

Construction and assembly for automatic welding helmet

1. Helmet shell

2. Headgear side knob

3. Outer protection plate

4. ADF5. Battery cover

5. See 20

6. Battery case

7. Inner protection plate

8. Frame

9. ADF frame lock

10. Headgear slider(with 3 slots)

11. Headgear screw(with 3 slots)

12. Headband tightness adjusting knob

13. Headgear connector
14. Headgear screw(long,on right)

15. Block washer(on right)

16. Headband adjusting buttons

17. Segmental position plate(on right)

18. Sweatband

19. Positioning point for the segmental plate

20. Welding/grinding function selecting knob

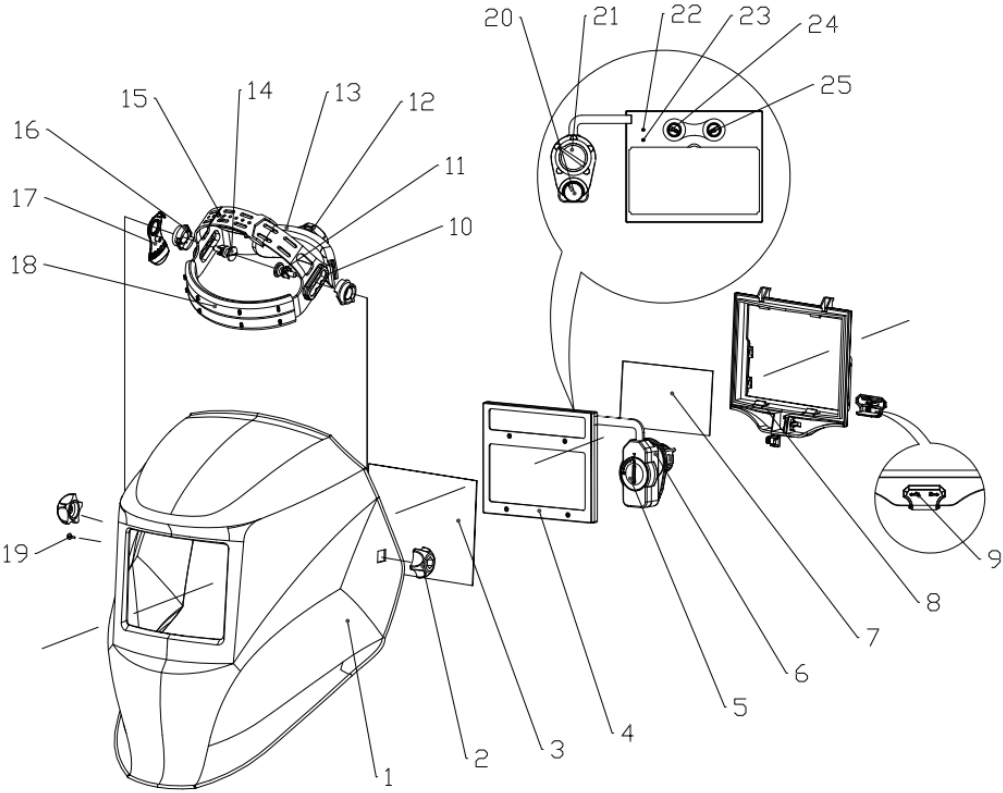
21. Shade knob

22. Low battery warning light

23. Grind flash

24. Sensitivity knob

25. Delay knob



Recommended shade numbers

WELDING PROCESS	CURRENT AMPERES														
	0.5	1	2.5	5	10	15	20	30	40	50	60	100	125	150	175
Covered Electrode															
MIG Plate Welding															
MIG Sheet Metal															
TIG															
MAG															
Arc Gouging															
Plasma Cutting															
Plasma Welding															

ARCMASTER

AUTOMATIC
WELDING HELMET
OPERATION MANUAL



PLEASE READ THIS MANUAL CAREFULLY BEFORE
USING THE AUTOMATIC WELDING MASK

Introduction

The automatic welding mask is a new generation welding mask for protection against welding operations.

Technological advances such as LCD, optoelectronics detection, solar power, microelectronics, etc, are integrated within. The automatic welding mask can not only efficiently protect operator's eyes from injuries caused by arc but also allows for both hands-free operation and accurate strike arc. Therefore, work efficiency and quality of finish may be improved considerably. This welding mask may be widely used for various welding, cutting, spraying and arc gouging, etc.

Warning

Read and understand all instructions before using.

- Be sure that the dark shade of the lens in the welding helmet is the correct shade number for your application.
- This helmet and lenses are not suitable for ‘overhead’ welding application, laser welding, or laser cutting applications.
- Welding helmets are designed to protect the eyes and face from sparks, spatter, and harmful radiation under normal welding conditions.
- 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.
- Check for light tightness before each use. Before each use, check that the protection plates and lens sensors are thoroughly clean.
- Inspect all operating parts before each use for signs of wear or damage. Any scratched, cracked, or pitted parts should be replaced immediately.
- Do not make any modifications to either the welding lens or helmet, other than those specified in this manual.
- Do not use any replacement parts other than those specified in this manual. Unauthorised modifications and replacement parts will void the warranty and expose the user to the risk of personal injury.
- If the lens does not darken when striking arc, stop welding immediately and contact your representative.
- Do not immerse lens in water if this model is not water proof.
- Do not use any solvents on any lens or helmet components.

- The recommended operating temperature range for welding lens is –10°C to +65°C (14°F to 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.

Characteristics

This automatic welding helmet is equipped with a filter set that can become dark. The filter is transparent before welding, so the operator may observe the work surface clearly. When striking arc, the filter darkens automatically immediately. When arc goes out, the filter will become transparent again.

The switching time from light to dark is approximately 0.08ms . The switching time from dark to light may be set up within 0.1- 0.9 seconds.

The mask is equipped with a continuous darkness adjusting unit, so the operator may select an arbitrary dark shade number ranging from No.9 to No.13.

The automatic welding mask gives the operator complete protection against UV/IR – even in a transparent condition.The UV/IR protection level is up to DIN15 at all time. Power is provided by solar cells and the lithium batteries are replaceable.

The mask is equipped with four photosensors to sense arc light. In addition, the mask is provided with an outer protection plate made of high polymer materials. The plate is wear-resistant, thermostable, and has no dregs-sticking, thus a very long service life.

Main specifications

1.	Filter dimensions	110 x 90 x 8.5 mm
2.	View area	97 x 47 mm
3.	Light shade number	3
4.	Dark shade number	9-13
5.	UV/IR protection	up DIN15
6.	Time from light to dark	0.08ms
7.	Time from dark to light	0.1-0.9s
8.	Sensitivity/Delay	adjustable stepless
9.	Power supply	solar cells, replaceable battery
10.	Operating temperature	–10°C to +65°C (14°F to 149°F)
11.	Grind function	yes
12.	Warranty	two years

Operation

1. Assemble the mask as shown in the Construction and Assembly figure (see page 6).
2. Power supply

The power of the welding helmet is provided by solar cells with one lithium battery. Turning on or off is automatic controlled by circuit. The helmet can be used as required and removed after working without operating any security function.

3. Darkness selection

When striking the arc, the viewing window darkens immediately. At this point, according to the technical requirement, the operator adjusts the darkness knob in the direction as shown by the arrow to select the optimum darkness.

4. Delay time selection

By moving the **DELAY** selector knob on the rear of the cartridge, the time taken for the lens to lighten after welding can be altered from 0.1-0.9 seconds.

Turn to **MIN**: The time the lens lightens after welding changes to be shorter. The shortest time is approximately 0.1 second, 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 lens lightens after welding changes to be longer. The longest time is approximately 0.9 seconds depending upon welding point temperature and shade set. This setting is ideal for welding at high amperage where there is an afterglow from the weld.

5. Sensitivity selection

By moving the **SENSITIVITY** selector knob on the rear of the cartridge, the sensitivity to ambient light changes can be altered.

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 pool ight conditions. Suitable for using with steady arc process such as TIG welding. If the helmet can be used normally, we suggest using this helmet with a higher sensitivity.

6. Because the shape of heads vary from person to person, the work position and the observing angle differs. The operator may adjust the headband adjusting button and the segmental positioning plate to select an appropriate observing angle. The distance of view to the ADF can be adjusted by adjusting the knobs on both sides. By pushing and turning the adjustment screw, the perimeter of the headband can be adjusted.

7. Welding/grinding function

Welding/grinding function can be selected by moving the adjusting knob.

8. Low battery warning light

The light will flash when the battery is low.

9. Lock & Unlock

Turn to left to unlock the ADF frame. Turn to right to lock the ADF frame.

Important

- Be sure that the helmet is be used in correct condition and check it according to WARNING content.
- The filter contains a liquid crystal-valve. Although it has inner and outer protection plates, it is important to treat it with care.
- The outer protection plate of helmet should be periodically inspected and cleaned for effective operation. In the event of any break, crack, pitting or more serious influencing vision effect occurs, the plate must be replaced.
- In order to operate more efficiently and safely, please select correct dark shade number.
- If the filter is not a water-proof model, please pay attention to preventing contact with water.
- Be sure that the arc light is received completely by sensor. If not, the filter will be light or unstable in darkness and may cause harm to the operator.
- Please use the automatic filter at temperature between –10°C to +65°C (14°Fto 149°F).
- Do not disassemble the filter. Should any problem arise, please contact Specialised Welding Products or your agent.

Packing list

• Mask body (including control cassette)	1 piece
• Headband	1 piece
• Operation manual	1 piece