

3M Speedglas™ Welding Safety

3M™ Speedglas™ Welding Helmet G5-01VC with Heavy-Duty Adflo™ PAPR

Why 3M™ Speedglas™?



The #1 brand in welders' PPE

Trust in a brand can't be built overnight. It takes years to become known and even longer to be trusted. In 1981, over 40 years ago, Speedglas™ released the first ever auto-darkening welding helmet and has consistently set the benchmark ever since.

While other products and brands have come and gone, the 3M™ Speedglas™ brand, guided by welders, has continued to drive innovation and lead from the front.

Made in Sweden, Speedglas is the brand of choice for professional welders and remains the world's leading brand of personal protective equipment for welders.

Based on extensive input from welders working at high amperages who need to grind frequently, the 3M™ Speedglas™ Heavy-Duty Welding Helmet G5-01VC is created to be adaptable to an individual's needs and situation.

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NEW Welding Fume Workplace Exposure Standard!

The Safe Work Australia Workplace Exposure Standard (WES) for welding fume was lowered from **5mg/m³** to **1mg/m³** in January 2024. This new limit applies to welders and anyone who may be exposed to welding fume. All workplaces must comply by law.

The exposure standards in Australia and New Zealand do not identify a dividing line between a healthy or unhealthy working environment. They simply establish a legal maximum upper limit. Therefore, as per their legal responsibility, employers must reduce welding fume exposure to as low as reasonably practicable.

The 2017 reclassification of welding fume as carcinogenic prompted many to rethink and challenge what was historically considered 'normal'.

The 2019 statistical analysis concluding that welders have up to a '43% increased risk of lung cancer'[1] regardless of the type of steel welded, the welding process or time-period is of serious public health relevance.

Simple Takeaway

Welding fume is serious, action is required.

Now, the new welding fume workplace exposure limit in Australia should act as the trigger at your workplace to introduce effective welding fume controls to ensure you are fulfilling your legal responsibility.

To that end, welding helmets with integrated powered air respiratory protection are proven to be highly effective in reducing exposure to welding fume.

Heavy-duty respiratory protection

Keeping yourself safe can be straightforward

'Welding helmets with integrated powered air purifying respirators (PAPR) are the most widely used form of respiratory protection amongst welders in Australia and New Zealand'[2] and are mandatory within many businesses.

The **3M™ Speedglas™ G5-01VC Flip-Up Welding Helmet with Heavy-Duty Adflo™ PAPR** (part no. 617830) offers welders completely clear and uninhibited views of their workpiece and surroundings while maintaining their desired level of respiratory protection with no breathing resistance.

The powered air respirator goes where the welder goes, allowing unrestricted movement around the workplace with clear vision, comfort, and uninterrupted eye, face and respiratory protection.

Furthermore, the Adflo PAPR provides a Required Minimum Protection Factor (RMPF) of 50. This RMPF means the respirator will supply **a minimum 50 times cleaner air** than the welder would otherwise be breathing unprotected.



Mobile and adaptable

3M™ Adflo™ Heavy-Duty Powered Air Purifying Respirator (PAPR)

As one of the most popular respirators of its kind in the world, the Adflo™ Powered Air Purifying Respirator is designed to provide a constant nominal airflow rate of 170/200 litres per minute, regardless of the battery's charge or the particle loading of the filter.

With its slim profile, the Adflo respirator offers excellent lightweight, adaptable and easy-to-use respiratory protection.



Technical Data	3M™ Adflo™ Powered Air Respirator
Approvals Respiratory Protection	Conforms to AS/NZS1716
Required Minimum Protection Factor (RMPF)[1)]	50
Airflow Standard Airflow Plus	 170 litres/minute 200 litres/minute
Battery: Charging time	Li-ion with rapid charge (0-80% in an hour)[2)] 5.5 hours (heavy-duty)
Operating hours	**12 hours (heavy-duty)**
Weight Respirator	 1133 grams
Noise level dB	Max 75 dB
Belt	Leather 75-115cm

Gas and odour filters are available as an optional extra.
1) For mechanically and thermally generated particles.
2) Heavy duty battery will be 80% charged (9.6 hours run time) in approximately one hour.

Industry leading protection

Since its launch, the 3M™ Adflo™ powered air respirator has become synonymous with welders' respiratory protection. The system is designed to meet the specific needs of welders.

Lightweight with Rapid Charge

The new Li-ion Adflo respirator is over 15% lighter^ than the older style version with Ni-MH (black) battery. The lightweight battery charges up to 80% capacity in approximately an hour.

Filtered air to breathe

Constant, clean air flows directly into your breathing zone. Choose between 170 litres per minute or 200 litres per minute (for hot, humid jobs) with the push of a button.

^ When compared to the previous Adflo PAPR system that featured a nickel metal hydride battery.

Adaptable filtration

With the right type of filter, the Adflo powered air respirator effectively protects against a range of gases, vapours and particles.

You only have one set of lungs

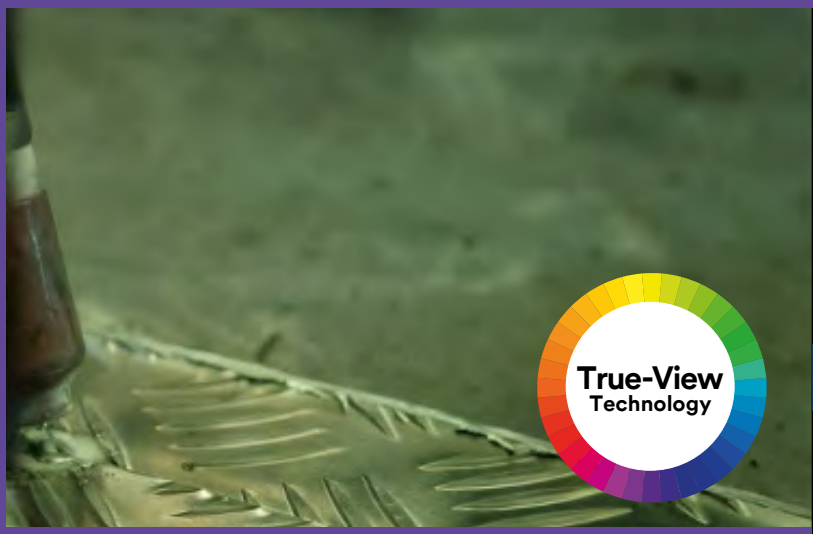
The Adflo respirator complies with Australian and New Zealand Standard AS/NZS 1716 for powered air respirators and offers a Required Minimum Protection Factor (RMPF) of 50 for mechanically and thermally generated particles.

Heavy Duty Battery

An Adflo PAPR keeps you protected during long shifts. The Speedglas G5-01 comes standard with the heavy duty Adflo battery, which can offer up to 12 hours continuous protection.



Standard auto-darkening welding lens



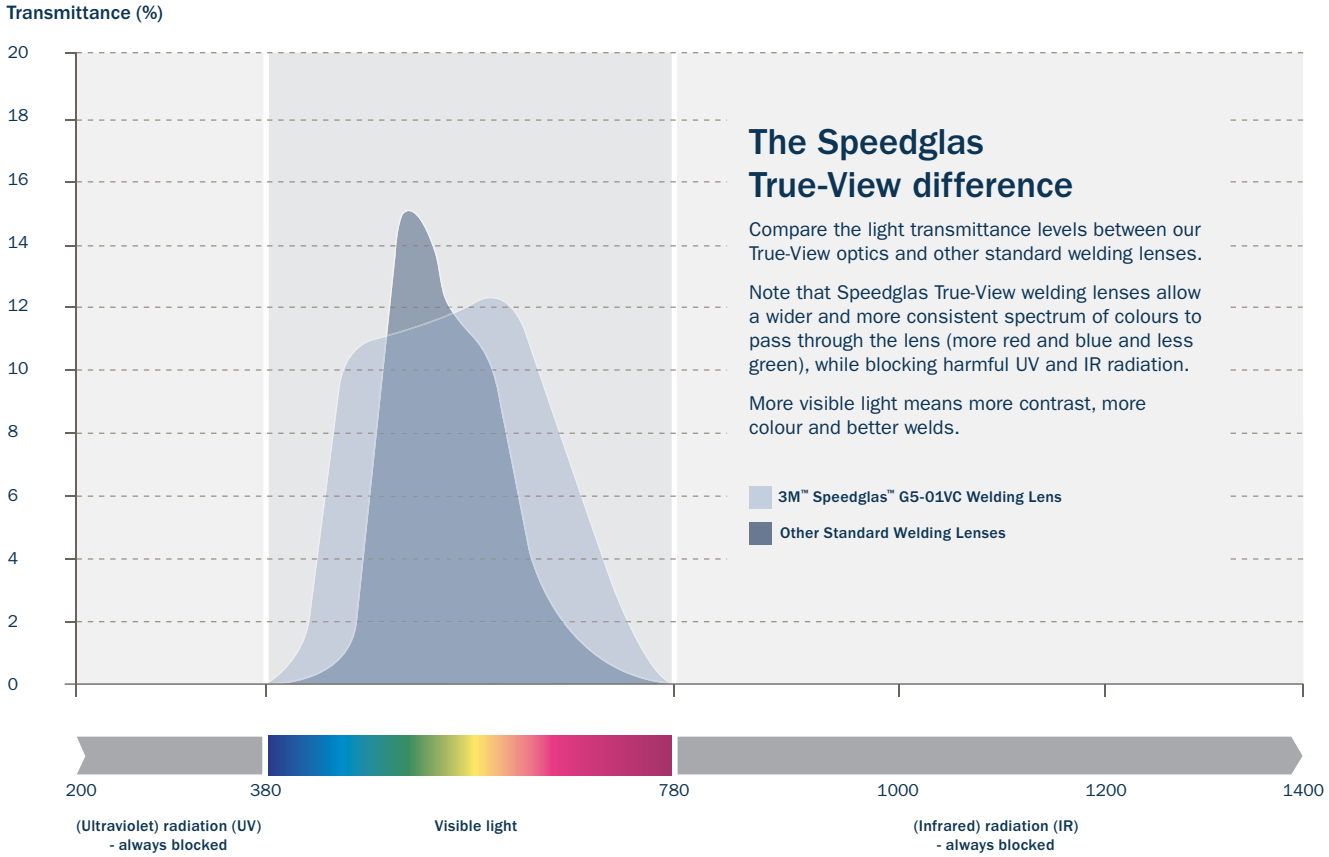
Speedglas G5-01VC welding lens with True-View

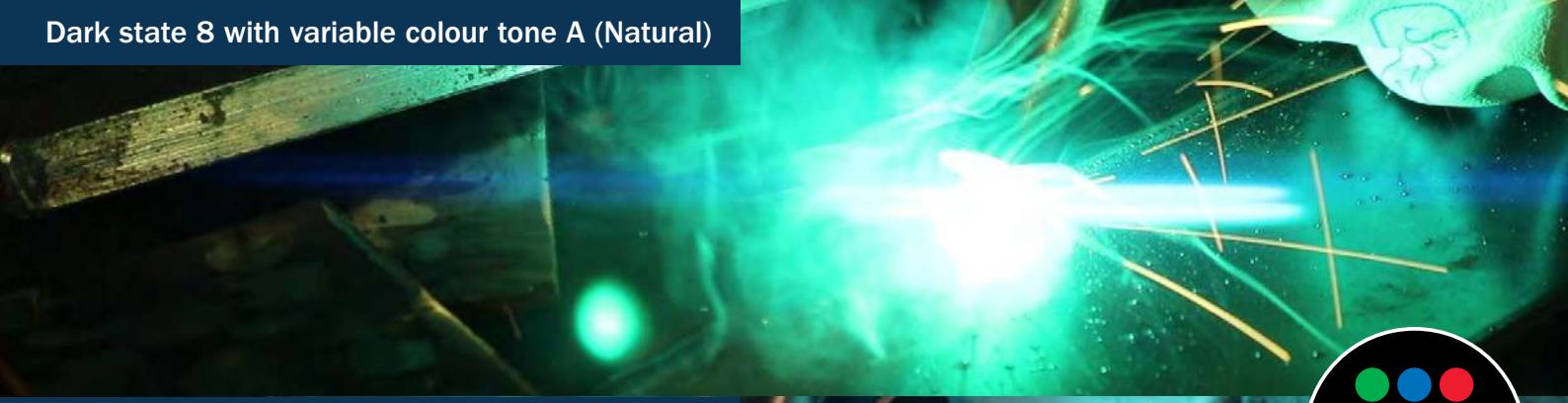
A more natural light state

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

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









Variable Dark State Colours.



Choose a colour tone for your dark state

To provide better vision and more control of your weld puddle we now introduce **3M™ Speedglas™ Variable Colour Technology**: choose between natural (A), cool (B) or warm (C) tones for your dark state.
You determine which colour tone provides the best viewing contrast for your welds, and the most comfort for your eyes.



PLUS: Two Step Recovery from Dark to Light State!

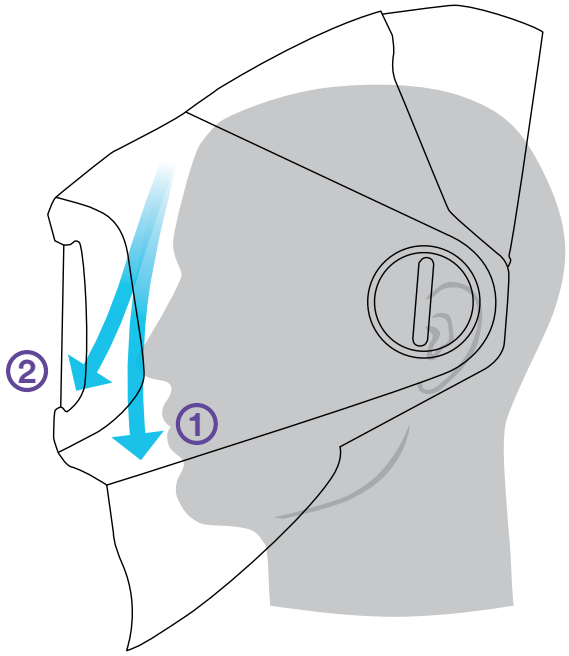
The G5-01VC is also designed to minimise eye strain when switching from dark state to light state, by using an intermediate shade of 7 to create a smoother transition.

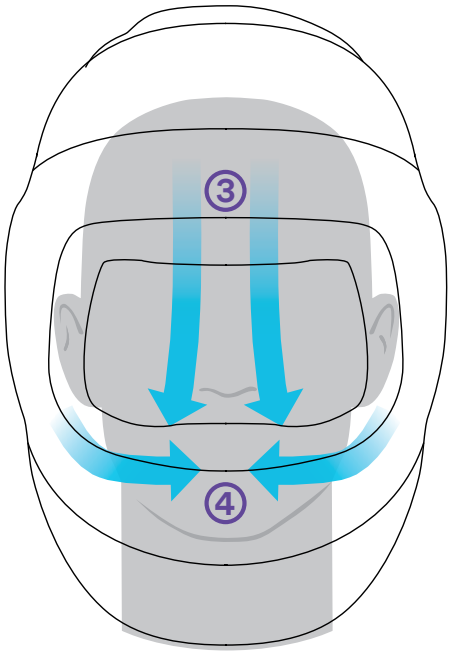
Don’t go with the flow

For more control over your comfort, the innovative G5-01 helmet duct system lets you direct the airflow to either your face①, your visor②, or a combination of both.

You can even adjust the amount of air coming from the top outlet③ vs. the two side outlets④, or choose a blend of both.

All airflow adjustments can be made while you’re wearing the helmet, maintaining your eye, face and respiratory protection.





The levers on either side of your G5-01 headtop (pictured below) can be used to adjust the amount and direction of airflow within your helmet

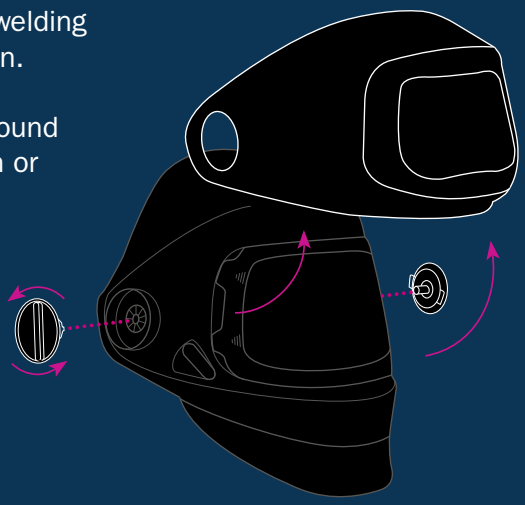




Flip up to grind with a large clear view

Flip-up functionality allows you to seamlessly switch between welding and grinding tasks while maintaining your respiratory protection.

The clear visor also allows you to set up, inspect and move around the workplace without the need to remove your face protection or break the positive pressure respiratory seal.



PLUS Completely remove the welding visor for non-welding applications

For extended non-welding work, just unscrew the two dials to completely remove the welding visor and re-attach the dials again, reducing the helmet weight by **over 35%.**

Adjust your welding helmet, not yourself

Tailor your head harness to fit your preferences

① New headband design

Improved, self-adjusting comfort paddles along your forehead.

② Adjustment options

Control the distance and angle from your eyes to the clear visor and welding lens.

③ Extra-large back pad

Delivered with an optional extra-large back head pad for enhanced comfort.





Adjustable functions are labelled on the helmet, and adjustments can be made while wearing the helmet and your gloves.

Slim, streamlined profile gives more coverage for welders' ears, head and neck



Configure your coverage



Helmet comes standard with rigid neck protection and fabric head protection as shown here.



To better enable you to weld when looking down, remove the rigid neck protection and replace with the smaller fabric neck protection **16 90 41**



When you need the durability of leather, attach the leather head protector **16 90 22** and the leather neck protector **16 90 43**



Increase coverage of your head, neck and chest by adding the larger fabric head cover **16 90 23** and/or the extended fabric neck protection **16 90 42**



To maximize coverage from sparks, add the fabric shroud **16 90 30** and the extended, larger fabric head protection **16 90 23**. Also available as a kit, **16 90 35**



There's an app for that...

Bluetooth® connectivity in the G5-01

- Opt in by securely pairing your smartphone to your G5-01 welding lens using the 3M Connected Equipment App
- Control all your welding lens settings directly from your smart phone
- Program memory modes (settings for dark shades, sensitivity and delay)
- Easily record your welding helmet maintenance log to the App
- Review statistics including: when your ADL was first activated; hours on; hours in the dark state; hours in the light state; and the number of on/off cycles
- Have instant access to User Manuals and the Parts List

Light up your workspace

A new, optional helmet-mounted task light provides hours of powerful lighting and runs off the Adflo battery pack, enabling welders to enter and work in poorly lit spaces.

- Task light specifically designed for welding
- Light weight – powered by the Adflo battery
- Positioned to cast a wide light on the workpiece
- Designed for even light distribution at normal welding distance
- Configurable light intensity



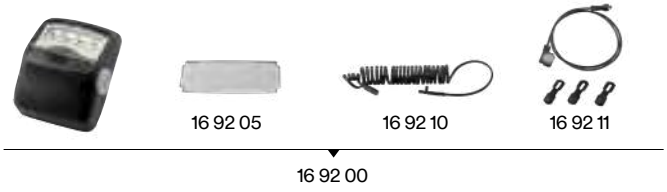
Technical Specifications



Specification	Speedglas G5-01VC Welding Helmet (Part No. 617830)
MMAW (electrode)	✓
MIG/MAG	✓
TIG (>10A)	✓
TIG (1A-10A)	✓
Plasma (welding and cutting)	✓
Hidden Arc	✓
Tack welding	✓
Grinding (welding lens)	Clear Visor
Grinding (clear visor)	170 x 104 mm
Viewing area (welding lens)	73 x 109 mm
Battery lifetime	1 500 - 2 000 hours
Variable Colour Technology	Yes
Dark state	Shades 5, 8-14
Light state	Shade 3 (with True-View)
UV/IR Protection	Shade 14 (permanent)
Switching time, light-dark	0.1 ms (+23° C)
Delay (switching time, dark-light)	50-1300 ms
Two step recovery	Yes (Shade 7)
Memory modes	Yes (via mobile app)
Climate flow control	Yes
Bluetooth® connectivity	Yes
Optional task light	Yes
Standards Compliance Eye protection Face protection Respiratory protection	 AS/NZS1338.1 AS/NZS1337.1 AS/NZS1716 / RMPF[1)] 50

1) Required Minimum Protection Factor (RMPF): for mechanically and thermally generated particles.

Increase your comfort













Part No.	Description	Part No.	Description
16 90 20	Head Protection Fabric (Small)	16 92 10	Long Power Cable for Task Light
16 90 22	Head Protection Leather	16 92 11	Short Power Cable for Task Light
16 90 23	Head Protection Fabric (Large)	83 40 18	Tube Breathing Cover Flame Resistant Adflo (Recommended when using Task Light)
16 90 30	Shroud		
16 90 35	Extended Cover Kit (Shroud and Large Head Cover Fabric)	83 71 10	Filter Odour Adflo
16 90 41	Neck Protection Fabric (Small)	83 71 20	Filter Odour Replacement Pad Adflo
16 90 42	Neck Protection Fabric (Large)	83 72 42	Filter Nuis Level Organic Vapour/Acid Gas Adflo
16 90 43	Neck Protection Leather		
16 91 00	Welding Hood	83 75 42	Filter Gas A1 Adflo
16 92 00	Task Light, Inc Mounting Parts & Cables	954015HD	Heavy Duty PAPR Backpack
16 92 05	Lens Cover Task Light Pk=5		

Are you a current 3M™ Adflo™ PAPR user?

Upgrade just your helmet!



3M™ Speedglas™ G5-01VC Helmet Upgrade Kit (helmet & lens only)
Part No. 61 11 30

As an existing 3M™ Adflo™ PAPR customer, the most economical way to upgrade to the new 3M™ Speedglas™ G5-01VC Welding Helmet is by simply upgrading your headtop.

The Upgrade Kit comes with the new Speedglas™ Flip-Up Welding Helmet G5-01 complete with the Speedglas G5-01VC welding lens.

Simply attach the helmet to your existing Adflo PAPR and you can benefit from all the features of the new Speedglas G5-01VC welding helmet at a fraction of the price, including:

Climate Control, Larger Welding Lens, Larger Grinding Visor, more Streamlined Profile, True-View optics, Variable Colour technology, Bluetooth® Connectivity, Configurable Extra Protection, and an optional Task Light!

Ordering Information

Order using the part numbers below!

View the Speedglas G5-01 welding helmet unpacking video here!



	3M™ Speedglas™ Welding Helmet G5-01VC
Complete Powered Air System	Helmet G5-01VC with welding lens and heavy-duty Adflo respirator **Part No. 61 78 30**
Upgrade Your Welding Helmet	Upgrade Kit: Helmet G5-01VC with welding lens (only) **Part No. 61 11 30**

About AWS

AWS was established in 1994 and has played a key role in the welding industry ever since.

As an advocate for welders' safety in Australia and New Zealand, AWS has published numerous Welding Safety White Papers, Welding Industry Reports, and Welding Fume Control Frameworks. AWS is a company that specialises in welding safety equipment, and it is our goal to raise awareness on the important issues that welders face.

As the sole agent for the 3M™ Speedglas™ range of welding helmets with integrated respiratory protection, the Nederman, Plymovent and Bomaksan range of portable local exhaust ventilation fume protection systems, the Translas on-gun welding fume extraction range, the range of Guide welding gloves, and a 3M personal protective equipment wholesaler, AWS are extremely well placed to help businesses understand the different types of product controls that can be introduced into the workplace to better protect welders and those who work in close proximity to welders.

For more information on welding fume monitoring, welding PPE, or welding fume LEV extraction options, please contact AWS.

www.apexweldingsafety.com.au

Apex Welding Safety Pty Ltd
T: (02) 9439 0111
E: sales@apexweldingsafety.com.au

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References
1. 2019 Honaryar MK, Lunn RM, Luce D, et al. Occup Environ Med
2. 2024 Welding Fume and Respiratory Protection Survey, AWS

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