SHINE®

5000X-HD WELDING HELMET

5000X-HD
Auto-darkening Welding Helmet

WARNING **Read and Understand All Instructions Before Using the Equipment.**

SAFETY WARNINGS

The auto-darkening helmet with improved High Definition Filter Optics delivers a new generation of face and eye protection. Advanced integrated technology, such as LCD, optoelectronics detection, solar power, and microelectronics are coordinated to produce one of the safest, fastest and most reliable auto-darkening helmets available.

The auto-darkening helmet not only efficiently protects operator's eyes and face from sparks, spatter, and harmful radiation under normal welding conditions, but also makes both hands free to strike arc accurately resulting in increased efficiency and improved quality welds. It may be widely used for various welding, cutting, spraying and arc gouging, etc.

- This auto-darkening helmet is not suitable for "overhead" welding, laser welding/cutting, or oxyacetylene welding/ cutting applications.
- This helmet will not protect against explosive devices or corrosive liquids. Machine guards or eye splash protection must be used when these hazards are present.
- Impact resistant, primary eye protection, spectacles or goggles that meet current CE specifications must be worn at all times when using this welding helmet.
- Avoid work positions that could expose unprotected areas of the body to spark, spatter, direct and/or reflected radiation. Use adequate protection if exposure cannot be avoided.
- Do not make any modifications to either the ADF cartridge or helmet, other than those specified in this manual.
- Do not use any replacement parts other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the user to the risk of personal injury.
- Do not immerse this helmet in water because this model is not waterproof.
- Do not use any solvents on any ADF or helmet components.
- The recommended operating temperature range for this ADF cartridge is -10°C~65°C (14°F~149°F). Do not use this device beyond these temperature limits.
- Failure to follow these warnings and/or failure to follow all of the operating instructions could result in severe personal injury.

CONTENTS

1. BEFORE USING

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- Check for light tightness and check the inside & outside protection lens are clean and that no dirt is covering the sensors on the front of the **auto-darkening-filter (ADF)** cartridge.
- Make sure the protection films on both inside & outside protection lens are removed.
- Inspect all operating parts for signs of wear or damage. Any scratched, cracked, or pitted parts should be replaced immediately.

2. WARRANTY

The auto-darkening helmets are warranted for 2 years from the date of purchase. 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. If any of the manual conditions is not kept or followed, the warranty is automatically invalid.

3. TECHNICAL DATA

TECHNICAL DATA	
1. ADF Cartridge size	110 x 90 x 8.5 mm (4.33" x 3.54")
2. LCD Viewing area	100 x 60 mm (3.94" x 2.36")
3. Light State Shade	DIN 4
4. Dark Variable Shades	DIN 5-9 / 9-13
5. UV/IR Protection	Up to DIN 15 at all times
6. Switching time (light to dark)	0.08 ms
7. Delay time (dark to light)	Adjustable (MIN-MAX for 0.1-0.9s)
8. Sensitivity	Adjustable (LO-HI)
9. Arc Sensors	4
10. Grind Function	Yes
11. Power Supply	Solar cells, replaceable battery (CR2450*1PC)
12. Operating Temperature	-10°C~65°C (14°F~149°F)
13. Inside PC lens	105.8 x 65.8 x 1 mm
14. Outside PC lens	118 x 97 x 1 mm
15. Standards	CE / ANSI / CSA / AS/NZS
16. Warranty	2 years

4. MODES, CONTROLS & SELECTIONS

VARIABLE SHADE CONTROL

Striking the arc, the observing window darkens immediately. At this moment, according to the technical requirement, the operator adjust the SHADE knob (3) in the direction as shown by the arrow to select the optimum darkness.

Move the switch knob (24) to choose shade from 5-9/9-13.

Note:
- Choose an optimum **Shade** number for the required welding process or application (see Table 1).
- If this ADF does not darken when striking arc, stop welding immediately and contact our representative.

SENSITIVITY CONTROL

By turning the **SENSITIVITY** knob (2) between range LO-HI to adjust the level of light sensitivity to get the ADF darkened.
- Turn to **LO**: The photosensitivity changes to be lower.
  - Suitable for high amperage welding and welding in bright light conditions (lamp light or sun light).
- Turn to **HI**: The photosensitivity changes to be higher.
  - Suitable for low amperage welding and using in poor light conditions.
  - Suitable for using with steady arc process such as TIG welding.

Under normal use, a higher sensitivity setting is recommended.

DELAY CONTROL

By turning the **DELAY** knob (4) between range MIN-MAX to adjust the time delay (0.1~0.9s) for the ADF returns to light state after welding. The time delay is for protection of welder's eyes from strong residual rays after welding.
- Turn to **MIN**
  - The time the ADF lighten after welding to be shorter. The shortest time is about 0.1s depending upon welding point temperature and shade set. This setting is ideal for track welding or production welding with short welds.
- Turn to **MAX**
  - The time the ADF lighten after welding to be longer. The longest time is about 0.9s depending upon welding point temperature and shade set. This setting is ideal for welding at high amperage where there is an after glow from the weld.

GRIND SELECTION

- Weld/Grind mode can be selected by adjusting the **Grind/ Shade number** (3).
- The light (26) will flash when using grind mode.

Note: Do not weld in the Grind mode, the ADF will not darken.

5. HEADGEAR

HEADGEAR ADJUSTMENTS

Because the shapes of man's heads vary from person to person. The work positions and the observing angles are different.

Operator may adjust the headband in 5 parameters:

1. Select eye level by Headband adjusting buttons (23).
2. Select view angle by Segmental positioning plate (20).
3. Adjust head size perimeter by pushing and turning the Headband tightness adjusting knob (16).
4. Select eyes distance from ADF by adjusting Headgear screws to 1 of the 5 slots on the Headgear slider (15). Make sure both sides are equally positioned for proper vision.
5. Select the height of the headgear by adjusting the Block washers(14,19) up or down on the Block washer adjustment(17).

6. POWER SUPPLY

POWER SUPPLY AND REPLACE THE BATTERY
- The power of the auto-darkening helmet is provided by solar cells and 1pc of CR2450 lithium battery.
- The light (25) will flash when the battery is low.
- When change the battery, open the Battery holder at the side of the ADF and replace the battery.

7. MAINTENANCE

The auto-darkening helmet needs little maintenance. Use a clean, soft piece of cloth moistened with soft soap / pure alcohol / commercial disinfectant to wipe the inside and the outside of the helmet. Dry storage.

Note: Do not immerse the helmet or ADF in water directly.

8. RECOMMENDED SHADE SETTINGS

Table A.3 –Recommended use of the different scale numbers for arc welding

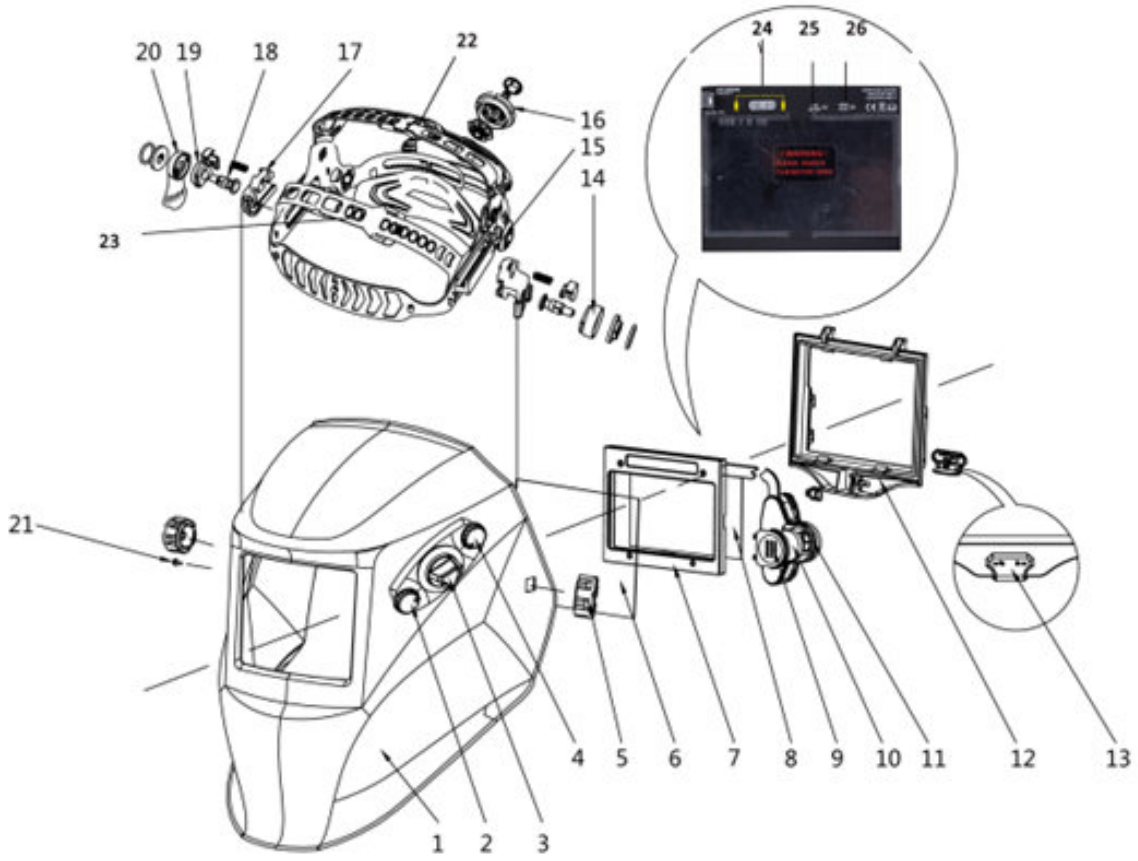
Process	Current A																				
	1,5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600
Covered electrodes					8			9		10		11		12			13			14	
MAG							8		9		10		11		12			13			14
TIG				8			9			10			11		12		13				
MIG with heavy metals									9		10			11			12		13	14	
MIG with light alloys											10			11			12		13	14	
Air-arc gouging											10		11		12		13		14		15
Plasma jet cutting										9		10	11		12			13			
Micro-plasma arc welding	4			5			6		7		8		9		10		11		12		
	1,5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600

NOTE The term "heavy metals" applies to steels, alloy steels, copper and its alloys, etc.

9. TROUBLESHOOTING

PROBLEM	RESOLUTION
The ADF does not darken when welding.	• Stop welding or cutting immediately. • Make sure the sensors are facing the arc and no obstructions. • Check the mode that is on WELD not GRIND. • Review sensitivity recommendations and adjust sensitivity if possible. • Replace the battery if necessary.
The ADF stays dark after welding or there is no arc present.	• Adjust the sensitivity to the lower level (LO). • If the welding place is extremely bright, it is recommended to reduce the surrounding light level.
The ADF switching during the welding.	• Increase the sensitivity if possible. • Make sure the sensors are facing the arc and no obstructions. • Increase Delay 0.1 – 0.3 second may also reduce switching.
Inconsistent shade number on the corner of ADF.	• It is a natural feature and will not be dangerous for the eyes. • In order to get a maximum comfort, try to keep an view angle at around 90°.

10. PARTS BREAKDOWN



NUMBER	PART NAME	NUMBER	PART NAME
1	Helmet shell	14	Block washer (on left)
2	Sensitivity knob	15	Headgear slider (with 5 slots)
3	Grind/Shade number	16	Headband tightness adjusting knob
4	Delay knob	17	Block washer adjustment(up and down)
5	Block nut	18	Headband screw(long, on right)
6	Outer protection plate	19	Block washer (on right)
7	Automatic filter	20	Segmental positioning plate (on right)
8	Inner protection plate	21	Segmental position plate(on right)
9	Battery cover plate	22	Headband adjustment(back and forth)
10	Replaceable battery (CR2450*1pc)	23	Headband adjusting buttons
11	Potentiometer container	24	5-9/9-13 shade switch
12	Frame	25	Low battery warning flash
13	ADF frame lock	26	Grinding flash