Operating Instructions

BEST VISION

Welding Helmet
with Auto-Darkening

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Operating Instructions

IMPORTANT: Do not use this product until you have read and understood the entire instruction manual!

Best Vision auto-darkening welding helmets are intended for protecting your eyes and face against sparks, spray and dangerous radiation under normal welding conditions. **Best Vision's** auto-darkening filter automatically switches from a light to a dark state whenever an arc is lit, and returns to its light state when you have finished welding.

Best Vision auto-darkening welding helmets are delivered ready for use. All you have to do before you start welding is adjust the headgear and select the correct shading level for your needs.

BEFORE WELDING

- Check the external viewing pane, ensuring that it is clean and that the two front sensors on the filter cassette are not dirty. Also check the inside pane of the viewing window and make sure that the frame holds the panes securely in place.
- Check all operative parts before every use for signs of wear and tear or damage. Always replace parts with scratches, cracks or rough surfaces before the next use, to avoid severe personal injuries.
- Check the light density before every use.
- Select the shading level you need for your work by turning the shading dial (see table with hints on shading). Then make sure that the shading level is correct for your application.
- Adjust the headgear so that the helmet rests as low as possible on your head and close to your face. Adjust the angle of the helmet once it is in a low position, by turning the adjustable restriction wheel.

SELECTING THE SHADING LEVEL

The shading level can be set manually from 9 - 13. Consult the table of hints on shading for the correct shading level for your work. Select a shading level by turning the shading dial until the arrow is pointing at the level you require (see table with hints on shading).

SETTING THE SWITCHING TIME

The switching time (this means at that moment at which welding begins, the filter changes from light to dark) is set on the cassette using the right rotary knob. In the case of the "short" setting this is approx. 1/30000 of a second, "long" is approx. 0.6 of a second.

SETTING THE SENSITIVITY

The left rotary knob can be used to adjust the sensitivity to suit the welding process. Important: in the case of WIG/TIG welding procedures in the lower ampere range. This setting should be carried out with extreme precision as the functionality of the helmet is significantly affected by this.

PRODUCT CHARACTERISTICS

- This Best Vision product is constructed with a special headgear mechanism. When you pull the helmet over your head for welding, the headgear mechanism ensures that the helmet's centre of gravity lowers to correspond with the centre of gravity of your head. The construction of the helmet considerably reduces strain on your head (and neck), making it much more comfortable to wear than normal helmets.

- At the moment you start welding, the filter turns from light to dark in only 1/30,000 sec.

- Adjustment of time delay for the switch from dark to light: the user can vary the time the filter takes to return back to its light state.

- At the moment you stop welding, the filter automatically turns from dark to light in the delay time you have set (the delay can be set by turning the time switch continuously between 0.2 and 0.8 sec.).

- Best Vision uses high-performance solar cells as a power source. Two 3-V lithium batteries are also installed to secure the power supply. You will not need to change the batteries, as they have a new extremely long life. Under normal welding conditions, you can assume that the batteries will last over 6 years.

- The variable shading (DIN) between DIN9 and DIN13 is set by turning the shading dial (shading variable).

- Every helmet is issued with a serial number on the surface of the filter cassette.

- The extremely high-performance auto-darkening UV/IR filters protect the user's eyes and face against UV/IR radiation during the entire welding process, even in the light state. The helmet guarantees UV/IR protection at all times up to a shading factor of 16 (DIN), making welding more comfortable for the user.

CLEANING

Clean the helmet with pH-neutral detergent and lukewarm water. Do not use strong cleaning solutions.
Do not use solvents to clean the filters or other parts of the helmet.
Keep the sensors and solar cells clean at all times using a clean, lint-free cloth.

IMPORTANT:

- The **Best Vision** auto-darkening welding helmet is not suitable for laser or autogenic welding.
- Never set this helmet or the auto-darkening filter down on a hot surface.
- Never open the **Best Vision** auto-darkening filter and never interfere with it in any way.
- This auto-darkening welding helmet does not offer protection from risks due to severe impact or against risks resulting from grinding wheels. Never use this helmet for grinding.
- This helmet does not offer protection against explosions or corrosive fluids.
- Do not make any alterations to the filter or helmet not expressly described in this instruction manual. Do not use replacement parts other than those listed in this instruction manual. Unauthorised alterations and the use of incorrect replacement parts render the guarantee invalid and can cause a risk of personal injury to the user.
- Should this helmet fail to darken when an arc is lit, stop welding immediately and consult your superior or your **Best Vision** - retailer.
- Only use the helmet at temperatures between -5 °C and +55 °C.
- Protect the filter against fluids and dirt.
- Replace the external viewing pane regularly if it shows scratches, cracks or rough surfaces.

Severe personal injuries can occur if the user does not observe these warnings and/or does not follow the instructions for use.

GENERAL PROBLEMS AN SOLUTION TIPS

❖ **Irregular Shading**

- The headgear was put on incorrectly, and the distance between the filter and your eyes is irregular (re-adjust the headgear and reduce the distance from the filter).

❖ **Auto-Darkening Filter does not darken or flickers**

- External viewing pane is dirty or damaged (replace viewing pane).
- Sensors are dirty (clean surface of the sensors).
- Welding power is too low.

❖ **Slow Reaction**

- Operating temperature is too low (do not use at temperatures below -5 °C).

❖ **Poor Vision**

- External/internal viewing pane and/or filter are dirty (replace viewing pane).
- Insufficient light from the surrounding area.
- Wrong shading level set (re-set shading level).

❖ **Welding Helmets slips**

- Headgear wrongly adjusted (re-adjust headgear).

IMPORTANT!

Stop using the auto-darkening welding helmet immediately if the problems above cannot be corrected. Contact your retailer.

MAINTENANCE OF THE VIEWING PANES, FILTER AND HELMET

- Replacing the external viewing pane in the event of damage (cracks, scratches, dirt or rough surfaces).

  Step 1: Remove the external viewing pane by pushing it upwards at the centre (see photo).
  Insert the new viewing pane in the correct position.
  Step 2: Make sure the frame holds it in place securely.

- Replace the internal viewing pane in the event of damage (cracks, scratches dirt or bumps).
- Clean the **Best Vision** filter with a clean, lint-free or cotton cloth.
- Never submerge the viewing panes or filter in water or any other liquid. Never use cleaning solutions containing abrasives, solvents or oil.

TECHNICAL DATA Best Vision

• Viewing field:	98 x 43 mm
• Size of filter cassette:	110 x 90 x 9 mm
• UV/IR protection:	up to shading level DIN 16 at any time
• Light state:	shading level DIN 4
• Variable shading:	from DIN 9(8) to DIN 13(14)
• Power supply:	solar cell, no need to change batteries
• Switching power on/off:	fully automatic
• Sensitivity control:	continuously variable
• Switching time:	
a) light to dark:	1/30,000 s (0.035 ms) -5 °C
b) dark to light:	0.25-0.8 s continuously variable
• Operating temperature:	-5 °C to +55 °C
• Storage temperature:	-20 °C to +70 °C
• Helmet material:	high-resistance plastic / polyamide (nylon)
• Total weight:	400 g
• CE-regulations:	Eye protection EN 379
	Face protection EN 176

PRODUCT GUARANTEE Best Vision!

The manufacturer guarantees the purchaser of this product that all products are free from material or manufacturing defects for a period of two (2) years from the date of purchase. The manufacturer's sole obligation under this guarantee is limited to providing replacements or repairs, or reimbursing the purchase price for defective products.
This guarantee does not extend to defective functions or damages to the product caused by unauthorised intervention, or incorrect or unsuitable use. Please follow the instructions for use carefully in order to maintain your claim to the guarantee. In the event of non-observance of the instructions, the guarantee becomes invalid. The manufacturer is not liable in the event of indirect damages or resulting damages arising from the use of the product.

A copy of the original receipt and the serial number (on the filter cassette) are required as proof of purchase. Please keep this guarantee in a safe place. This guarantee is not transferable and is only valid for the original purchaser who bought the products from an authorised distributor (Soges SpA), its retailers or authorised sales representatives.

In addition, Best Vision auto-darkening welding helmets are equipped with three important special mechanisms:

a) A fine-tuning mechanism for setting the angle between the wearer's eyes and the filters.

b) A special mechanism for regulating the distance between the wearer's eyes and the filter.

c) A special headgear mechanism to adjust the vertical distance between the wearer's eyes and the filter to a higher or lower level.

d) The helmet's centre of gravity can be automatically adjusted.

These mechanisms make the helmet significantly more comfortable than normal models, and allow you to work better while you are wearing it.

LIST OF PARTS Best Vision

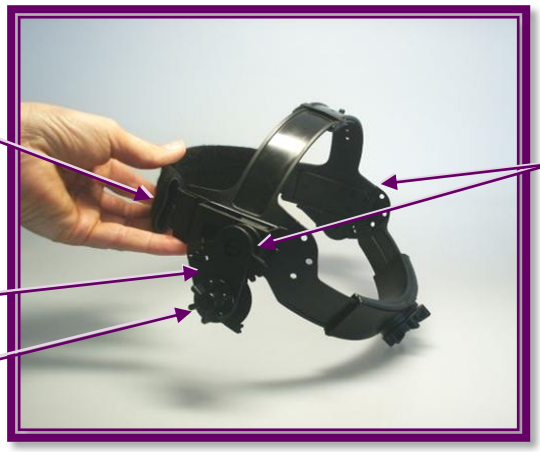

Table of Hints for Shading Best Vision

Welding Behaviour	Arc Power (amps)												
	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		250	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

Please note:

- **SMAW** – Shielded Metal Arc Welding
- **MIG** (heavy) – MIG-welding with heavy metals
- **MIG** (light) – MIG-welding with light alloys
- **TIG, GTAW** – Gas Tungsten Arc Welding, GTAW X TIG
- **SAW** – Shielded Semi-Automatic Arc Welding
- **PAC** – Plasma Arc Cutting
- **PAW** – Plasma Arc Welding

DIN CERTCO
Gesellschaft für Konformitätsbewertungen mbH

CE

EC TYPE-EXAMINATION CERTIFICATE

Model:	BEST VISION 4/9-13
Type of product:	Automatic Welding Filter ADF
Test specifications:	DIN EN 169 and DIN EN 379 Annex II of the PPE Directive 89/686/EEC
Test number:	11621-PZA-04
Material:	Glas-Plastic-Lamination
Configuration:	Electro-optical
Safety lens:	No
Prescription lens:	No
Scale number:	4/9-13
Total thickness:	5,2 mm
Curvature:	0 dpt
Compostion	
Front side:	-
Intermediate layer:	-
Inner side:	-
Optical class:	optical class: 1; scattered light (light diffusion) class: 3, homogeneity class: 2
Marking:	4/9-13 SOGES 1/3/2 379 CE

We herewith certify that teh above-mentioned model fulfills the basic requirements for health and protection laid down in the Directive of the European Community on Personal Protective Equipment 89/686/EEC.

DIN CERTCO
Eye Protection and Personal Protective Equipment
Notified Body 0196

Dr. Bernhard Schmitz

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