AER FLOW SAFE V4 PRO

User manual Instructions for use and maintenance

Index

1. AUTO DARKENING WELDING HELMET USER MANUAL

2. GENERAL INFORMATION

2.1. INTRODUCTION

This user manual provides important information for the correct and safe operation of Aerservice Equipments' auto-darkening helmet with PAPR system.

The instructions contained in this manual help to avoid dangers, to reduce repair costs and unit downtime and to increase the reliability and lifetime of the unit.

The user manual shall always be at hand; all information and warnings contained therein shall be read, observed and followed by all people who work by the unit and are involved in tasks, such as:

- transport and assembly;
- normal use of the unit during work;
- maintenance (replacement of filters, troubleshooting);
- disposal of the unit and its components.

2.2. INFORMATION ON COPYRIGHT AND RELATED RIGHTS

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3. SAFETY

3.1. GENERAL INFORMATION

Auto-Darkening welding helmets are designed to protect the eye and face from sparks, spatter and harmful radiation under normal welding conditions. This auto darkening filter will automatically turn on when pick it up. The filter automatically changes from a light state to a dark state when an arc is struck, and it returns to the light state when welding stops.

The Auto-Darkening welding helmet comes assembled. But before it can be used, it must be adjusted to fit the user properly. Check battery surfaces and contacts and clean it if necessary. Verify if the battery is in good condition and installed properly. Set up for delay time, sensitivity and shade number for your application. Before welding, please make sure the ADF was set to WELDING / CUTTING mode instead of GRIND mode.

The helmet should be stored in dry, cool and dark area and remove the battery, when not using it for a long time.

3.2. SAFETY WARNINGS FOR THE OPERATOR

- Employees or general users shall make a visual inspection of their protector prior to each use. Protectors which exhibit broken parts, distortion, or excessive scratches on the lens, are unsuitable for use and shall not be worn.
- The protection marked in accordance with this standard is only provided when all lens and retention components are installed according to the list or other manufacturer's instructions.
- Eye and face protectors that have been subject to an impact shall not be used and shall be discarded and replaced.
- This Auto-Darkening welding helmet is not suitable for laser welding.
- Never place this helmet and Auto-Darkening filter on a hot surface.
- Never open or tamper with the Auto-Darkening filter.
- This Auto-Darkening welding helmet will not protect against severe impact hazards.
- This helmet will not protect against explosive devices or corrosive liquids.
- Do not make any modifications to either the filter or helmet, unless specified in this manual. Do not use replacement parts other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
- Should this helmet not darken upon striking an arc, stop welding immediately and contact your supervisor or your dealer.
- Do not immerse the filter in water.
- Do not use any solvents on the filter screen or helmet components.
- Use only at temperatures: -5 °C ~ +55 °C (23 °F ~ 131 °F).
- Storing temperature: -20 °C ~ +70 °C (- 4 °F ~ 158 °F). The helmet should be stored in dry cool and dark area, when not using it for a long time.
- Protect filter from contact with liquid and dirt.
- Clean the filter surface regularly; do not use strong cleaning solutions. Always keep the sensors and solar cells clean using a clean lint-free tissue.
- Regularly replace the cracked / scratched / pitted front cover lens.

- The materials which may come into contact with the wearer's skin can cause allergic reactions in some circumstances.
- The ADF shall only be used in conjunction with the inner cover lens.
- The eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer.
- Toughened mineral filter oculars shall only be used in conjunction with a suitable backing ocular.
- If the symbols F or B are not common to both the ocular and the frame then it is the lower level which shall be assigned to the complete eye-protector.
- If the impact letter followed by letter "T", you can use it for protection against high speed particles at extremes of temperature. If the impact letter does not followed by letter "T", you should only use the eye protector for protection against high speed particles at room temperature.
- We recommend a use for a period of 5 years. The duration of use depends on various factors such as use, cleaning storage and maintenance. Frequently inspections and replacement if it is damaged are recommended.
- The product is in conformity with Directive 2001/95/EC, Regulation (EU) 2016/425, Annex II.
- The user shall contact the health and safety representative to ensure he is given the proper protection by the personal eyewear during working conditions.

4. USE INSTRUCTION

4.1. BATTERY INSTALLATION

Slide the battery holder out of the auto darkening filter, (remove the used battery when replacing battery), put new CR2450 batteries inside the battery holder, and put the battery holder back into the auto darkening filter. Please make sure the anode and cathode of the battery are installed correctly (See fig.1).

Be sure Positive (+) side of battery faces up

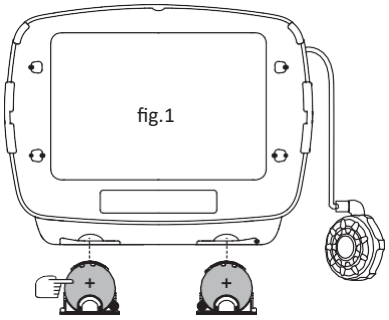


fig.1

4.2. POWER ON / OFF

To activate the display screen, press any button. The auto-darkening filter will automatically turn off after a period of inactivity.

4.3. DIGITAL SCREEN ACTIVATION

Press any of four button to activate the digital screen (See fig.2a). After 15 seconds, digital screen will automatically turn to standby mode. Short press the button again will active the screen once more and previous settings will remain.

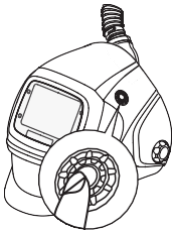
4.4. MODE CONTROL

Short Press “ON / MODE” button to select the mode appropriate for the work activity. (See fig.2a):

Weld Mode – used for most welding applications. Push “FUNC” button to adjust shade number, sensitivity, and delay settings properly before welding. In this mode the lens turns to dark immediately when you start welding.

Cut Mode – used for cutting applications. Push “FUNC” button to adjust shade number, sensitivity, and delay settings properly before cutting. In this mode the lens turns to dark immediately when you start cutting.

Grind Mode – used for grinding applications. In this mode the lens shade is fixed shade No. 3. Cannot adjust shade number, sensitivity, and delay settings.



External Grind Button Use – The user can also switch to the grind mode using the external grinding switch button (which is located on the top-right of the helmet during wear), by long-pressing the "GRIND" button for 2 seconds. Long pressing the “GRIND” button for 2 second again, it will return to the previous mode. Please switch back to WELD/CUT mode after use for battery save.

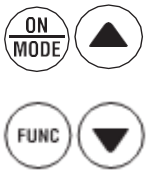


fig.2a

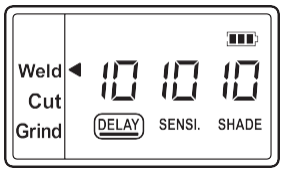


fig.2b

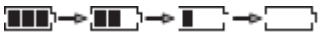


fig.2c

4.5. BATTERY INDICATOR

The symbol “ ” show the current state of the battery (See fig.2b). The volume of batteries has four levels symbol to appear (See fig.2c). The symbol “  ” appears on the display screen before 1–2 days of battery life remains, the CR2450 lithium batteries should be replaced in time. The symbol of the Battery Indicator is not real-time, should be updated after pressing “ON / MODE” button shortly.

4.6. VARIABLE SHADE CONTROL

After turn on the lens, short press “FUNC” button to choose “SHADE”, and adjust the lens shade number. Use “  ” and “  ” buttons to select the lens shade in the dark state. The shade range for each mode are as follows:

Cut Mode – Shade 5 ~ 8 (See fig.3a) **Weld Mode** – Shade 9 ~ 13 (See fig.3b)

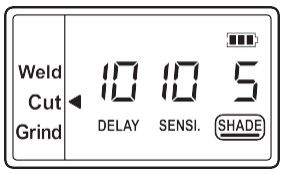


fig.3a

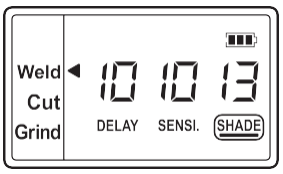


fig.3b

Grind Mode – No. 3 only (See fig.3c). Flip up the front-flip part for grinding job, the auto darkening filter also has grind mode setting

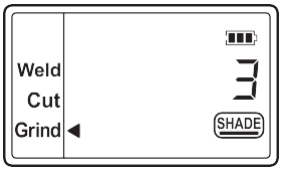


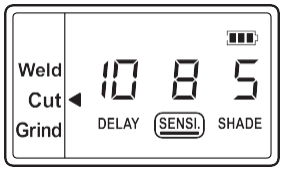
fig.3c

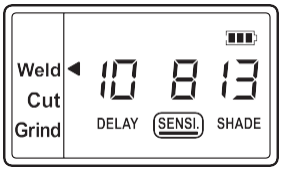
Select the proper shade number for your welding / cutting process, by referring to the "Shade Guide Table" on the last page.

4.7. SENSITIVITY CONTROL

Press "FUNC" button to choose "SENSITIVITY". Use " ▲ " and " ▼ " buttons to make the lens more or less sensitive to arc light of different welding processes. Sensitivity setting5-10 is the normal setting for everyday use. The sensitivity ranges for each mode are asfollows:

Cut Mode (Shade 5 ~ 8) / **Weld Mode** (Shade 9 ~ 13) – Sensitivity 0 ~ 10 (See fig.4a / 4b)





Grind Mode – No sensitivity adjustment

As a simple rule for optimum performance, it is recommended to set sensitivity to the maximum at the beginning and then gradually reduce it, until the filter reacts only to the welding light flash and without annoying spurious triggering due to ambient light conditions (direct sun, intensive artificial light, neighboring welder's arcs etc.).

It may be necessary to adjust helmet sensitivity to accommodate different lighting conditions or if lens is flashing On and Off. Adjust helmet sensitivity as follows: Adjust helmet sensitivity in lighting conditions helmet will be used in.

- Press " ▼ " button to lower setting to 0.
- Face the helmet in the direction of use, exposing it to the surrounding light conditions.

- Press "↑" button repeatedly until the lens darkens, then press "↓" button until lens clears. Helmet is ready for use. Slight readjustment may be necessary for certain applications or if lens is flashing on and off.

4.8. DELAY CONTROL

Press "FUNC" button to choose "DELAY", begin lens delay adjustments. Use the Lens Delay Control "↓" and "↑" buttons to adjust the time for the lens to switch to the clear state after welding or cutting.

Cut Mode (Shade 5 ~ 8) / **Weld Mode** (Shade 9 ~ 13) – Delay 0 ~ 10 (See fig.5a / 5b)

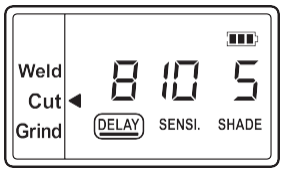


fig.5a

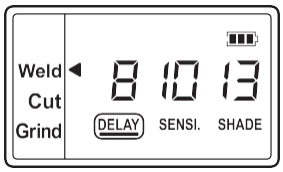


fig.5b

Grind Mode – No sensitivity adjustment

The delay is particularly useful in eliminating bright after-rays present in higher amperage applications where the molten puddle remains bright momentarily after welding. Use the Lens Delay Control buttons to adjust delay from 0 to 10 (0.1 to 1.0 second). When welding stopped, the viewing window automatically changes from dark back to light but with a pre-set delay to compensate for any bright afterglow on the workpiece. The delay time / response can be set from Level 0 to level 10. It is recommended to use a shorter delay with spot welding applications and a longer delay with applications using higher currents. Longer delays can also be used for low current TIG welding, and TIG / MIG / MAG pulse.

4.9. ADJUSTING THE FIT OF THE HELMET

The overall circumference of the headband can be made larger or smaller by rotating the knob on the back of the headband (See adjustment "Y" in fig.6). This can be done while 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 riding too high or too low on your head, adjust the strap which passes over the top of your head. To do this release the end of the band by pushing the locking pin out of the hole in the band. Slide the two portions of the band to a greater or lesser width as required and push the locking pin through the nearest hole (See adjustment "W" in fig.6).

Front and back bands will automatically self-adjust according to headform, and soft pads suit forehead and back of head perfectly, which will bring more comfort (See fig.7a). 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.

4.10. ADJUSTING THE DISTANCE BETWEEN THE HELMET AND THE FACE

Step 1: Press down and hold the “LOCK” latch on both sides (See fig.7b) and it can be slide back and forth.

Step 2: Loosen the “LOCK” latch and keep it snap into slots. Please make sure the distance between the lens to both eyes are equal, to avoid uneven darkness.

4.11. ADJUSTING VIEW ANGLE POSITION

Tilt adjustment is located on right side of helmet. Loosen the right headgear tension knob and adjust the lever forward or back to the proper position. Re-tighten the right headgear tension knob (See fig.7c).

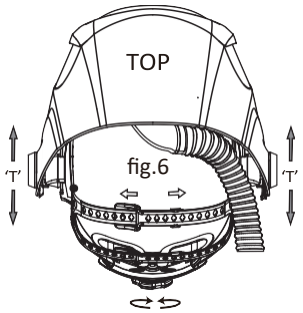
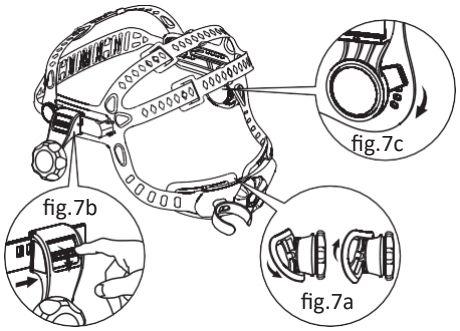


fig.6



4.12. MARKING

The shell and the auto darkening filter are marked accordingly.

Classification for eye and face protection is following EN ISO 16321-1:2022, EN ISO 16321-2:2021, EN175, EN166.

5. MAINTENANCE

5.1. REPLACING THE FRONT LENS HOLDER

Disassembling: Remove the front lens holder per fig.8a / 8b.

Assembling: Fit the one side into slot, then press and lock the other side (See fig.8c).

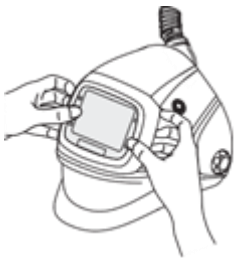


fig.8A


fig.8B


fig.8C

5.2. REPLACING THE AUTO DARKENING FILTER

Disassembling: Hold the helmet so that the inner side is facing towards you. Grasp the wire connector end of the auto-darkening filter (which is connected to the external grinding button), and gently pull it out of the circular socket (See fig.9a). Press the thumb on the bottom sides of the auto darkening filter and push it upward (See fig.9b), remove the filter from the helmet shell (See fig.9c).
Assembling: First insert the auto darkening filter into the slots on left and right sides. Then push the filter down till the locks click (See fig.9d). Take the wire connector end of the auto-darkening filter and make sure to insert it firmly into the external grinding button socket (See fig.9e).

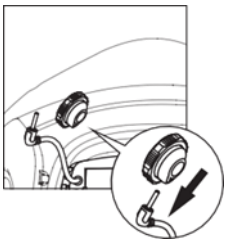


fig.9a

fig.9b

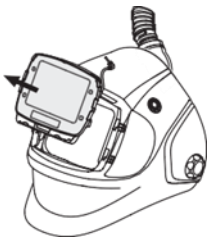


fig.9c

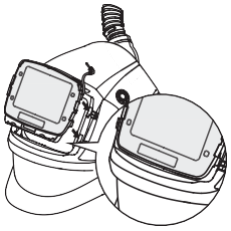


fig.9d

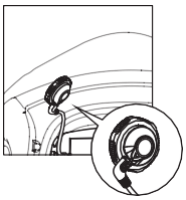


fig.9e

5.3. REPLACING THE OUTSIDE COVER LENS

Replace the outside cover lens if it is damaged.
Disassembling: Remove the front lens holder per fig.8a / 8b. Place your fingernail in recess above filter view window and flex lens upwards until it releases from edges of filter view window (See fig.10a).
Assembling: Install with one side into the slot, then insert the other side.

5.4. REPLACING THE INSIDE COVER LENS

Replace the inside cover lens if it is damaged.
Disassembling: Place your fingernail in recess above filter view window and flex lens upwards until it releases from edges of filter view window (See fig.10b).
Assembling: Assemble inside cover lens the same way as it was removed.

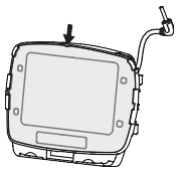


fig.10a

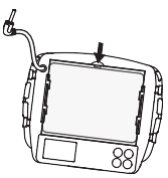


fig.10b

5.5. REPLACING THE FACE SEAL

The face seal can be used to facilitate cleaning after disassembling from the shell, but it must be replaced if it is damaged.

Press the “LOCK” key on cantilevered components and push the headgear in the direction of arrow to separate headgear from the helmet (See fig.11a). In accordance with the order of A-D in the figure, align the face seal with the velcro inside the helmet shell and make sure the face seal is closely attached to helmet shell (See fig.11b). Then press the “LOCK” key on cantilevered components to install the headgear to the helmet (See fig.11c), buckle up the face seal according to 1-7 points (See fig.11d).

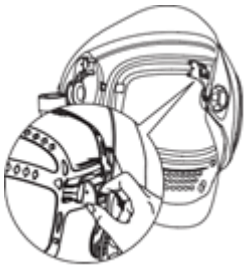


fig.11a

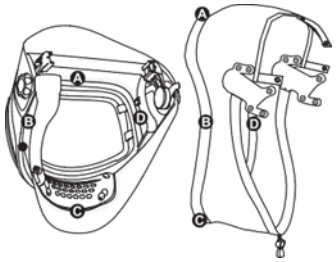


fig.11b

fig.11c

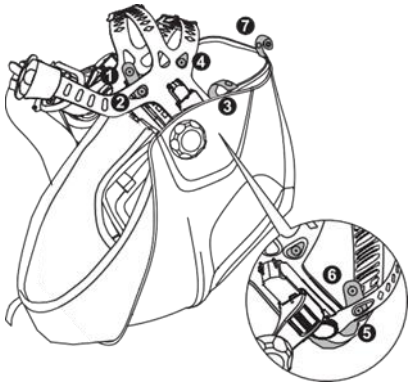


fig.11d

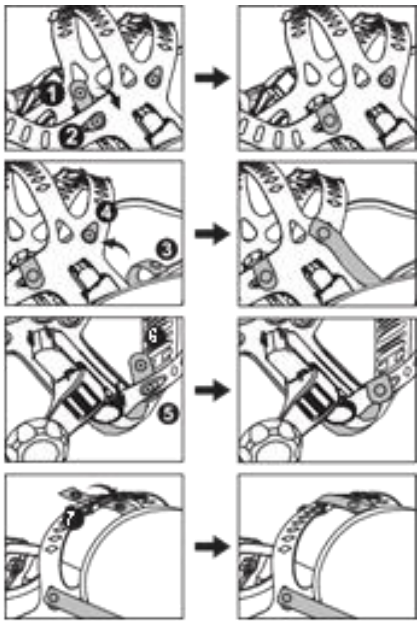


fig.11e

5.6. CLEANING

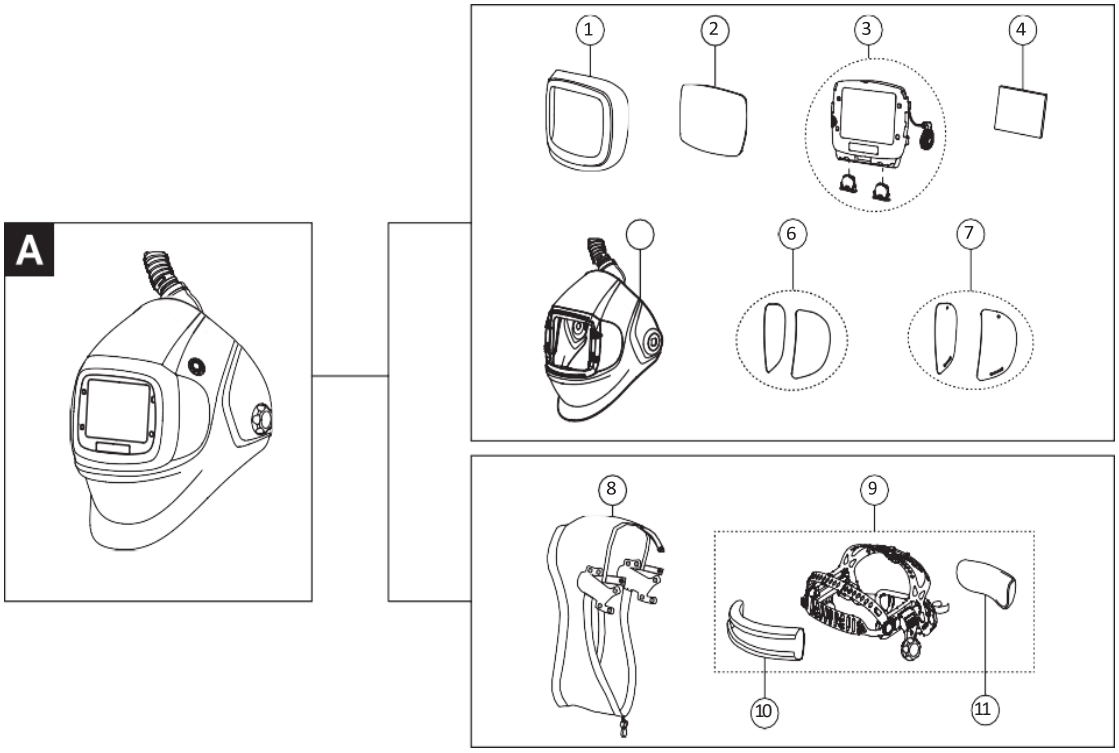
Clean helmet by wiping with a soft cloth. Use mild disinfection solution to disinfect the protector. Clean the filter surfaces regularly. Do not use strong cleaning solutions. Clean sensors and solar cells with methylated spirit and a clean cloth and wipe dry with a lint-free cloth.

6. TECHNICAL DATA AUTO-DARKENING HELMET

MODEL: AER SAFE V4

Optical Class	1 / 1 / 1 / 1
Viewing area	107 x 75 mm (4.21" x 2.95")
Cartridge	156 x 123 x 33 mm (6.14" x 4.84" x 1.30")
Arc Sensors	4
Light State	DIN 3
Grind State	DIN 3
Cutting Shade	Shade No. from 5 to 8
Welding Shade	Shade No. from 9 to 13
Shade control	Internal, Digital Display Control
Power ON/OFF	Automatic On / Off
Sensitivity control	Low ~ High, Digital Display Control
UV / IR Protection	Up to Shade DIN13 at all times
Power Supply	Solar cell. Battery replaceable, 2 × CR2450 lithium battery
Switching time	1/25,000 s. from Light to Dark at 55 °C (131 °F)
Grinding	Yes
Delay (Dark to light)	0.1 ~ 1.0 s, Digital Display Control
Low Amperage TIG	≥ 2 amps (DC); ≥ 2 amps (AC)
Rated Operating temperature	-5 °C ~ +55 °C (23 °F ~ 131 °F)
Storing temperature	-20 °C ~ +70 °C (- 4 °F ~ 158 °F
Helmet Material	High Impact Resistance Nylon
Total Weight	778 g
Application range	Stick Welding (SMAW); TIG DC&AC; TIG Pulse DC; TIG Pulse AC; MIG/MAG/CO2; MIG/MAG Pulse; Plasma Arc Cutting (PAC); Plasma Arc Welding (PAW); Air Carbon Arc Cutting (CAC-A); Oxyfuel Gas Welding (OFW); Oxygen Cutting (OC); Grinding
Approved	CE, EN ISO 16321-1:2022, EN ISO 16321-2:2021, ANSI Z87.1, Z94.3, AS/NZS 1338.1

7. PARTS LIST AND ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION
A-1	RWM0950PROA01	Front lens holder
A-2	RWM0950PROA02	Outside cover lens (160.36×107.3 mm)
A-3	RWM0950PRO0GF	Auto darkening filter
A-4	RWM0950PROA04	Inside cover lens (107×61 mm)
A-6	RWM0950PROA06	Side lens
A-7	RWM0950PROA07	Side lens cover
A-8	RWM0950PROA08	Face seal
A-9	RWM0950PROA09	Headgear (Including sweatband & soft pad)
A-10	RWM0950PROA10	Sweatband
A-11	RWM0950PROA11	Soft pad

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8. SHADE GUIDE CHART

OPERATION	ELECRODE SIZE mm	ARC CURRENT (A)	MINUMUM PROTECTION SHADE	SUGGESTED SHADE NO
Shielded metal arc welding	Less than 2.5 2.5–4) 4–6.4 More than 6.4	Less than 60 60-160 160-250 250-550	7 8 10 11	- 10 12 14
Gas metal arc welding and flux cored arc welding		Less than 60 60-160 160-250 250-550	7 10 10 10	- 11 12 14
Gas tungsten arc welding		Less than 50 50-150 150-500	8 8 10	10 12 14
Air carbon Arc cutting	(Light) (Heavy)	Less than 500 500-1000	10 11	12 14
Plasma arc welding		Less than 20 20-100 100-400 400-800	6 8 10 11	6 to 8 10 12 14
Torch brazing		-	-	3 to 4
Torch soldering		-	-	2
Carbon arc welding		-	-	14
PLATE THICKNESS (mm)				
Gas welding Light Medium Heavy		 Under 3.2 3.2 to 12.7 Over 12.7		 4 or 5 5 or 6 6 or 8
Oxygen cutting Light Medium Heavy		 Under 25 25 to 150 Over 150		 3 or 4 4 or 5 5 or 6

9. AER FLOW PRO – POWER AIR PURYFING RESPIRATOR USER INSTRUCTION

10. GENERAL WARNING

This product is part of a system that helps reduce exposures to certain airborne contaminants, including dust, pollutants, fine particles, vapours or gases as well as other contaminants. Before use, the wearer must read and understand these User Instructions. Misuse may result in injury, sickness or death.

The AER FLOW PRO battery, chargers, and the AER FLOW PRO PAPR assembly are not intrinsically safe. Do not use in flammable or explosive atmospheres. Doing so may result in serious injury or death.

Always correctly use and maintain the Lithium-ion battery pack. Failure to do so may cause fire or explosion or could adversely affect respirator performance and result in injury, sickness, or death.

a. Do not charge battery with unapproved chargers, in enclosed cabinets without ventilation, in hazardous locations, or near sources of high heat.
b. Do not immerse the product in any liquid.
c. Do not use, charge, or store battery out of the recommended temperature range.
d. Charge in an area free of combustible material and readily monitored.

Failure to follow these User Instructions may reduce respirator performance, overexpose you to contaminants, and may result in injury, sickness, or death.

e. Do not use with parts or accessories other than those manufactured by AERSERVICE as described in these User Instructions.
f. The AER FLOW PRO Powered Air Purifying Respirator is one component of an approved respiratory protection system. Always read and follow all User Instructions supplied with your AERSERVICE headtop and other system components in order to ensure correct system operation.
g. Do not turn off the blower, remove the headtop, or reach your hand into the headtop while inside the contaminated area. This could allow contaminants to enter the respirator and may result in sickness or death.

Always correctly use and maintain the filter assembly. Failure to do so may reduce respirator performance, overexpose you to contaminants, and may result in sickness or death.

h. Inspect the filter before each installation.
i. Always properly install the filter into the blower unit.
j. Never attempt to clean the filter by knocking or blowing out accumulated material. Doing so will damage the filter media.
k. Use of the spark screen is mandatory for welding and all situations where the AER FLOW PRO Powered Air Purifying Respirator may be exposed to sparks, molten metal or other hot particulates. Failure to use the spark screen when needed may allow the filter to catch fire, or be damaged and allow contaminants to enter the respirator and may result in injury, sickness or death.
l. Store the filter as described in these User Instructions under the recommended storage temperature conditions and adhere to filter expiration dates.
m. The filter loading indicator is for particulate loading levels only.

To reduce exposure to hazardous voltage:

n. Do not attempt to service the chargers. There are no user-serviceable parts inside.
o. Do not substitute, modify or add parts to the chargers.
p. Inspect the chargers and power cords before use. Replace if any parts are damaged.
q. Do not use the chargers outdoors or in wet environments.

10.1. NOTICE

If bleeping alarmed, immediately get away from the contaminated area and check the device. The hose may get blocked; Battery low power; Filter is dirty and need get changed with new one. Please EXIT that contaminated place in any cases below:

- IF some problem is shown in any part of the product, for example, the air supply is stopped or its amount is decreased.
- IF it gets hard to breathe, feeling dizzy or headache, feeling the smell or taste of the contaminants and its stimulus occurred.

- Never use in place with too high level of contamination.
- Make sure the connecting hosepipe smooth and is not entangled or is in the way of other items in the area.
- Don’t remove the respirator until you are in a safe area.
- Operating temperature range between -5°C and +55°C
- The AERSERVICE PAPR system is not intrinsically safe. Keep away from flammable, or explosive atmosphere.
- At very high work rates the pressure in the device may become negative at peak inhalation flow.
- Filters shall only be fitted to the turbo unit and not directly to the helmet/hood.
- Do not confuse the European standard EN12941 with other standards

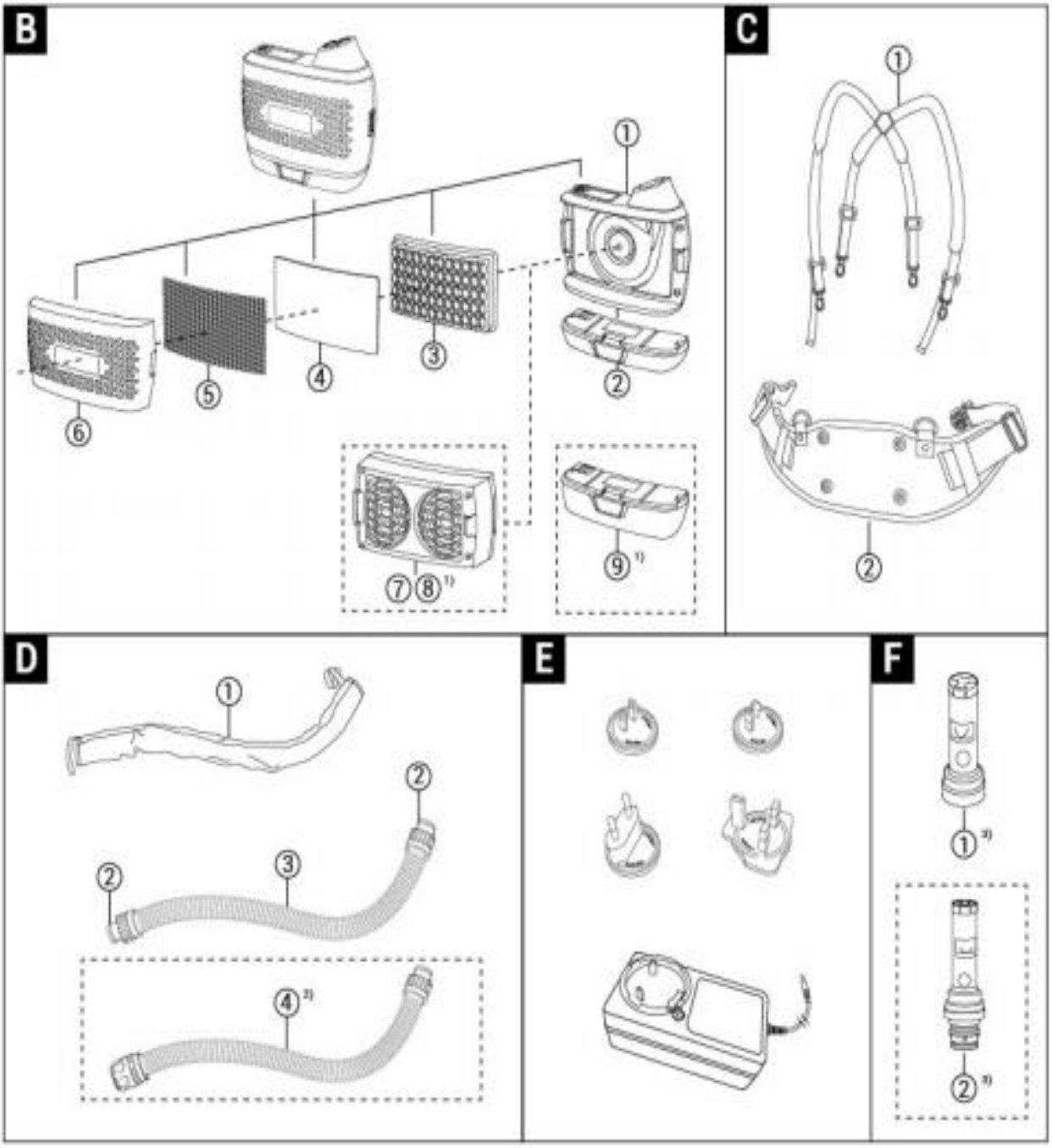
11. SYSTEM DESCRIPTION

The AER FLOW PRO Powered Air Purifying Respirator (PAPR) is designed to provide respiratory protection against particulates, vapors or gases. The AER FLOW PRO is not an intrinsically safe system.

AERSERVICE AER FLOW PRO PAPR system includes a:

- blower unit
- filter
- breathing tube assembly
- shoulder strap, belt assembly
- battery and a battery charger kit.

The AER FLOW PRO blower unit is equipped with a digital display screen that shows current particle filter loading. The built-in optical sensor design ensures that the device cannot be used without a filter box.


B
C
D
E
F

ITEM	PART NO.	DESCRIPTION	PERIOD OF OBSOLESCENCE
B. Blower Unit			
B-2	RWM0950PROB02	Fast-charging standard battery	5 years
B-3	RWM0950PROB03	Particle Filter (P3 Filter)	5 years
B-4	RWM0950PROB04	Pre-filter	5 years
B-5	RWM0950PROB05	Spark screen	5 years
B-6	RWM0950PROB06	Filter cover	5 years
B-7	RWM0950PROB07	ABEK1 Gas filter	5 years
B-8	RWM0950PROB08	Gas filter (A2) RWM0950PROB07	5 years
B-9	RWM0950PROB09	Fast-charging extended battery	5 years
C. Wears			
C-1	RWM0950PROC01	Shoulder strap	5 years
C-2	RWM0950PROC02	Belt cushion	5 years
D. Hose			
D-1	RWM0950PROD01	Hose cover	5 years
D-2	RWM0950PROD02	O-ring (2 pcs)	5 years
D-3	RWM0950PROD03	Hose (Including O-ring)	5 years
E. Battery Charger			
E-1	RWM0950PROE00	Fast-charging battery charger set	5 years
F. Airflow Indicator			
F-1	RWM0950PROF01	Airflow indicator	5 years

12. LIMITATION OF USE

- Oxygen deficient atmospheres.
- Contaminant generated in workplace and concentrations that are unknown or immediately dangerous to life or health (IDLH).
- Oxygen concentration of the air in workplace is 17% or lower
- Without complete assembling of the whole product, never use, which may cause danger for human life.
- Do not use in sealed place, in place with danger as fire, explosion.
- Do not use the product with its power turned off since carbon dioxide concentration may increase and oxygen level inside the face guard may decrease.
- Do not use if the product does not supply enough air.(MIN - 170 lpm)
- Do not use at workplace with strong wind. (as negative pressure generated inside the hood, outside-air comes into the hood)

13. MARKINGS

13.1. MARKINGS ON THE EQUIPMENT

EN12941:1998+A1:2003+A2:2008: Standard for PAPR	
TH3 P R SL: Classification of complete device TH3: assigned protection factor 40, nominal protection factor 500, higher strength requirement for breathing hose and couplings P: particulates R: replaceable SL: test against sodium chloride and paraffin oil	
CE 2834 Notified body identification code	Certified Product AS/NZS 1716:2012 Lic. SMK41359
Read the instruction before use.	Recycle
Shall be disposed of as electronic waste.	Expiry date year / month

13.2. MARKINGS ON THE FILTER

Marking	Part No.	Color Code	Protection Against
P (R SL)	PV1P3 TM3 00	White	Particulates (R=replaceable, SL=test against sodium chloride and paraffin oil)
A1B1E1K1	PV1GF TM3 00	Brown / Grey / Yellow / Green	Organic gases / Inorganic gases / Sulfur dioxide, acidic gases / Ammonia and organic ammonia derivatives
A2	PV1GF TM3 01	Brown	Organic gas and vapor, boiling point > 65°C
A1	PV1GF TM3 02	Brown	Organic gas and vapor, boiling point > 65°C

Notified Body

CE 2834

CE Mark / PPE Regulation
Notified Body No 2834 CCQS Certification Services
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown,

14. COMPONENTS AND DESCRIPTION

14.1. BLOWER

14.1.1. OPERATIONAL PANEL

The digital screen provides information on:

- Battery life
- Airflow level
- Filter loading

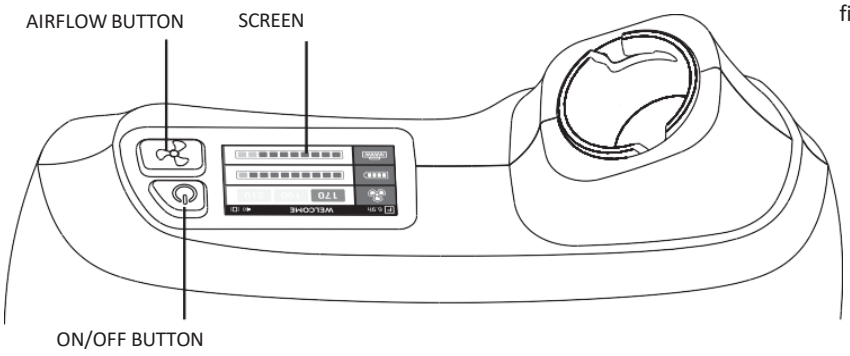


fig.1a

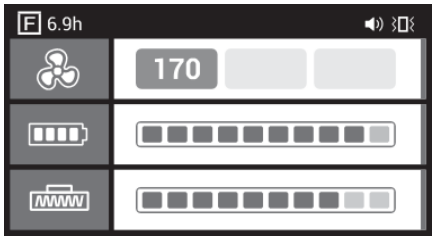


fig.1b

Upper left corner	Total used time of the filter (Note: 'total used time' here refers to the used time of the filter which is closest to the blower)
Airflow control	3-level adjustable airflow (170/190/210+lpm)
Battery status	Display the remaining battery
Filter loading indicator	Display the filter loading

14.1.2. SETTINGS

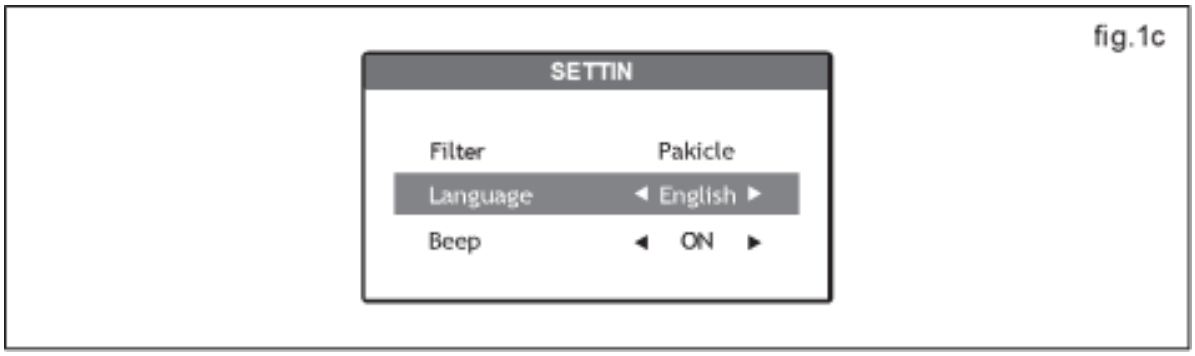


fig.1c

14.1.2.1. General Settings

Open the setting page	Short-press the on/off + airflow switch button
Select a setting item	Short-press the on/off button
Change settings for selected item	Short-press the airflow switch button
Save settings	Long-press the airflow switch button
Switch the display orientation	Long-press the on/off +airflow switch button

14.1.2.2 Setting Items

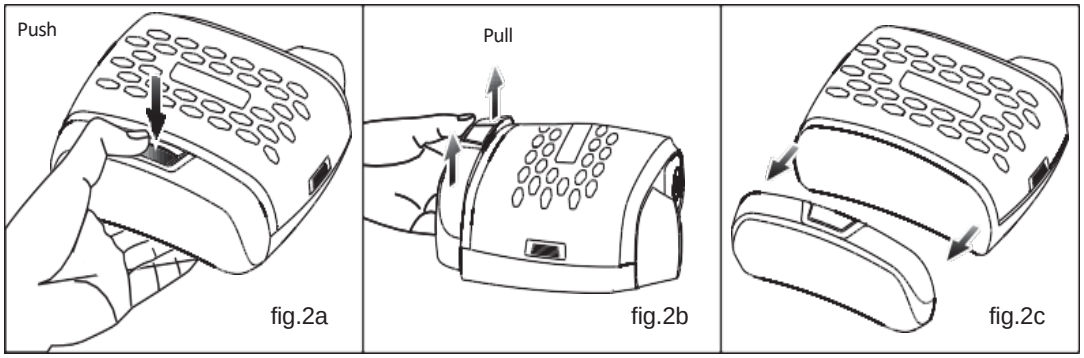
Filter	Display the filter (P3 filter/compound filter) that is currently in use
Language	Select the displayed language on the screen (simplified Chinese/English)
Total used time	Display the total used time of the blower
Version info	Current software version info
Pairing codes	Current software pairing code
Buzzer	Buzzer alarm can be enabled or disabled under abnormal conditions
Vibration	Vibration can be be enabled or disabled under abnormal conditions

14.2. BATTERY

Battery is divided into fast-charging standard battery and fast-charging extended battery. When these two types of battery are used with different filter components, the battery duration is different. Choose the appropriate battery according to actual situation. It is recommended to choose fast-charging extended battery to match the gas filter.

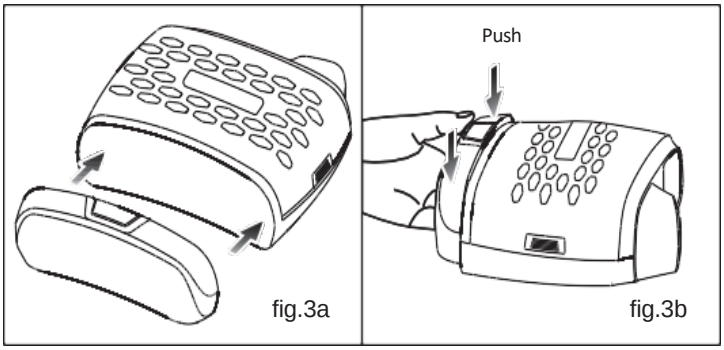
14.2.1. DISASSEMBLING THE BATTERY

Push the button, take the battery out as shown in fig. 2a-b-c direction. Separate it from the body.



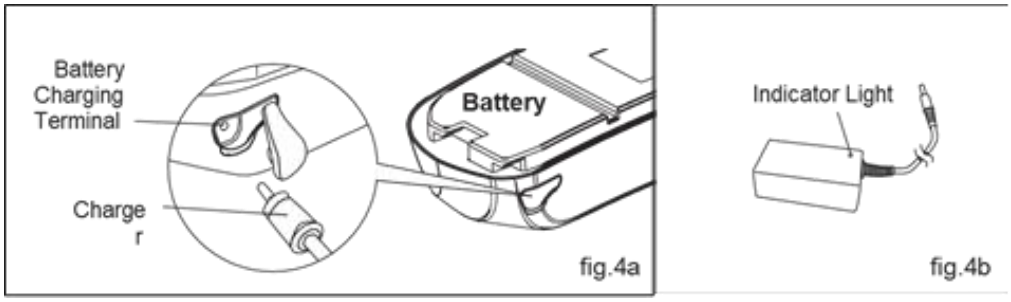
14.2.2. INSTALL THE BATTERY

Attached the battery to the blower body by pushing until it clicks (see fig. 3a-b)



14.2.3. CHARGE THE BATTERY

Remove the battery pack from the blower assembly. Connect the charger cord to the battery terminal (fig. 4a). When the charger indicator turns from red to green (fig 4b) do not stop charging immediately, continue charging for additional 30 minutes. Close the port plug when charging is finished.

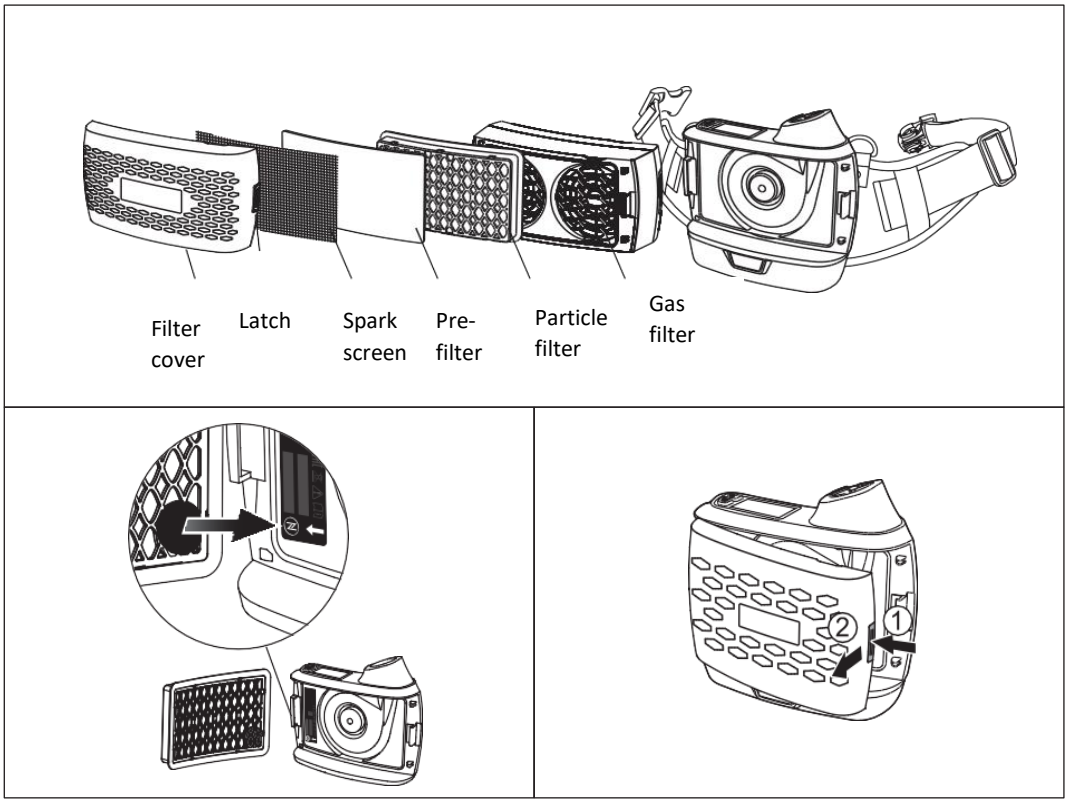


14.3. SPARK SCREEN, PRE-FILTER, PARTICLE FILTER AND COVER

The power must be turned off when replacing the filters.

14.3.1. INSTALL THE FILTER

Install the spark screen, pre-filter, and particulate filter (gas filter if any) in filter cover. Before installed, always make sure filter material is intact and dry with no tears or other damages. Install the filter cover assembly to the blower unit by engaging tabs on filter cover into bracket on blower unit and rotate assembly to close. Push filter cover assembly down until latch clicks into position securing filter cover assembly. Inspect both sides of cover to see that the filter cover is properly installed. To replace filter, push latch into release filter cover and replace filter as shown in the here below picture



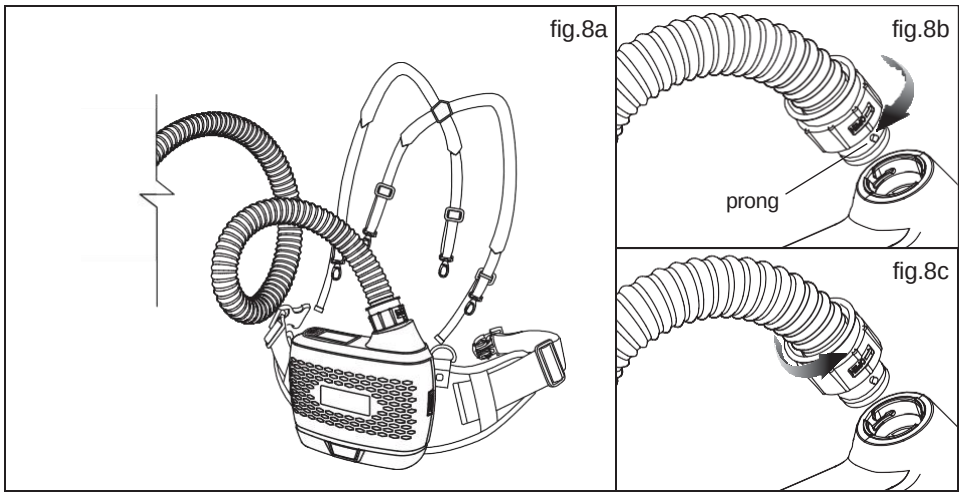
14.4. BREATHING TUBE

14.4.1. ASSEMBLY

Insert the two prongs on the breathing tube into the blower unit and headtop receptacle (fig 8a), twist ¼ turn to the anti – OPEN direction to lock into place (fig 8b).

14.4.2. DISASSEMBLY

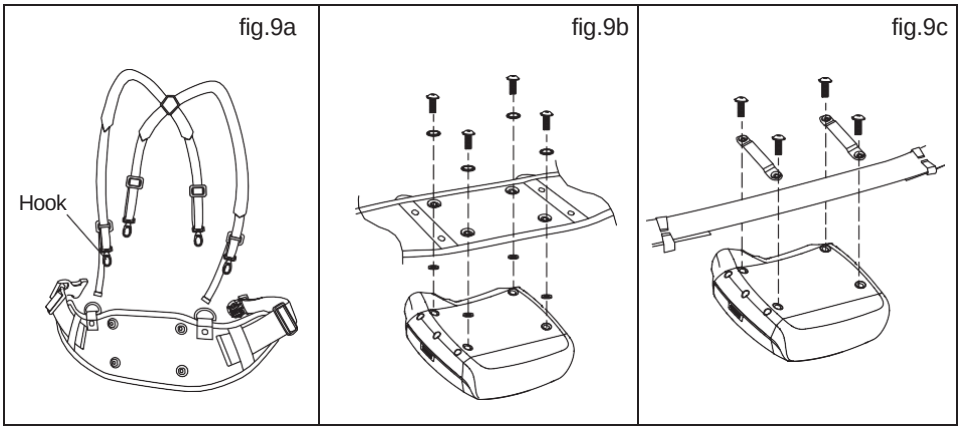
Twist ¼ to the OPEN direction and then take the prongs out from the end (fig 8c).



14.5. SHOULDER STRAP AND BELT CUSHION

Connect hooks to belt (See 9a).

Connect with the blower by screw locking (See 9b-c).



15. OPERATING INSTRUCTION

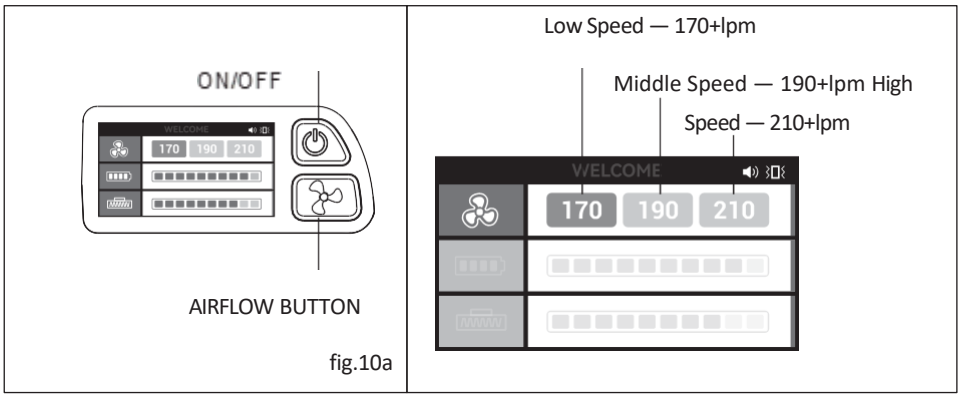


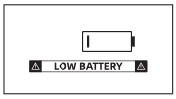
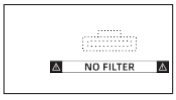
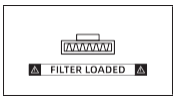
fig.10a

Power On
Long-press for 3 seconds.

Power Off
Long-press until beeping sounds finish.

Select Airflow
Press the button to switch between 170+lpm, 190+lpm and 210+lpm.

15.1. ALARMS

Alarm	Display	Sound	Vibration
Low battery	 Continuous flash	Beeping sound repeats every 35 seconds, sounding twice in succession, with each tone lasting for 1 second.	Vibration repeats every 125 seconds, with each vibration lasting for 5 second.
Insufficient airflow	 Continuous flash	Beeping sound repeats every 1.5 seconds, with each tone lasting for 0.5 second.	Vibration repeats every 1.5 seconds, with each vibration lasting for 0.5 second.
Filter missing/ mis installed	 Continuous flash	Beeping sound repeats every 1.5 seconds, with each tone lasting for 0.5 second.	Vibration repeats every 1.5 seconds, with each vibration lasting for 0.5 second.
Loaded filter	 Continuous flash	Beeping sound repeats every 1.5 seconds, with each tone lasting for 0.5 second.	Vibration repeats every 1.5 seconds, with each vibration lasting for 0.5 second.

16. INSPECTION

16.1. BLOWER ASSEMBLY

Make sure the spark screen, pre-filter, particle filter and gas filter (if applicable) are properly installed and securely latched.

16.2. BREATHING TUBE

Ensure the breathing tube is undamaged and securely attached to both the blower unit and headtop.

16.3. BATTERY

Make sure the battery is fully charged before each use (battery needs to be charged before first use). Ensure the battery is securely connected to the blower unit.

16.4. ALARM SOUND CHECK

After turning on the product, check the alarm sound warning function by blocking the air outlet as fig. 11 shown in the picture above. The warning signal on the panel should flash with a sound and blower vibrate (approximately 15 to 30 seconds after the outlet is blocked). The product is working correctly if the warning functions follow the process above.

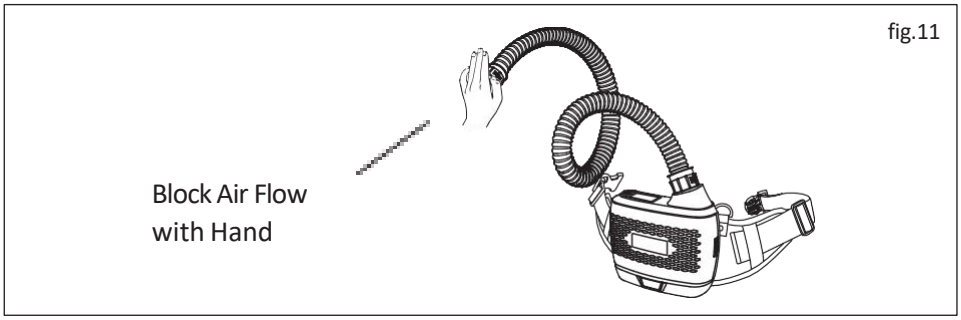


fig.11

16.5. AIRLOW RATE TEST

Take airflow test always before using this product. Make sure all the components are fully assembled before testing. Connect the end of hose to the bottom of airflow indicator and then start the Button. Keep the Flow Indicator vertical (See fig. 12). If the ball inside the pipe floating above the limited line in low speed mode, it proves normal function. If the ball cannot float up to limited line, please refer to Trouble-shooting Guide

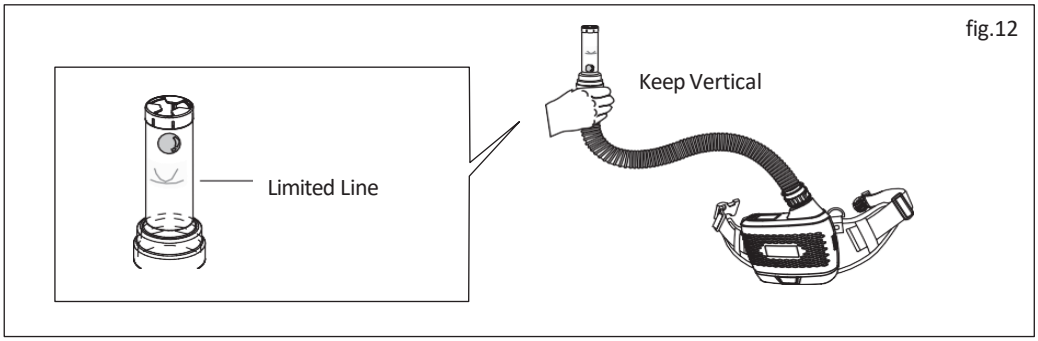


fig.12

17. ENTER AND EXIT CONTAMINATED AREA

Prior to entering the contaminated area, complete the inspection procedures listed in these User Instructions and ensure the selected PAPR setup is appropriate protection for the given airborne contaminant and concentration.

1. Turn the blower on.
2. It is recommended to check both the airflow with the airflow indicator and low flow alarms.

NOTE: High environmental noise levels or use of hearing protection may interfere with the user's ability to hear audible alarms. User may need to check for the visual alarms more frequently in high noise environments.

3. Don the AER FLOW PRO Powered Air Purifying Respirator and headtop. Enter the work area.
4. Leave the contaminated area immediately if any of the following conditions occur:

a. Any part of the system becomes damaged.
b. Airflow into the respirator decreases or stops.
c. The low airflow or low battery alarm triggers. In the event an audible or visual alarm triggers, the user should immediately leave the contaminated area.
d. Breathing becomes difficult.
e. You feel dizzy or your vision is impaired.
f. You taste or smell contaminants.
g. Your face, eyes, nose or mouth becomes irritated.
h. You suspect that the concentration of contaminants may have reached levels at which this respirator may no longer provide adequate protection.

5. Do not turn off the blower, remove the headtop, or reach your hand into the headtop in areas where the air is contaminated. This could allow contaminants to enter the respirator and may result in sickness or death.

17.1. RESPIRATOR REMOVAL

⚠ WARNING ⚠
Never remove the respirator in areas where the air is contaminated. *Always take off the PAPR after you step out of the workplace.*

Steps:

- Take off helmet and disconnect tube from helmet
- Turn off the blower by long press button
- Release belt. Remove straps from shoulders and remove blower off of your lower back.

18. CLEANING AND STORAGE

18.1. CLEANING

18.1.1. BLOWER UNIT

Blower unit and battery pack Clean the outer surfaces of the unit and battery pack with a soft cloth dampened in a solution of water and mild, pH neutral detergent. Be careful for the water NOT to get inside the body. Do not use solvents or abrasive cleaners. Ensure the electrical contacts of the motor/blower and battery pack are dry before assembling well.

18.1.2. BREATHING TUBE

Wiping the exterior is insufficient. Clean the outer hose and connection on the breathing tube with the soft cloth dipped in water and detergent solution. Optional breathing tube covers can also be used to facilitate cleaning. Ensure the breathing tube is completely dry before using or storing. They cannot be immersed in liquids for cleaning and must be replaced if wet.

18.1.3. FILTER

Open the filter cover and inspect all the filters and spark screens. The particle, gas and pre-filters cannot be cleaned. The spark screen can be cleaned using a clean, soft cloth dipped in a solution of water and a mild pH neutral detergent. Completely dry the spark screen with a clean cloth. Replace the pre-filter and Particle filter if excessively dirty, wet or damaged. Do not attempt to remove contamination using a compressed air line as this will automatically invalidate the warranty. If the spark screen cannot be cleaned or is damaged, replace with a new spark screen.

The face seal can be used to facilitate cleaning after disassembling from the shell, but it must be replaced if it is damaged

18.2. STORAGE

The AER SAFE FLOW V4 PRO system is not intrinsically safe. Keep away from flammable, or explosive atmosphere. Storage should be in a clean, dry, cool place with filter.

18.2.1. BLOWER STORAGE

Stored at a temperature between 14°F to 131°F (-10°C to 55°C), in a clean environment without direct light.

18.2.2. BATTERY STORAGE

To help maximize battery service life:

- Disconnect the charger after a full charge has been received.
- Battery should be removed from blower if long time storage.
- Store the battery at 14°F to 115°F (-10°C to 45°C), R.H.

19. TECHNICAL SPECIFICATION

Airflow rate	Manufacturer's minimum design flow rate: 165+lpm (5.8+cfm)
	Low speed: 170+lpm (6+cfm)
	Medium speed: 190+lpm (6.7+cfm)
	High speed: 210+lpm (7.4+cfm)
Fast-charging battery	Battery type: rechargeable Li-ion battery
	Standard Battery: 3200mAh Standard Battery duration: 10h(170+lpm); 9h(190+lpm); 9h(210+lpm) Standard battery charge time: 1.2 hours
	Extended Battery: 6400mAh Extended Battery duration: 19h(170+lpm); 17h(190+lpm); 15h(210+lpm) Extended battery charge time: 2.5 hours
	Battery life: ≥ 550 charges
Filter	Filter efficiency: 99.997%
	Alarms: Visible, audible and vibrate
Limited storage Life	Unopened filter: 5 years after production, For details, refer to the "Do not use after ***" information on the filter label.
Limited storage Life	Installed filter: should be well-kept under instruction given condition. For an installed filter which not use yet, it's suggest to store no more than one year.
Temperature	Operating temperature: -5°C to 55°C (23°F to 131°F)
	Storage temperature: -10°C to 55°C (14°F to 131°F)
	Charging temperature: 0°C to 40°C (32°F to 104°F)
Relative Humidity (R.H.)	Operating R.H.: < 90%
	Storage R.H.: < 85%
	Charging R.H.: 20%–85%
Weight	1050g (Blower unit + fast-charging standard battery)
Respirator Approval	EN12941:1998+A1:2003+A2:2008 TH3 P R SL AS/NZS1716: 2012 - Freflow V1 PRO, Particle filter with class P3 inside EAC

20. TROUBLE SHOOTING GUIDE

Problems	**Causes**	**Trouble-shooting**
No airflow from the blower	Blower not ON	Long press the ON button.
	Battery no power	Charge the battery.
	Battery not installed properly	Check and reassemble the battery.
	Tube blocked/air leakage	Check and clear the obstruction.
Airflow test failed	Hose may get blocked/air leakage	Check the tube status.
	Dirty filter	Replace the filter.
Insufficient battery life	Battery fault	Replace the battery.
	Inadequate charging	Fully charge battery.
	Filter is clogged	Replace the filter.
	Damaged charger	Replace the charger.
Increased noise level	Filter is getting clogged	Replace the filter and pre-filter as required.
Warning indicator ON, blower vibrates and alarm sound bleeping	Tube gets blocked/air leakage	Check if tube/anywhere gets blocked before use.
	Filter assembled without removing the package	Check if the package is removed.
No filter warning continuous flash, blower vibrates and alarm sounds	Particle filter installed incorrectly	Rotate filter so that the rear round sensor is located at the bottom.
You smell or taste contaminants	Damaged filter	Check the filter status and replace the filter if needed.
	Hose with leakage problem	Examine the tube assembly.
	Absence of essential filter component	Identify the missing filter and install the appropriate one.

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