

FXADF730S

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.

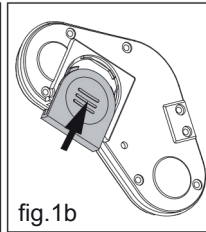
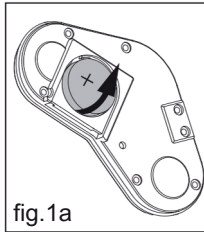
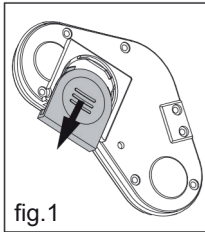
INSTRUCTIONS FOR USE

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

BATTERY REPLACEMENT

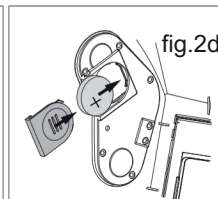
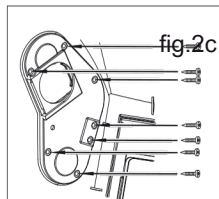
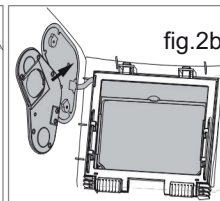
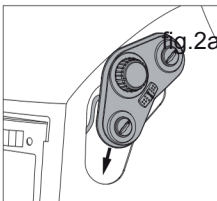
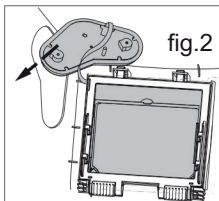
When the low battery LED located on the inner part of the external control cabinet starts to turn red, it is a warning that the battery needs to be replaced.

- Open the battery cover (See fig.1).
- Remove the battery and replace it with the new one. Be sure the positive (+) side of the battery faces up. (See fig.1a).
- Close the battery cover (See fig.1b).



WELDING LENS ASSEMBLY

- Carefully push the outer part of the external controls housing with the electronic board through the side opening of the helmet (See fig.2). Then install it in the helmet, in the correct position (See fig.2a).
- The inner part of the external control housing should be placed in its position from the direction as indicated with an arrow in fig.2b. Gently push the outer part of the external control housing so it perfectly sits in the position.
- Screw in the seven screws (See fig.2c).
- Insert the battery and slide the battery cover over the battery (See fig.2d).



TEST

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

SELECTING SHADE LEVEL

Select the shade level you require according to the welding process you will use by referring to the "Shade Guide Table" on page 9. The shade can be adjusted from shade 5 to 8 and 9 to 13 based upon the welding process or application. Shade is adjusted by setting the shade range switch to the proper range (See fig.4), then turn the shade control knob on the lens of the helmet to the shade number required (See fig.4).

SENSITIVITY

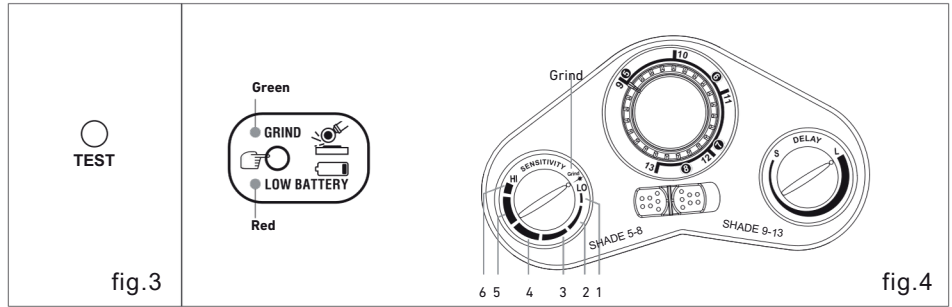
The sensitivity can be set to "HI" (high) or "LO" (low) by using the infinitely dial knob on the back of the auto darkening filter. The "4-5 level" setting is the normal setting for everyday use. The maximum sensitivity level is appropriate for low welding current work, TIG, or special applications. A higher sensitivity setting is necessary if the lens is flashing on and off. Where the operation of the helmet is disturbed by excess ambient light, or another welding machine close by, use the "LO" setting (See fig.4). 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, neighbouring welder's arcs etc.).

SELECTING DELAY TIME

When welding ceases, the viewing window automatically changes from dark back to light, but with a pre-set delay to compensate for any bright afterglow in the workplace. The delay time/response can be set to "S" (short: 0.1 sec.) or "L" (long: 1.0 sec.). As you require using the infinitely dial knob on the back of the shade cartridge (See fig.4). 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 lower current TIG welding, and TIG / MIG / MAG pulse.

SELECTING THE GRIND OPTION

When the sensitivity knob is turned to the "Grind" position, the shade function is turned off allowing a clear view to grind a weld with the helmet providing face protection. Before restarting welding work, ensure that the shade function is turned back on before welding again (See fig.4). Under this situation, the indicator would turn green and flash every 3 seconds.



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 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. 5).
- 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.

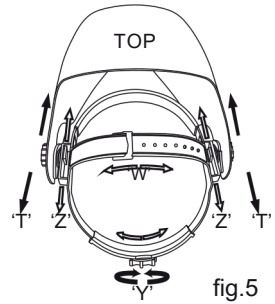


fig.5

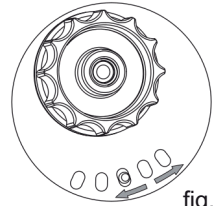


fig.6

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

Please 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	/ 5-8/9-13	V1
Number of this standard						
Manufacturer's identification						
Filtering performance code letter						
Light shade						
Dark shade range						
Angle dependence of luminous transmittance						



CE Mark / PPE Regulation

Notified Body No 2834

CCQS Certification Services

Block 1 Blanchardstown Corporate Park,

Ballycoolin Road,

Blanchardstown,

Dublin15,

D15 AKK1,

Ireland.

MAINTENANCE

REPLACE THE FRONT COVER LENS

Replace the front cover lens if it is damaged (cracked, scratched, dirty or pitted) Place your finger or thumb into the recess at the bottom edge of the window and flex the window upwards until it releases from one edge. (See fig.7)

REPLACE THE INNER COVER LENS

If it is damaged (cracked, scratched, dirty or pitted).

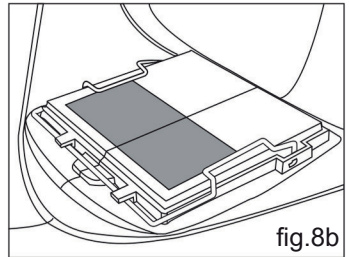
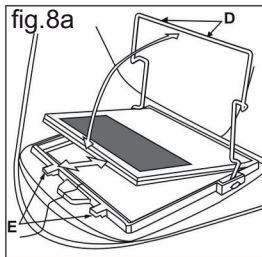
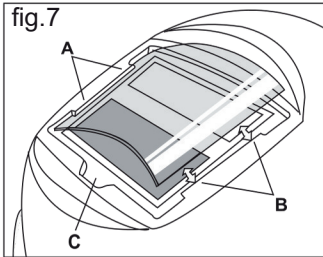
CHANGING THE SHADE CARTRIDGE (See figs.8a & 8b)

INSTALLING NEW CARTRIDGE

- Take the new shade cartridge and pass the potentiometer cable under the wire loop before dropping the cartridge into its retaining frame inside the helmet. Press down the wire loop clip and ensure that the front edge of the loop is properly retained under the retaining lugs as shown in fig.6b.
- Fasten the potentiometer to the inside of the helmet with the shaft protruding through the hole. Push the shade control knob onto the shaft.

CLEANING

Clean the helmet by wiping with a soft cloth. Clean cartridge 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 / 1
Viewing Area:	95 X 62 mm (3.74" X 2.44")
Cartridge Size:	110 X 90 X 9 mm (4.33" X 3.54" X 0.35")
Sensor: Light State:	4
Shade: Shade	DIN 3
Control: Power	DIN 5 ~ 8 / 9 ~ 13
On/Off: Sensitivity	External, Variable Shade
Control: UV/IR	Fully Automatic
Protection: Power	Low — High, by infinitely dial knob
Supply:	Up to Shade DIN16 at all times Solar cell. Battery replaceable 1 X CR2450 lithium battery
Switching Time:	1/25,000 s. from Light to Dark
Delay (Dark to Light):	0.1 ~ 1.0 s by infinitely dial knob
Low Amperage TIG Rated:	≥ 2 amps (DC); ≥ 2 amps (AC)
Grinding:	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:	445g
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); Oxyfuel Gas Welding (OFW); Oxygen Cutting (OC); Grinding
Approved:	CE, ANSI, CSA, AS/NZS, EAC

SHADE GUIDE TABLE

GUIDE FOR SHADE NUMBERS

OPERATION	ELECTRODE SIZE (in.)	ARC CURRENT (A)	MINIMUM PROTECTIVE SHADE	SUGGESTED ⁽¹⁾ SHADE NO. (COMFORT)
Shielded metal arc welding	Less than 3/32	Less than 60	7	—
	3/32 - 5/32	60-160	8	10
	5/32 - 1/4	160-250	10	12
	More than 1/4	250-550	11	14
Gas metal arc welding and flux cored arc welding		Less than 60	7	—
		60-160	10	11
		160-250	10	12
		250-500	10	14
Gas tungsten arc welding		Less than 50	8	10
		50-150	8	12
		150-500	10	14
Air carbon Arc cutting	(Light)	Less than 500	10	12
	(Heavy)	500-1000	11	14
Plasma arc welding		Less than 20	6	6 to 8
		20-100	8	10
		100-400	10	12
		400-800	11	14
Plasma arc cutting	(Light) ⁽²⁾	Less than 300	8	8
	(Medium) ⁽²⁾	300-400	9	12
	(Heavy) ⁽²⁾	400-800	10	14
Torch brazing		—	—	3 to 4
Torch soldering		—	—	2
Carbon arc welding		—	—	14

PLATE THICKNESS

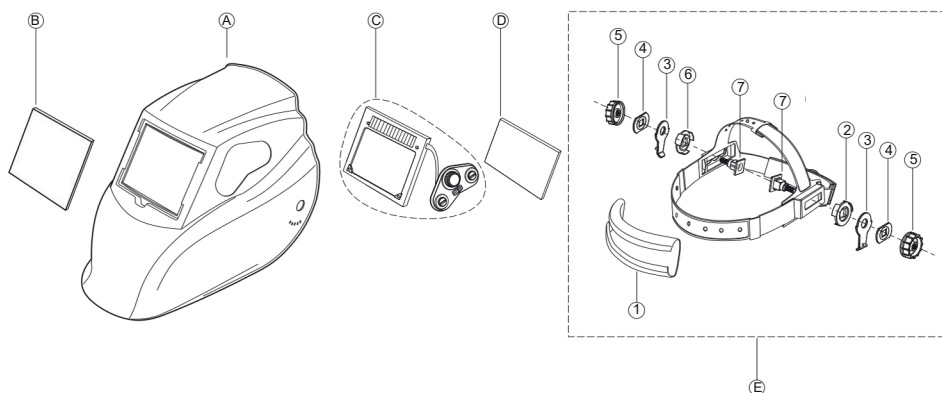
in. mm

Gas welding Light Medium Heavy	Under 1/8	Under 3.2		4 or 5
	1/8 to 1/2	3.2 to 12.7		5 or 6
	Over 1/2	Over 12.7		6 or 8
Oxygen cutting Light Medium Heavy	Under 1	Under 25		3 or 4
	1 to 6	25 to 150		4 or 5
	Over 6	Over 150		5 or 6

⁽¹⁾ As a rule of thumb, start with a shade that is too dark, then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting, where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

⁽²⁾ These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the work piece.

PARTS LIST & ASSEMBLY



Part List

ITEM	ITEM No.	DESCRIPTION	QTY
A	FXADF735S05	Shell (Welding Mask)	1
B	FXADF735S03	Front Cover Lens Auto-	1
C	FXADF735S06	Darkening Filter Inside (Including 1 x CR2450 lithium battery)	1
D	FXADF735S04	Cover Lens Headgear	1
E*	FXADF735S01	Assembly	1

ITEM	ITEM No.	DESCRIPTION	QTY
1	FXADF735S02	Sweatband	1
2	FXADF735S07	Left Limitation Washer	1
3	FXADF735S08	Angle Adjustable Washer	2
4	FXADF735S09	Washer	2
5	FXADF735S10	Block Nut	2
6	FXADF735S11	Right Limitation Washer	1
7	FXADF735S12	Screw	2