

## **USER'S MANUAL**

### **FANTOMAT DIGITAL 5.3**

Auto Darkening LCD Filter Welding Helmet

**Warning!**

Read and understand all instruction before using! Severe personal injury could occur if the user fails to follow the aforementioned warn- ings, and/or fails to follow the operating instructions.

# INTRODUCTION

The **FANTOMAT DIGITAL 5.3** 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 micro-electronics are coordinated to produce one of the safest, fastest and most reliable auto-darkening helmets available.

The auto-darkening helmet not only can efficiently protect operator's eyes and face from sparks, spatter, and harmful radiation under normal welding conditions, but also can make both hands free and 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.

## WARNINGS



- 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. When these hazards are present, mechanical guards or eye splash protection must be used.
- Impact resistant, primary eye protection, spectacles or goggles that meet current ANSI 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~60°C. 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.

## BEFORE WELDING

The **FANTOMAT DIGITAL 5.3** Welding Helmet comes ready for use. The only thing you need to do before your welding is to adjust the position of the headband and select the correct shade number for your application.

Check the front cover lens to make sure that they are clean, and that no dirt is covering the four sensors on the front of filter cartridge. Also check the front/ inside cover lens and the front lens retaining frame to make sure that they are secure.

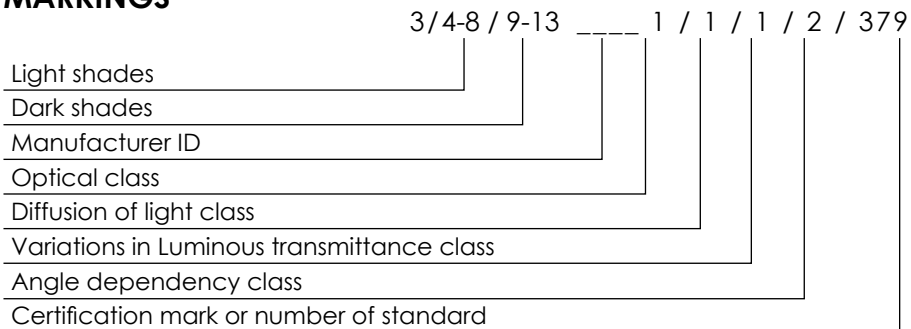
Inspect all operating parts before use for signs of wear or damage. Any scratched cracked, or pitted parts should be replaced immediately before using again to avoid severe personal injury.

Check for light tightness before each use.

Select the shade number you require at the turn of a shade knob ( Seeing the Shade Guide Table. Finally, be sure that the shade number is the correct setting for your application.

Adjust headband so that the helmet is seated as low as possible on the head and close to your face. Adjust helmet's angle when in the lowered position by turning the adjust- able limitation washer.

## MARKINGS



# SPECIFICATIONS

Auto Darkening Filter	CE-certified, auto-darkening LCD filter cassette according to EN379. <b>True Color technology with excellent optical properties and close-to-real color fidelity</b> Marking: W3/4-8/9-13 1/1/1/2/379 CE
Viewing Area:	108 x 74 mm
UV/IR Protection:	DIN16 all time
Light (Grind) Shade:	DIN 3
Variable Shade:	Weld: DIN 4 - DIN 8 , DIN 9 - DIN 13; Cut: DIN 4-8
Reaction Time:	0,00001 sec
Delay Time:	0.1s ~ 1.2s
Sensitivity:	1-6 levels
Sensors:	Four infrared sensor
Power Supply:	Solar Cell + Lithium Battery (1db CR2450)
Automatic Power:	Fully Automatic
Applications:	"WELDING"/ "GRINDING"/"CUTTING"
Operating Temperature:	- 5°C to + 55°C ( 23°F to 131°F )
Storing Temperature:	- 20°C ~ + 70°C (-4 ° F to 158° F)
Helmet Material:	High-impact resistant Polyamide (Nylon) DIN EN 175 B CE
Total Weight:	597 gr

## TRUE COLOR

The auto-darkening helmet use an advanced True Color technology, the users can weld with improved clarity due to new complex coating technology, grind with precision while in grind mode and finally see the job performance in the light state in the full spectrum of colors. There is no need to remove the helmet to see clearly! Results are enhanced the weld quality, increased efficiency and improved safety because the users can see more.

# FUNCTIONS OF AUTO DARKENING FILTER

## Selecting the operation mode.

The ADF got **4 modes**, press **MODE button** to selecting the function as you need. (See Fig. 18.)  
**Grind Mode** - Used for metal grinding applications. In this mode the shade function is turned off. The shade is fixed in the light state **DIN3** that allowing a clear view to grind a weld with the helmet providing face protection. There is an easy way for some model, long-press (1.0s) outside **GRIND button** on the helmet shell it can switch to **GRIND** mode.

### Weld Mode 1 (DIN4-8) , Weld Mode 2 (DIN 9-13)

Used for most welding applications. In this mode, the shade function has turned on. When it optically senses a welding arc, please select a suitable shade level, delay time and sensitivity as required.

**Cut Mode (DIN4-8)** - Used for cutting applications. In this mode, the shade function has turned on. When it optically senses a cutting arc, please select a suitable shade level, delay time and sensitivity as required.

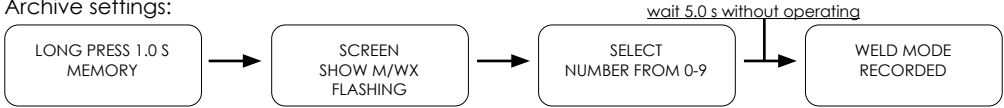
Function	Operating	Usage
<b>Sensitivity</b>	Press <b>FUNC.</b> and ▲ & ▼	Level 9: For most applications but especially for low current welding work. Level 0: Only in some specific surrounding lighting conditions in order to avoid unwanted
<b>Delay</b>	Press <b>FUNC.</b> and ▲ & ▼	Level 9: 2.0 s is suitable for most application , especially for high amps current application and longer welding interval
<b>Gradient</b>	Hold press <b>FUNC.</b> with 1.0 s.	Offering a gradual recovery from dark to light
<b>Shade</b>	Press <b>FUNC.</b> and ▲ & ▼	Adjusting the shade by your experience or according to chart
	Press ▲ & ▼ at one time, main window locked	Shade locked, you can lock the main window in any level you need, like shade 4-13/ shade 4-14. Side window locked with shade 11.
	Hold press <b>SHADE</b> with 1.0 s.	

NOTE: The operating of ▲ & ▼ , press 1 of ▲ & ▼ button, the relative function increase/decrease by 1.

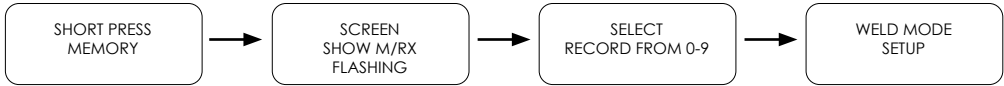
# MEMORY MODE

Checking the operating panel, using **MEMORY** and **▲ & ▼** button. (See Fig. 18.)

Archive settings:



Extract Record (M/R X) R:Read



**Attention! If the filter can not be darkening or the darkening shade is not enough or the: darkening speed is slow or the filter is flash, for such abnormal work, please find the reason immediately. If operator can not solve the problem, please must stop using the helmet immediately and contact with the dealer in time!**

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				
MMA						9	10	11		12			13		14	
MIG Plate welding						10		11	12			13		14		
MIG Sheef Metal						10		11	12		13	14		15		
TIG			9	10	11		12		13			14				
MAG						10	11	12	13			14	15			
Arc Gauging						10			11	12	13	14	15			
PAC						11			12		13					
PAW			8	9	10	11	12		13		14		15			

**When grinding, the helmet shell can not bear the welding spatter which is more than 43 grams and exceeding 120m/sec. The helmet meet standard DIN EN 175:1997 (B impact Level). For other body parts helmet can not protect, please wear other safety products for protection!**

**Attention!**

**Before welding, please keep clean on filter, front cover lens, inside cover lens and four optical sensors. If front cover lens and inside cover lens are blurry and can not be clean, please replace them immediately.**

## DELAY TIME

1) Delay time button: Delay time can be adjusted, time of filter from dark state to light state, avoid the damage to eyes from the residual arc of welding molten pool due to too fast switching time to light state when welding is end (Break arc). The delay time is 0.5s-2.0s The switching time may vary due to different welding types and different sensitivity setting even delay time handle is at the same position.

If the filter is flash under low current welding, please adjust the delay time handle to long position, this can help to solve this problem.

## POWER

If the battery icon is flashing, please change the battery, otherwise the operation will not perform well.

After changing the battery, you need to self-check the ADF by long-press MODE button. It is essential to mount it in correct way as the illustration when replacing the battery.(The tray will depict the polarity showing which side is+ and which side is negative.)

## HELMET ADJUSTMENT

### HEADGEAR ASSEMBLY

Insert the headgear into helmet shell, as the installation order is in Fig1.

Adjust the headgear to make it more comfortable and put shield in the correct position according to individual preference(See Fig.2-Fig.5).

**NOTE: Make sure both sides are equally positioned for proper operation.**

### REPLACING AUTO DARKENING WELDING FILTER

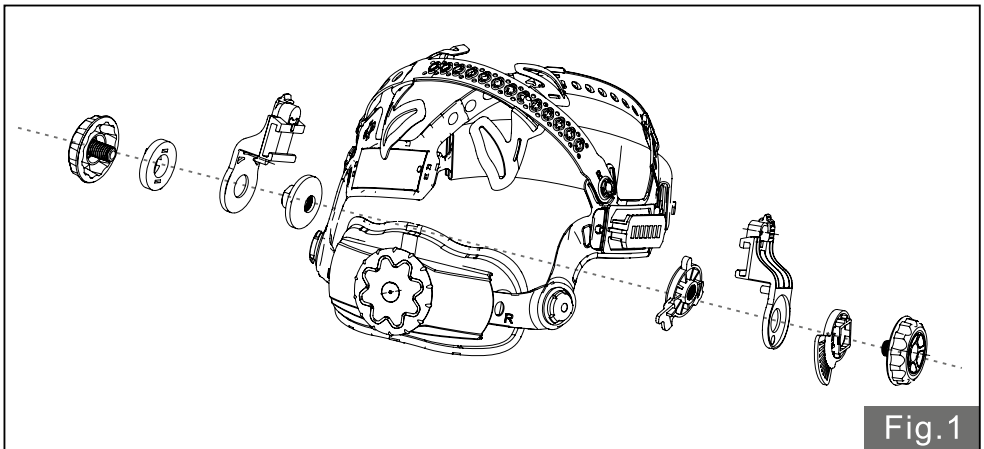
Remove the front protection plate and put the helmet face down, and press both taps in the top of the filter and push the ADF out(See Fig. 7).

### REPLACING PROTECTION PLATES

If protection plates are in any way damaged, they must be immediately replaced (See Fig.9 & Fig.11).

### BATTERY REPLACEMENT

Remove the ADF cassette. Pull out the battery tray, and correct battery operation as indicated on the battery tray(See Fig.12).



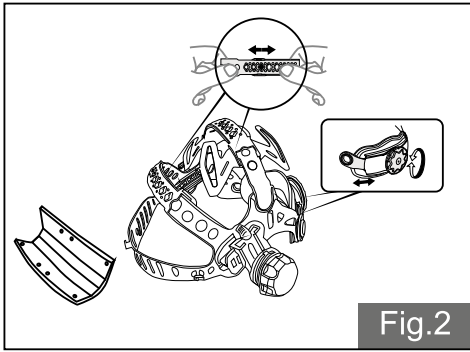


Fig.2

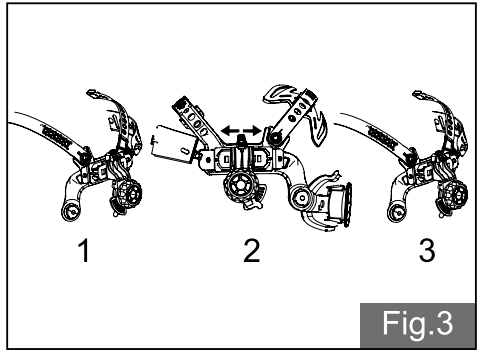


Fig.3

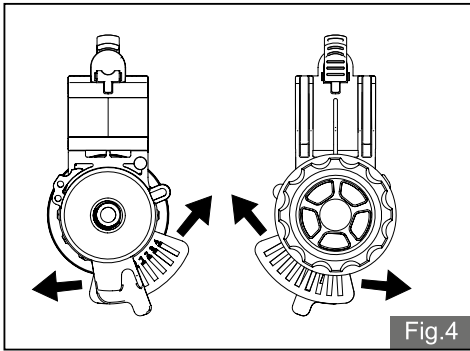


Fig.4

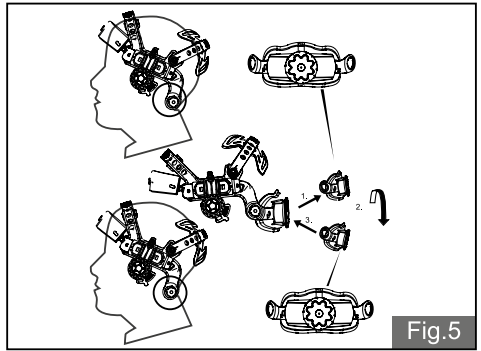


Fig.5

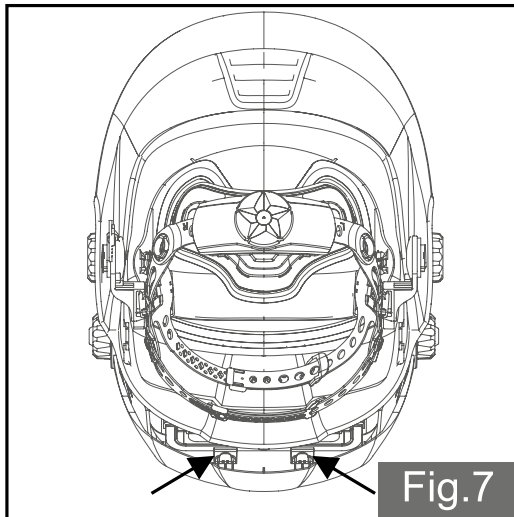


Fig.7



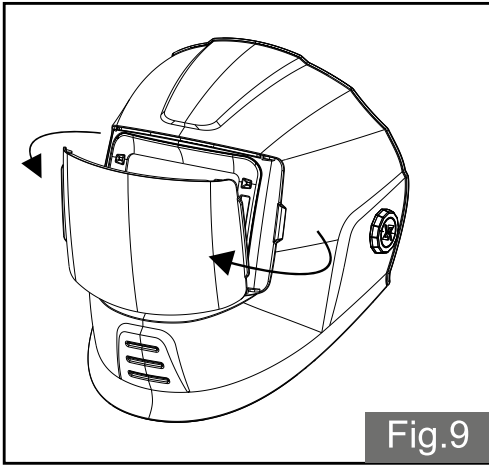


Fig.9

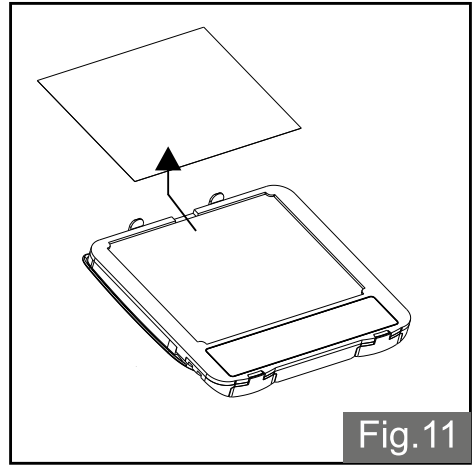


Fig.11

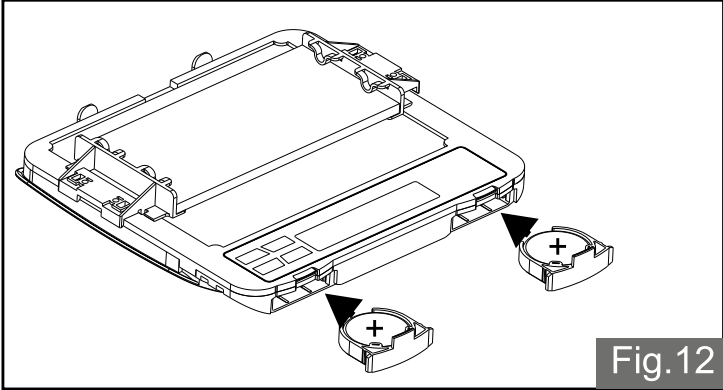


Fig.12

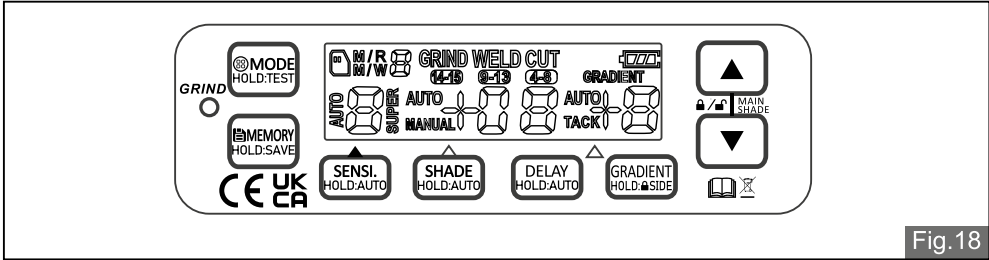


Fig.18