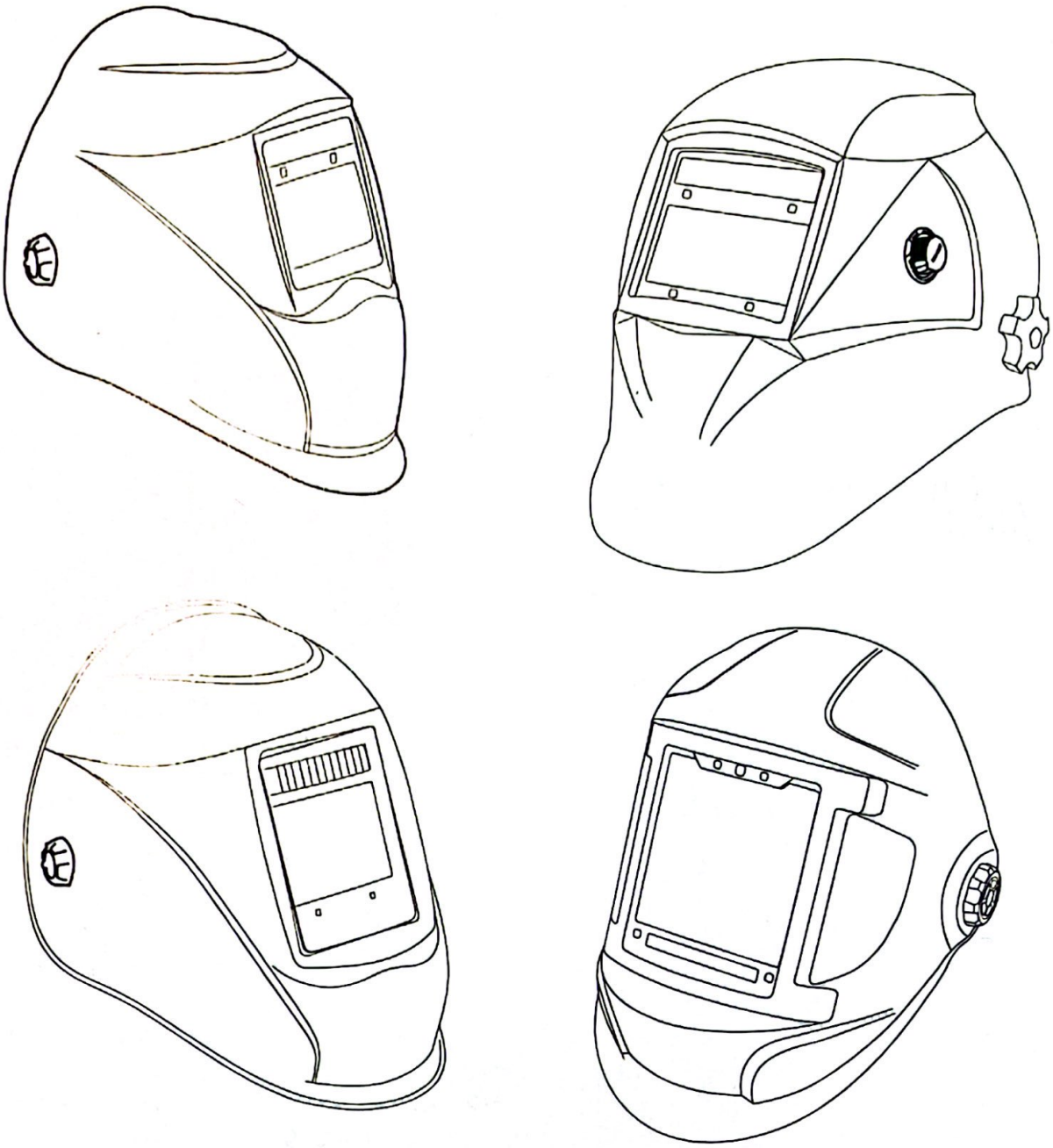
Auto-Darkening Welding Helmet

User's Manual



Welding protection partner you can trust !

! WARNING !

Auto-Darkening welding helmet is designed to protect the welders 'eyes from harmful radiation including visible light, ultraviolet radiation (UV)and infra-red radiation (IR) resulting from certain arc and gas welding processes when used in accordance with user instructions.
Ensure that helmet comes properly assembled. However, before it can be used, it must be adjusted to your personal preferences. Set it up for delay time, sensitivity, and shade number for your application. (See the table with recommended shade levels)

PRECAUTIONS

- Never place the helmet or the ADF on hot surface.
- Use only at temperature: -5°C to+55°C(23°F-131°F).
- Do not immerse the filter in water and protect it from contact with liquid and dirt.
- The material which may contact the wearer's skin can cause allergic reaction. Any welding helmet worn over standard ophthalmic spectacles may transmit impact, thus creating a hazard to the wearers in some circumstances.
- This product cannot be used for overhead welding or cutting. If this product is used for overhead welding or cutting operation, the molten metal drop may burn through helmet and welder will get injured.
- Eye protector shall only be used against high-speed particles at room temperature.
- Automatic welding filter shall always be used with a backing ocular.
- Unauthorized modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
- If the auto-darkening filter does not darken when the arc ignites, stop welding immediately and inspect the ADF and its power supply. Change if necessary.
- Do not use any solvents or abrasive cleaning detergent on the filter screen or helmet components.
- We recommend a usage period of 4 years. The period depends on various factors such as way of use, cleaning, storage, and maintenance. Frequent inspections and replacement in case of damage are recommended.
- Always wear safety glasses or goggles under the welding helmet and protection clothing to protect your skin from radiation, burns and spatters.
- Not suitable for driving and road use
- Protectors that have been subject to impact shall not be used and shall be discarded and replaced.
- A visual inspection is necessary before every use.
- If the impact level symbols are not equal on both the lens/filter and the frame, then it is the lower level that shall be assigned to the complete protector.
- 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.
- This device does not protect against physical or chemical hazards.
- If the helmet, or the filter or the cover plate is in any way damaged, they must be immediately replaced.
- Replace the device after a mechanical impact.

STORAGE

When not in use helmet should be stored in a dry place within the temperature from -10°C to +60°C. Remove the battery or turn off the ADF before long-time storage.

It is recommended to keep the solar cells of the auto darkening welding filter in the dark or not exposed to light during storage to maintain power down mode.
Welding helmets should not be dropped and do not place any heavy items or tools on or inside the helmet, which may damage the electro-optical filter.

MAINTENANCE & CLEANING&TRANSPORTING

Cleaning can be done with a soft tissue or cloth soaked in mind detergent (or alcohol). Never use aggressive solvents such as acetone.
The user must make daily regular checks to ensure no damage is evident. Outer and inner visors are worn parts and must be replaced regularly with genuine certified universal spare parts.
Transport the equipment with original packing box and away from direct sunlight .

OPERATING INSTRUCTION

Before Using

- ▶ Make sure to remove any additional protection foil from both sides of the PC lens.
- ▶ Make sure there is no dust on any sensor.
- ▶ Set the exact mode that you need.

Testing Function

(Some ADFs are available for this function.)

- ▶ Hold press MODE HOLD TEST , ADF will Self-Test or
- ▶ Insert battery, ADF will Self-Test

POWER

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

ON/OFF FUNCTION

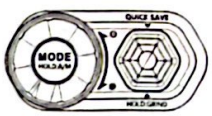
(Some ADFs are available for this function.)

- ▶ Hold press MODE HOLD ON/OFF , to turn the ADF ON or OFF.

SET THE MODES

The ADF got 4 MODES, **CUT**; **WELD**; **GRIND**; **DARK**(For filters named suffix as L, D or CD, all have DARK MODE.)
GRIND mode: Hold press 1.0s with external **GRIND** button on the helmet shell like Fig.9, it can switch to **GRIND** mode quickly.
SPACE40 offering side-windows with shade 5. (See Fig. 9)
*Warning: Do not weld in **GRIND** mode.*

EXTERNAL CONTEROL BUTTON

 = +	Hold press with 1.0s	Switching to **Grind** mode
 = S+	Short press	Easy selecting the mode from **WELD**, **CUT**, **DARK**.
	Hold press with 1.0s	Switching to Grind mode
	Twist the knob	ADF's shade will be adjusted, ±0.5 INC
 II AMS+	Short press **MODE**	Easy selecting the mode from **WELD**, **CUT**, **DARK**.
	Hold press **MODE**	Automatic shade function is on
	Short press silicon button	Welding mode will be saved in record 0 quickly.
	Hold press silicon button	Switching to Grind mode
	Twist the knob	Manual mode, shade will be adjust by ± 0.5 INC
		Auto Shade mode, shade deviation ± 0.1 INC

MEMORY MODE

For 9 Series and X Series, the filters named suffix as D/CD have a memory function

Archive Setting (M/W X) W:Writing

wait 5.0s without operating

LONG-PRESS 1.0 S MEMORY → SCREEN SHOW M/W X X FLASHING → SELECT NUMBER FROM 0-9 → WELD MODE RECORDED

Extract Record (M/R X) R:Read (From 1-9)

SHORT PRESS MEMORY → SCREEN SHOW M/R X X FLASHING → SELECT RECORD FROM 0-9 → WELD MODE SETUP

Extract Record (M/R X) R:Read 0

SHORT PRESS MEMORY → SCREEN SHOW M/R X X FLASHING → HOLD PRESS MEMORY → RECORD 0 EXTRACTED

Function	ADF	Operating-UI Pannel	Usage
Sensitivity (SENSI.)	Analog	Twist Sensitivity Knob.	High/Max for most applications
	LED	Press SENSI. ,go cycle.	
	Monochrome LCD	Press FUNC. and ▲&▼	Level 9: For special welding which needs super sensitivity. Level 8: For most applications but especially for low current welding work. Level 0: Only in some specific surrounding lighting conditions in order to avoid unwanted triggering
	With AUTO Function	Press SENSI. HOLD:AUTO and ▲&▼	
		Hold Press SENSI. HOLD:AUTO	Automatically provides a sensitivity value based on the current environment.
Delay	Analog	Twist DELAY Knob.	Max for most applications Min for spot welding
	LED	Press DELAY HOLD:TRS ,go cycle.	
	Monochrome LCD	Press FUNC. and ▲&▼	Level 9: 2.0s is suitable for most applications, especially for high amps current application and longer welding interval Level 1&2, satiable for spot welding Level 0:**Tack welding**
	With AUTO Function	Press DELAY HOLD:AUTO and ▲&▼	
		Hold Press DELAY HOLD:AUTO	Delay is automatically adjusted with deviation ±2
Shade	Analog	Twist SHADE Knob.	Adjusting the shade by your experience or according to chart recommended
	LED	Press SHADE HOLD: ,go cycle.	
		Hold Press SHADE HOLD:	Shade locked, you can adjust the shade in any level that you need
	Monochrome LCD	Press FUNC. and ▲&▼	Adjusting the shade by your experience or according to chart recommended
	With AUTO Function	Press ▲&▼ simultaneously, main window locked	Shade locked, you can adjust the shade in any level that you need
		Press SHADE HOLD:AUTO ,and ▲&▼.	Adjusting the shade by your experience or according to chart recommended
		Hold Press SHADE HOLD:AUTO	Shade is automatically adjusted with deviation ±2
TRS	LED	Hold press DELAY HOLD:TRS	Offering a more comfortable recovery from dark to light (Not suitable for tack welding and spot welding)
	Monochrome LCD	Hold press FUNC. HOLD:TRS	
	With AUTO Function	Press FUNC. HOLD:TRS or TRS	

NOTE: If there are two different colors on one button for two operations, hold press with 1.0s, the second function is on.

TACK MODE:

(For filters named suffix as L, D or CD, all have TACK MODE.)

ADF will recommend a interval shade according to welder's habit, interval shade is not fixed.

TROUBLE SHOOTING

FAULT	CAUSE	REMEDY
Irregular Darkening Dimming	Headgear has been set unevenly so there is an uneven distance from the eyes to the filter lens.	Reset the headband to reduce the difference to the filter
The Filter not Darken or Flichers	Front cover lens is soiled or damaged	Please change the cover lens
	Sensors are soiled/blocked or solar panel is blocked	Clean the sensors surface to make sure you are not blocking the sensors or solar panel with your arm or other obstacle while welding
	Sensitivity is set too low or delay time is set too short	Adjust to required level
	Make sure proper shade is selected	Not Grind mode
The Filter Darkening Without Arc Being Struck	Sensitivity is set too high	Adjust Sensitivity to a required level
The Filter Remains Dark After Completing A Weld	Delay time is set too long	Adjust Delay time to a required level
Slow Response	Operating temperature is too low	Do not use at temperatures below-10°C or 14°F
Welding Helmet Slips	Headgear is not properly adjusted.	Re-adjust the headgear.

HELMET ADJUSTMENTS

HEADGEAR ASSEMBLY

1. Insert the headgear into helmet shell, as the installation order is in Fig.1 (headgear for 5 series) and Fig.2 (headgear for 7 series and above).
2. Adjust the headgear to make it more comfortable and put shield in the correct position according to individual preference. See Fig.3-Fig.4 and Fig.5-Fig.7, respectively.

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

NOTE: The distance from the eye to the filter, closer is better.

REPLACING AUTO DARKENING WELDING FILTER

Place the helmet face down and press down on the frame to remove the filter. (See Fig.10)

REPLACING PROTECTION PLATES

If protection plates are in any way damaged, they must be immediately replaced. (See Fig.10)

BATTERY REPLACEMENT

Different filters have different battery replacement locations and methods. See Fig.8,11 and Fig.12-13 for detailed operation.

SPECIFICATION DATA

Filters Model	5 Series	7 Series				8 Series			9 Series			X Series
	568L-S+	718I	718G PRO	768L-S+	768D-S+	858E PRO	858E PLUS	868L-S+	958I PRO	959D PRO+	999D-AMS+	X99CD-AMS+
Cartridge Size	110*90*9mm(4.33*3.54*0.35in)								114*133*9mm(4.49*5.24*0.35in)			
Viewing Area	96*39mm	100*53mm				100*60mm			98*87mm			104*104mm
CE Classification	V2(1/1/1/2)						V1(1/1/1/1)		V2(1/1/1/2)			V1(1/1/1/1)
True View+	YES											
Arc Sensor	2	4									4+1 (Ambient Light)	4+1 (Ambient Light)
Shade Variable	3/4-8/9-13	4/5-8/9-13		3/4-8/9-13		4/5-8/9-13		3/4-8/9-13	4/5-8/9-13		3/4-8/9-14	3/4-8/9-14
Grinding Mode	YES, Shade 3					YES, Shade 4		YES, Shade 3	YES, Shade 4		YES, Shade 3	
Sensitivity	Internal Variable					External Variable		Internal Variable				Internal Variable
Delay Time	0.04-1.0s, Internal	0.1-1.0s, Internal		0.04-2.0s, Internal		0.1-1.0s, External		0.04-2.0s, Internal	0.1-1.0s, Internal	0.04-2.0s,Internal		0.04-2.0s, Internal
Memory Mode	NO									Internal Variable , External Quick-Save		Internal Variable, Externa Quick-Save

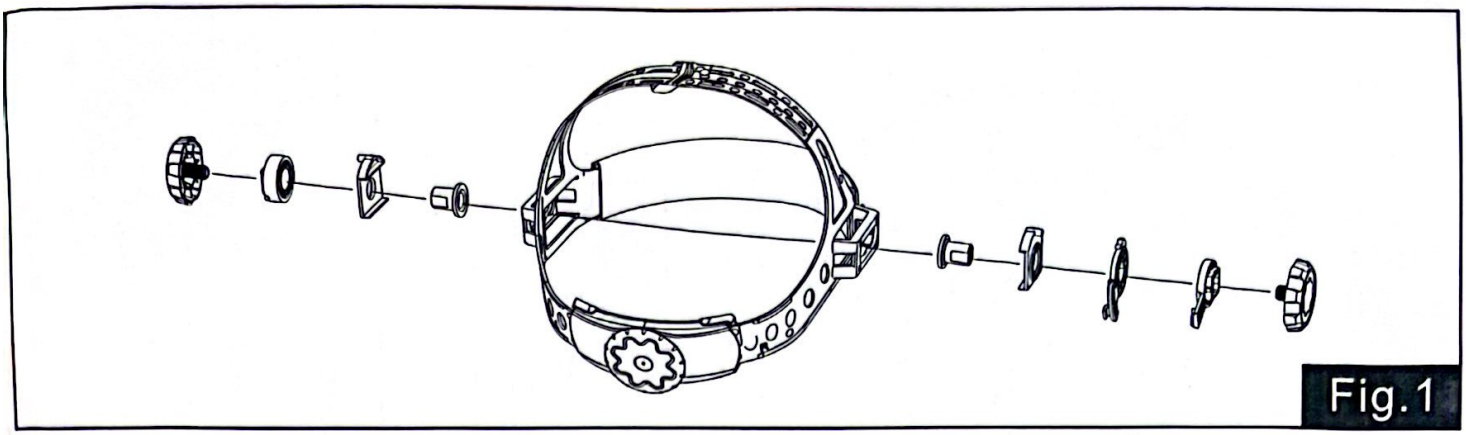


Fig.1

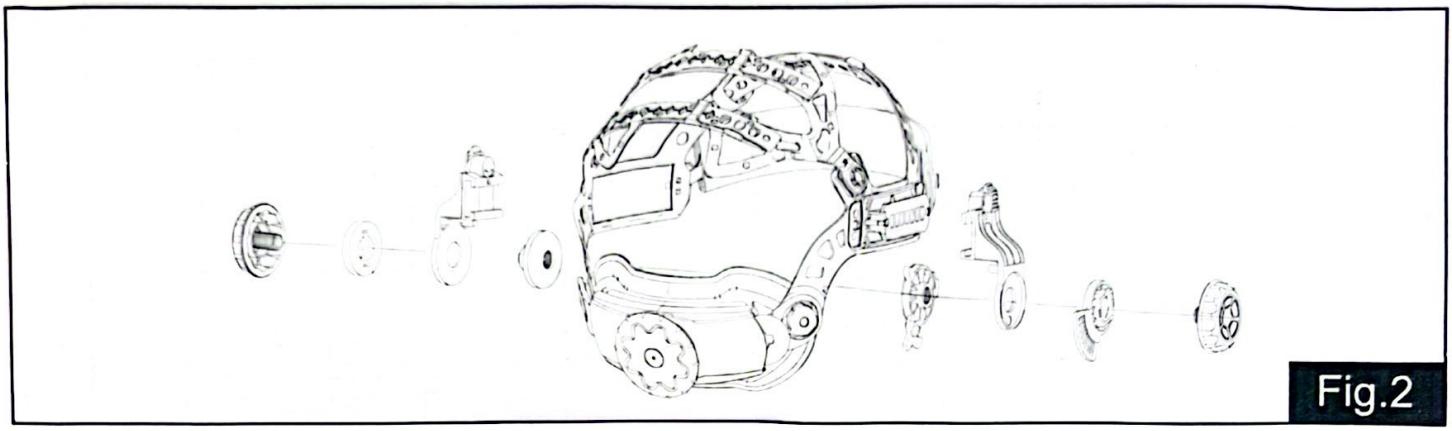


Fig.2

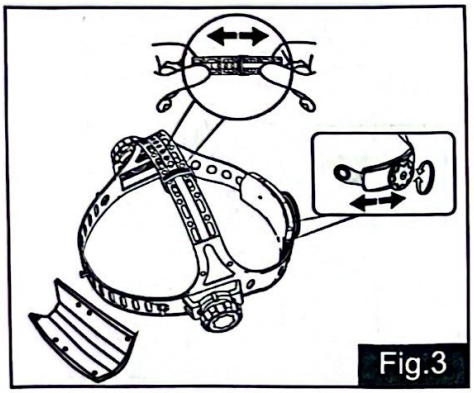


Fig.3

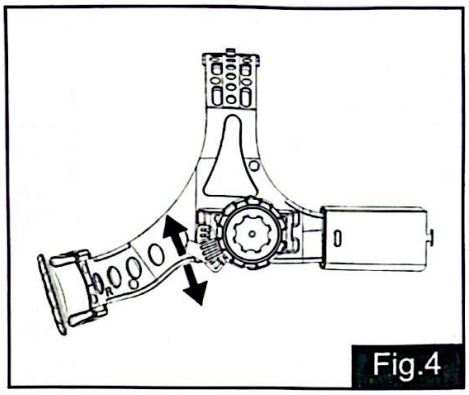


Fig.4

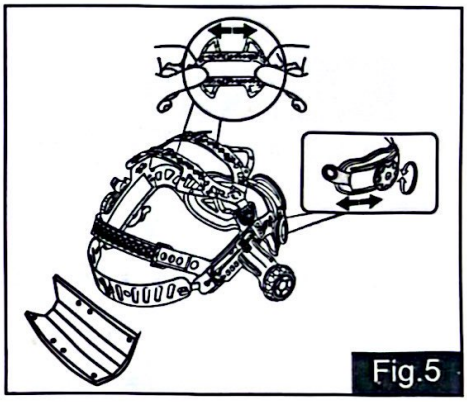


Fig.5

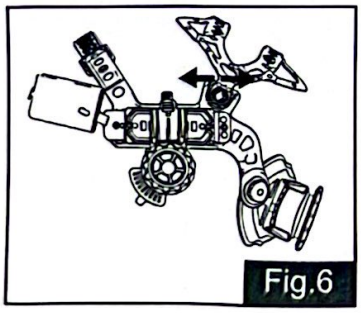


Fig.6

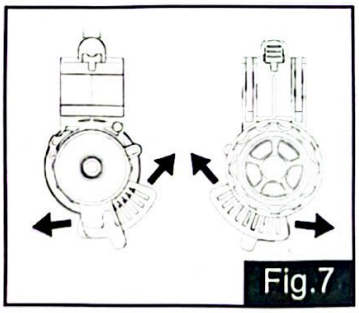


Fig.7

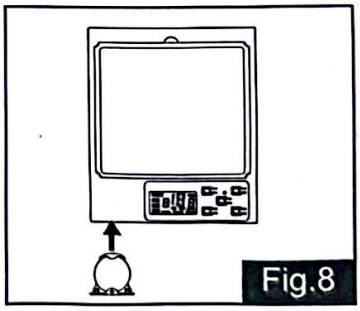


Fig.8

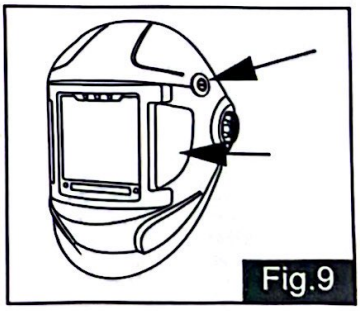


Fig.9

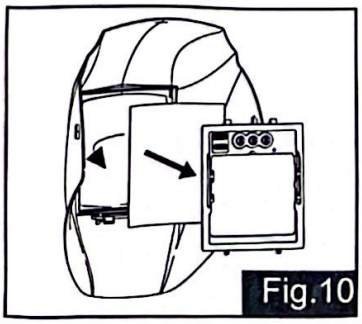


Fig.10

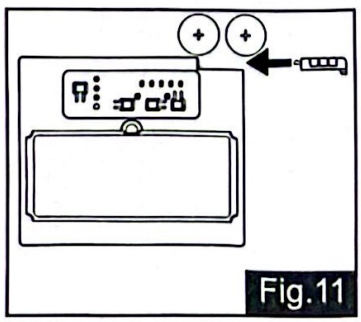


Fig.11

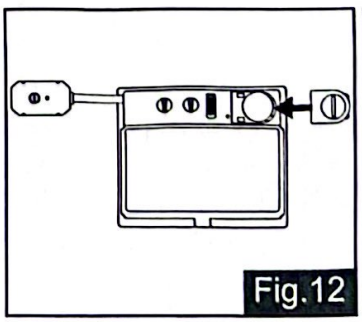


Fig.12

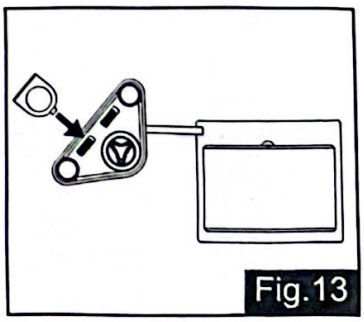
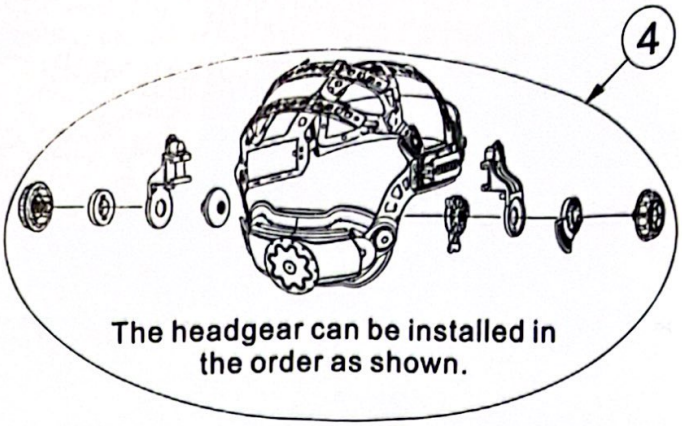
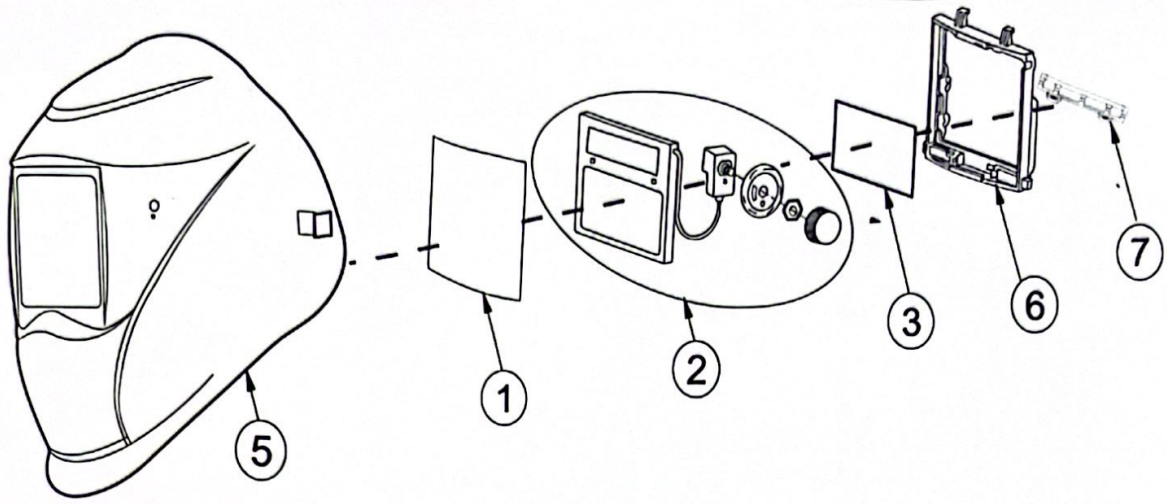


Fig.13

ITEM	DESCRIPTION
1	FRONT COVER LENS
2	ADF CARTRIDGE
3	INSIDE COVER LENS
4	HEADGEAR ASSEMBLY
5	REPLACEABLE SHELL
6	ADF HOLDER
7	FRAME LOCKER





SHADE SELECTING CHART

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 elecreodes					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	
Microplasma 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 copper and its alloys. etc.
Start with shade that is too dark to see the weld zone, then go to a lighter shade that offers a sufficient vision and never go below the minimum.

CE
UK CA

ISO 16321-2:2021
ISO 16321-1:2021
CSA Z94.3
ANSI Z87.1
AS/NZS 1338.1
AS/NZS 1337.1
EN 175:1997
EN 166:2002

PPE Regulation(EU)2016/425
Directive 2001/95/EC
The welding helmets are tested by the following notified body:

ECS GmbH
Notified Body 1883
Obere Bahnstrasse 74
73431 Aalen
Germany

DIN CERTCO
Notified Body:0196
Alboinstrasse 56
12103 Berlin Germany