable Respirators

- APF¹⁾ for half facepiece reusable respirators is 10.
- Helps provide respiratory protection against a variety of gases, vapors, and particulate hazards when used with 3M cartridges and filters according to NIOSH approvals.
- Available resilient silicone faceseal styles provide comfort, durability, and stability
- Low profile designs enable fit under all 3M™ Speedglas™ Welding Helmet Series 9100.



Read more on page 56

3M™ Disposable Welding Respirators

- APF¹⁾ 10.
- Lightweight and comfortable.
- No maintenance—disposable.
- Fits under virtually any welding helmet.
- Adjustable noseclips to help provide a custom seal.

¹⁾ APF = Assigned Protection Factor. Always read and follow all User Instructions.

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 eye, face, respiratory and—in some cases—head protection.

Move around

The slim profile of the 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 up to approx. 10,000 ft (3000 meters) above sea level and up to approx. 5,000 ft (1500 meters) when using the OV/AG cartridge.



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 205 liters per minute, regardless of the battery's charge or the particle loading of the filter.

Green for go

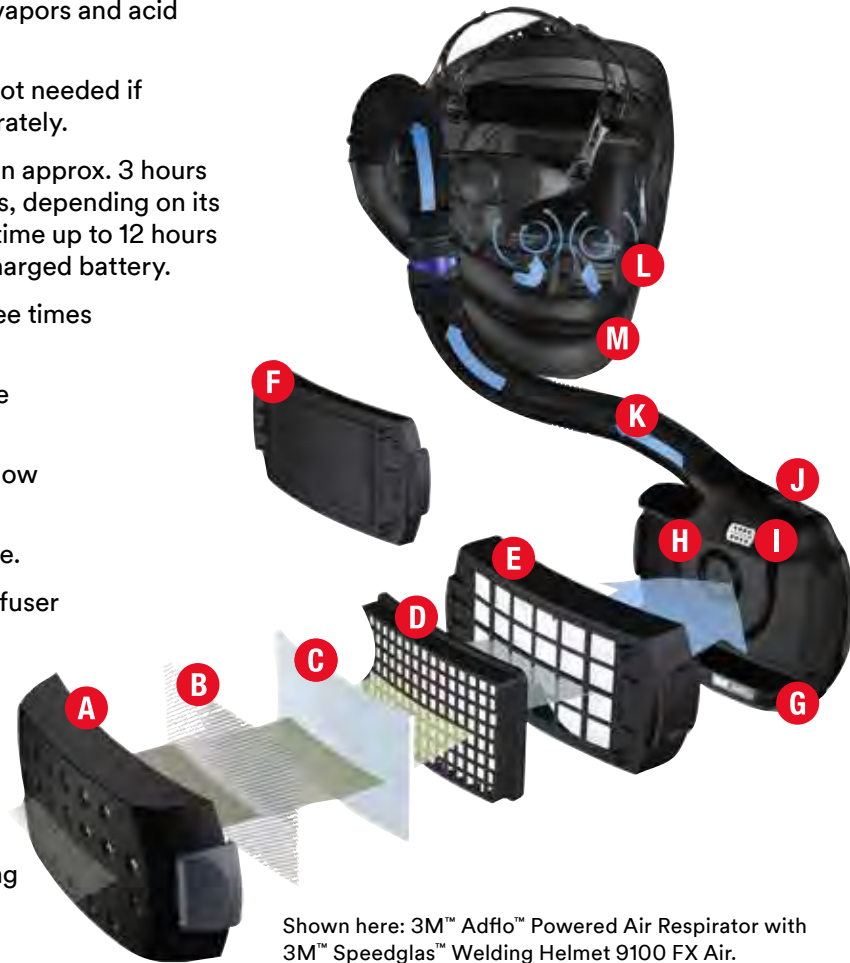
As soon as you turn on your Adflo powered air respirator, a display indicates the status of the filter. Green light means that the unit is working normally. Red light indicates that the filter is clogging up.

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

An adaptable system

With the right type of filter, the Adflo respirator helps reduce your exposure against both particles and gases—all in one system. And you can selectively replace either the particle or the OV/AG cartridge 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 particulate filter.
- D HE particulate filter:** high efficiency particulate filtration.
- E OV/AG cartridge:** filters certain organic vapors and acid gases; sold separately.
- F Odor filter:** removes unpleasant smells (not needed if a OV/AG cartridge is installed); sold separately.
- G Li-ion battery:** charges to 80% capacity in approx. 3 hours and to 100% capacity in approx. 6.5 hours, depending on its residual charge. Approximate operating time up to 12 hours with a new particle filter and 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 HE particulate filter.
- J Airflow:** Provides a constant nominal airflow rate of 205 lpm.
- 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.

Increase your comfort



Backpack **BPK-01**

For additional back support, you might like to try the backpack BPK-01 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 HE particulate filter, saving money while also increasing the battery run-time.
HE particulate filter	At least every month	Do daily checks with air flow indicator and replace when airflow indicator falls below the minimum flow line.
OV/AG cartridge	According to regulations at your work place	Smell and taste is not recommended as a measure of change.
Odor filter	Any time you smell unpleasant odours	Note: odor filter is not required if a OV/AG cartridge 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 66.

3M™ Speedglas™ Fresh-air III Supplied Air Regulators

Light on your belt and maximum airflow

Many helmet options

Achieve an Assigned Protection Factor of 25 when you combine the 3M™ Supplied Air Regulators with the 3M™ Speedglas™ Welding Helmets 9100-Air, 9100 FX-Air or 9100 MP.

APF 1000 with the 3M™ Headgear L-Series.

High quality air

The airline supply must be Grade D breathable air. On page 86 you will find air filter regulator panels from 3M.



V-200 Air Heating



V-100 Air Cooling



V-300 Regulating Ambient Air
Temperature

The lightweight, belt-mounted regulator allows you to regulate the airflow from a supplied air source. A cost-effective way to provide a high level of respiratory protection - no filters, cartridges, or batteries to maintain. They can operate on pressures ranging from 60–90 psig, depending on hose length.

Two alternative regulators to either cool (V-100) or heat (V-200) the airflow entering the headgear by as much as 50°F (28°C). These regulators are excellent choices for workers exposed to uncomfortable temperature ranges.



Built for rugged environments

The 3M™ Particulate Filters 2200 Series has advanced filter media and more durable netting construction for a new level of performance.

Breathe easier

3M™ Cool Flow™ Exhalation Valve helps reduce heat and moisture inside the facepiece to make breathing easier.

Convenient Quick Latch Drop-Down Mechanism

- Easy on and off as you move in and out of contaminated areas.
- No need to remove hard hats or faceshields when lowering and raising the respirator.



Quick Latch closed



Pull up on latch



Quick Latch open



Pull down on latch

To open Quick Latch: Grasp the latch at chin level and pull up. **To close Quick Latch:** Grasp the facepiece with your thumb on the bottom of the facepiece and your first two fingers on top of the latch. Place the facepiece over your nose and mouth while pushing down on the latch.

3M™ Rugged Comfort Half Facepiece Reusable Respirators and Filters

An easy choice for a tough world

When shifts are long and conditions are challenging, your workers will appreciate the 3M™ Rugged Comfort Half Facepiece Reusable Respirator 6500 Series. With 3M's Quick Latch drop-down mechanism and Cool Flow™ Valve, respirators are easy-on and easy-off for comfortable protection.



- Our lightest silicone facepiece keeps its 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.
- Adjustable head harness assembly.
- Compatible with all 3M bayonet-style cartridges and filters.

3M™ Reusable Respirators	Model (Size)	Description	Assigned Protection Factor
6500 Facepieces	6501 (S) 6502 (M) 6503 (L)	3M™ Rugged Comfort Half Facepiece Reusable Respirator.	APF 10
6500QL Facepieces	6501QL (S) 6502QL (M) 6503QL (L)	3M™ Rugged Comfort Quick Latch Half Facepiece Reusable Respirator	APF 10
2297 Filters	2297 ¹⁾	3M™ Advanced Particulate Filter 2297, P100 Respiratory Protection, with Nuisance Level Organic Vapor Relief ¹⁾	

¹⁾ 3M recommended for ozone protection up to 10x OSHA PEL (not NIOSH approved for ozone). Nuisance levels are less than OSHA PEL or applicable government occupational exposure limits, whichever is lower. 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. 3M reusable respirators can be combined with many other types of filters and cartridges for protection against particulates, vapors and/or gases. Please visit www.3M.com to find other options.



Adjustable nose clip

Bendable metal nose clip.

Breathe easier

3M™ Advanced Electret Filter Material combines effective filtration with low resistance.

Welding and metal working respirators all feature the proprietary 3M™ CoolFlow™ Exhalation Valve.

3M™ Disposable Filtering Facepiece Respirators




Light, convenient and comfortable protection



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

Respirators can't give workers full protection unless they are selected and worn correctly during all exposure times. That's why 3M™ Disposable Filtering Facepiece Respirators include features and technology that enhance user comfort and can help increase wear times.

Incorporates layers, designed to be flame resistant as demonstrated per ASTM D2859-96. (Not a substitute for a faceshield.)

3M™ Disposable Filtering Facepiece Respirator	Model	Description	Assigned Protection Factor
N95 Respirator 	8515	Particulate welding respirator.	APF 10
N95 Respirator 	8212	Particulate welding respirator with face seal.	APF 10
N95 Respirator 	8214	Particulate welding respirator with face seal and nuisance level organic vapor relief. ¹⁾	APF 10

¹⁾ 3M recommended for ozone protection up to 10x OSHA PEL (not NIOSH approved for ozone). Nuisance levels are less than OSHA PEL or applicable government occupational exposure limits, whichever is lower.

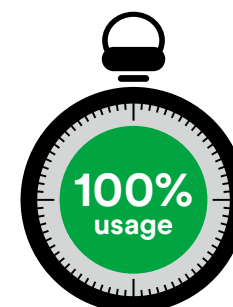
Always read and follow all User Instructions.

Your ears

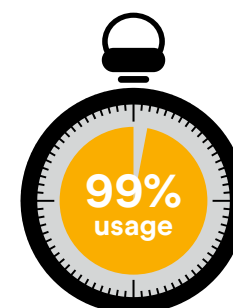
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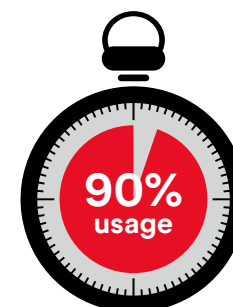
The challenge of hearing protection for welders



Gives the expected protection.



Reduces protection.



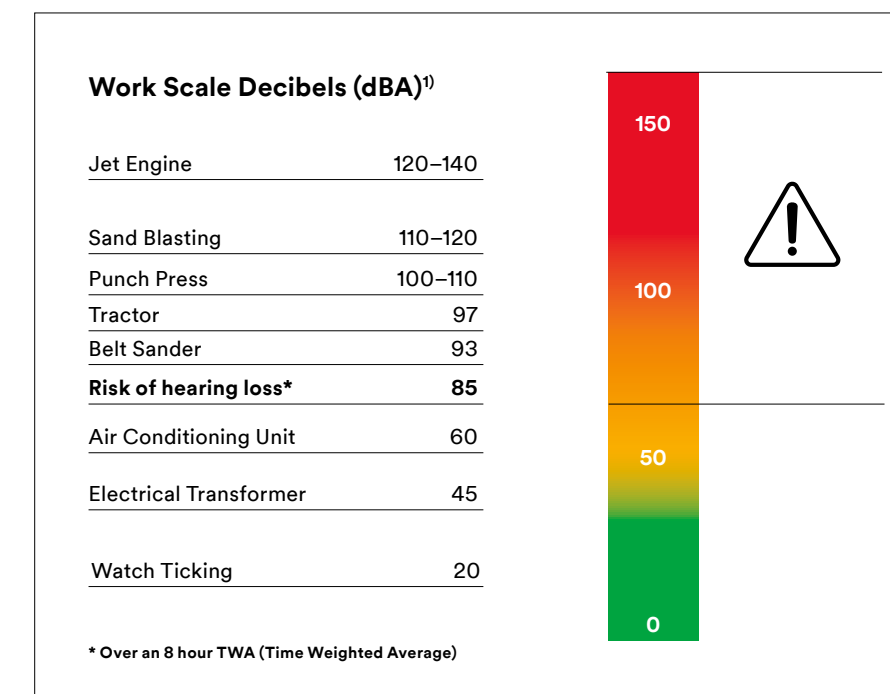
Significantly reduces protection.

Minutes of carelessness per day significantly reduces the effect of hearing protection

That's right: if you're in a harmfully loud workplace—at or above 85 decibels—then not having your hearing protection in place just 10% of the time offers you significantly less protection. Noise-induced hearing loss (NIHL) is caused by the damage and eventual death of the the sensory cells in you ears, called '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.



Moving towards 100% usage

Select hearing protection that your workers want to wear

This is an important step in moving towards 100% usage. But, 100% usage isn't the only answer. You need it if you're exposed above 85dB, but wearing protection below that or wearing more protection than is needed, could have an impact on your ability to hear surrounding sounds.

Create a Hearing Conservation Program

Employers who have workers in areas with 8 hour TWA noise exposures of 85 dBA and higher must provide an OSHA Hearing Conservation Program that includes:

1. Noise monitoring
2. Engineering and administrative controls
3. Annual hearing testing
4. Providing hearing protectors
5. Annual training
6. Record keeping
7. Evaluate program effectiveness

The following pages offer Hearing Protection Equipment (HPE) options to consider for your needs and preferences.

To learn more, visit 3M Center for Hearing Conservation: www.3m.com/chc.

OSHA Regulations		37.5 Million Americans Experience Hearing Loss.¹⁾
OSHA Limits	OSHA's permissible exposure limit is 90 decibels (dBA)—time-weighted average (TWA) over eight hours—for workers with no previous work-related hearing loss.	
OSHA Requirements	According to OSHA, workers exposed above 90 dB(A) 8 hour time weighted average must wear hearing protection.	#1 Reported Manufacturing Health Issue.²⁾
Repeated exposure to loud sounds, greater than 85 dBA, can cause permanent hearing loss and tinnitus. Other health effects related to noise can include stress, anxiety, hypertension, sleep disturbance and fatigue.		

¹⁾ According to the National Institutes of Health, 37.5 million (15%) Americans age 18 and older report some degree of hearing loss, and it is estimated that 26 million Americans between the ages of 20 and 69 have a hearing loss due to noise exposure.

²⁾ The Bureau of Labor Statistics (BLS) has reported that for people working in the Manufacturing Sector, occupational hearing loss is the most commonly recorded occupational health issue. Since 2004, nearly 258,500 workers have suffered significant, permanent hearing loss.

3M™ PELTOR™ Level Dependent Earplug LEP-100

Stay aware and communicate

How can you protect your hearing but still communicate in workplaces with loud noises? The 3M™ PELTOR™ LEP-100 amplifies weak sounds (like voices) when noise levels are low while attenuating loud noises 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, NRR of 25 dB¹⁾
- Skull screw tips 32 dB¹⁾

Rain or wind

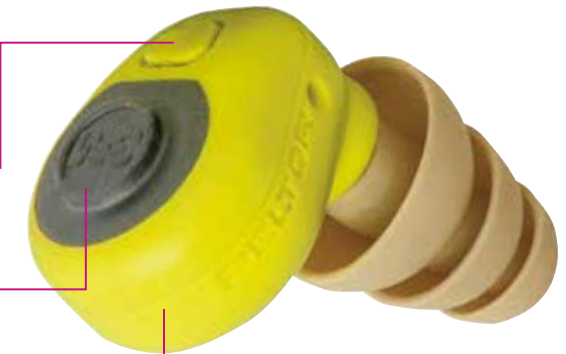
Water resistant microphone port also helps minimize wind noise.

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.



¹⁾ 3M strongly recommends fit testing of hearing protectors. Research suggests that many users will receive less noise reduction than indicated by the NRR due to variation in hearing protector fit, fitting skill and motivation of the user. If the NRR is used to estimate typical workplace protection, 3M recommends that the NRR be reduced by 50% or in accordance with applicable regulations.



Maintain situational awareness and communications with noise level dependent earplugs.



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 molded cups. 3M strongly recommends fit testing of hearing protectors

Stylish and reliable

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

Specifications and ordering info: page 63.

3M™ PELTOR™ Welding Earmuffs H505B

Good compatibility

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 to help with a secure, comfortable fit



Always read and follow all User Instructions. | Specifications and ordering info: page 63.

Hearing protection for welders

A selection of 3M™ Earmuffs and Earplugs¹⁾

3M | PELTOR™



3M™ PELTOR™ Earmuffs and Level Dependent Earplug	H505B	M-985 Earmuffs	X1 Earmuffs	X1 Earmuffs	X2 Earmuffs	X3 Earmuffs	X4 Earmuffs	X5 Earmuffs	LEP-100
Design	Neckband	Helmet mounted	Neckband	Helmet mounted	Helmet mounted	Helmet mounted	Slim, fluorescent, helmet mounted	Helmet mounted	Level dependent earplug
NNR ²⁾	17dB	24dB	21dB	21dB	24dB	25dB	25dB	31dB	25dB / 32dB
Part No	H505B	M-985	X1B	X1P5E	X2P5E	X3P5E	X4P5E	X5P5E	LEP-100
With 3M™ Welding Helmet									
Speedglas 9100	●		●						●
Speedglas 9100 Air	●		●						●
Speedglas 9100-QR				●	●	●	●	●	●
Speedglas 9100 FX	●		●						●
Speedglas 9100 FX-Air									●
Speedglas 9100 MP		●							●
Speedglas 9002NC	●		●						●
Speedglas 100	●		●						●
Speedglas 100-QR									●
3M 10V									●
Versaflo M-series		●							●

¹⁾ 3M strongly recommends fit testing of hearing protectors. 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.com/hearing

3M | E-A-R™ Hearing Protection



3M™ Earplug ³⁾	E-A-R™ Classic™	E-A-Rsoft™ Yellow Neons™	E-A-Rflex™	E-A-R™ Ultrafit	E-A-R™ Ultrafit 27™	E-A-R™ Skull Screws™
Design	Classic earplugs with proprietary foams.	Slowly expanding, polyurethane foam material.	Banded, wear Behind-the-Head	Reusable, premolded earplugs.	Reusable, premolded earplugs	Push-To-Fit Earplugs
NNR ²⁾	29dB	33dB	28 dB	25dB	27dB	32dB
Part No	310-1001	311-1250	320-1000	340-4004	340-8002	P1301

²⁾ 3M strongly recommends fit testing of hearing protectors. Research suggests that many users will receive less noise reduction than indicated by the NRR due to variation in earmuff fit, earmuff fitting skill and motivation of the user. If the NRR is used to estimate typical workplace protection, 3M recommends that the NRR be reduced by 50% or in accordance with applicable regulations

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.com/hearing.

Always read and follow all User Instructions.



3M™ DBI-SALA® Delta™ Harnesses

Fall Protection for High Heat Environments

When you're 75 feet (23 meters) off the ground, your harness is more than a piece of safety equipment—it's your life support. Stay safe even when things heat up.



1105475



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.

1105475 3M™ DBI-SALA® Delta™ Harness for Hot Work Use

Vest-style, with Nomex®/Kevlar® fibre web, back D-ring, with conductivity reducing anti spark hardware, pass-through buckle leg straps, loops for belt (Universal Size). Maximum 700° Fahrenheit char temperature. 310 lbs. (140 Kg) capacity.

3M™ DBI-SALA® Nano-Lok™ for Hot Work Use Self-Retracting Lifelines (SRL)

3101503



This unique SRL is reinforced with Kevlar® fiber to withstand sparks, weld splatter and other heat exposure.

- 6 ft. (1.8 m) working length
- Universal hot work icon to quickly and easily identify hot work products.
- Equipped with RFID.

3M™ DBI-SALA® Delta™ Harnesses are specifically designed to resist the potential heat damage experienced in welding applications.

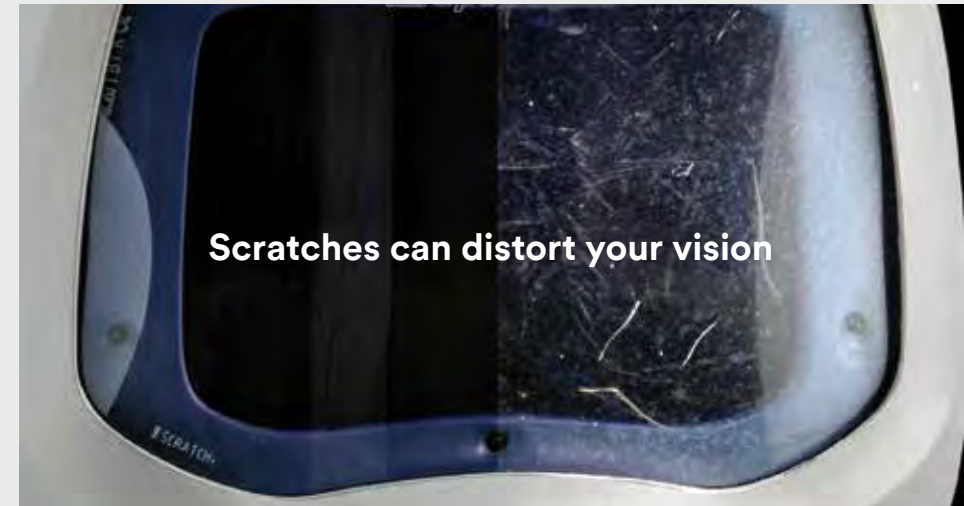
Just a sample of what fall protection products we have to offer!

Visit 3M.com/FallProtection or call our Fall Protection Customer service at 800-328-6146 to learn more.

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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 for your filter:

Outer protection plate		For welding filter model						
Part No	Description	9100V	9100X	9100XX	9100XXi	9002NC	SL	100 Series
04-0270-01	Standard					●		
04-0270-03	Scratch resistant					●		
04-0270-04	Heat resistant					●		
06-0200-51	Standard	●	●	●	●			
06-0200-52	Scratch resistant	●	●	●	●			
06-0200-53	Heat resistant	●	●	●	●			
05-0250-00	Standard						●	
05-0250-01	Scratch resistant						●	
07-0200-51	Standard							●
07-0200-52	Scratch resistant							●
07-0200-53	Heat resistant							●

The table shows our current program of welding filters, if you have an older helmet model check page 79 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 for your filter:

Inner cover plate			For welding filter model						
Part No	Description	L x H	9100V	9100X	9100XX	9100XXi	9002NC	SL	100V
04-0290-00	Clear	3.6"x1.7"						●	●
04-0280-00	Clear	4.1"x2.1"					●		
04-0280-01	+1 Shade	4.1"x2.1"					●		
04-0280-02	+2 Shade	4.1"x2.1"					●		
06-0200-10	Clear	4.6"x1.97"	●						
06-0200-20	Clear	4.6"x2.4"		●					
06-0200-30	Clear	4.6"x3"			●	●			

The table shows our current program of welding filters, if you have an older helmet model check page 79 for consumables.

3M™ Speedglas™ Welding Helmet 9100



06-0100-30iSW



06-0300-51SW



06-0000-10 06-0000-20 06-0000-30

Helmets with side windows – auto-darkening filter

Part No	Description
06-0100-10SW	With Speedglas welding filter 9100X (1.8"x3.7").
06-0100-20SW	With Speedglas welding filter 9100X (2.1"x 4.2").
06-0100-30SW	With Speedglas welding filter 9100XX (2.8"x4.2").
06-0100-30iSW	With Speedglas filter kit 9100XXi, incl welding filter and front cover 9100XXi (2.8"x4.2").

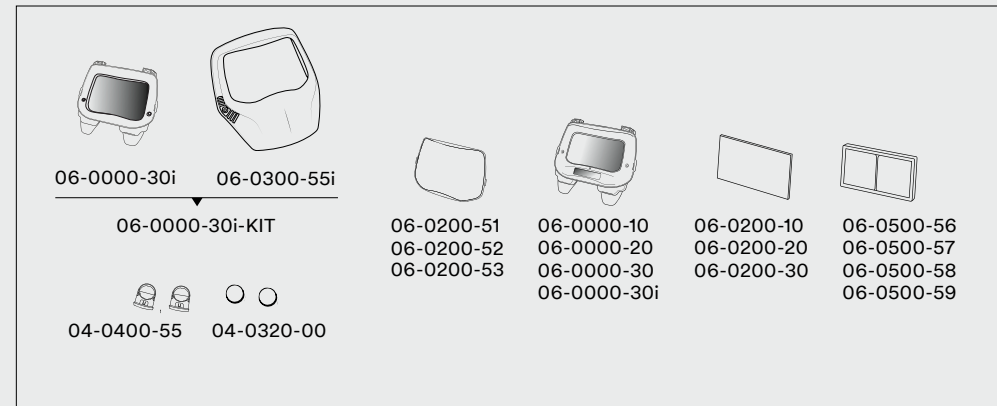
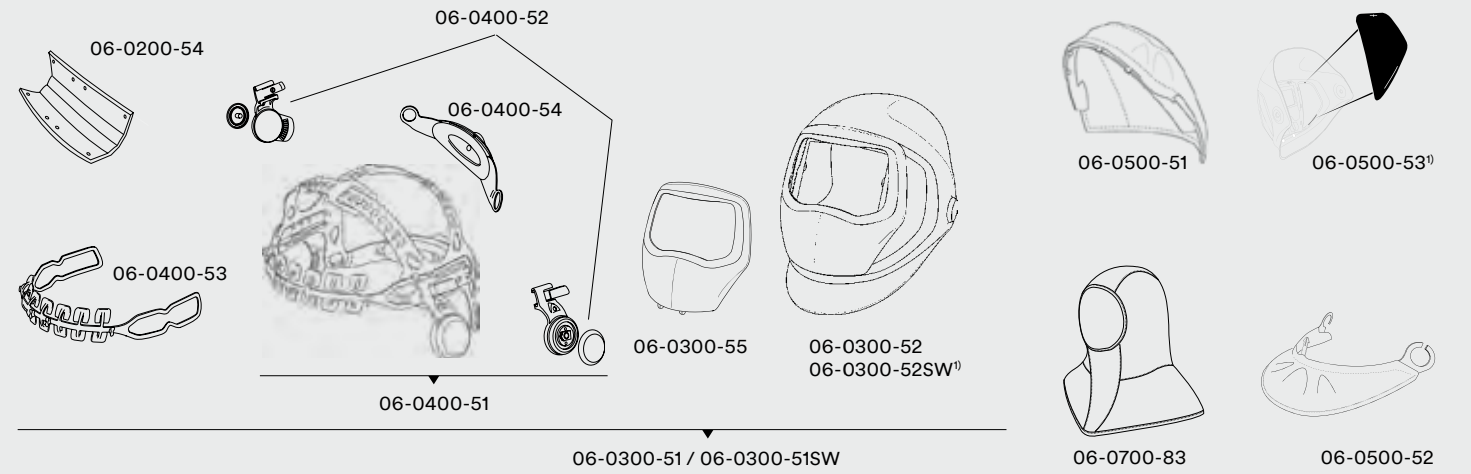
Helmets without welding filter

Part No	Description
06-0300-51	Welding helmet 9100 without side windows, with headband and silver front.
06-0300-51SW	Welding helmet 9100 with side windows, headband and front cover.

Welding filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9–13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9–13 (2.1"x 4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9–13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9–13 (2.8"x4.2").

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



Part No	Description	Part No	Description	Part No	Description
04-0023-02	3M™ Hard hat H701, white (unvented).	06-0200-51	Outer protection plate, 10/case.	06-0300-55	Heat-reflecting front cover 9100.
04-0320-00	Battery, 2/case.	06-0200-51B	Outer protection plate, 50/case.	06-0300-55i	Heat-reflecting front cover 9100XXi.
04-0400-55	Battery holder, 2/case.	06-0200-52	Outer protection plate scratch resistant, 10/case.	06-0400-51	Headband with assembly parts.
06-0000-10	Speedglas welding filter 9100V.	06-0200-52B	Outer protection plate scratch resistant, 50/case.	06-0400-52	Pivot mechanism, left and right.
06-0000-20	Speedglas welding filter 9100X.	06-0200-53	Outer protection plate heat resistant, 10/case.	06-0400-53	Headband front part.
06-0000-30	Speedglas welding filter 9100XX.	06-0200-53B	Outer protection plate heat resistant, 50/case.	06-0400-54	Headband back part.
06-0000-30i	Speedglas welding filter 9100XXi.	06-0200-54	Comfort sweatband, 3/case, standard, 10/case.	06-0500-51	Head protection.
06-0000-30i-KIT	Speedglas welding filter kit 9100XXi (incl front cover and welding filter).	06-0300-51	Welding helmet without side windows, with headband.	06-0500-52	Neck protection.
06-0014-00NR	Hard hat adapter 9100, with assembly parts.	06-0300-51SW	Welding helmet with side windows and headband, with front cover 9100.	06-0500-53 ¹⁾	Side windows cover plate, 2 pairs.
06-0200-10	Inner cover plate for 9100V filter, 5/case. Plate marking 117x50.	06-0300-52	Welding helmet without side windows, without headband, with front cover 9100.	06-0500-56	Magnifying lens 1.5.
06-0200-20	Inner cover plate for 9100X filter, 5/case. Plate marking 117x61.	06-0300-52SW	Welding helmet with side windows, without headband, with front cover.	06-0500-57	Magnifying lens 2.0.
06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case. Plate marking 117x77.			06-0500-58	Magnifying lens 2.5.
				06-0500-59	Magnifying lens 3.0.
				06-0700-83	Hood.

¹⁾ Please use Part No 06-0300-52SW when new side windows are required.
²⁾ Many alternative colors available, see page 95



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: 06-0000-30i-KIT Welding filter and front cover 9100XXi

3M™ Speedglas™ Welding Helmet 9100 FX



Helmets with side windows – and auto-darkening filter

Part No	Description
06-0600-10SW	With Speedglas welding filter 9100X (1.8"x3.7").
06-0600-20SW	With Speedglas welding filter 9100X (2.1"x 4.2").
06-0600-30SW	With Speedglas welding filter 9100XX (2.8"x4.2").

Helmet without welding filter

Part No	Description
06-0600-00SW	Welding helmet 9100 FX with side windows, headband and front cover.

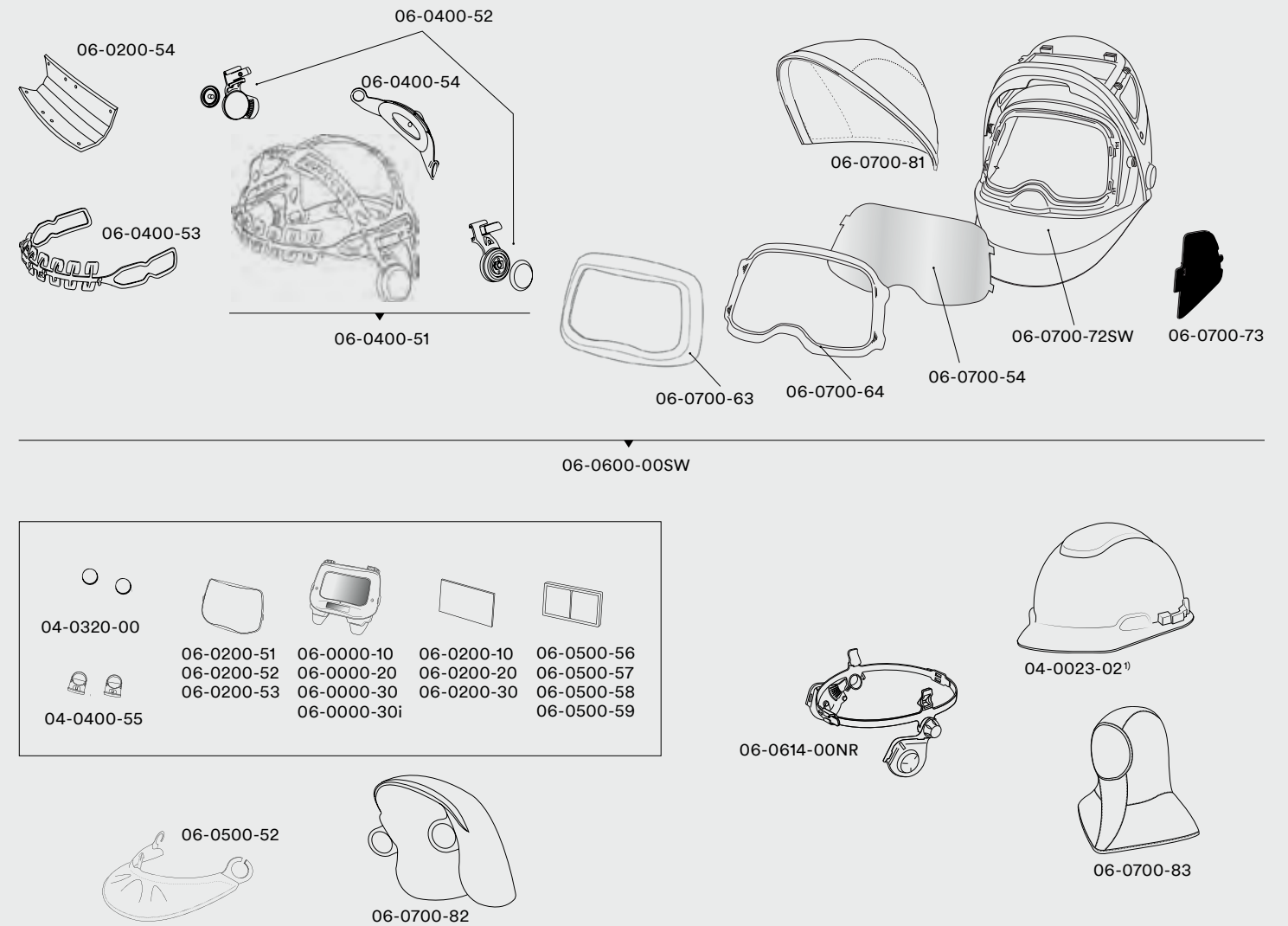
Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9–13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9–13 (2.1"x4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9–13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9–13 (2.8"x4.2").



Using the adapter 06-0614-00NR, you can easily fit many of the industry's hard hats with the Speedglas welding helmet 9100 FX.

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



Part No	Description	Part No	Description	Part No	Description
04-0023-02	3M™ Hard hat H701, white (unvented).	06-0200-52	Outer protection plate scratch resistant, 10/case.	06-0600-00SW	Welding helmet, without welding filter, with headband.
04-0320-00	Battery CR2032 Lithium 3V, 2/case.	06-0200-52B	Outer protection plate scratch resistant, 50/case.	06-0614-00NR	Hard hat adapter 9100FX, with assembly parts.
04-0400-55	Battery holder, 2/case.	06-0200-53	Outer protection plate heat resistant, 10/case.	06-0700-54	Visor plate anti-fog, 5/case.
06-0000-P11	Speedglas passive welding filter kit 9100 (shade 11).	06-0200-53B	Outer protection plate heat resistant, 50/case.	06-0700-81	Head protection (small).
06-0000-10	Speedglas welding filter 9100V.	06-0200-10	Inner cover plate for 9100V filter, 5/case. Plate marking 117x50.	06-0700-82	Head protection (large).
06-0000-20	Speedglas welding filter 9100X.			06-0700-83	Hood, black/grey.
06-0000-30	Speedglas welding filter 9100XX.			06-0700-73	Side windows cover plate, 2 pairs.
06-0000-30i	Speedglas welding filter 9100XXi.			06-0700-63	Front panel, chrome.
06-0200-20	Inner cover plate for 9100X filter, 5/case. Plate marking 117x61.	06-0200-54	Comfort sweatband, 3/case.	06-0700-64	Wide-view clear grinding visor frame, black.
06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case. Plate marking 117x77.	06-0400-51	Headband with assembly parts.	06-0700-72SW	Welding helmet, without welding filter, without headband.
06-0200-51	Outer protection plate, 10/case.	06-0400-52	Pivot mechanism, left and right.		
06-0200-51B	Outer protection plate, 50/case.	06-0400-53	Headband front part.		
		06-0400-54	Headband back part.		
		06-0500-52	Neck protection, black.		
		06-0500-56	Magnifying lens 1.5.		
		06-0500-57	Magnifying lens 2.0.		
		06-0500-58	Magnifying lens 2.5.		
		06-0500-59	Magnifying lens 3.0.		

1) Many alternative colors available, see page 95

3M™ Speedglas™ Welding Helmet 9100-QR



06-0100-30QR



06-0300-54QR



06-0000-30i
06-0000-10 06-0000-20 06-0000-30

Welding helmets – with 3M™ Hard hat H-701

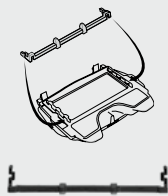
Part No	Description
06-0100-10QR	With Speedglas welding filter 9100X, with rail and hard hat (1.8"x3.7").
06-0100-20QR	With Speedglas welding filter 9100X, with rail and hard hat (2.1"x4.2").
06-0100-30QR	With Speedglas welding filter 9100XX (2.8"x4.2").

Welding helmets – without hard hat

Part No	Description
06-0300-54QR	With QR rail, without hard hat, without welding filter.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9–13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9–13 (2.1"x4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9–13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9–13 (2.8"x4.2").



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 06-0119-00QR



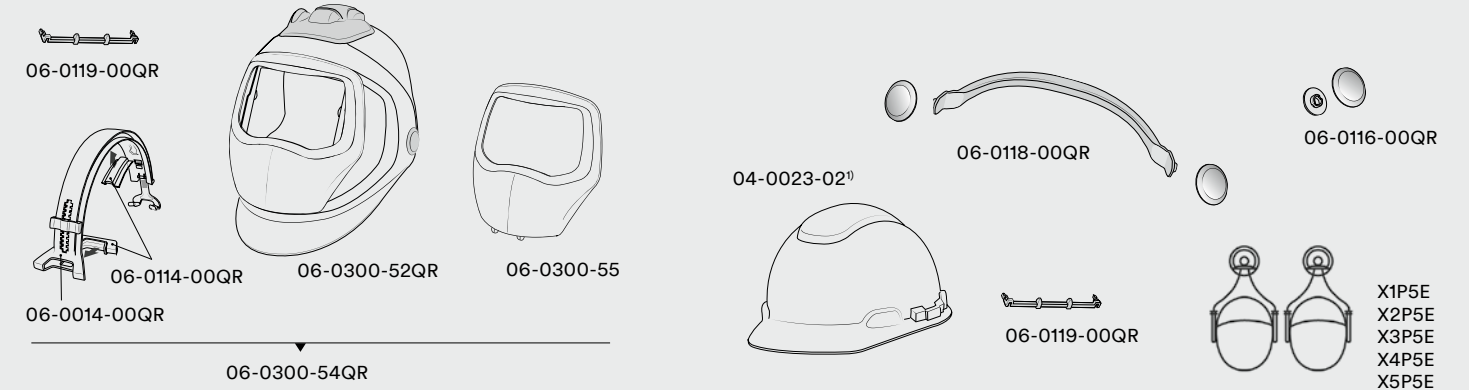
Earmuff bar

When using earmuffs, we recommend you to install this earmuff bar to widen the 9100-QR welding helmet.

Sold as separate accessory.

Part No 06-0118-00QR

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



Part No	Description	Part No	Description	Part No	Description
04-0023-02 ¹⁾	3M™ Hard hat H-701R, white (unvented).	06-0200-51B	Outer protection plate, 50/case.	X1P5E	3M™ Peltor™ Earmuffs X1 helmet attachment.
04-0320-00	Battery CR2032 Lithium 3V, 2/case.	06-0200-52	Outer protection plate scratch resistant, 10/case.	X2P5E	3M™ Peltor™ Earmuffs X2 helmet attachment.
04-0400-55	Battery holder for welding filter series 9100, 2/case.	06-0200-52B	Outer protection plate scratch resistant, 50/case.	X3P5E	3M™ Peltor™ EarMuffs X3 helmet attachment.
06-0000-10	Speedglas welding filter 9100V.	06-0200-53	Outer protection plate heat resistant, 10/case.	X4P5E	3M™ Peltor™ Earmuffs X4 helmet attachment.
06-0000-20	Speedglas welding filter 9100X.	06-0200-53B	Outer protection plate heat resistant, 50/case.	X5P5E	3M™ Peltor™ Earmuffs X5 helmet attachment.
06-0000-30	Speedglas welding filter 9100XX.	06-0300-52QR	Welding helmet 9100-QR without rail, without welding filter, without hard hat.		
06-0000-30i	Speedglas welding filter 9100XXi.	06-0300-54QR	Welding helmet 9100-QR with rail, without welding filter, without hard hat.		
06-0000-30i-KIT	Speedglas welding filter kit 9100XXi (incl front cover and welding filter).	06-0300-55	Heat-reflecting front cover 9100.		
06-0014-00QR	Quick release rail for hard hat.	06-0300-55i	Heat-reflecting front cover 9100XXi.		
06-0114-00QR	Rubber friction pads for quick release rail.	06-0500-56	Magnifying lens 1.5.		
06-0116-00QR	Pivot cover plate kit for quick release welding helmets, 2/case.	06-0500-57	Magnifying lens 2.0.		
06-0200-10	Inner cover plate for 9100V filter, 5/case. Plate marking 117x50.	06-0500-58	Magnifying lens 2.5.		
06-0200-20	Inner cover plate for 9100X filter, 5/case. Plate marking 117x61.	06-0500-59	Magnifying lens 3.0.		
06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case. Plate marking 117x77.	06-0119-00QR	Distance bar for welding filters 9100X, 9100XX and 9100XXi.		
06-0200-51	Outer protection plate, 10/case.	06-0118-00QR	Earmuff bar for Speedglas welding helmet 9100-QR.		
		18-0099-68	Ear and neck protection in leather.		

¹⁾ Many alternative colors available, see page 95

3M™ Speedglas™ Welding Helmet 9002NC



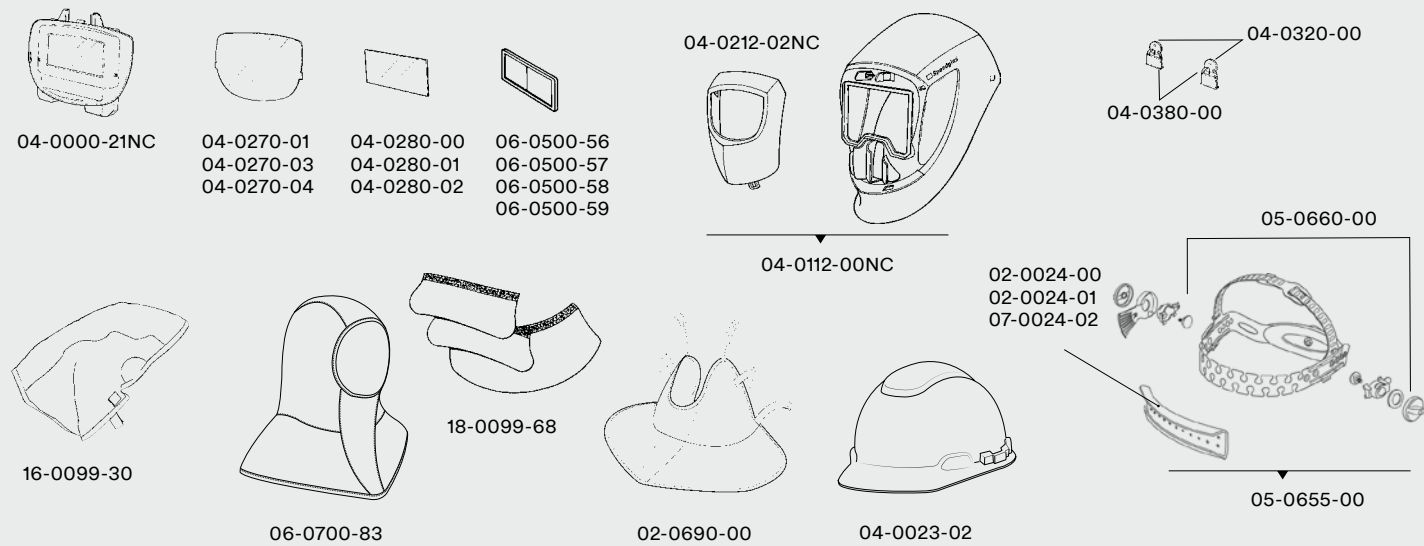
Helmet with auto-darkening filter

Part No	Description
04-0100-20NC	Welding helmet without side windows, with welding filter 9002NC, variable shade 8-12 (2.1"x4.2").

Welding filter (only)

Part No	Description
04-0000-21NC	3M™ Speedglas™ Welding Filter 9002NC, variable shade 8-12 (2.1"x4.2").

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



Part No	Description	Part No	Description	Part No	Description
02-0024-01	Sweatband, leather.	04-0280-01	Inner cover plate, +1 Shade, 5/case.	06-0500-59	Magnifying lens 3.0.
02-0024-00	Sweatband, cotton fleece with padding.	04-0280-02	Inner cover plate, +2 Shades, 5/case.	06-0700-83	Hood.
02-0690-00	Neck protection.	04-0320-00	Battery CR2032 Lithium 3V, 2/case.	07-0024-02	Sweatband, fleece, 2/case.
04-0000-21NC	Speedglas welding filter 9002NC, shade 8-12.	04-0380-00	Battery cover, 2/case.	07-0014-00NR	Hard hat adapter with assembly parts, without hard hat (not shown).
04-0023-02	3M™ Hard hat H701, white (unvented).	04-0112-00NC	Welding Helmet 9000 without ADF welding filter.	16-0099-30	Head protection.
04-0270-01	Outer protection plate, standard, 10/case.	04-0212-02NC	Front cover	18-0099-68	Ear and neck protection in leather.
04-0270-03	Outer protection plate, scratch resistant, 10/case.	05-0655-00	Headband with assembly parts.		
04-0270-04	Outer protection plate, heat resistant, 10/case.	05-0660-00	Assembly parts for headband.		
04-0280-00	Inner cover plate 5/case.	06-0500-56	Magnifying lens 1.5.		
		06-0500-57	Magnifying lens 2.0.		
		06-0500-58	Magnifying lens 2.5.		

3M™ Speedglas™ Welding Helmet SL



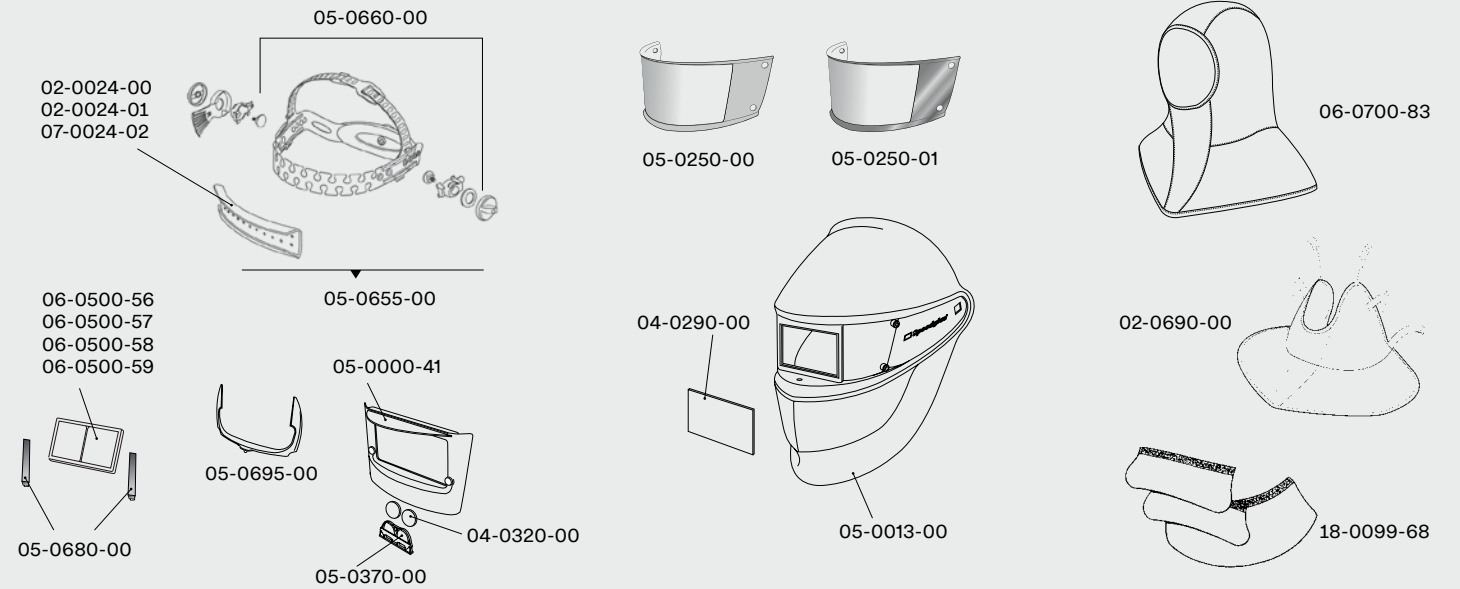
Helmet with auto-darkening filter

Part No	Description
05-0013-41	Welding helmet SL with welding filter, variable shade 8-12 (1.7"x3.7").

Welding filter (only)

Part No	Description
05-0000-41	3M™ Speedglas™ Welding Filter SL, variable shade 8-12 (1.7"x3.7").

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



Part No	Description	Part No	Description	Part No	Description
18-0099-68	Ear and neck protection in leather (3 parts).	06-0500-59	Magnifying lens 3.0.	05-0695-00	Splatter protector
07-0024-01	Sweatband, fleece, 2/case.	05-0680-00	Holder for magnifying lens.	05-0250-00	Outer protection plate, standard, 5/case. Plate marking 030226.
02-0024-02	Sweatband, leather.	04-0320-00	Battery CR2032 Lithium 3V, 2/case.	05-0250-01	Outer protection plate, scratch resistant, 5/case. Plate marking 030248.
02-0024-00	Sweatband, cotton fleece with padding.	04-0290-00	Inner cover plate 5/case. Plate marking 42 02 00.	05-0370-00	Battery cover.
02-0690-00	Neck protection.	05-0000-41	Speedglas welding filter SL.		
06-0700-83	Hood black/grey.	05-0013-00	Welding helmet, without headband.		
06-0500-56	Magnifying lens 1.5.	05-0655-00	Headband with assembly parts.		
06-0500-57	Magnifying lens 2.0.	05-0660-00	Assembly parts for headband.		
06-0500-58	Magnifying lens 2.5.				

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



07-0012-31BL



07-0012-31BLQR



07-0001-10
07-0001-11 07-0001-31

3M™ Speedglas™ Welding Helmet 100 (black)

Part No	Description
07-0012-31BL	With Speedglas welding filter 100V, variable shade 8–12 (1.7"×3.7").
07-0012-00BL	Without welding filter, without headband.

3M™ Speedglas™ Welding Helmet 100-QR

Part No	Description
07-0114-00BLQR	Welding helmet 100-QR without welding filter, without hard hat, with QR rail.
07-0012-31BLQR	Welding helmet 100-QR with 3M hard hat H-701R QR rail and welding filter 100-V (1.7"×3.7").

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
07-0001-10	Auto-darkening filter 100S-10, single shade 10 (1.7"×3.7").
07-0001-11	Auto-darkening filter 100S-11, single shade 11 (1.7"×3.7").
07-0001-31	Auto-darkening filter 100-V, variable shade 8–12 (1.7"×3.7").



Part No	Description
07-0012-31TB	With filter 100V.



Part No	Description
07-0012-31TW	With filter 100V.



Part No	Description
07-0012-31BZ	With filter 100V.

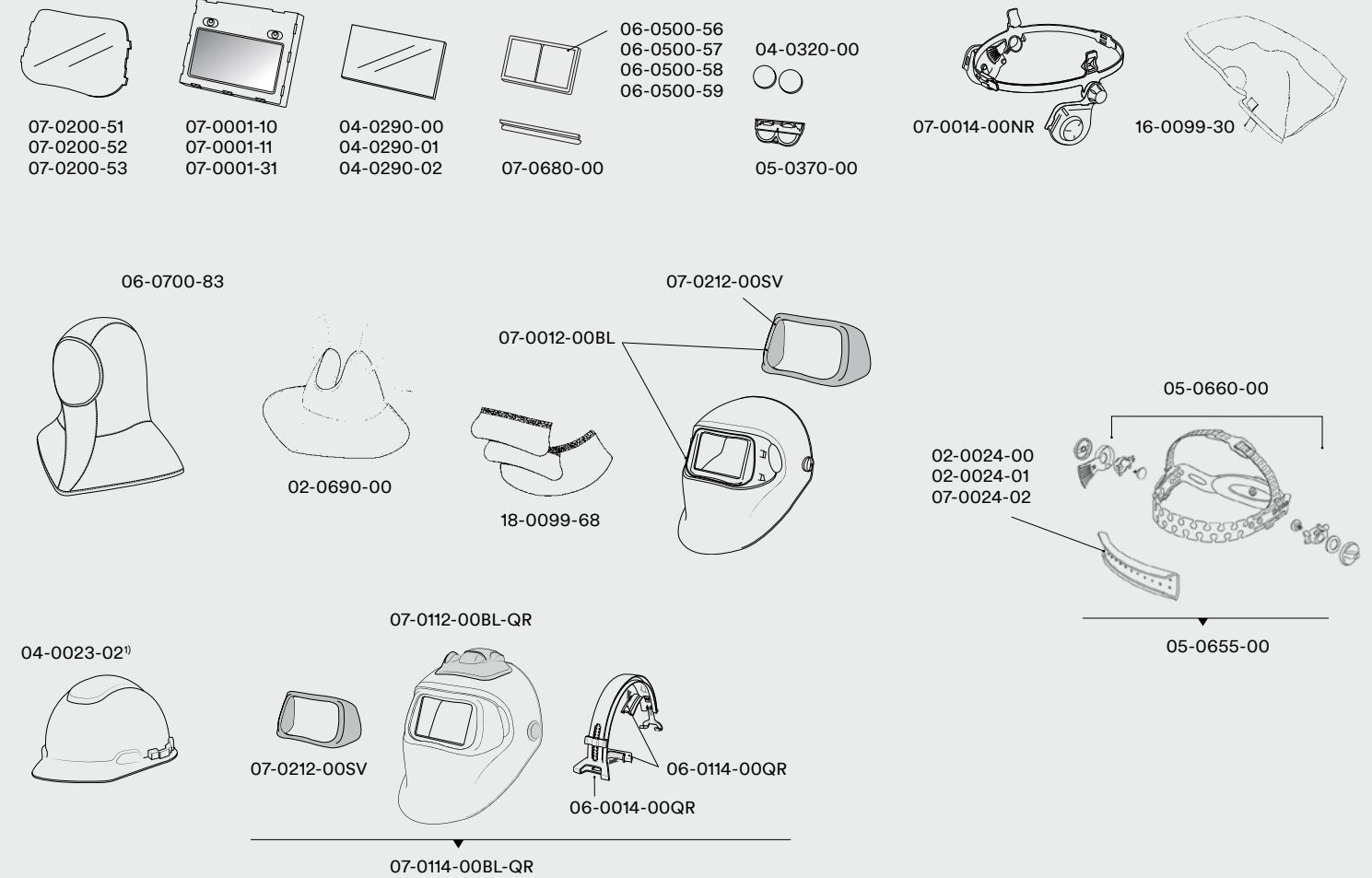


Part No	Description
07-0012-31AH	With filter 100V.



Part No	Description
07-0012-31SR	With filter 100V.

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



Part No	Description	Part No	Description	Part No	Description
02-0024-00	Sweatband, cotton fleece with padding.	06-0116-00QR	Pivot cover plate kit for quick release welding helmets (QR), 2/case.	07-0112-00BLQR	Welding helmet 100-QR without rail, without filter, without hard hat.
02-0024-01	Sweatband, leather.	06-0500-56	Magnifying lens 1.5.	07-0114-00BLQR	Welding helmet 100-QR with rail, without welding filter, without hard hat.
02-0690-00	Neck protection.	06-0500-57	Magnifying lens 2.0.	07-0200-51	Outer protection plate, standard, 10/case.
04-0023-02 ¹⁾	White 3M™ Hard hat H-701R (unvented), with ratchet suspension.	06-0500-58	Magnifying lens 2.5.	07-0200-52	Outer protection plate, scratch resistant, 10/case.
04-0290-00	Inner cover plate, 5/case.	06-0500-59	Magnifying lens 3.0.	07-0200-53	Outer protection plate, heat resistant, 10/case.
04-0290-01	Inner cover plate, +1 shade, 5/case.	06-0700-83	Hood.	07-0212-00SV	Front frame, silver.
04-0290-02	Inner cover plate, +2 shade, 5/case.	07-0001-10	Speedglas welding filter 100S-10, single shade 10.	07-0680-00	Holder for magnifier (older models of welding filters).
04-0320-00	Battery CR2032 Lithium 3V, 2/case.	07-0001-11	Speedglas welding filter 100S-11, single shade 11.	16-0099-30	Head protection.
05-0370-00	Battery cover.	07-0001-31	Speedglas welding filter 100V, variable shade 8–12.	18-0099-68	Ear and neck protection in leather.
05-0655-00	Headband with assembly parts.	07-0012-00BL	100 welding helmet black, without filter, without headband.		
05-0660-00	Assembly parts for headband.	07-0014-00NR	Hard hat adapter (loop), with assembly parts.		
06-0014-00QR	Quick release rail for hard hat.	07-0024-02	Sweatband, fleece, 2/case.		
06-0114-00QR	Rubber friction pads for quick release rail.				

¹⁾ Many alternative colors available, see page 95

3M™ Welding Helmets 10V



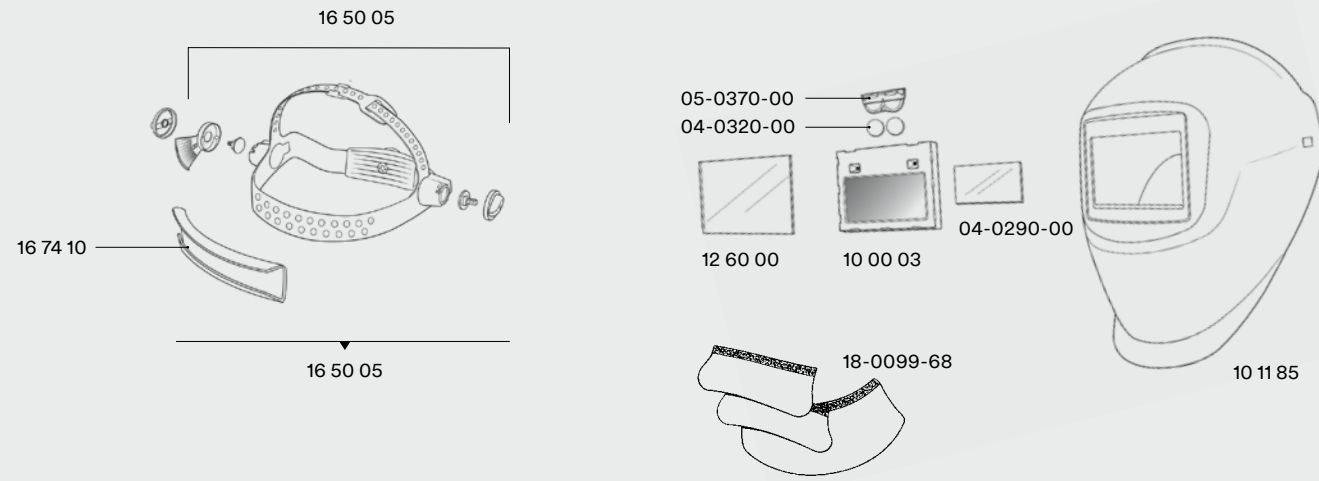
3M™ Welding Helmet 10V

Part No	Description
10 11 21	with welding filter 10V, variable shade 10–12 (1.7"x3.7").

3M™ Welding Filter 10V

Part No	Description
10 00 03	Welding filter 10V, variable shade 10–12 (1.7"x3.7").

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

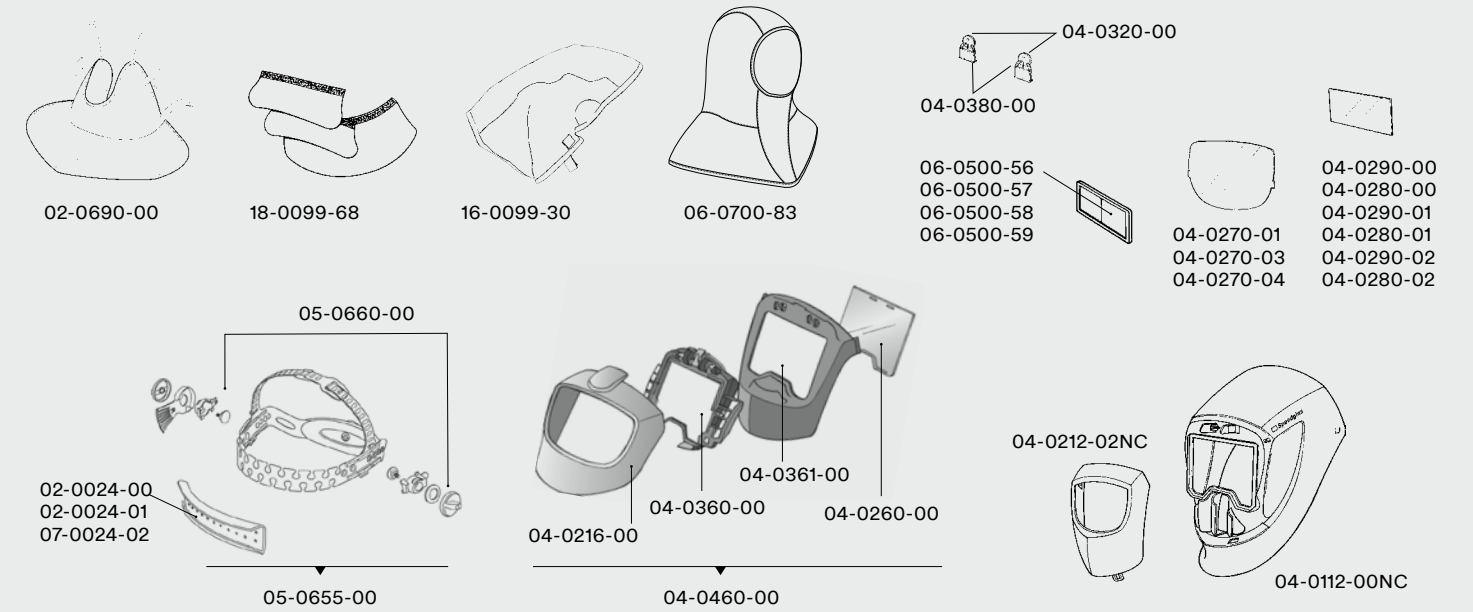


Part No	Description	Part No	Description
10 00 03	3M welding filter 10V, shade 10–12.	04-0320-00	Battery CR2032 Lithium 3V, 2/case.
10 11 85	Welding helmet 10V without headband, without welding filter.	04-0290-00	Inner cover plate 5/case. Plate marking 42 02 00.
12 60 00	Outer protection plate.	05-0370-00	Battery cover.
16 50 05	Headband with assembly parts.	18-0099-68	Ear and neck protection in leather (3 parts).
16 60 00	Assembly parts for headband.		
16 74 10	Sweatband.		

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



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



Part No	Description	Part No	Description	Part No	Description
02-0024-00	Sweatband, cotton fleece with padding.	04-0280-02	Inner cover plate (2.1"x4.1"), +2 Shade, 5/case.	06-0500-58	Magnifying lens 2.5.
02-0024-01	Sweatband, leather.	04-0290-00	Inner cover plate (1.7"x3.6") 5/case. Plate marking 42 02 00.	06-0500-59	Magnifying lens 3.0.
02-0690-00	Neck protection.	04-0290-01	Inner cover plate (1.7"x3.6"), +1 Shade for 9002D/9002V filters, 5/case.	06-0700-83	Hood.
04-0112-00NC	Helmet without side windows, without headband, without welding filter.	04-0290-02	Inner cover plate (1.7"x3.6"), +2 Shade 5/case.	07-0024-02	Sweatband, fleece, 2/case.
04-0212-02NC	Front cover.	04-0320-00	Battery CR2032 Lithium 3V, 2/case.	16-0099-30	Head protection.
04-0216-00	Front cover FlexView, silver.	04-0360-00	Holder for welding filter (FlexView).	18-0099-68	Ear and neck protection in leather.
04-0260-00	Protective visor plate FlexView, 10/case.	04-0361-00	Middle helmet FlexView, black.		
04-0270-01	Outer protection plate, standard, 10/case. Plate marking 42 01 50.	04-0380-00	Battery cover, 2/case.		
04-0270-03	Outer protection plate, scratch resistant, 10/case.	04-0460-00	Speedglas FlexView Conversion Kit.		
04-0270-04	Outer protection plate, heat resistant, 10/case. Plate marking 42 01 71 HEAT.	04-0550-00	FlexView locking wedge kit, holder welding filter (not shown).		
04-0280-00	Inner cover plate (2.1"x4.1") 5/case. Plate marking 42 02 10.	05-0655-00	Headband with assembly parts.		
04-0280-01	Inner cover plate (2.1"x4.1"), +1 Shade 5/case.	05-0660-00	Assembly parts for headband.		
		06-0500-56	Magnifying lens 1.5.		
		06-0500-57	Magnifying lens 2.0.		

Welding and grinding respiratory systems

3M™ Speedglas™ Welding Helmets

9100 Air
Page 86

9100 FX-Air
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9100 MP
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3M™ Versaflor™ Headtops

M-207
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M-307
Page 96

M-407
Page 96

3M™ Adflo™ Powered Air Respirator

Page 82

3M™ Adflo™ High-Altitude Powered Air Respirator²⁾

Page 82

3M™ Speedglas™ Fresh-air III Supplied Air Regulators

V-100 Air Cooling
Page 84

V-200 Air Heating
Page 84

V-300 Air regulating
Page 84

Breathing tubes³⁾
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 (SG-30W). As an alternative the high durability rubber tube (SG-40W) is sold separately. Part numbers, see page 82 and 84.

Filters and accessories

1. Prefilter¹⁾

2. HE particulate filter¹⁾

3. Nuisance Odor Filter
Not needed when you use OV/AG cartridge.

4. OV/AG cartridge⁴⁾

5. Backpack

More information about Adflo accessories see page 83.

Air Supply

1. 3M™ Air Filtration Units
(wall-mounted or portable)

2. 3/8 in High Pressure Hose
(25, 50, or 100 ft)

More information about air supply see page 84.



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: 35-0099-08N6 Batteries and chargers not included

1) Included as standard when you order a complete 3M™ Adflo™ PAPR System with welding helmet; 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) The 3M™ Speedglas™ Breathing Tube SG-50W is required when used with 3M™ Adflo™ PAPR with HE filter and OV/AG cartridge and 3M™ Speedglas™ Welding Helmets 9100-Air, 9100MP or 3M™ Versaflor™ Helmet M-407. The SG-50W breathing tube is not NIOSH approved with 3M™ Supplied Air Valves V-Series.
 4) OV/AG cartridge must always be used together with HE filter.



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 Versaflor 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		3M™ Speedglas™ Welding Helmet 9100 FX-Air		3M™ Speedglas™ Welding Helmet 9100MP	
Part No	Description	Part No	Description	Part No	Description
35-1101-00SW	Welding helmet 9100-Air without welding filter), with self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	36-1101-00SW	Welding helmet 9100 FX-Air without welding filter, with self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag	37-1101-00SW	Welding helmet 9100 MP without welding filter, with self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag
35-1101-10SW	Welding helmet 9100-Air with welding filter 9100V (1.8"x3.7"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	36-1101-10SW	Welding helmet 9100 FX-Air with welding filter 9100V (1.8"x3.7"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	37-1101-10SW	Welding helmet 9100 MP with welding filter 9100V (1.8"x3.7"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.
35-1101-20SW	Welding helmet 9100-Air with welding filter 9100X (2.1"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	36-1101-20SW	Welding helmet 9100 FX-Air with welding filter 9100X (2.1"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	37-1101-20SW	Welding helmet 9100MP with welding filter 9100X (2.1"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.
35-1101-30iSW	Welding helmet 9100-Air with welding filter 9100XXi (2.8"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	36-1101-30iSW	Welding helmet 9100 FX-Air with welding filter 9100XXi (2.8"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.	37-1101-30iSW	Welding helmet 9100MP with welding filter 9100XXi (2.8"x4.2"), self-adjusting QRS breathing tube (20.6" to 33.5") and storage bag.

3M™ Adflo™ Powered Air Respirator



Respirator without headtop
– for use with 9100 Series Headtops

Part No	Description
35-5401-01	Adflo respirator with SG-30W self-adjusting breathing tube, airflow indicator, prefilter, spark arrestor, HE particulate filter, battery, belt and charger.



Respirator without headtop
– for use with L-Series Headtops

Part No	Description
34-5401-02SG	Adflo respirator with L-122SG breathing tube, airflow indicator, prefilter, spark arrestor, HE particulate filter, battery, belt and charger.



Respirator without headtop
– for use in High Altitude environments

Part No	Description
35-3499-01	Adflo HA respirator with self adjusting breathing tube QRS, breathing tube adapter, airflow indicator, prefilter, spark arrestor, HE particulate filter, battery, belt and charger.

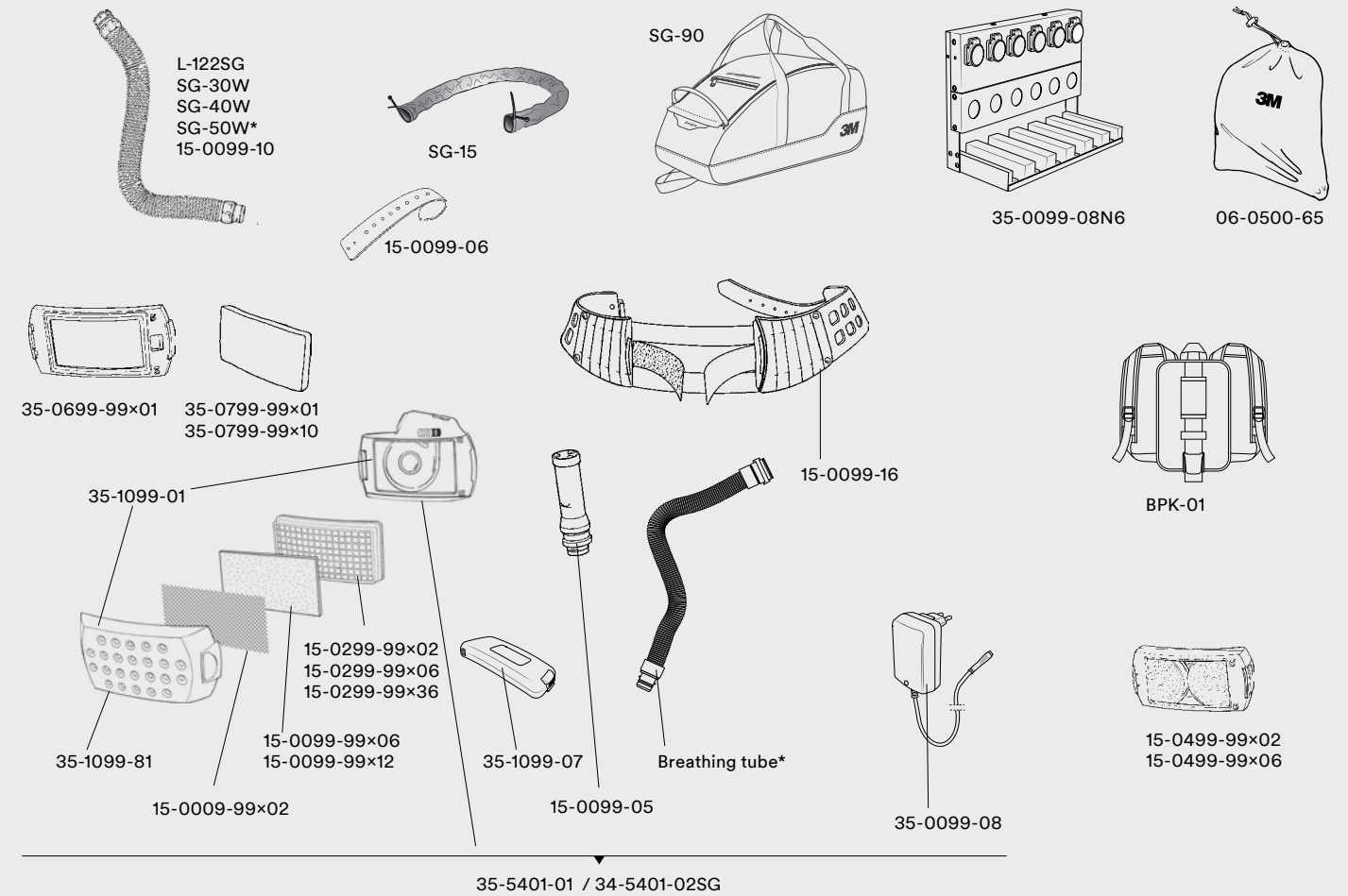
See a demo on how to replace your parts and maintain your welding respirator systems

Visit our website:
www.3m.com/Speedglas

General charging, specifications, maintenance and storage for Adflo™ Battery

- How to Charge and Maintain Adflo Battery (3:26)
- Demonstration of how Adflo PAPR works (1:18)
- Demonstration of how Adflo PAPR works (1:09)
- How to Welding video - Demonstration of airflow on AdFlo (0:32)

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



Part No	Description	Part No	Description	Part No	Description
BPK-01	Backpack	15-0099-12	O-ring for breathing tube assembly 15-0099-10. (not shown).	35-0099-08	Charger for Li-ion battery
L-122SG	Breathing tube for L-series headgear.	15-0099-16	Belt, leather.	35-0099-08N6	Docking station for chargers.
SG-15	Flame resistant breathing tube cover (replaces 17-0099-54).	15-0099-20	Flow Indicator rubber adapter (not shown).	35-0099-14	Belt connection (not shown)
SG-30W	Breathing tube, self-adjusting, with QRS connection.	15-0099-21	Flow Indicator.	35-0699-9901	Nuisance odor filter
SG-40W	Breathing tube, heavy-duty, with QRS connection.	15-0099-9906	Prefilter, 6/case.	35-0699-9901	Nuisance odor filter pad
SG-50W*	Breathing tube, sound-dampening, with QRS connection.	15-0099-9912	HE particulate filter, 2/case.	35-0699-9901	Nuisance odor filter pad, 10/c
SG-90	Carry bag, black.	15-0299-9902	HE particulate filter, 6/case.	35-1099-01	PAPR assembly and filter cover
06-0500-65	Protective bag	15-0299-9936	HE particulate filter, 36/case.	35-1099-07	Battery Li-ion
15-0009-9902	Spark arrestor, 2/c	15-0499-9902	OV/AG cartridge, 2/case	35-1099-07	Battery Li-ion
15-0099-05	Airflow indicator	15-0499-9906	OV/AG cartridge, 6/case	35-1099-81	PAPR filter cover
15-0099-06	Leather belt front extender	15-1101-99	Battery NiMH	35-5401-01*	Adflo PAPR with SG-30W self-adjusting breathing tube, airflow indicator, prefilter, spark arrestor, filter cover, HE particulate filter, battery, belt and charger.
15-0099-08	Charger for NiMH battery	15-1101-99	Adflo service kit: HE particulate filters 2/c, prefilters 6/c, spark arrestor 2/case.		
15-0099-10	Breathing tube assembly (including gasket and o-ring)	34-5401-02SG*	Adflo PAPR with L-122SG breathing tube, airflow indicator, prefilter, spark arrestor, filter cover, HE particulate filter, battery, belt and charger		
15-0099-11	Gasket for non-QRS breathing tubes (not shown).				

* The 3M™ Speedglas™ Breathing Tube SG-50W is required when used with 3M™ Adflo™ PAPR with HE filter and OV/AG cartridge and 3M™ Speedglas™ Welding Helmets 9100-Air or 9100 MP.

3M™ Speedglas™ Fresh-air III Supplied Air Regulators



Vortex supplied air regulator V-100

Part No	Description
V-100	Vortex cooling assembly, includes valve V-150, belt W-2963 and holder.



Vortemp supplied air regulator V-200

Part No	Description
V-200	Vortemp heating assembly, includes valve V-250, belt W-2963 and holder.

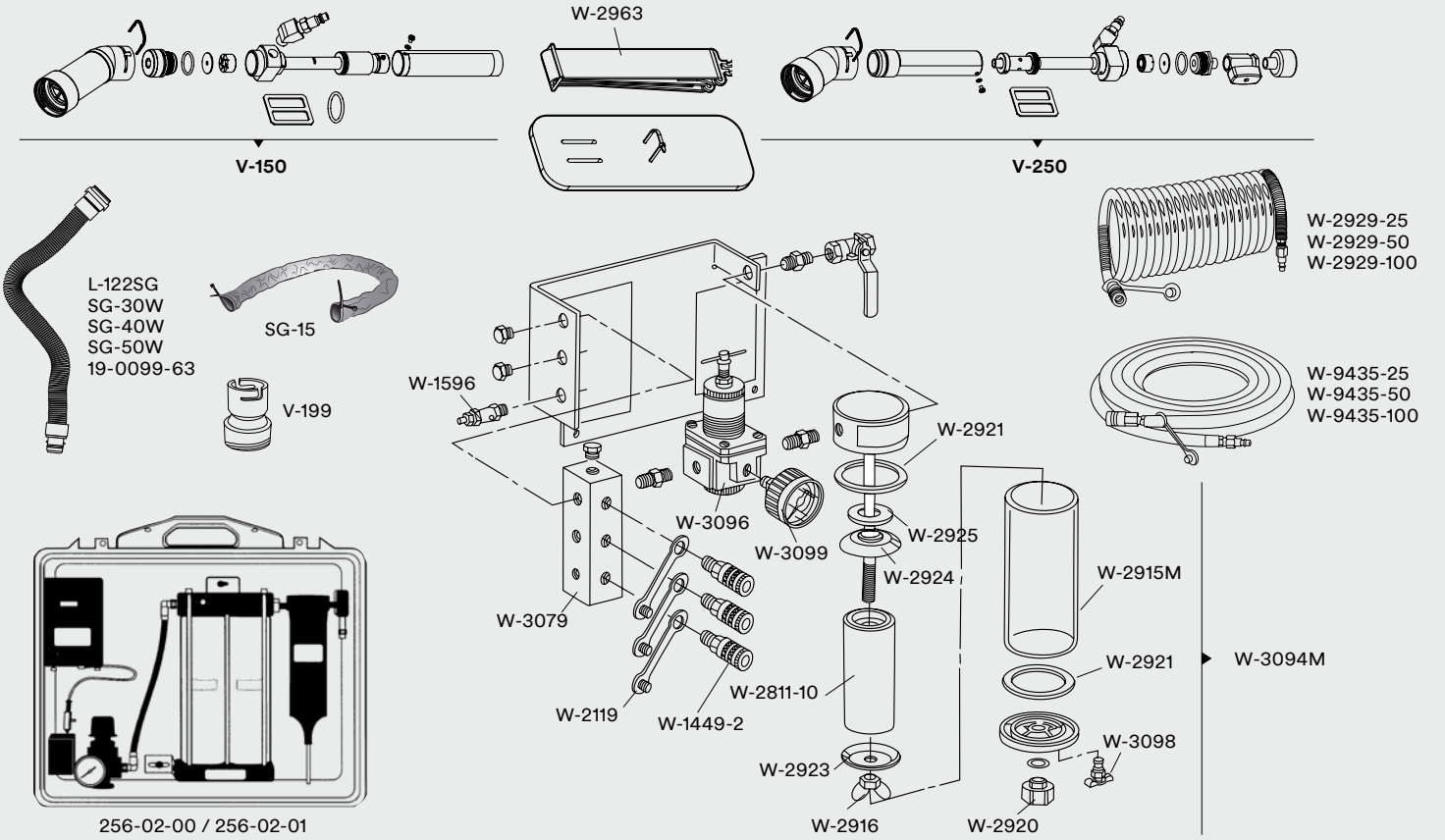


Regulator with air regulating valve V-300

Part No	Description
V-300	3M™ Versaflo™ Air Regulating Valve Assembly.

Available Supplied Air Hoses and Panels	3M™ Supplied Air Hoses		3M™ Filter and Regulator Panels	
Part Numbers	W-9425-25 (25 ft). W-9435-50 (50 ft). W-9435-100 (100 ft).	W-2929-25 (25 ft). W-2929-50 (50 ft). W-2929-100 (100 ft).	W-2806 Filter and Regulator Panel, 50 cfm W-2808 CO Monitor Retrofit Kit.	256-02-00 Portable Filter and Regulator Panel, 50 cfm.
Applications	3/8 in High Pressure Hose (25, 50, or 100 ft).		Helps to remove water, oil, particles, odors and vapors.	Removes limited amounts of carbon monoxide and other contaminants without using large desiccant drying towers.

Spare parts & accessories for 3M™ Speedglas™ Fresh-air III Supplied Air Systems



Part No	Description	Part No	Description	Part No	Description
L-122SG	Breathing tube for L-series headgear.	W-3079	Manifold.	W-2929-100	High pressure air supply hose, 100 ft.
SG-15	Flame resistant breathing tube cover (replaces 17-0099-54).	W-3094M	Filter housing assembly.	W-2963	Waist belt, cotton.
SG-30W	Breathing tube, self-adjusting, with QRS connection.	W-3095	Filter housing base (part of W-3094M).	W-9435-25	High pressure air supply hose, 25 ft.
SG-40W	Breathing tube, heavy-duty, with QRS connection.	W-3096	Air pressure regulator.	W-9435-50	High pressure air supply hose, 50ft.
SG-50W	Breathing tube, sound-dampening, with QRS connection.	W-3098	Drain valve.	W-9435-100	High pressure air supply hose, 100 ft.
W-1449-2	Socket, 3/8 in. MPT, 1/4 in. body size, industrial interchange, 2/case.	W-3099	Air pressure gauge.	19-0099-63	Fresh-air III breathing tube V-Series.
W-1596	Pressure relief valve.	W-3182-2	Socket, 3/8 in MPT, 1/4 in body size, schrader, 2/case (not shown).	256-02-00	Portable compressed air filter and regulator panel, 50 cfm, 4 outlets, with carbon monoxide filtration and monitor.
W-2119	Socket dust cap.	W-3281-2	Socket, hansen S23 (3/8 in. Male NPT), 2/case (not shown).	256-02-01	Portable compressed air and regulator panel, 100 cfm, 8 outlets, with carbon monoxide monitor.
W-2806	Compressed air filter and regulator panel.	V-111	Vortex muffler kit (replacement muffler for the cooling assembly V-100).	529-04-48	Calibration kit, large (not shown).
W-2808	CO monitor with retrofit kit (not shown).	V-115	Vortex spare parts kit (for the cooling assembly V-100).	529-04-49	Calibration kit, small (not shown).
W-2811-10	Filter cartridge, 10/case.	V-150	Vortex cooling valve.	529-04-50	Adapter, 110-120 Volts AC (not shown).
W-2915M	Aluminum filter bowl.	V-199	Adapter (for use with SG-30W and SG-40W breathing tubes), 4/case.	529-05-20	Remote alarm and strobe audible (not shown).
W-2916	Wing nut.	V-211	Vortemp muffler kit (replacement muffler for the heating assembly V-200).		
W-2920	Nut base.	V-215	Vortemp spare parts kit (for the heating assembly V-200).		
W-2921	Bowl gasket.	V-250	Vortemp heating valve.		
W-2923	Cartridge washer.	W-2929-25	High pressure air supply hose, 25 ft.		
W-2924	Air deflector.	W-2929-50	High pressure air supply hose, 50 ft.		
W-2925	Air deflector gasket.				
W-3012	Coalescing filter assembly.				
W-3013-4	High efficiency filter element for W-3012 (not shown), 4/case.				

3M™ Speedglas™ Welding Helmet 9100-Air Systems



Helmet with powered air systems - HE particulate filtration

Part No	Description
35-1101-00SW	Without welding filter with Adflo PAPR and HE filter.
35-1101-10SW	With Speedglas welding filter 9100V (1.8"x3.7" and Adflo PAPR with HE filter.
35-1101-20SW	With Speedglas welding filter 9100X (2.1"x4.2") and Adflo PAPR with HE filter.
35-1101-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Adflo PAPR with HE filter.

Helmet with supplied air systems - V-100 cooling valve

Part No	Description
25-5702-00SW	Without welding filter with Fresh-air III SAR, V-100 cooling valve (available in 2018).
25-5702-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Fresh-air III SAR, V-100 cooling valve.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9-13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9-13 (2.1"x4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9-13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9-13 (2.8"x4.2").

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:

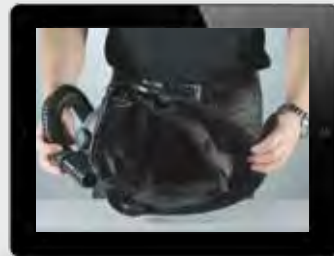


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Adjust the air duct length to your personal preferences.

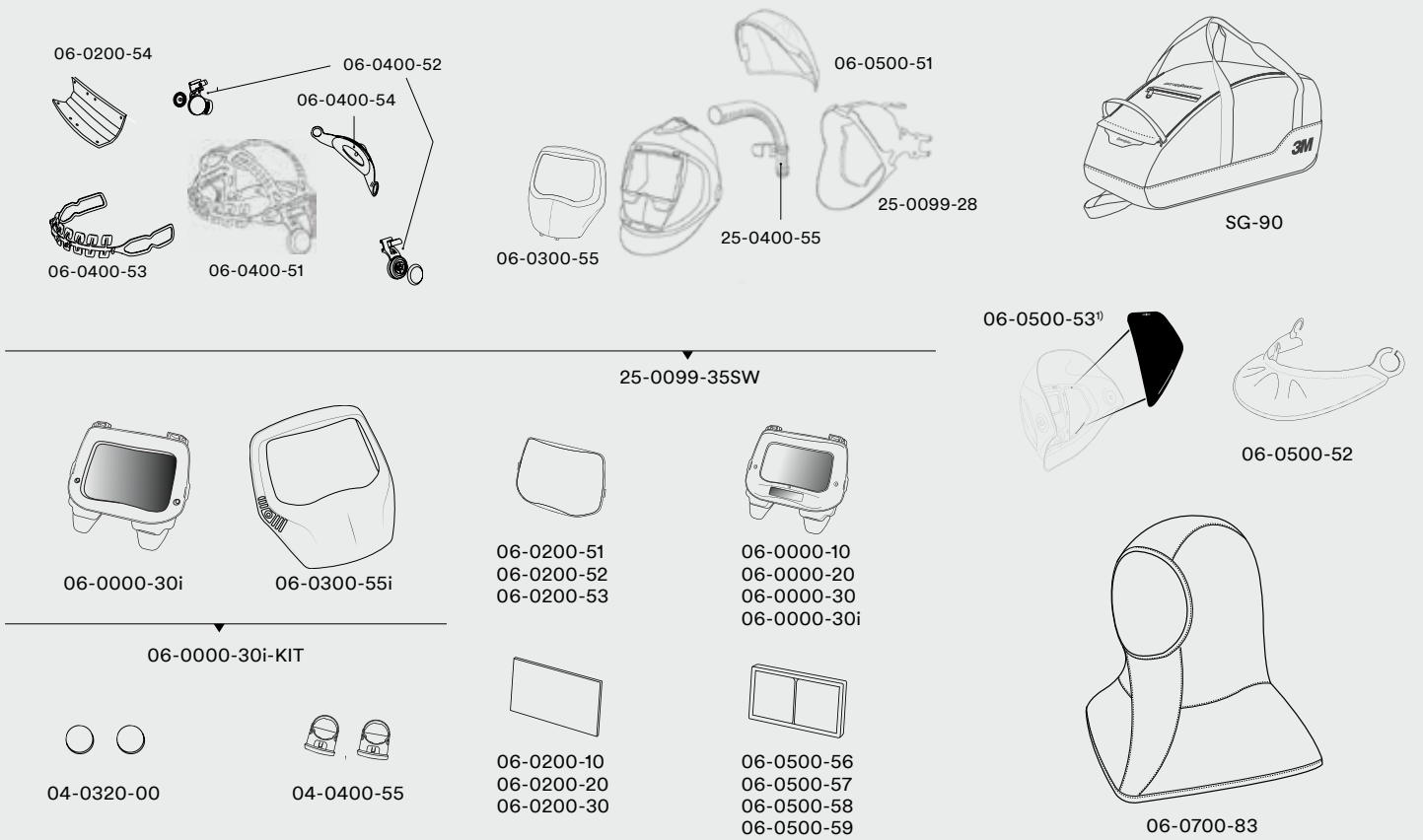


A face seal in good working order is essential at all times. Do you know how to replace it?



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

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



Part No	Description	Part No	Description	Part No	Description
04-0320-00	Battery, 2/case.	06-0200-52B	Part no 06-0200-52, 50/case	06-0500-51	Extended coverage, crown.
06-0000-10	Welding filter 9100V.	06-0200-53	Outside protection plate high temperature, 10/case	06-0500-52	Extended coverage, ear and neck.
06-0000-20	Welding filter 9100X.	06-0200-53B	Part no 06-0200-53, 50/case	06-0500-53	SideWindow cover plates, 2/case
06-0000-30	Welding filter 9100XX.	06-0200-54	Comfort sweatband, 3/case	06-0500-56	Magnification plate 1.5x.
06-0000-30i	Welding filter 9100XXi	06-0200-54B	Comfort sweatband, 12/case	06-0500-57	Magnification plate 2.0x.
06-000030iKIT	Welding filter kit 9100XXi, (filter and silver front)	06-0300-55	Silver front panel.	06-0500-58	Magnification plate 2.5x.
06-0200-10	Inside protection plate 9100V, 5/case	06-0300-55B	Part no 06-0300-55, 5/case.	06-0500-59	Magnification plate 3.0x.
06-0200-10B	Part no 06-0200-10, 25/case	06-0300-55i	Heat-reflecting front cover 9100XXi.	06-0700-83	Full hood, black/grey
06-0200-20	Inside protection plate 9100X, 5/case	06-0400-51	Headband incl assembled parts.	25-0099-28	Face seal
06-0200-20B	Part no 06-0200-20, 25/case	06-0400-51B	Part no 06-0400-51, 5/case	25-0099-35SW	Welding helmet 9100-Air, without welding filter.
06-0200-30	Inside protection plate 9100XX/9100XXi, 5/case	06-0400-52	Pivot mechanism headband, left and right.	25-0400-55	Air duct tube.
06-0200-30B	Part no 06-0200-30, 25/case	06-0400-52B	Part no 06-0400-52, 5/case	SG-90	Carry bag, black.
06-0200-51	Outside protection plate standard, 10/case	06-0400-53	Headband front part.		
06-0200-51B	Part no 06-0200-51, 50/case	06-0400-53B	Part no 06-0400-53, 5/case		
06-0200-52	Outside protection plate scratch resistant, 10/case	06-0400-54	Headband back part.		
		06-0400-54B	Part no 06-0400-54, 5/case		
		06-0400-55	Battery holder 9100, 2/case		
		06-0400-55B	Part no 06-0400-55, 10/case		

1) Please use Part No 26-0099-35SW when new side windows are required.

3M™ Speedglas™ Welding Helmet 9100 FX-Air Systems



Helmet with powered air systems - HE particulate filtration

Part No	Description
36-1101-00SW	Without welding filter with Adflo PAPR and HE filter.
36-1101-10SW	With Speedglas welding filter 9100V (1.8"x3.7") and Adflo PAPR with HE filter.
36-1101-20SW	With Speedglas welding filter 9100X (2.1"x4.2") and Adflo PAPR with HE filter.
36-1101-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Adflo PAPR with HE filter.
36-1101-00SWHA	Without welding filter with Adflo High Altitude PAPR with HE filter.

Helmet with supplied air system

Part No	Description
26-5702-00SW	Without welding filter, with Fresh-air III SAR, V-100 cooling valve.
26-5702-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Fresh-air III SAR, V-100 cooling valve. Available in 2018.

Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9-13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9-13 (2.1"x4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9-13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9-13 (2.8"x4.2").

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:



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

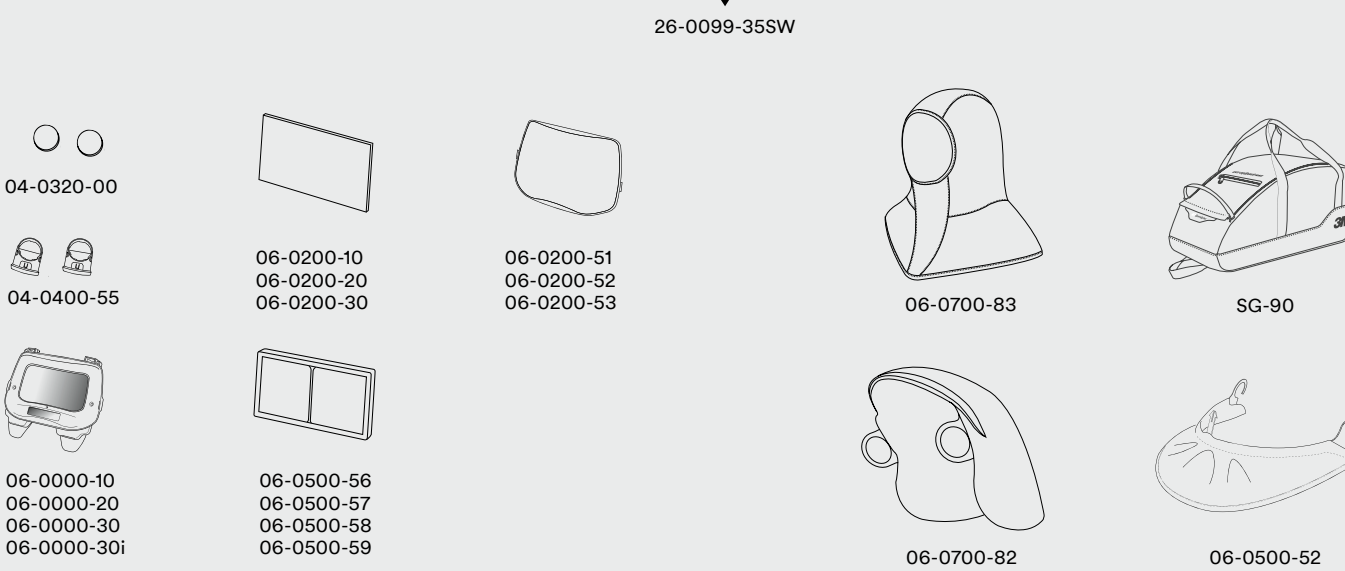
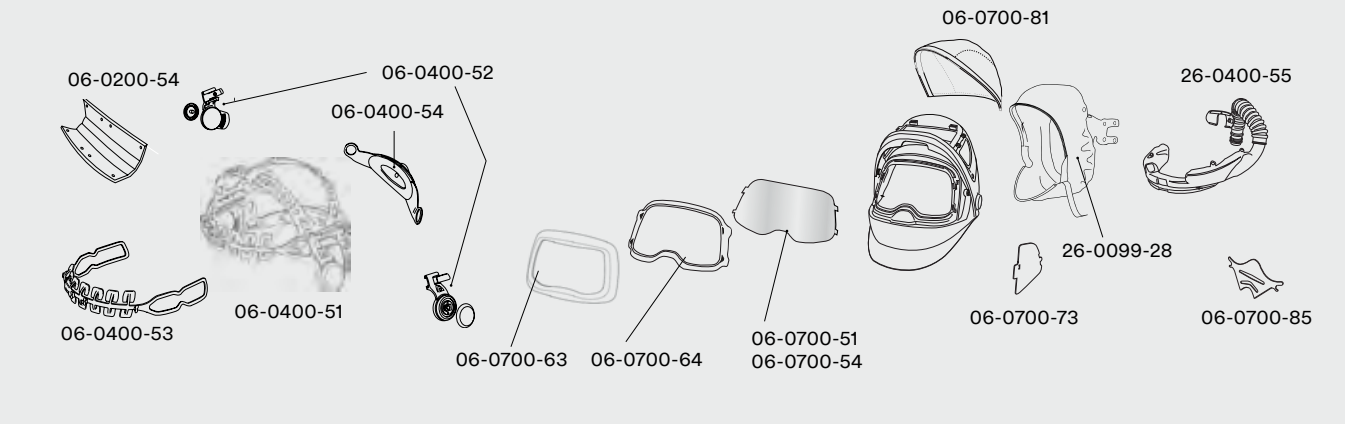


Is your clear visor not so clear anymore, after periods of frequent grinding? From our YouTube channel you will learn how to replace it.



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

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



Part No	Description	Part No	Description	Part No	Description
04-0320-00	Battery, 2/case.	06-0200-53B	Outer protection plate heat resistant, 50/case.	06-0500-58	Magnification plate 2.5x.
06-0000-10	Welding filter 9100V.	06-0200-54	Comfort sweatband, 3/case	06-0500-59	Magnification plate 3.0x.
06-0000-20	Welding filter 9100X.	06-0200-54B	Comfort sweatband (bulk), 12/case	06-0700-51	Wide-view clear grinding visor, standard, 5/case.
06-0000-30	Welding filter 9100XX.	06-0400-51	Headband incl assembled parts.	06-0700-54	Wide-view clear grinding visor, anti-fog, 5/case.
06-0000-30i	Welding filter 9100XXi.	06-0400-51B	Part no 06-0400-51 (bulk), 5/case	06-0700-63	Front panel, chrome.
06-0200-10	Inside protection plate 9100V, 5/case	06-0400-52	Pivot mechanism headband, left and right.	06-0700-64	Wide-view clear grinding visor frame, black
06-0200-10B	Part no 06-0200-10 (bulk), 25/case	06-0400-52B	Part no 06-0400-52 (bulk), 5/case	06-0700-73	SideWindow cover plates, 2/case
06-0200-20	Inside protection plate 9100X, 5/case	06-0400-53	Headband front part.	06-0700-82	Extended head cover, head and neck.
06-0200-20B	Part no 06-0200-20 (bulk), 25/case	06-0400-53B	Part no 06-0400-53 (bulk), 5/case	06-0700-83	Full hood, black/grey.
06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case. Plate marking 117x77.	06-0400-54	Headband back part.	06-0700-85	Air diffuser
06-0200-51	Outer protection plate, 10/case.	06-0400-54B	Part no 06-0400-54 (bulk), 5/case	26-0099-28	Face seal
06-0200-51B	Outer protection plate, 50/case.	06-0400-55	Battery holder 9100, 2/case	26-0099-35SW	Welding helmet 9100 FX-Air without welding filter, with headband.
06-0200-52	Outer protection plate scratch resistant, 10/case.	06-0400-55B	Part no 06-0400-55 (bulk), 10/case.	26-0400-55	Duct assembly.
06-0200-52B	Outer protection plate scratch resistant, 50/case.	06-0500-52	Extended coverage, ear and neck.	SG-90	Product storage bag.
06-0200-53	Outer protection plate heat resistant, 10/case.	06-0500-56	Magnification plate 1.5x.		
		06-0500-57	Magnification plate 2.0x.		

3M™ Speedglas™ Welding Helmet 9100 MP Systems



Helmet with powered air systems - HE particulate filtration

Part No	Description
37-1101-00SW	Without welding filter with Adflo PAPR and HE filter.
37-1101-10SW	With Speedglas welding filter 9100V (1.8"x3.7") and Adflo PAPR with HE filter.
37-1101-20SW	With Speedglas welding filter 9100X (2.1"x4.2") and Adflo PAPR with HE filter.
37-1101-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Adflo PAPR with HE filter.
37-1101-00SWHA	Without welding filter with Adflo High Altitude PAPR with HE filter.

Helmet with supplied air systems

Part No	Description
37-5702-00SWR	Without welding filter with Fresh-air III SAR, V-100 cooling valve and Shrader fitting.
37-5702-00SW	Without welding filter, with Fresh-air III SAR, V-100 cooling valve.
37-5702-30iSW	With Speedglas welding filter 9100XXi (2.8"x4.2") and Fresh-air III SAR, V-100 cooling valve. Available in 2018.



Alternative 3M™ Speedglas™ Welding Filters

Part No	Description
06-0000-10	Auto-darkening filter 9100V, variable shade 5, 8, 9-13 (1.8"x3.7").
06-0000-20	Auto-darkening filter 9100X, variable shade 5, 8, 9-13 (2.1"x4.2").
06-0000-30	Auto-darkening filter 9100XX, variable shade 5, 8, 9-13 (2.8"x4.2").
06-0000-30i	Auto-darkening filter 9100XXi variable shade 5, 8, 9-13 (2.8"x4.2").

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:



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Need to re-refresh the head protection on your 9100MP? See how to remove the hard hat.

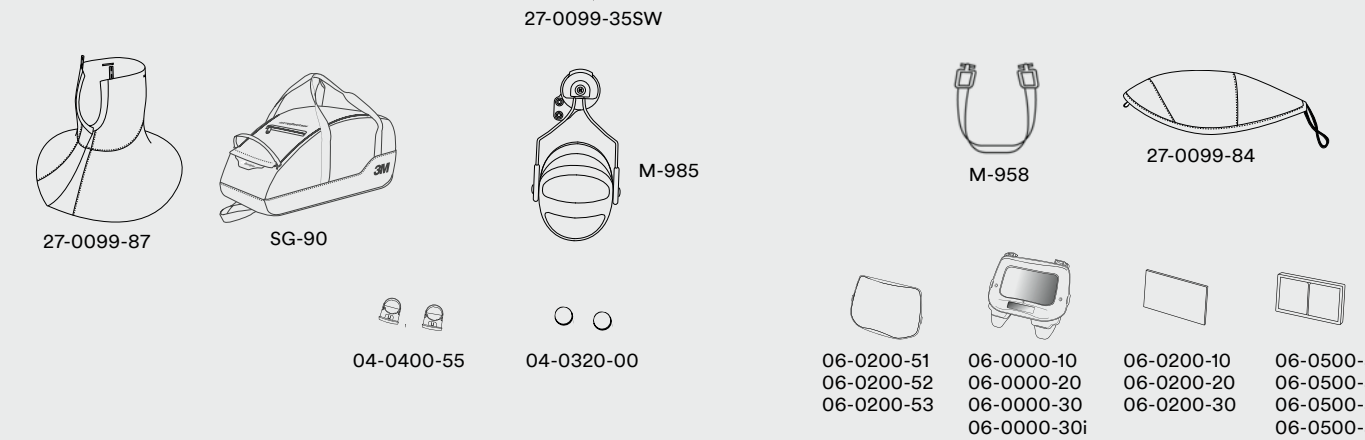
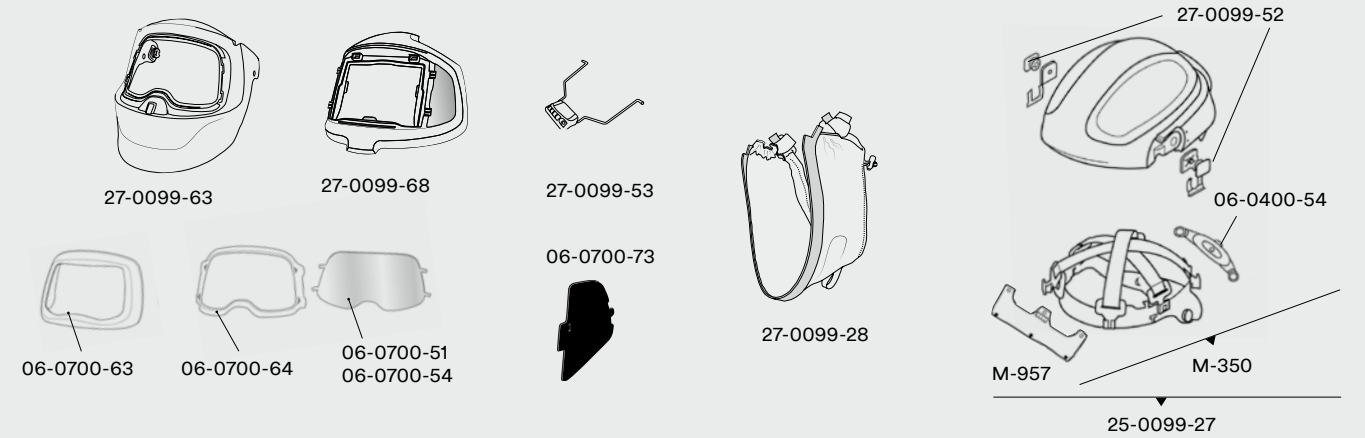


See how to install the heat-reflecting, silver-coated helmet cover.



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

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



Part No	Description	Part No	Description	Part No	Description
M-350	Versaflo replacement head suspension.	06-0200-52B	Outer protection plate scratch resistant, 50/case.	06-0700-64	Wide-view clear grinding visor frame, black
M-957	Versaflo forehead comfort pad/sweat pad, 10/case.	06-0200-53	Outer protection plate heat resistant, 10/case.	06-0700-73	SideWindow cover plates, 2/case.
M-985	3M™ Peltor™ Earmuff Assembly Kit	06-0200-53B	Outer protection plate heat resistant, 50/case.	27-0099-28	Face seal
SG-90	Carry bag, black.	06-0202-10	Starter kit 9100V (for 9100 MP), incl 5 outside protection plates, 2 inside protection plates, and 1 sweat pad	27-0099-28	Face seal
04-0320-00	Battery, 2/case.	06-0202-20	Starter kit 9100X (for 9100 MP), incl 5 outside protection plates, 2 inside protection plates, and 1 sweat pad	27-0099-35SW	Welding helmet 9100 MP with hard hat, without welding filter.
06-0000-10	Welding filter 9100V.	06-0202-30	Starter kit 9100XX (for 9100 MP), incl 5 outside protection plates, and 1 sweat pad	27-0099-52	Pivot kit
06-0000-20	Welding filter 9100X.	06-0400-54	Part no 06-0400-54 (bulk), 5/case	27-0099-53	Flip-up mechanism
06-0000-30	Welding filter 9100XX.	06-0400-54B	Part no 06-0400-54 (bulk), 5/case	27-0099-63	Inner shield
06-0000-30i	Welding filter 9100XXi.	06-0400-55	Battery holder 9100, 2/case	27-0099-68	Outer shield
06-0200-10	Inside protection plate 9100V, 5/case	06-0400-55B	Part no 06-0400-55 (bulk), 10/case.	27-0099-72	Hard hat incl pivot kit
06-0200-10B	Part no 06-0200-10 (bulk), 25/case	06-0700-51	Wide-view clear grinding visor, standard, 5/case.	27-0099-84	Radiant heat hard hat cover for 9100 MP helmet.
06-0200-20	Inside protection plate 9100X, 5/case	06-0700-54	Wide-view clear grinding visor, anti-fog, 5/case.	27-0099-85	Throat and neck coverage. Not shown.
06-0200-20B	Part no 06-0200-20 (bulk), 25/case	06-0700-63	Front panel, chrome.	27-0099-87	Complete neck coverage for 9100MP
06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case. Plate marking 117x77.				
06-0200-51	Outer protection plate, 10/case.				
06-0200-51B	Outer protection plate, 50/case.				
06-0200-52	Outer protection plate scratch resistant, 10/case.				

3M™ Speedglas™ Welding Helmet L-Series SG



Headgear with shroud L-905 SG - with powered air systems

Part No	Description
34-0905-SGV	Helmet L-905SG wideview faceshield with Speedglas welding filter 9100V and Adflo PAPR with HE filter.
34-0905-SGX	Helmet L-905SG wideview faceshield with Speedglas welding filter 9100X and Adflo PAPR with HE filter.
34-0905-SGXX	Helmet L-905SG wideview faceshield with Speedglas welding filter 9100XX and Adflo PAPR with HE filter.

Spare parts see page 93.

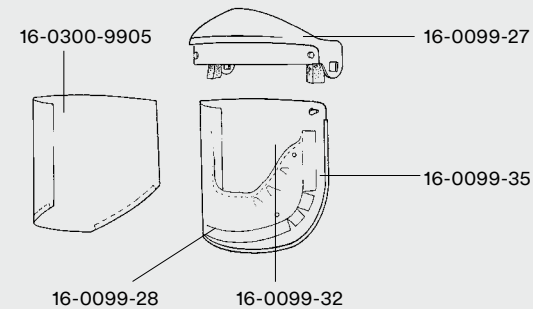
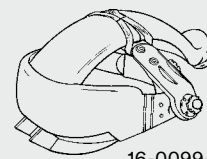
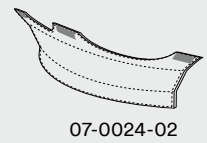


3M™ Protective Visor for respiratory protection



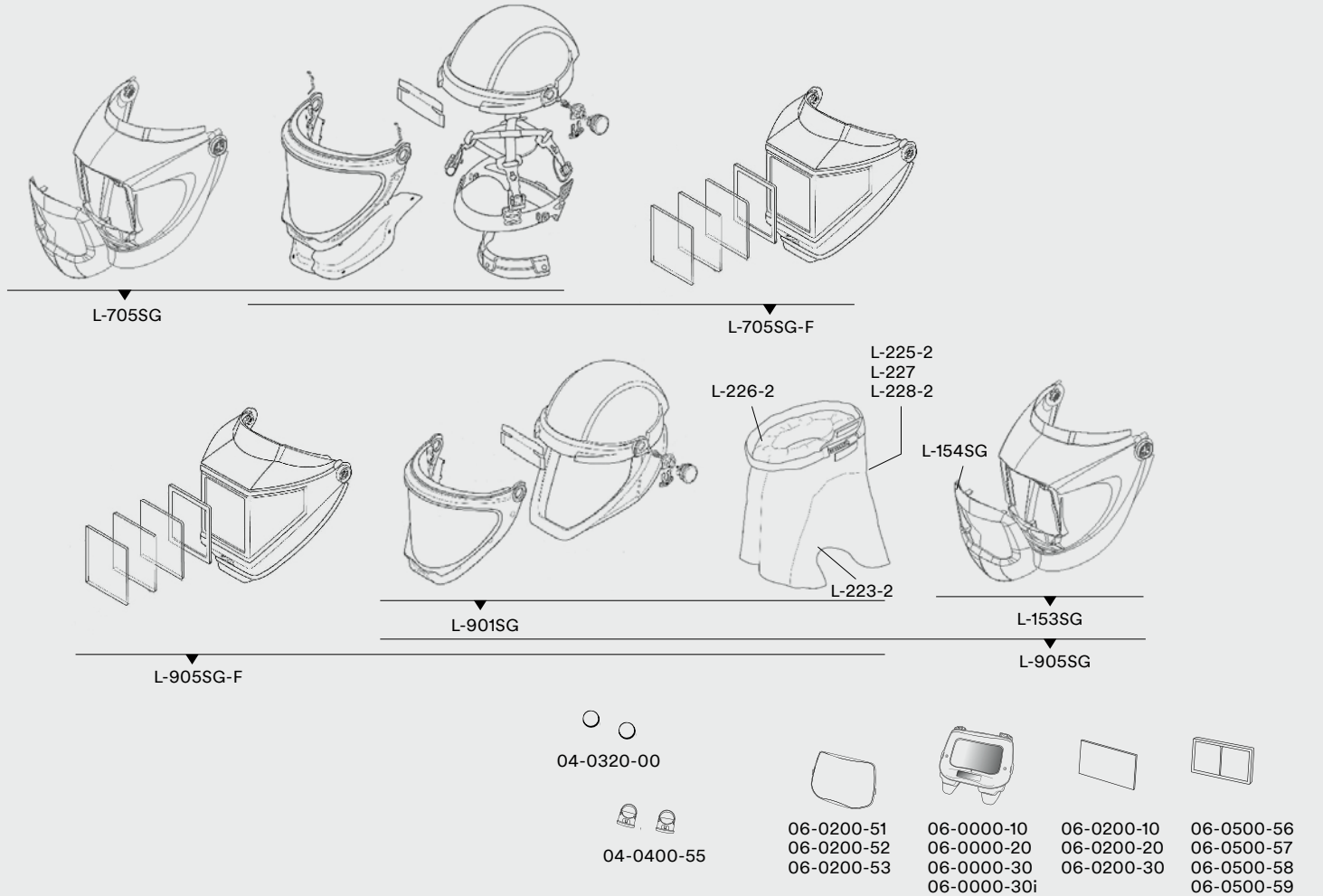
Spare parts

Part No	Description
07-0024-02	Sweatband, fleece, 2/case
16-0099-27	Brow guard
16-0099-28	Face seal
16-0099-29	Faceseal and headband assembly with air duct.
16-0099-30	Headcover, FR cotton (not shown).
16-0099-32	Clear window with fasteners and face seal, without brow guard.
16-0099-35	ClearVisor polycarbonate
16-0300-9905	Clear window strip off shielding film, 5/case



16-0099-29

Spare parts & accessories for 3M™ Speedglas™ Headgear L-Series SG

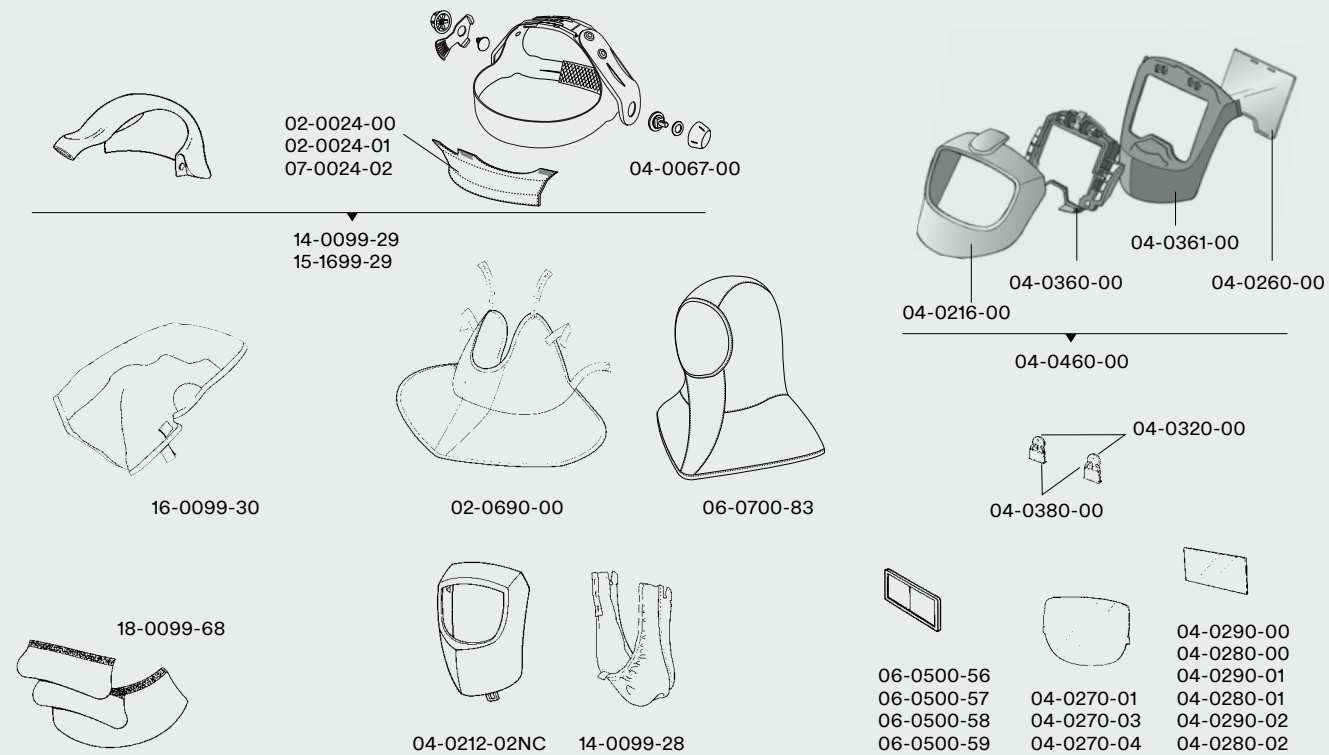


Part No	Description	Part No	Description	Part No	Description
L-153SG	Welding helmet kit	L-905SG-F	Helmet with welding helmet and wideview faceshield.	06-0200-52	Outer protection plate scratch resistant, 10/case.
L-154SG	Silver front panel	04-0320-00	Battery, 2/case.	06-0200-52B	Outer protection plate scratch resistant, 50/case.
L-199SG	Breathing tube cover, high temperature.	06-0000-10	Welding filter 9100V.	06-0200-53	Outer protection plate heat resistant, 10/case.
L-223-2	Outer shroud standard.	06-0000-20	Welding filter 9100X.	06-0200-53B	Outer protection plate heat resistant, 50/case.
L-225-2	Outer shroud, flame retardant.	06-0000-30	Welding filter 9100XX.	06-0500-56	Magnification plate 1.5x.
L-226-2	Inner shroud	06-0000-30i	Welding filter 9100XXi.	06-0500-57	Magnification plate 2.0x.
L-227	Outer shroud, flame retardant, leather	06-0200-10	Inside protection plate 9100V, 5/case	06-0500-58	Magnification plate 2.5x.
L-228-2	Outer shroud, nylon	06-0200-10B	Part no 06-0200-10 (bulk), 25/case	06-0500-59	Magnification plate 3.0x.
L-705SG	Hard hat with welding helmet and wideview faceshield, without welding filter.	06-0200-20	Inside protection plate 9100X, 5/case		
L-705SG-F	Hard hat with welding helmet and wideview faceshield	06-0200-20B	Part no 06-0200-20 (bulk), 25/case		
L-901SG	Helmet with wideview faceshield	06-0200-30	Inner cover plate for 9100XX/9100XXi filters, 5/case.		
L-905SG	Helmet with welding helmet and wideview faceshield, without welding filter.	06-0200-51	Outer protection plate, 10/case.		
		06-0200-51B	Outer protection plate, 50/case.		

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



Spare parts & accessories



Part No	Description	Part No	Description	Part No	Description
02-0024-00	Sweatband, cotton fleece with padding.	04-0280-00	Inner cover plate (2.1" x 4.1"), 5/case. Plate marking 42 02 10.	04-0460-00	FlexView kit.
02-0024-01	Sweatband, leather.	04-0280-01	Inner cover plate (2.1" x 4.1"), +1 Shade, 5/case.	06-0500-56	Magnifying lens 1.5.
02-0690-00	Neck protection.	04-0280-02	Inner cover plate (2.1" x 4.1"), +2 Shade, 5/case.	06-0500-57	Magnifying lens 2.0.
04-0067-00	Assembly parts for headband.	04-0290-00	Inner cover plate (1.7" x 3.6"), 5/case.	06-0500-58	Magnifying lens 2.5.
04-0212-02NC	Front cover.	04-0290-01	Inner cover plate (1.7" x 3.6"), +1 Shade, 5/case.	06-0500-59	Magnifying lens 3.0.
04-0216-00	Heat-reflecting front cover FlexView, silver.	04-0290-02	Inner cover plate (1.7" x 3.6"), +2 Shade, 5/case.	06-0700-83	Hood.
04-0260-00	Protective visor plate FlexView, 10/case.	04-0320-00	Battery CR 2032 Lithium 3V, 2/case.	07-0024-02	Sweatband, fleece, 2/case.
04-0270-01	Outer protection plate, standard, 10/case. Plate marking 42 01 50.	04-0360-00	Holder for welding filter (FlexView).	14-0099-28	Face seal 9000 HWR, with air duct.
04-0270-03	Outer protection plate, scratch resistant, 10/case. Plate marking 42 01 00.	04-0361-00	Middle helmet FlexView, black.	15-1699-29	Headband assembly 9000 HWR, with air duct.
04-0270-04	Outer protection plate, heat resistant, 10/case. Plate marking 42 01 71.	04-0380-00	Battery cover, 2/case.	15-1699-28	Headband assembly FlexView HWR, with air duct.
				16-0099-30	Face seal FlexView HWR.
				18-0099-68	Head protection.
					Ear and neck protection in leather.

3M™ Hard Hat H-700

The 3M™ Speedglas™ Quick Release (QR) Rail allows you to attach a Speedglas welding helmet to many of the industry's most popular hard hats. 3M offers a complete QR welding helmet system including the

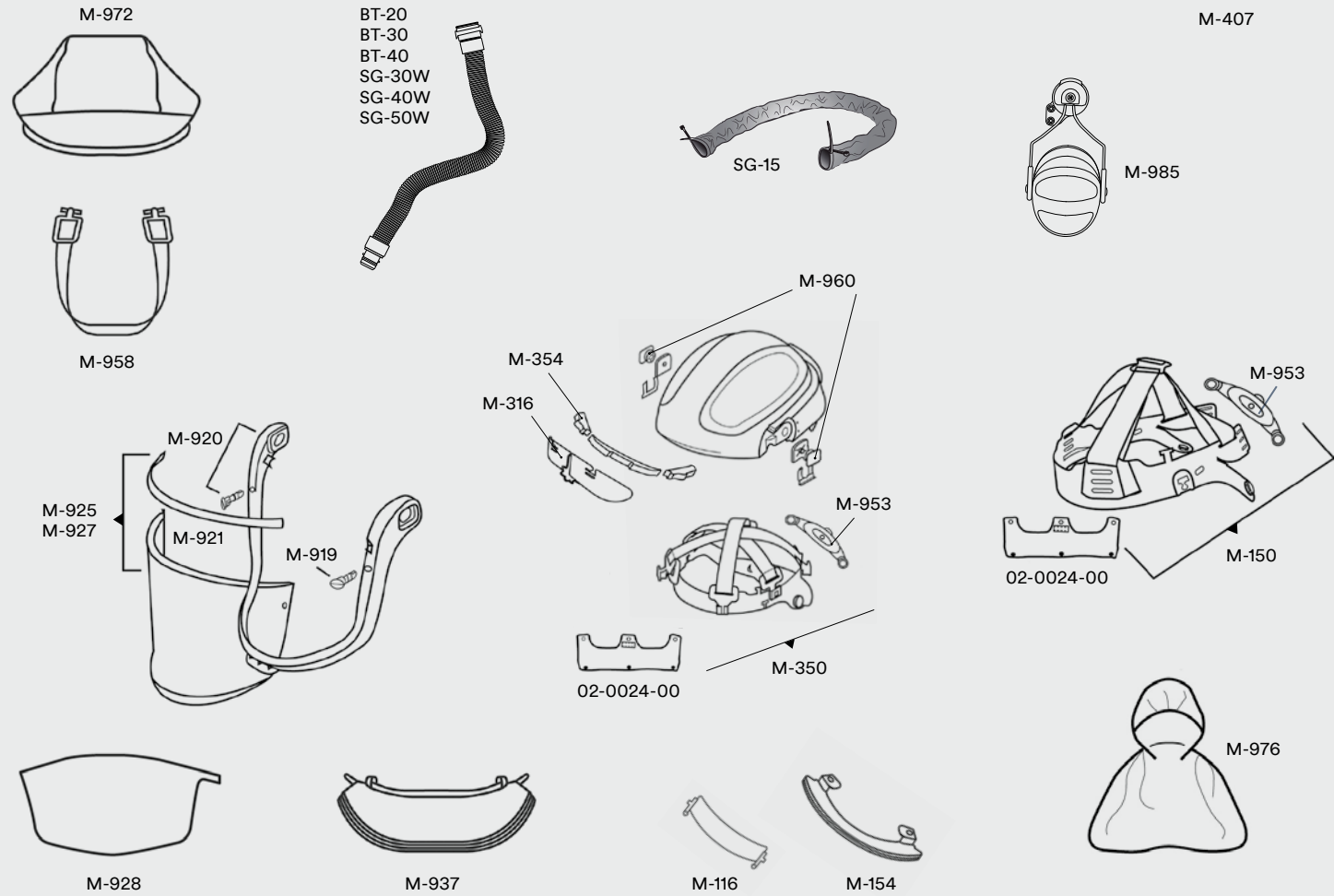
white, unvented 3M™ Hard Hat H-701. The hard hat is available in 6 colors when you buy it separately, see below.



3M™ Versaflo™ M-Series Headtops



Spare parts & accessories



Part No	Description	Part No	Description	Part No	Description
02-0024-00	Sweatband, fleecy cotton, 2/case.	M-350	Head suspension (M-307).	M-960	Pivot kit.
BT-20	Breathing tube, polyurethane (in two lengths), with QRS connection.	M-354	Forehead seal (M-307).	M-972	Flame resistant headtop cover.
BT-30	Breathing tube, self-adjusting (20.7" to 33.5"), with QRS connection.	M-407	Helmet with shroud M-407.	M-976	Head, neck and shoulder cover.
BT-40	Breathing tube, heavy-duty rubber, with QRS connection.	M-919	Visor frame buttons.	SG-15	Flame resistant breathing tube cover (replaces 17-0099-54).
M-116	Airflow deflector (M-107).	M-920	Visor frame.	SG-30W	Breathing tube, self-adjusting, with QRS connection.
M-150	Head suspension (M-107).	M-921	Visor gasket.	SG-40W	Breathing tube, heavy-duty, with QRS connection.
M-154	Forehead seal (M-107).	M-925	Visor standard (uncoated), molten metal splash protection to EN166.	SG-50W	Breathing tube, sound-dampening, with QRS connection.
M-207	Faceshield M-207	M-927	Visor coated.	M-985	3M™ Peltor™ Earmuff Assembly Kit
M-307	Helmet M-307	M-928	Peel-off visor cover.		
M-316	Airflow deflector (M-307).	M-937	Flame resistant faceseal.		
		M-953	Ratchet.		
		M-956	Ratchet comfort pad.		
		M-958	Chin strap.		

For powered air respirator options, please see page 48.
For supplied air regulator options, see page 52.



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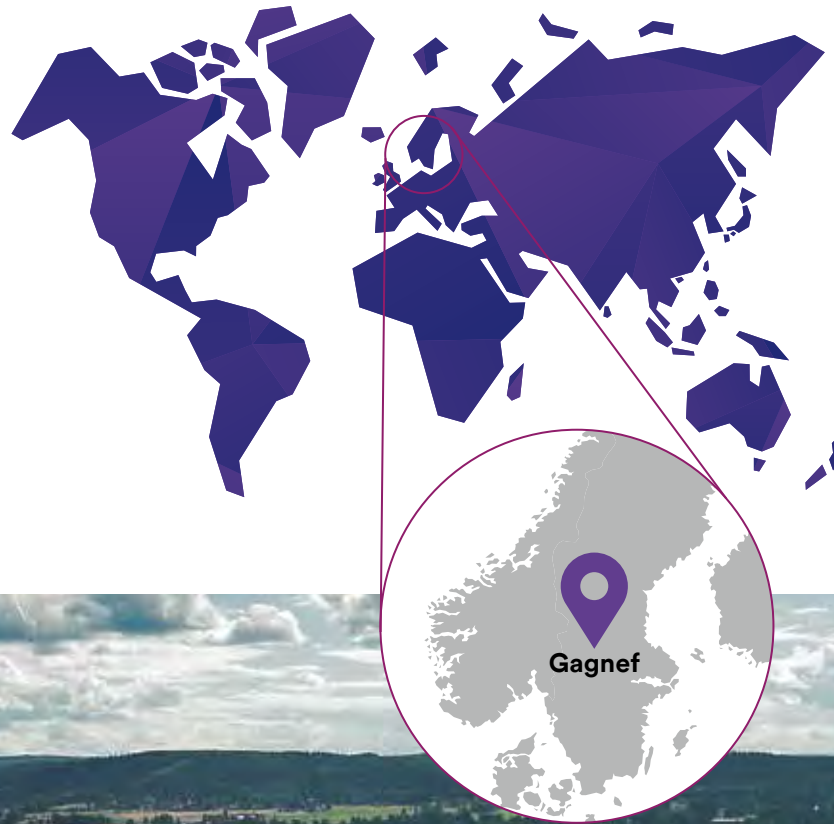
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3M Welding Center of Excellence

Hundreds of thousands of times each day, welders all over the world rely on their 3M™ Speedglas™ Products to help them 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 goal is that 3M should become the No 1 supplier of welding PPE to help improve productivity and customers' profitability.

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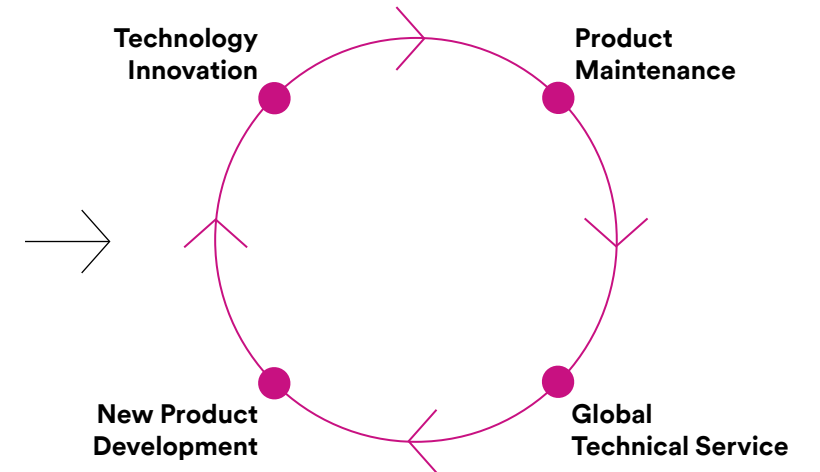
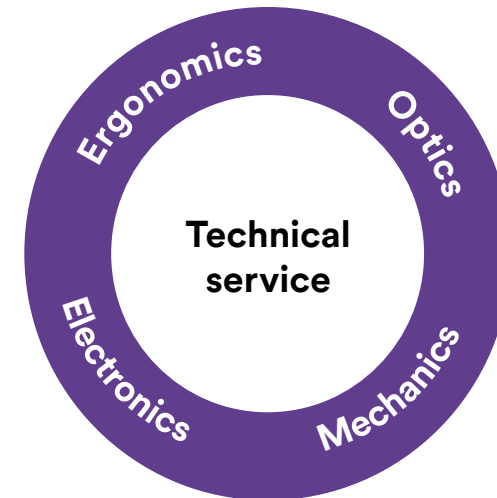
International Design Awards since 1996



8

3M Program Awards:
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Golden Step Award x3
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3M Welding Lab Gagnef—Expert Areas



Ground breaking Innovations



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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.

Welding Specialists

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 welding safety.

Helpline

Call **1-800-243-4630 (USA)** or **1-800-267-4414 (Canada)** for any technical queries. For other countries please find your local contact information at **www.3M.com**.

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