CIGWELD

AN ESAB BRAND

DESIGNED & TESTED IN AUSTRALIA FOR OVER 100 YEARS

CYCLONE PAPR

MIG

STICK

TIG

PLASMA

GRIND

ADVANCED RESPIRATORY PROTECTION SYSTEM

FOR USE WITH
XC10 AIR &
XC90F AIR

OPERATING MANUAL

CYCLONE PAPR SYSTEM

CIGWELD OPERATING MANUAL
CYCLONE PAPR V1-2025

COMPACT & ROBUST DESIGN | **3-STAGE FILTERING** | **LIGHTWEIGHT & COMFORTABLE**

CIGWELD
AN ESAB BRAND

WE APPRECIATE YOUR BUSINESS!

Congratulations on your new CIGWELD product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry. This product is backed by our extensive warranty and world-wide service network. To locate your nearest distributor or accredited service provider call +1300 654 674, or visit us on the web at www.cigweld.com.au

This Operating Manual has been designed to instruct you on the correct use and operation of your CIGWELD product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the Safety Precautions. They will help you to avoid potential hazards that may exist when working with this product.

We have made every effort to provide you with accurate instructions, drawings, and photographs of the product(s) while writing this manual. However errors do occur and we apologize if there are any contained in this manual.

Due to our constant effort to bring you the best products, we may make an improvement that does not get reflected in the manual. If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.

YOU ARE IN GOOD COMPANY!

The Brand of Choice for Contractors and Fabricators Worldwide.

CIGWELD is the Market Leading Brand of Arc Welding Products for ESAB. We are a mainline supplier to major welding industry sectors in the Asia Pacific and emerging global markets including; Manufacturing, Construction, Mining, Automotive, Engineering, Rural and DIY.

We distinguish ourselves from our competition through market-leading, dependable products that have stood the test of time. We pride ourselves on technical innovation, competitive prices, excellent delivery, superior customer service and technical support, together with excellence in sales and marketing expertise.

Above all, we are committed to develop technologically advanced products to achieve a safer working environment for industry operators.

WARNING

Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing the equipment. While the information contained in this Manual represents the Manufacturer's best judgement, the Manufacturer assumes no liability for its use.

CYCLONE PAPR INSTRUCTION MANUAL

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CIGWELD Pty Ltd
CIGWELD An ESAB Brand
71 Gower Street, Preston VIC 3072 Australia

CUSTOMER CARE:
Tel: 1300 654 674 | Intl Tel: +61 3 9474 7400
Email: enquiries@cigweld.com.au

CIGWELD.COM.AU

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RECORD THE FOLLOWING INFORMATION FOR WARRANTY PURPOSES:

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Purchase Date:

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SECTION 1:
SAFETY INFORMATION

WARNING

ARC WELDING can be hazardous.

Protect yourself and others from possible serious injury or death. Keep children away. Do not lose these instructions. Read operating manual before installing, operating or servicing this product.

Welding products and welding processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of welding and cutting. These practices must be learned through study and training before using this equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld. Certain practices apply to equipment connected to power lines; other practices apply to engine driven equipment.

Safe practices are outlined in the American National Standard Z49.1 entitled: SAFETY IN WELDING AND CUTTING. This publication and other guides to what you should learn before operating this equipment are listed at the end of these safety precautions.

HAVE ALL INSTALLATION, OPERATION, MAINTENANCE, AND REPAIR WORK PERFORMED ONLY BY QUALIFIED PEOPLE.

1.1 SAFETY SYMBOLS AND DEFINITIONS

WARNING

ARC RAYS can burn eyes and skin;
NOISE can damage hearing.

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some pro-cesses can damage hearing.

ARC RAYS AND NOISE

1. Use a Welding Helmet or Welding Faceshield fitted with a proper shade of filter (see ANSI Z49.1 and AS 1674 listed in Safety Standards) to protect your face and eyes when welding or watching.
2. Wear approved safety glasses. Side shields recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Use approved ear plugs or ear muffs if noise level is high.

ELECTRIC SHOCK

WARNING

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on.

In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from work and ground using dry insulating mats or covers.
4. Disconnect input power or stop engine before installing or servicing this equipment. Lock input power disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to its Operating Manual and national, state, and local codes.
6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Use fully insulated electrode holders. Never dip holder in water to cool it or lay it down on the ground or the work surface. Do not touch holders connected to two welding machines at the same time or touch other people with the holder or electrode.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Ground the workpiece to a good electrical (earth) ground.
11. Do not touch electrode while in contact with the work (ground) circuit.
12. Use only well-maintained equipment. Repair or replace damaged parts at once.
13. In confined spaces or damp locations, do not use a welder with AC output unless it is equipped with a voltage reducer. Use equipment with DC output.
14. Wear a safety harness to prevent falling if working above floor level.
15. Keep all panels and covers securely in place.

FLYING SPARKS AND HOT METAL

WARNING

FLYING SPARKS AND HOT METAL can cause injury.

Chipping and grinding cause flying metal. As welds cool, they can throw off slag.

1. Wear approved face shield or safety goggles. Side shields recommended.
2. Wear proper body protection to protect skin.

WELDING

WARNING

WELDING can cause fire or explosion.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

3. Protect yourself and others from flying sparks and hot metal.
4. Do not weld where flying sparks can strike flammable material. Remove all flammables within 35ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
5. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
6. Watch for fire, and keep a fire extinguisher nearby.
7. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
8. Do not weld on closed containers such as tanks or drums.
9. Connect work cable to the work as close to the welding area as practical to prevent welding current from travelling long, possibly unknown paths and causing electric shock and fire hazards.
10. Do not use welder to thaw frozen pipes.
11. Remove stick electrode from holder or cut off welding wire at contact tip when not in use.

IMPORTANT

The approvals are only valid when the product is used with approved genuine parts and filters. Only use genuine CIGWELD filters (spark arrestor, prefilter and particulate filter), filters from other manufacturers will void the certification and warranty*

CYLINDERS

WARNING

CYLINDERS can explode if damaged.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
2. Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never allow a welding electrode to touch any cylinder.
5. Use only correct shielding gas cylinders, regulators, hoses and fittings designed for the specific application; maintain them and associated parts in good condition.
6. Turn face away from valve outlet when opening cylinder valve.
7. Keep protective cap in place over valve except when cylinder is in use or connected for use.
8. Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

BATTERIES

WARNING

KEEP BATTERIES OUT OF REACH OF CHILDREN

9. Swallowing may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.
10. If you suspect your child has swallowed or inserted a button battery immediately call the 24-hour Poisons Information Centre in Australia on 13 11 26 (or your countries relevant Poison Information Centre) for fast, expert advice.
11. Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.
12. Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.
13. Tell others about the risk associated with button batteries and how to keep their children safe.

1.2 LASER WELDING-SPECIFIC HAZARDS

WARNING

This helmet is not suitable for laser welding application.

1.3 COMPLIANCE STANDARDS

Manufacturer: CIGWELD
Address: 71 Gower St, Preston
Victoria 3072
Australia

Description of equipment: Safety Equipment. CIGWELD Arcmaster Auto-Darkening Welding Helmet.

National Standard and Technical Specifications

This PAPR blower unit is tested and certified to the following standards:

A. AS/NZS 1716: 2012

B. CE EN 12941: TH3 P R S L

The XC10 AIR and Arcmaster XC90F AIR are tested and certified to the following standards:

A. A. AS/NZS 1337.1:2010 Section 4 - Eye protectors for industrial applications.

B. B. AS/NZS 1338.1:2012 Filters for eye protectors.

* Extensive product design verification is conducted at the manufacturing facility as part of the routine design and manufacturing process, to ensure the product is safe and performs as specified. Rigorous testing is incorporated into the manufacturing process to ensure the manufactured product meets or exceeds all design specifications.

CIGWELD has been manufacturing and merchandising an extensive equipment range with superior performance, ultra safe operation and world class quality for more than 30 years and will continue to achieve excellence.

SECTION 2:
PRODUCT OVERVIEW

2.1 PRODUCT DESCRIPTION

Tested and certified to strict AS/NZS 1716:2012 and EN 12941: TH3 P R S L standards the Cyclone PAPR unit provides the highest level of protection against carcinogenic welding fumes. The Cyclone PAPR is compatible with the Arcmaster XC90F and Arcmaster XC10 auto-darkening welding helmets. Experience all day comfort with the optional backpack and seamlessly work through long workdays with the optional Heavy-Duty Battery. Robust design for the toughest trade.

2.2 KEY COMPONENTS

The product identification number is printed on the outer shipping carton. Record this number for future reference.

XC10 Air Helmet and Blower Unit

XC90F Air Helmet and Blower Unit

SECTION 3:
ASSEMBLY AND SETUP

Part Number	Description	Inclusions
45XC10F1AIR	Arcmaster XC10 Air with Cyclone PAPR	**Arcmaster XC10 Air Welding Helmet** Front Cover Lens (spare x 2) Rear Cover Lens (spare x 1) Magnification Lens Retainer Clips (1 Pair) Helmet carry bag operating manual **Cyclone PAPR unit (including spark arrestor, prefilter and P3 filter)** Waist belt with shoulder harness Expandable breathing hose 2.6Ah Lithium-ion battery (10hr standard battery) battery charger Flow meter Kit bag
45XC90F1AIR	Arcmaster XC90F with Cyclone PAPR TRADE Kit	**Arcmaster XC90F Air Welding Helmet** Front Cover Lens (spare x 2) Rear Cover Lens (spare x 1) Magnification Lens Retainer Clips (1 Pair) Helmet carry bag operating manual **Cyclone PAPR unit (including spark arrestor, prefilter and P3 filter)** Waist belt with shoulder harness Expandable breathing hose 2.6Ah Lithium-ion battery (10hr standard battery) battery charger Flow meter Kit bag

Assembly Table Continued

45XC90F2AIR	Arcmaster XC90F with Cyclone PAPR PRO Kit	**Arcmaster XC90F Air Welding Helmet** Front Cover Lens (spare x 2) Rear Cover Lens (spare x 1) Magnification Lens Retainer Clips (1 Pair) Helmet carry bag operating manual **Cyclone PAPR unit (including spark arrestor, prefilter and P3 filter)** Waist belt with shoulder harness Backpack for Cyclone PAPR unit Expandable breathing hose Rechargeable Lithium-ion battery 5.2Ah Lithium-ion battery (20hr heavy-duty battery) fast battery charger Flow meter Kit bag

3.1 ASSEMBLY STEPS

Step-by-step instructions for assembling the PAPR system with clear illustrations or photos.

Exploded view of XC10 Air

Exploded view of XC90F Air

3.2 BATTERY INSTALLATION AND CHARGING

STANDARD BATTERY

Description	
Li-Ion Battery	14.8V/2.6Ah/38.48Wh
Charging Time	2 Hours
Run Time	170L/M:>10 Hours / 230L/M:>6 Hours
Charging Cycles	>500

HEAVY-DUTY BATTERY (OPTIONAL)

Description	
Li-Ion Battery	14.8V/5.2Ah/76.96Wh
Charging Time	2 Hours
Run Time	170L/M:>20 Hours / 230L/M:>12 Hours
Charging Cycles	>500

IMPORTANT

- Keep battery away from fire or heat as this may cause the battery to explode and may result in serious injury or death.
- Battery should be charged with supplied Li-ion charger only. Charge in an open, well-ventilated location.
- The charger is designed for indoors use only.
- Do not allow the battery to get wet.
- Do not attempt to disassemble or repair the battery. There is no maintenance on Li-ion batteries.
- Battery must be disposed of properly or recycled.
- Charge battery to 100% before first use or if the battery hasn't been used for over a week. Always recharge the battery before it is fully discharged. Battery not in use should be charged at least once a year.

3.2.1 CHARGING BATTERY

- Remove the battery pack from the blower unit. Connect the charging cord to battery terminal.
- To charge, remove the battery, connect it to the charger, and plug it into a power source.
  - Red Light: Charging
  - Green Light: Fully charged (~2 Hours)

Figure 2 - Charging Battery

3.2.2 CHANGING BATTERY

- Slide battery pack into blower unit just below filter cover until latch snaps into position. It is very important that the battery pack snaps into position. This makes sure the battery pack is locked in place and will not slide out causing possible nuisance shutoffs while in use (Fig.3).
- To remove battery pack, simply push down on the latch located on the back of the blower unit to release and slide the battery pack out of the blower unit (Fig. 4).

Figure 3 - Battery Location

Figure 4 - Battery Installation

3.3 FILTER INSTALLATION

- Install the Spark Arrestor on the inside of the filter cover followed by prefilter and Particulate (P3) filter.

- Attach the filter cover to the blower unit by aligning the tabs and pressing down until the latch clicks.
- Ensure the filters and filter cover is securely attached to the blower unit.
- Replace filters as required. Turn off the blower before replacing filters.

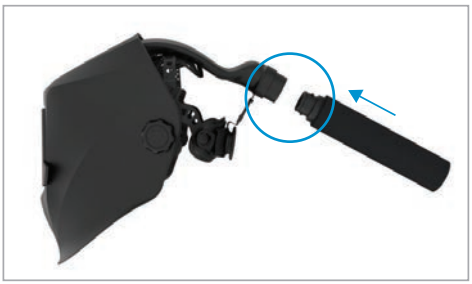
3.4 BREATHING HOSE

1. Connect the breathing hose by lining up the locking tabs on the Breathing Hose with the locking grooves on the blower unit. Connect the end of the breathing hose onto the blower unit by rotating the hose, see Fig.5.2. The breathing hose should make an audible click when attached. Check if the breathing hose is secured to the welding helmet by swivelling and pulling on the connection. If it is not securely connected, detach and reconnect.
2. To disconnect the breathing hose, rotate the Breathing Hose counterclockwise and gently pulling outwards (Fig.6.2).
3. Follow the same instructions to connect the Breathing Hose to the welding helmet.

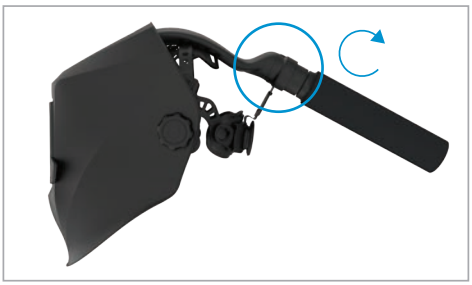
IMPORTANT

Never attempt to clean any filters, replace them when clogged or damaged.

1.

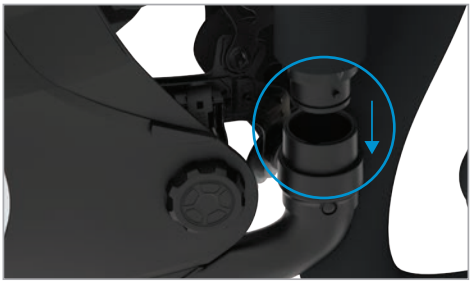


2.

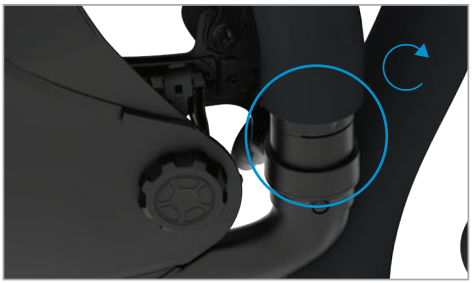


XC10 Air Instructions 1 & 2 - Connecting the breathing hose

1.



2.

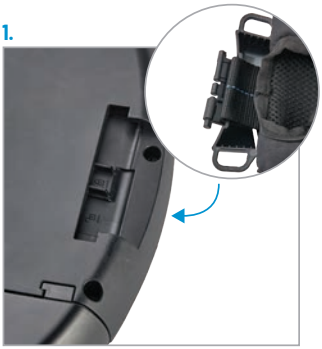


XC90F Air Instructions 1 & 2 - Connecting the breathing hose

3.5 ATTACHING WAIST BELT AND SHOULDER STRAPS

1. Move the locking tab to either right or left end.
2. Slide the other end of the Mounting Pin into the locking mount.
3. Once lined up, push the locking pin into the locking mount and move the locking tab to locked position (centre).
4. Attach the shoulder straps through the loops on the waist belt for additional support.
5. Adjust the fit to ensure the blower unit rests comfortably on your lower back.

1.



2.

3.

4.

5.

- Follow the same instructions as attaching the waist belt but affix the locking tab onto the backpack.
- Make sure the air outlet on the blower unit in facing upwards.
- Adjust the fit to ensure the blower unit is securely attached to the backpack.

IMPORTANT

Ensure the face seal is intact and properly positioned for a secure fit and maintain protection.

Always remove the system in a safe, uncontaminated environment.

SECTION 4:
OPERATION INSTRUCTIONS

4.1 TESTING BEFORE USE

Perform the following tests in a safe environment before entering a hazardous area.

4.1.1 AIRFLOW TEST

1. Disconnect the breathing hose from the helmet
2. Insert the flowmeter into the blower unit and switch it on (see Fig. 7)
3. Ensure that the ball indicator reaches the minimum flow rate.

Figure 7 - Airflow Test

4.1.2 AIRFLOW ALARM TEST

1. Turn the blower unit on.
2. Block the air outlet of the breathing hose by placing your hand over it.
3. Confirm that the alarm activates, and the blower unit vibrates within 45 seconds

Figure 8 - Airflow Alarm Test

IMPORTANT

Do not use the system if it fails any of these tests.

4.2 STARTING THE RESPIRATOR

Press and hold the ON button for 2 seconds until the blower is activated. An audible sound will be heard, and the user interface will light up. To adjust or cycle through the blower speed, press the ON button. The blower has three airflow levels: 170L/MIN, 200L/MIN and 230L/MIN.

4.3 STOPPING THE RESPIRATOR

Press and hold the OFF button for 2 seconds until blower stops. When pressing OFF button, an audible beeping sound will indicate the OFF button has been depressed. Beeping sound will stop, and the user interface will darken when blower unit turns off.

4.4 BATTERY LEVEL INDICATOR

This indicator gives the user an estimate of the battery life remaining. When four full bars show up in the display, the battery is fully charge.

Figure 9 - Battery Level Indicator

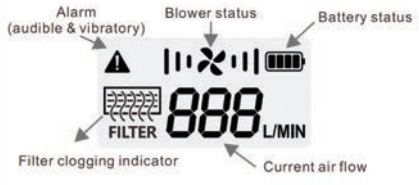


Figure 10 - Battery Level Indicator Breakdown

4.4 PROTECTING YOURSELF WHILST WELDING

WARNING

Prior to welding check operation of the filter lens, if the lens does not darken DO NOT COMMENCE WELDING. If during welding the filter does not darken IMMEDIATELY STOP WELDING.

The radiation from an electric arc during the welding process can seriously harm eyes and skin. It is essential that the following precautions be taken:

When electric arc welding, it is a requirement to use a welding helmet or welding handshield that complies to a relevant standard. Protective filter lenses are provided to reduce the intensity of radiation entering the eye thus filtering out harmful infra-red, ultra-violet radiation and a percentage of the visible light. Such filter lenses are incorporated into this Welding Helmet. To prevent damage to the filter lenses from molten or hard particles an additional special plastic external cover lens is provided. This cover lens should always be kept in place and replaced before the damage impairs your vision while welding.

WARNING

The indicated filter lens shade numbers are minimum. If any discomfort is felt, higher shade numbers should be selected.

Recognised standards for recommended practices for occupational eye protection include AS/NZS 1336 and EN 175.

Gloves should be flameproof gauntlet type to protect hands and wrists from heat burns and harmful radiations. They should be kept dry and in good repair.

Protective clothing must protect the operator from burns, spatter and harmful radiation. Woollen clothing is preferable to cotton because of its greater flame resistance. Clothing should be free from oil or grease. Wear leggings and spats to protect the lower portion of the legs and to prevent slag and molten metal from falling into boots or shoes.

WARNING

For machine disc cutting, scaling, grinding and machining of metals and the like, additional eyeshields or faceshields with appropriate impact rating should be used. Refer to AS/NZS 1336 for full details of the appropriate protection for industrial applications.

RECOMMENDED PROTECTIVE FILTERS FORELECTRIC WELDING

Description of Process	Approximate Range of Welding Current in Amps	Minimum Shade Number of Filter(s)
Air - Arc Gouging	Less than or equal to 400	12
Flux-cored Arc Welding (FCAW) - with or without shielding gas	Less than or equal to 300	11
	300 to 400	12
	400 to 500	13
	Greater than 500	14
Gas Metal Arc Welding (GWAW) (MIG) - Aluminium and Stainless Steel - other than Aluminium and Stainless Steel	Less than or equal to 250	12
	250 to 350	13
	Less than or equal to 150	10
	150 to 250	11
	250 to 300	12
	300 to 400	13
	400	14
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100	10
	100 to 200	11
	200 to 250	12
	250 to 350	13
	Greater than 350	14
Manual Metal Arc Welding - covered electrodes (MMAW)	Less than or equal to 100	8
	100 to 200	10
	200 to 300	11
	300 to 400	12
	Greater than 400	13
Plasma - Arc Cutting	50 to 100	10
	100 to 400	12
	400 to 800	14
Plasma - Arc Spraying	–	15
Plasma - Arc Welding	Less than or equal to 20	8
	20 to 100	10
	100 to 400	12
	400 to 800	14
Resistance Welding	–	Safety Spectacles or eye shield
Submerged - Arc Welding		2 (5) *

*A shade 5 filter is recommended for watching molten pool in electroslag welding. Refer to standard AS/NZS 1338.1:1992 for comprehensive information regarding the above table.

Table 4-1 Recommended Protective Filters for Electric Welding


CIGWELD
ARCMASTER
XC10
CIGWELD

SECTION 5A:
XC10 AIR HARNESS ADJUSTMENT

Prior to use, the Welding Helmet must be adjusted for maximum comfort and protection. The Helmet should be adjusted such that it is effectively positioned over the eyes and face to ensure adequate protection and comfort whilst welding. Please refer to the Harness adjustment instructions below.

ADJUSTING THE FIT OF THE HELMET

The overall circumference of the headband can be made larger or smaller by rotating the knob (1) on the back of the headband. This can be done whilst wearing the helmet and allows just the right tension to be set to keep the helmet firmly on the head without it being too tight.

If the headband is sitting too high or too low on your head, adjust the strap (2) which passes over the top of your head. To do this release the end of the band by pushing the locking stud out of the hole in the band. Slide the two portions of the band to a greater or less width as required and push the locking stud through the nearest hole.

Test the fit of the headband by lifting up and closing down the helmet a few times while wearing it. If the headband moves while tilting, re-adjust it until it is stable.

ADJUSTING THE DISTANCE BETWEEN THE HELMET AND THE FACE

To adjust the distance from the welder's eyes to the filter lens use the two horizontal adjustments (3) located left and right of the harness assembly.

To adjust the viewing angle position, release the two tabs (4) from the notches on each side to adjust the angle up or down.

4-Point Adjusting Harness

Figure 11 - Harness Adjustment


CIGWELD
ARCMASTER
XC90F

SECTION 5B:
XC90F AIR HARNESS ADJUSTMENT

Prior to use, the Welding Helmet must be adjusted for maximum comfort and protection. The Helmet should be adjusted such that it is effectively positioned over the eyes and face to ensure adequate protection and comfort whilst welding. Please refer to the Harness adjustment instructions below.

ADJUSTING THE FIT OF THE HELMET

The overall circumference of the headband can be made larger or smaller by rotating the knob (1) on the back of the headband. This can be done whilst wearing the helmet and allows just the right tension to be set to keep the helmet firmly on the head without it being too tight.

If the headband is sitting too high or too low on your head, adjust the strap (2) which passes over the top of your head. To do this release the end of the band by pushing the locking stud out of the hole in the band. Slide the two portions of the band to a greater or less width as required and push the locking stud through the nearest hole.

Test the fit of the headband by lifting up and closing down the helmet a few times while wearing it. If the headband moves while tilting, re-adjust it until it is stable.

ADJUSTING THE DISTANCE BETWEEN THE HELMET AND THE FACE

To adjust the distance from the welder's eyes to the filter lens use the two horizontal adjustments (3) located left and right of the harness assembly.

To adjust the viewing angle position, release the two tabs (4) from the notches on each side to adjust the angle up or down.

4-Point Adjusting Harness

Figure 12 - Harness Adjustment

SECTION 6A:
XC10 AIR INSTALLATION OF MAGNIFICATION LENS (OPTIONAL)

CIGWELD magnification lenses magnify the work area substantially to assist the welder in maintaining the high standard required.

WARNING
Before installing the magnification lens, ensure that the rear cover lens is in place.

1. **Magnification Lens Retainer Clips**
   Auto Darkening Filter (ADF) and magnification lens retainer clips shown in the image.

2. Installing Magnification Lens
To install magnification lens fit the magnification lens retainer clips on both sides of the magnification lens. Then slide one side of the magnification lens into the tabs on the ADF as shown in the image followed by pushing the other side in until it fits firmly between the two tabs.

3. Magnification Lens Installed
Once the lens is installed it should fit firmly in place as shown in the image.

4. Removing Magnification Lens
To remove the magnification lens pull the lens along with the retainer clips upwards until it becomes free from the ADF frame.

ARCMASTER AUTO-DARKENING WELDING HELMET

DESCRIPTION	PART NUMBER
1.50 diopter	454012
2.00 diopter	454010
2.25 diopter	454014
2.50 diopter	454011

Table 7-1 Magnification Lens Ordering Information

SECTION 6B:
XC90F AIR INSTALLATION OF MAGNIFICATION LENS (OPTIONAL)

CIGWELD magnification lenses magnify the work area substantially to assist the welder in maintaining the high standard required.

WARNING

Before installing the magnification lens, ensure that the rear cover lens is in place.

1. **Magnification Lens Frame**
   Find grooves on the each side of the ADF (Auto Darkening Filter).

2. **Installing Magnification Lens**
   To install the magnification lens, slide the magnification lens retainer clips on each side of the magnification lens. Then line up the tabs as shown in the image. Ensure that the lens and the retainer clips fit firmly on the ADF (Auto Darkening Filter)

3. **Magnification Lens installed**
   Once the lens is installed it should sit firmly in place as shown in the picture on the left.

4. **Removing Magnification Lens**
   To remove the magnification lens remove the magnification lens retainer clips by pulling them upwards together until it comes off the ADF.

ARCMASTER AUTO-DARKENING WELDING HELMET

DESCRIPTION	PART NUMBER
1.50 diopter	454012
2.00 diopter	454010
2.25 diopter	454014
2.50 diopter	454011

Table 7-1 Magnification Lens Ordering Information

SECTION 7A:
CHANGING OF FRONT AND REAR COVER LENSES XC10 AIR

If any of the Cover Lenses are broken, plainly worn, distorted or contaminated they should be replaced immediately with a genuine CIGWELD replacement part.

REPLACING FRONT AND GRINDING LENS

The Front and Grinding cover lenses are identical in size and cross compatible. They are installed and taken out in the same manner.

To replace the front or the grinding cover lens lightly push the centre of the cover lens from behind the lens. This will allow the lens to pop out of their tabs. Replace the existing rear cover lens by sliding the lens under the tabs on one side first and then bending up and slightly massaging the other side so that it slides under the tabs and sits securely.

Before fitting the auto-darkening filter, make sure to peel off the protective plastic film off the front and rear cover lens.

REPLACING REAR COVER LENS

Remove the rear cover lens by pulling up the recessed centre edge of the lens and the left and right edges of the cover lens will pop out of their tabs. Replace the existing rear cover lens by sliding the lens under the tabs on one side first and then bending up and slightly massaging the other side so that it slides under the tabs and sits securely.

Ensure both cover lenses are securely in place before use.

SECTION 8A:
ARCMASTER XC10 AIR AUTO-DARKENING FILTER LENS CONTROLS

For your protection and maximum efficiency of your product, please study this information carefully before use.

Figure 13

1. **Welding/Cut/Grind Mode**

   • The Welding/Cut/Grind mode switch is used to change the Fi;lter lens between Welding, Cutting or Grinding mode. The Arcmaster XC10 Welding Helmet has a high impact rating for grinding.

   • Additional safety specs or safety goggles rated to the Australian/New Zealand safety standard - AS/NZS 1337.1, are always recommended underneath your welding helmet for added safety against flying particles and fragments, dust and molten metals.

2. **Sensitivity Control**

   • The Sensitivity Control is used to make the Filter Lens more or less responsive to different light levels. Manually adjust the sensitivity as required for the application.

3. **Variable Shade Control**

   • The Variable Shade Control is used to adjust the shade level between 4-8/9-13. Manually adjust shade to desired level as required for the application. Shade range - 4-8/9-13

4. **Delay Control**

   • The Delay Control is used to adjust the hold time of the Filter Lens after welding is completed. Manually adjust delay time to desired level as require for the application.

SECTION 7B:
CHANGING OF FRONT AND REAR COVER LENSES XC90F AIR

If any of the Cover Lenses are broken, plainly worn, distorted or contaminated they should be replaced immediately with a genuine CIGWELD replacement part.

REPLACING FRONT COVER LENS

To replace the front cover lens unclip the auto-darkening filter from the bottom retaining clips. Remove the existing front cover lens and replace with new one. Ensure that when installing the filter lens is fastened securely to prevent any fumes passing through.

Before fitting the auto-darkening filter, make sure to peel off the protective plastic film off the front and rear cover lens.

REPLACING REAR COVER LENS

Remove the rear cover lens by pulling up the recessed centre edge of the lens and the left and right edges of the cover lens will pop out of their tabs. Replace the existing rear cover lens by sliding the lens under the tabs on one side first and then bending up and slightly massaging the other side so that it slides under the tabs and sits securely.

Ensure both cover lenses are securely in place before use.

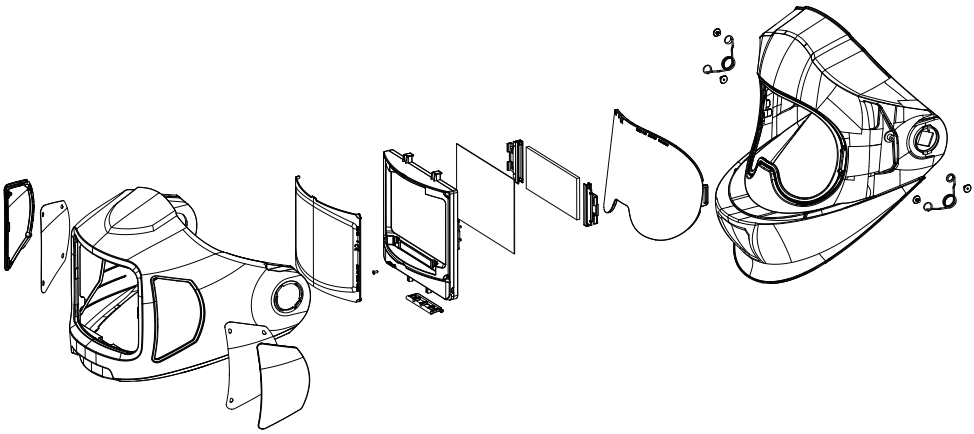


Figure 14 - Exploded Line Drawing of Arcmaster Front & Rear Lens Positioning

SECTION 8B:
ARCMASTER XC90F AIR AUTO-DARKENING FILTER LENS CONTROLS

For your protection and maximum efficiency of your product, please study this information carefully before use.

Figure 15

1. **Mode**
   - Mode can be changed by pressing MODE setting on the auto-darkening filter (ADF). Users can cycle through Weld/ Cut/Grind mode as required for the application.
   - Holding down the MODE setting will turn the auto-darkening filter off.
2. **Lock**
   - Press the button to lock shade at any level.
3. **Set**
   - Use the SET button to cycle through sensitivity, delay and shade mode.
   - Holding down the SET button activates the automatic adjustment for the selected mode..
4. **Up/Down**
   - UP/DOWN arrows allow user to adjust selected parameters in various settings and modes.
5. **Memory**
   - To save a weld configuration first set desired parameters and then press and hold MEM. setting on the auto-darkening filter. The memory card on the top right corner of the display will show 'Write' with a number indicating that the current configuration is being saved to that storage number.

Figure 16

- Nine different weld configurations can be saved and recalled using the memory function. To recall a saved configuration, press the MEM. setting on the auto-darkening filter (ADF). The memory card on the top right corner of the display will show 'Read' with a storage number indicating that the user can navigate to a desired configuration with the UP/DOWN arrows. Wait 5 seconds on the desired configuration to confirm and recall the selected configuration.

1. **Gradual**

- Gradual mode can be activated and deactivated by pressing GRADUAL setting on the auto-darkening filter (ADF). When on, gradual will appear on the right-hand-side of the display next to the delay tachometer. Gradual smoothly transitions lens when switching from dark to light state, after the Delay period has ended, to minimize eye fatigue and enhance the achievement of a welding job done well.

- Holding down the GRADUAL button activates test mode. Test mode will automatically check if the battery and auto-darkening filter settings are functioning correctly. Test is automatically complete after 6 seconds.

SECTION 9A:
BATTERIES AND BATTERY COMPARTMENT XC10 AIR

BATTERY COMPARTMENT

To replace the batteries, locate the battery compartment on the inside top right corner of the ADF (Auto Darkening Filter). Then remove the retaining screw and pull the battery door out while gently applying pressure. This helmet uses 1 x CR2032 Lithium battery.

TIP: When the helmet is not in use, we recommenced placing the helmet in a clear plastic bag (to keep it dust free) and storing on a shelf or rack facing a window with natural sunlight. the suns ray will help extend the life of the batteries.

WARNING

Swallowing a button coin battery may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.

If you suspect your child has swallowed or inserted a button battery immediately call the 24-hour Poisons Information Centre in Australia on 13 11 26 (or your countries relevant Poison Information Centre) for fast, expert advice.

Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.

Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.

Tell others about the risk associated with button batteries and how to keep their children safe.

SECTION 9B:
BATTERIES AND BATTERY COMPARTMENT XC90F AIR

BATTERY COMPARTMENT

To replace the batteries, remove the lithium battery from the bottom right corner of the ADF (auto darkening filter). This can be done removing the retaining screw, lightly pressing as you pull it downwards. Replace with 2 x CR2032 Lithium battery.

The battery life is extended when the welding helmet is exposed to UV light from sunlight or welding.

TIP: When the helmet is not in use, we recommenced placing the helmet in a clear plastic bag (to keep it dust free) and storing on a shelf or rack facing a window with natural sunlight, the suns ray will help extend the life of the batteries.

Figure 11-1 Battery Compartment

WARNING

Swallowing a button coin battery may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.

If you suspect your child has swallowed or inserted a button battery immediately call the 24-hour Poisons Information Centre in Australia on 13 11 26 (or your countries relevant Poison Information Centre) for fast, expert advice.

Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.

Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.

Tell others about the risk associated with button batteries and how to keep their children safe.

SECTION 10:
MAINTENANCE AND STORAGE

10.1 DAILY MAINTENANCE

- Filters: Inspect the prefilter and particulate filter for clogging or damage. Replace as needed.
- Breathing Hose: Check for cracks, burn holes, kinks, or blockages. Replace if necessary.
- Blower Unit: Wipe external surfaces with a clean, dry cloth. Avoid using water or solvents.
- Battery: Ensure the battery is properly seated and charge as needed.

IMPORTANT

Never attempt to clean the filters. Dispose of used filters in accordance with your local regulations.

10.2 PERIODIC MAINTENANCE

- Replace the prefilter and particulate filter according to the user environment or when performance decreases.
- Test the airflow alarm weekly to ensure proper function.
- Inspect the helmet, cover lenses and face seal for general wear and tear. Replace worn components.

10.3 STORAGE INSTRUCTIONS

- Store the system in a clean, dry area or a sealed container away from direct sunlight and contaminants.
- Ensure the temperature is between -5°C to 55°C and relative humidity is below 90%
- If storing for extended periods:
  - Remove and fully charge the battery before storage.
  - Recharge the battery at least once a year.

SECTION 11A:
CYCLONE PAPR SPARE PARTS

WARNING

CIGWELD cannot be held responsible for the continuing performance of this Welding Helmet if non-genuine spare parts are used.

Figure 17 - Exploded View of Cyclone PAPR

OPTIONAL ACCESSORIES

455403	Backpack for Cyclone PAPR
455409	5.2Ah Heavy-Duty Battery 920hrs) for Cyclone PAPR
455410	FR Head Protection for Cyclone PAPR
455411	Leather Neck Protection

SPARE PARTS – CYCLONE PAPR

ITEM	P/N	DESCRIPTION
1	455400	Cyclone PAPR Unit with Breathing Hose, Waist Belt and Shoulder Straps
2	455401	Waist Belt with Shoulder Straps for Cyclone PAPR
3	455402	Extendable Breathing Hose 1.2m for Cyclone PAPR
4	455404	Spark Arrestor for Cyclone PAPR 2pc/pk
5	455405	Prefilter for Cyclone PAPR 5pc/pk
6	455406	P3 Particulate Filter for Cyclone PAPR
7	455408	2.6Ah Standard Battery (10hrs) for Cyclone PAPR
8	455415	Filter Cover Blue for Cyclone PAPR

Table 11A - Spare Parts

SECTION 11B:
XC10 AIR SPARE PARTS

WARNING

CIGWELD cannot be held responsible for the continuing performance of this Welding Helmet if non-genuine spare parts are used.

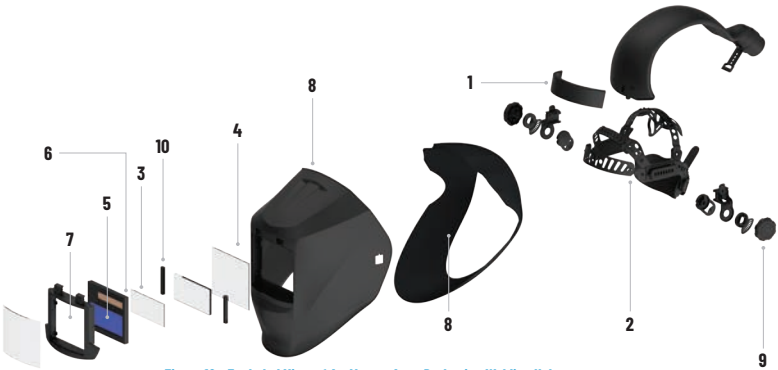


Figure 18 - Exploded View of ArcMaster Auto-Darkening Welding Helmet

SPARE PARTS – CIGWELD ARCMASTER AUTO-DARKENING WELDING HELMET

ITEM	P/N	DESCRIPTION
1	WHSB05	Sweatband
2	WHHK03A	4-Point Harness Kit
3		Magnification Lens (Optional - refer to Page 22)
4	WHCL67R	Rear Cover Lens
5	WHADFXC10	Auto-Darkening Filter Lens (Not available as spare part)
6		Batteries are located on the inside top right corner of the ADF. 1 x CR2032
7	WHCL95F	Front Cover Lens
8		Helmet Shell (Not available as spare part)
9		Head Harness Tensioner Knobs (Not available as spare part)
10	WHMLRC10	Mag lens retainer clips are right next to the mag lens
11	455420	Arcmaster XC10 AIR

Table 11B Spare Parts

SECTION 11C:
XC90F AIR SPARE PARTS

WARNING

CIGWELD cannot be held responsible for the continuing performance of this Welding Helmet if non-genuine spare parts are used.

Figure 19 - Exploded View of ArcMaster Auto-Darkening Welding Helmet

SPARE PARTS – CIGWELD ARCMASTER AUTO-DARKENING WELDING HELMET

ITEM	P/N	DESCRIPTION
1	WHSB05	Sweatband
2	WHHK05A	5-Point Harness Kit
3	WHCL177G	Grinding Lens
4		Magnification Lens (Optional - refer to Page 24)
5	WHCL101R	Rear Cover Lens
6	WHRCXC90F	ADF Retaining Clip (Not available as spare part)
7		Battery CR2032 Lithium x2 (Customer to purchase locally)
7	WHADFXC90F	Auto-Darkening Filter Lens (Not available as spare part)
8	WHCL124F	Front Cover Lens Clear
	WHCL124FB	Front Cover Lens Blue
9	WHHT05	5-Point Harness Tensioner Knob (Not available as spare part)
10	WHMLRC69	Magnification Lens Retaining Clips
11	455425	Arcmaster XC90F AIR

Table 11C Spare Parts

SECTION 12:
BASIC TROUBLESHOOTING (HELMETS)

FAULT	CAUSE	REMEDY
1. Blower doesn't start.	**A.** Battery is not fully charged. **B.** Battery is improperly installed.	**A.** Recharge the battery. **B.** Reinstall the battery, ensuring a secure fit.
2. Airflow alarm activates.	**A.** Filter is clogged or damaged.	**A.** Replace the filter.
	B. Breathing tube is blocked.	**B.** Check and clear obstructions.
3. Unusual smell inside helmet.	**A.** Damaged filter or tube. **B.** Air duct in the helmet is damaged.	**A.** Replace the filter or tube immediately. **B.** Inspect and replace if necessary.
4. Insufficient airflow.	**A.** Filter is clogged or damaged. **B.** Breathing tube is improperly connected.	**A.** Replace the filter. **B.** Securely connect the tube.
5. System vibrates excessively.	**A.** Motor obstruction or damage.	**A.** Inspect and clear obstructions; contact the supplier if unresolved.
6. Short battery runtime.	**A.** Battery is not fully charged.	**A.** Fully recharge the battery.
	B. Old or damaged battery.	**B.** Replace the battery.

Table 12-1 Basic Troubleshooting

IMPORTANT

If issues persist after performing the recommended actions, contact CIGWELD customer support for assistance.

SECTION 12:
BASIC TROUBLESHOOTING (CYCLONE PAPR)

FAULT	CAUSE	REMEDY
1. Irregular darkening dimming.	**A.** Headband has been set unevenly and there is an uneven distance from the eyes to the filter lens.	**A.** Reset the headband to reduce the difference to the filter
2. Auto-Darkening filter does not darken or flickers.	**A.** Front cover lens is soiled or damaged.	**A.** Clean Cover Lens with a soft cloth. Replace if necessary.
	B. Sensors are dirty.	**B.** Clean the sensors surface.
	C. Welding current is too low.	**C.** Adjust the sensitivity level to higher. Check that the battery is still charged, you can do this by holding up the helmet and lens outdoors in sunlight, and then quickly passing your hand over the front of the lens. This will cause the ADF to see a change between the visible light and your hand interrupting the suns rays, and therefore the helmet should turn on.
	D. The Grinding Mode Switch is turned on.	**D.** Switch the Grinding Switch back to the Welding Setting on the outside of the helmet (Left-hand side when looking at the helmet from the front).
3. Slow response.	**A.** Operating temperature is too low.	**A.** Do not use at temperatures below -10º C.
4. Poor vision.	**A.** Front/inside cover lens and/or the filter are dirty.	**A.** Change cover.
	B. There is insufficient ambient light.	**B.** Reset the shade number.
	C. Shade number is incorrectly set.	
5 Welding helmet slips.	**A.** Head Harness is not properly adjusted.	**A.** Readjust the Head Harness.

Table 12-1 Basic Troubleshooting

WARNING

If the above troubleshooting recommendations do not resolve the problem, do not use the Auto-Darkening Welding Helmet. Contact CIGWELD for further information.

SECTION 13:
NOTES

CIGWELD

AN **ESAB** BRAND

ARCMASTER

CYCLONE PAPR

V1-2025 Issue Date: May 2025

CIGWELD Pty Ltd An ESAB Brand 71 Gower Street, Preston VIC 3072 Australia
CUSTOMER CARE: Tel: 1300 654 674 | Intl Tel: +61 9474 7400
Email: enquiries@cigweld.com.au

CIGWELD.COM.AU