

FXADF735S

Auto Darkening Welding Helmet User Instructions



Professional Quality Welding Helmet

SAFETY WARNINGS - READ BEFORE USING



WARNING

Read & Understand All Instructions Before Using



Auto-Darkening welding helmets are designed to protect the eye and face from sparks, spatter and harmful radiation under normal welding conditions. The Auto-Darkening 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 them 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.

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



WARNING



- 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.
- Unauthorised modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
- Should this helmet fail to darken when 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: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ ($14^{\circ}\text{F} \sim 131^{\circ}\text{F}$).
- Storing temperature: $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim 158^{\circ}\text{F}$).
- The helmet should be stored in a dry, cool and dark area.
- Protect the 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 cloth.
- Regularly replace the cracked/scratched/pitted front cover lens.
- The materials which may come into contact with the skin of the wearer can cause allergic reactions in some circumstances.



WARNING

Severe personal injury could occur if the user fails to follow the above mentioned warnings, and/or fails to follow the operating instructions.



COMMON PROBLEMS AND REMEDIES

Irregular Darkening Dimming

The headband may be set unevenly, causing an inconsistent distance between the eyes and the filter lens. (Reset the headband to reduce and equalise the distance to the filter.)

Auto-Darkening filter does not darken or flickers

- ① The front cover lens is soiled or damaged (Change the cover lens).
- ② Sensors are soiled (Clean the sensor's surface).
- ③ Welding current is too low (Adjust the sensitivity level to higher).
- ④ Check the battery to ensure it is in good condition and properly installed.. Also, check battery surfaces and contacts and clean if necessary. Please refer to the "**BATTERY REPLACEMENT**" on page 3.

Slow response

Operating temperature is too low (Do not use at temperatures below -10 °C or 14 °F).

Poor vision

- ① Front/inside cover lens and/or the filter is soiled (Change lens).
- ② There is insufficient ambient light.
- ③ Shade number is incorrectly set (Reset the shade number).
- ④ Check if the film on the front cover lens has been removed.

Welding helmet slips

The headband is not properly adjusted (Re-adjust the headband).



WARNING



The user must stop using the auto-darkening welding helmet immediately if the above-mentioned problems cannot be corrected. Contact the dealer.

INSTRUCTIONS FOR USE

WARNING! Before using the helmet for welding, ensure that you have read and understood the safety instructions.

BATTERY INSTALLATION

Install the battery into helmet properly, according to positive and negative terminal marking on battery jar (See fig.1).

POWER

This ADF cartridge is powered by solar cell and 1 CR2450 lithium battery. Replace the battery when LOW BATTERY light is lit (See fig.2).

TEST

Press and hold test to preview shade selection before welding (See fig.2). When released then viewing window will automatically return to the light state (Shade 3).

Please notice the anode and cathode while mounting the battery.

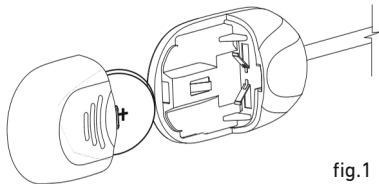


fig.1

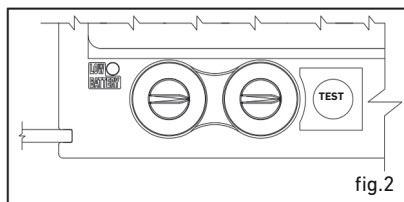


fig.2

SELECTING SHADE LEVEL

Select the shade level you require according to the welding process you will use by referring to the “Shade Guide Table” below for settings. Turn the shade control knob to the shade number required.

SENSITIVITY

The sensitivity can be set to “HI” (high) or “LO” (low) by using the infinitely adjustable dial knob on the back of the shade cartridge. The “Mid-High” setting is the normal setting for everyday use. The maximum sensitivity level is appropriate for low welding current work, TIG, or special applications. Where the operation of the helmet is disturbed by excess ambient light or another welding machine nearby, use the “LO” setting (see fig. 3a). 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—without annoying spurious triggering due to ambient light conditions (direct sun, intensive artificial light, neighboring welder’s arcs, etc.).

SELECTING DELAY TIME

When welding ceases, the viewing window automatically changes from dark back to light, with a pre-set delay to compensate for any bright afterglow on the workpiece. The delay time/response can be set to “S” (short: 0.1 sec) or “L” (long: 1.0 sec), as required, using the infinitely adjustable dial knob on the back of the shade cartridge (see fig. 3b). It is recommended to use a shorter delay for spot welding applications and a longer delay for applications using higher currents. Longer delays can also be used for lower current TIG welding, and for TIG/MIG/MAG pulse applications.

SELECTING THE GRIND OPTION

Turn the dial knob to the “Grind” position to turn off the auto-darkening function, allowing a clear view for grinding. Before restarting welding work, ensure that the auto-darkening filter switches back to weld mode (see fig. 4).

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.5). 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 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.5).

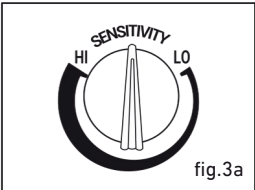


fig.3a

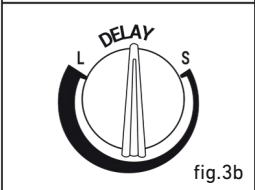


fig.3b

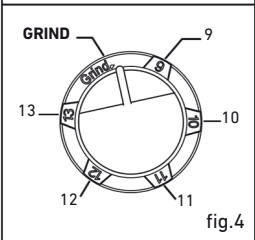


fig.4

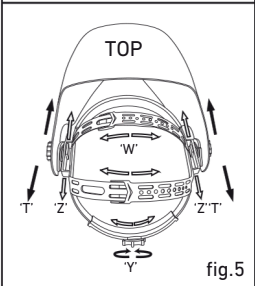


fig.5

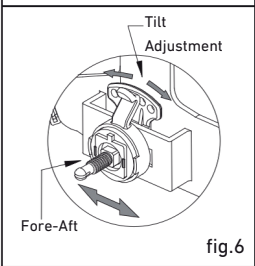


fig.6

- 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

Step 1: Undo the block nut (See “T” in fig.5) to adjust the distance between the helmet and your face in the down position.

Step 2: Loosen the block nut on either side of the helmet and slide it nearer or further from your face. (See adjustment “Z” in fig.5). It is important that your eyes are an even distance from the lens. Otherwise, the darkening effect may appear uneven.

Step 3: Re-tighten the block nut when the adjustment is complete.

ADJUSTING VIEW ANGLE POSITION

TILT: Tilt adjustment is located on the right side of the helmet. Loosen the right headgear tension knob and push the top end of the adjustment lever outward until the lever’s Stop Tab clears the notches. Then rotate the lever forward or backwards to the desired tilt position. The Stop will automatically engage again when released, locking the helmet into position (See fig.6).

- You are now ready to use the helmet. The shading may be adjusted during use by re-setting the potentiometer control.

MARKING

The shell and the auto darkening filter are marked accordingly. Classification for eye and face protection is following **EN ISO 16321-1:2022 and EN ISO 16321-2:2021**.

16321 TECMEN W 3 / 9-13 V2

Number of this standard					
Manufacturer's identification					
Filtering performance code letter					
Light shade					
Dark shade range					
Angle dependence of luminous transmittance					



CEMark / PPERegulation

Notified Body No 2834

CCQS Certification Services

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Blanchardstown,

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Ireland.

MAINTENANCE

REPLACING FRONT COVER LENS

Replace the front cover lens if it is damaged. Remove ADF holder assembly per fig.7. Remove front cover lens from helmet assembly. Carefully remove gasket from cover lens. Install new cover lens into gasket and assemble to helmet shell. Make sure to assemble cover lens and gasket into helmet shell the same way as it was removed.

REPLACING INSIDE COVER LENS

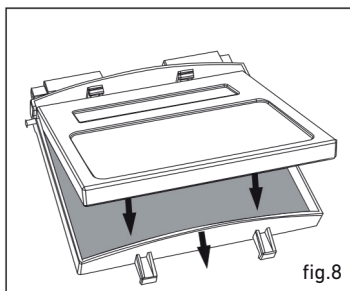
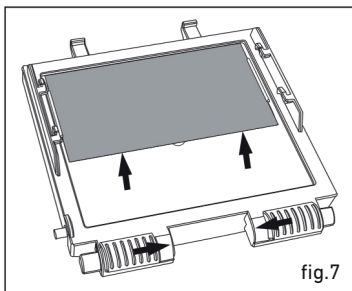
Replace the inside cover lens if it is damaged. Place your fingernail in recess below cartridge view window and flex lens upwards until it releases from edges of cartridge view window.

CHANGE THE AUTO DARKENING FILTER

Remove ADF holder assembly from helmet shell. See fig.7 for removal. Flex top end of the ADF holder to allow for ADF cartridge to be removed from frame. Install new ADF cartridge into frame per fig.8 below. Make sure that the ADF cartridge is inserted in ADF holder correctly as shown. Install ADF holder assembly into helmet shell.

CLEANING

Clean helmet by wiping with a soft cloth. Clean the auto darkening 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.



TECHNICAL SPECIFICATIONS

Optical Class:	1 / 1 / 1 / 2
Viewing Area:	96 x 53 mm (3.78" x 2.09")
Cartridge Size:	110 x 90 x 9 mm (4.33" x 3.54" x 0.35")
Arc Sensor:	4
Light State:	DIN 3
Dark State:	Variable Shade 9 ~ 13
Shade Control:	External, Variable Shade
Power On/Off:	Automatic On / Off
Sensitivity Control:	Low ~ High, by infinitely dial knob
UV/IR Protection:	Up to Shade DIN16 at all times
Power Supply:	Solar cell. Battery replaceable;
Low Battery Alarm:	1 x CR2450 lithium battery
Switching Time:	Yes
Dark to Light:	1/25,000 s. from Light to Dark
Low Amperage TIG Rated:	0.1 ~ 1.0 s by infinitely dial knob
Grinding:	≥ 5 amps (DC); ≥ 5 amps (AC)
Battery Capacity Test:	Yes
Operating Temp.:	-10 °C ~ +55 °C (14 °F ~ 131 °F)
Storing Temp.:	-20 °C ~ +70 °C (- 4 °F ~ 158 °F)
Helmet Material:	High Impact Resistance Nylon
Total Weight:	440 g
Application Range:	Stick Welding (MMA); 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); Grinding
Approved:	CE, ANSI, CSA, AS/NZS, EAC

SHADE GUIDE TABLE

(NO.1)

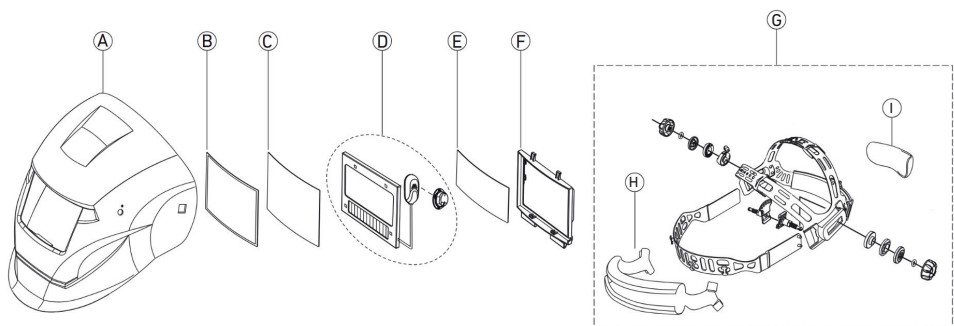
Welding Process	ARC CURRENT (Amperes)														
	0.5	2.5	10	20	40	80	125	175	225	275	350	450			
	1	5	15	30	60	100	150	200	250	300	400	500			
SAW				9	10		11		12		13	14			
MIG(heavy)						10	11		12		13	14			
MIG(light)						10	11		12	13	14	15			
TIG,GTAW			9	10	11	12		13			14				
MAG/CO2					10	11	12		13		14	15			
SAW							10	11	12	13	14	15			
PAC						11		12			13				
PAW		8	9	10	11	12		13		14		15			

NOTE:

SAW – Shielded Metal Arc Welding
MIG (Heavy) – MIG on Heavy Metals
PAW – Plasma Arc Welding
SAW – Shielded Semi-Automatic Arc Welding

TIG, GTAW – Gas Tungsten Arc Welding
MIG (Light) – MIG on Light Alloys
PAC – Plasma Arc Cutting
MAG/CO2 – Metal Active Gas

PARTS LIST & ASSEMBLY



Part List

ITEM	ITEM No.	DESCRIPTION	QTY
A	FXADF735S05	Shell (Welding mask)	1
B	FXADF735S07	Rubber Holder	1
C	FXADF735S03	Front Cover Lens	1
D	FXADF735S06	Auto-Darkening Filter (Including 1xCR2450lithium battery)	1
E	FXADF735S04	Inside Cover Lens	1
F	FXADF735S08	Lens Holder	1
G	FXADF735S01	Headgear Assembly (Including Sweatband)	1
H	FXADF735S02	Sweatband	1
I	FXADF735S09	Back padding	1