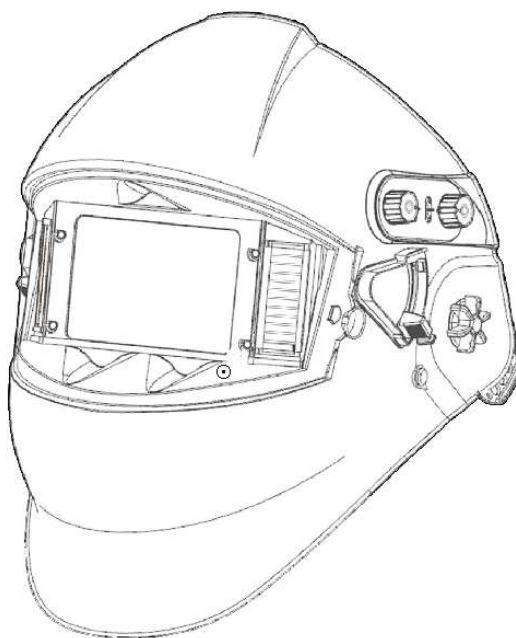


AUTO-DARKENING FILTER WELDING HELMET

S20B FLIPPER



INSTRUCTION MANUAL

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1. INTRODUCTION

Dear Customers!

Company ALFA IN a.s. thanks you for buying our Auto-darkening filter welding helmet S20B Flipper and believe that you will be satisfied with this product.

PLEASE READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE USING.

Our auto-darkening filter welding helmet S20B Flipper is designed to protect the face from sparks, melt splashes and hazardous radiation under normal conditions during welding. The auto darkening screen automatically darkens when the arc is ignited and brightens again after welding.

New features of the auto-darkening filter welding helmet S20B Flipper uses unique optical technology, so that the filter has the best color for vision meeting physiological needs and high definition.

Auto-darkening filter 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.

Read this instruction manual carefully before use. Otherwise, serious personal injury may result if the user does not observe the above warning and / or the operating instructions.

We reserve the law of adjustments and changes in case of printing errors, change of technical parameters, accessories etc. without previous notice. These changes may not be reflected in the manuals for use in paper or electronic form.



2. WARNING

1. This auto-darkening filter welding helmet is not suitable for laser welding and oxyacetylene welding.
2. Never place this welding helmet and auto-darkening filter on a hot surface.
3. Never open or tamper with the auto-darkening filter.
4. Before operating make sure, if the function-setting switch is set to the suitable position „WELDING“ / „GRINDING“ or not.
5. This auto-darkening filter welding helmet will not protect against severe impact hazards.
6. This auto-darkening filter welding helmet will not protect against explosive devices or corrosive liquids.
7. Don't make any modifications to either the filter or welding helmet, unless specified in this manual. Don't use spare parts other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
8. When putting the welding helmet on the head, pay attention to the side brackets inside the helmet shell to avoid head injury.
9. Should this welding helmet not darken upon striking an arc, stop welding immediately and contact your supervisor or your dealer.
10. Don't immerse the filter in water.
11. Don't use any solvents on filters' screen or welding helmet components.
12. Use only at temperatures: -5 °C ~ +55 °C (23 °F ~ 131 °F).
13. Storing temperatures: -20 °C ~ +70 °C (-4 °F ~ 158 °F).
14. Protect filter from contacting with liquid and dirt.
15. Clean filters' surfaces regularly; do not use strong cleaning solutions. Always keep sensors and solar cells clean using a clean lint-free tissue / cloth.
16. Regularly replace the cracked / scratched / pitted front cover lens.

Severe personal injury could occur if the user fails to follow the aforementioned warnings, and / or fails to follow the operating instructions.

3. BEFORE WELDING

The auto-darkening filter 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 / inside cover lens and the front lens retaining frame to make sure that they are secure. If there is a protective film on the cover lens with the inscription WARNING: REMOVE THIS FILM BEFORE WELDING, so it has to be removed from the cover lens.

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.

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.

By means of the potentiometer **V1** choose the required shade number. Before you start working, make 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 adjustable limitation washer.

Before welding properly adjust the position of the weld/grind switch **V2**.

4. TECHNICAL DATA

Viewing field	100 x 65 mm / 3.94" x 2.56"
UV/IR protection	Up to shade DIN 16 all time
Function	WELDING / GRINDING can be selective
Light level	Shade 3 (& 3.5)
Light state	DIN 4 – DIN 8
Dark state	DIN 9 – DIN 13
Filter CE class	1/1/1/1
Reaction time	0,000033 s (1/30,000 s)
Delay time	Short - Long (it can vary at 0,3 s – 0,9 s)
Sensitivity	Inside can be continued adjustable
Sensors	Four infrared detector
Power supply	Solar cells + lithium battery (replaced battery)
Power On/Off	Fully automatic
Operating temperature	-5 °C to +55 °C (23 °F to 131 °F)
Storing temperature	-20 °C to +70 °C (-4 °F to 158 °F)
Helmet material	Hight-impact resistant Polyamide (Nylon) DIN EN 175 B CE
Total weight	540 g

This product is in conformity with related DIN EN 379, DIN EN 175 safety standards and ANSI/ISEA Z87.1-2015 safety standards.

5. DESCRIPTION OF AUTO DARKENING FILTER AND FUNCTIONS



Figure 1. Auto darkening filter

Pos.	Description
V1	Shade number potentiometer
V2	Method switch - Welding (4-8 a 9-13) / Grinding (Grind)
V3	Delay time switch - Short / Middle / Long
V4	Sensitivity potentiometer

V5	Battery indicator
V6	TEST button

Method switch - welding / grinding

1. When grinding, by means of the method switch **V2** choose grinding method (Grind). For other body parts the helmet cannot protect, please wear other safety products for protection.
2. When welding, the method switch **V2** has two positions for this method. If the switch **V2** is switched to the position 4-8, by means of the potentiometer **V1** you can select the shade number from 4 to 8. If the method switch **V2** is switched to the position 9-13, by means of the potentiometer **V1** you can select the shade number from 9 to 13.

Shade number potentiometer (before welding)

1. By means of the potentiometer **V1** select the corresponding shade number, so that the selected shade number (shade 4-13) will correspond to the welding process and the welding current. If the shade of the filter is too dark or too light, adjust the potentiometer **V1** to correct position till the eyes can see the welding spot which is not glaring and can see welding molten pool.



Please kindly note, that it will damage the eyes if using welding helmet under incorrect shade no. (too dark or too light) for a long 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		
SMAW					9	10	11	12	13	14				
MIG (heavy)						10	11	12	13	14				
MIG (light)						10	11	12	13	14	15			
TIG,GTAW			9	10	11	12	13	14						
MAG/CO ₂					10	11	12	13	14	15				
SAW						10	11	12	13	14	15			
PAC						11	12	13						
PAW		8	9	10	11	12	13	14	15					

Table 1 – shade setting

Sensitivity potentiometer

1. Before welding adjust the sensitivity by means of the potentiometer **V4** to high position, if encountering the interference of lighting lamp (the filter is darkening while not welding), adjust the sensitivity towards low position slightly until the filter returns to light state (please don't expose the helmet to light during this process, holding it towards the weldment).
2. During welding, the sensitivity potentiometer **V4** should be adjusted as high as possible, or it will affect the darkening speed of filter.

3. **Attention**

If the filter cannot be darkening or the darkening shade is not enough or the darkening speed is slow or the filter flashes, for such abnormal work, please find the reason immediately. If the operator cannot solve the problem, stop using the helmet immediately and contact with the dealer in time.

Delay time switch

1. By means of the switch **V3** adjust the switching time of the filter from dark state to light state. Avoid eye damage from the residual arc of the welding molten pool due to fast switching time to light state after welding (break arc). The delay time switch **V3** has 3 positions: Short / Middle / Long. Delay time in the position Short is from 0,3 s to 0,5 s. Delay time in the position Long is from 0,6 s to 0,9 s.
2. The switching time may vary due to different welding types and different sensitivity setting even delay time handle is at the same position.
3. If the filter flashes under low welding current, please adjust the delay time handle to long position, this can help to solve this problem.

TEST button

1. By means of the button **V6** is possible to test, if the lithium battery is charged and the cartridge is in normal operating condition.
2. If the battery indicator **V5** illuminates (red) when the button is pressed and the cartridge darkens / 1x flashes / flashes repeatedly, it means, that the cartridge is in normal operating condition.
3. If the battery indicator **V5** does not illuminate or illuminate but very faintly when the button is pressed, so replace the lithium batteries. Battery type is CR2450 (order No. S7S6).
4. If the battery indicator **V5** illuminates when the button is pressed, but the cartridge does not darken, it means, that the cartridge is not OK. Do not use this cartridge.

6. MAGNIFYING LENS



Figure 2. Magnifying lens

The filter can be assembled with magnifying lens conveniently. Purchase magnifying lens if need (order No. S7S7).

7. HEADBAND ADJUSTMENT



Figure 3. Headband adjustment

Place the helmet over the head and adjust the internal head harness (position 3). Check if the head harness and helmet is suitable for you. If not suitable, please adjust positions 1, 2 and 4 so to make it suitable for you.

Top head band

1. To move the head band in the direction of arrow (as in the picture) to adjust the depth of headband. According to user's head shape adjust to a suitable position.

Distance of harness from filter lens

1. To adjust the distance from the welder's eyes to filter lens (left-right symmetrical adjustment).

Back of headband

1. To adjust the size of headband (loose or tighten).

Incline angle adjustment

1. To adjust the incline angle of helmet relative to the welder's face, and adjust the height of welder's eyes relative to filter lens.

Headband has been set unevenly and there is an uneven distance from the eyes to the filter's lens (reset headband to reduce the difference to filter).

This model is designed & equipped with a special turnover (up & down) headband mechanism. When welder turns over the helmet to welder's head top, the headband mechanism makes helmet's gravity center to be more lower, and be coincided with the center of welder's head. The design of welding helmet greatly lowers the fatigue of welder's head (neck) and make welder feel more comfortable than before while at working.

8. WELDING HELMET MODES

This welding helmet has 3 modes:

WELDING MODE

Auto-darkening filter has the full shade function of adjusting the shade number from 4 to 13. The normal state is with high-definition and true color display (light level can reach DIN3 (& 3.5)).

ELECTRONICAL GRINDING MODE

Auto-darkening filter is with high-definition and true color display (light level can reach DIN3 (& 3.5)).

MECHANICAL – PROFESSIONAL GRINDING MODE (auto-darkening filter pulled up)

Auto-darkening filter is pulled up and you are looking through a transparent window.

This mode is particularly suitable for these applications:

- When the welder uses the welding helmet in a contaminated area
- When the welder has to work with high precision
- When the ambient light is too dark, or when he needs a large viewing window to monitor the work environment

Notice:

This welding helmet has all the functions, which the auto-darkening filter welding helmet should have. Each mode or function is independent, there is no need to use all functions at the same time. In some special occasions should be used function, when the auto-darkening filter is pulled up.

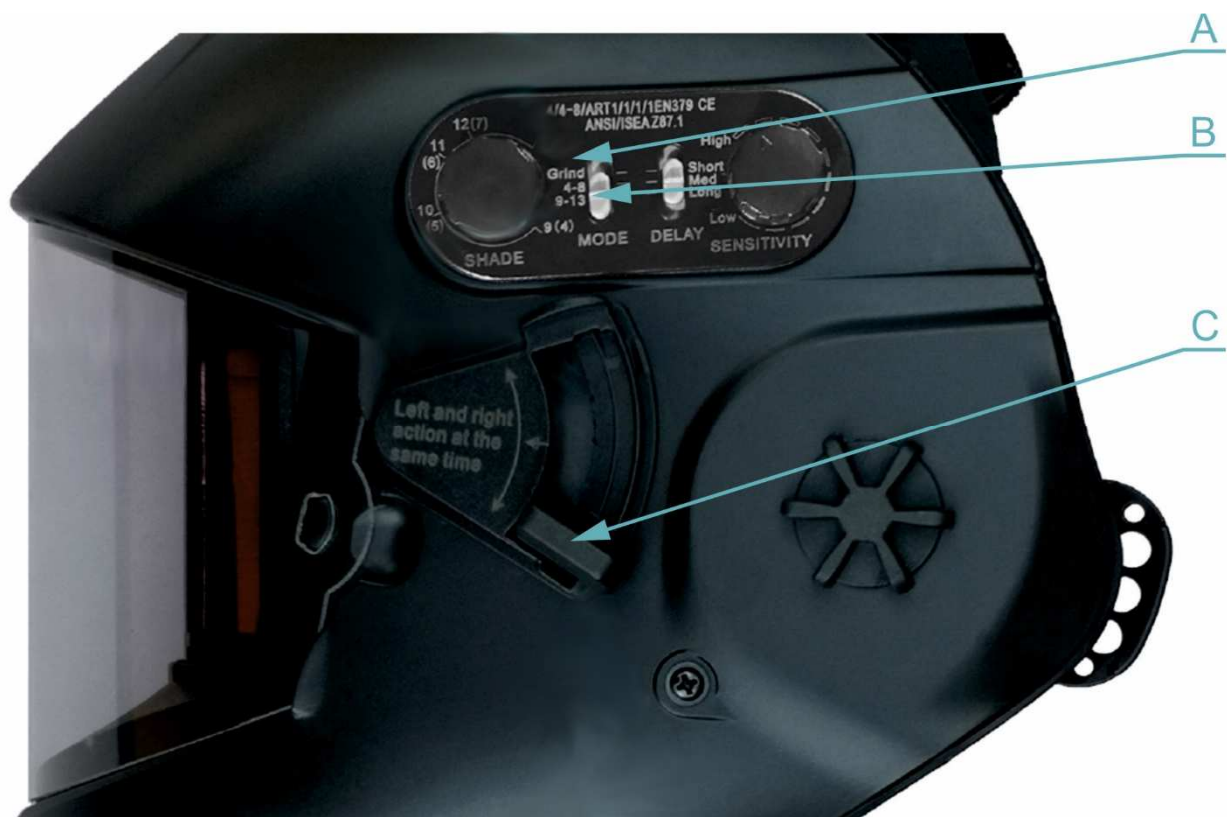


Figure 4. Welding helmet modes

Pos.	Description
A	Electronical grinding mode

B	Welding mode
C	Flip handle of mechanical grinding mode
	Note: The flip handle should be operated upward/downward at the same time by two hands.

9. SPARE PARTS



Figure 5. Spare parts of welding helmet

Pos.	Order No.	Description
1	S7S20B10	Shell S20B Flipper
2	S7S20B6	Headband knob (2pcs)
3	S7S20B1	Auto darkening filter for S20B Flipper
4	S7S20B5	Inside Cover Lens for S20B Flipper
5	S7SUN9B6	Adjustable Headband S9B Shooting Blue Shark Complet, Flipper
6	S7SUN9B5	Sweatband cloth S9B Shark, Flipper
7	S7SUN9B4	Front Headband S9B Shooting Blue Shark, Flipper
8	S7S7	Diopter lens 2,0 diopters for S20B, S7S, S7SU, S9B

9	S7S20B4	Front Cover Lens for S20B Flipper Pure
	S7S20B9	Front Cover Lens for S20B Flipper Yellow

10. SERVICE

COMMON PROBLEMS AND REMIDIES

Irregular darkening dimming

Headband has been set unevenly and there is an uneven distance from the eyes to the filter's lens. Reset headband to reduce the difference to filter.

Auto-darkening filter does not darken or flickers

Front cover lens is soiled or damaged (change lens cover). Sensors are soiled (clean the sensors' surface). Welding current is too low (turn the switch to the „Long“ position).

Slow response

Operating temperature is too low. Do not use at temperatures below -5°C or 23°F.

Poor vision

Front / inside cover lens and / or filter lens are soiled (change lens).

Insufficient ambient light

Shade number is set incorrectly (reset the shade number).

Welding helmet slips

Headband is not adjusted properly (readjust headband).

WARNING! Operator must stop using the auto-darkening filter welding helmet immediately if the above-mentioned problems cannot be corrected. Contact the dealer.

STATEMENT OF WARRANTY

1. The content of the warranty is the responsibility that the helmet delivered at the time of delivery and for the duration of the warranty will have the properties specified by binding technical conditions and standards.
2. The liability for defects that occur after its sale within the warranty period lies in the obligation to remedy the defect free of charge by the helmet manufacturer or by a service organization authorized by the manufacturer.
3. The warranty of the helmet is 24 months from the sale to the buyer. The warranty period begins on the day the helmet is handed over to the buyer or the day of possible delivery. The warranty period does not include the period from the application of a justified complaint until the helmet is repaired.
4. The warranty is valid only if the helmet is used appropriately and for the purposes for which it is intended. As defects are not recognized damages and extraordinary wear, which were caused by insufficient care or neglect of even seemingly insignificant defects, failure to fulfill the obligations of the owner, his inexperience or reduced ability, failure to observe the instructions given in the instruction and maintenance manual, using the helmet for purposes for which it is not intended. Only the manufacturer's original parts must be used for maintenance.
5. No modifications or changes to the helmet that may affect the functionality of the helmet components are allowed during the warranty period.
6. Warranty claims must be made immediately upon discovery of a manufacturing or material defect at the manufacturer or vendor.
7. If a defective part is replaced during warranty repair, ownership of the defective part is transferred to the manufacturer.
8. The warranty does not cover wear on the external rubberized helmet shell.
9. As a warranty list serves proof of purchase (invoice) on which is the serial number of the machine, eventually a warranty list on the last page of this manual.

11. DISPOSAL



Only for EU countries. Do not dispose of electric tools together with household waste material.

In accordance with European Council Directive 2002/96/EC on electrical and electronic equipment waste and its implementation in accordance with national law, electric tools that have reached the end of their service life must be collected separately and returned to an environmentally compatible recycling facility.

12. WARRANTY LIST

As a warranty list serves proof of purchase (invoice) on which is the serial number of the machine, eventually a warranty list below, which is filled in by an authorized dealer.

Serial number:	
Day, month (written in words) and year of sale:	
Stamp and dealer signature:	