

Operating Instructions

ADF 600S Welding Helmet with Auto-Darkening



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

ADF 600S auto-darkening welding helmets are intended for protecting your eyes and face against sparks, spray and dangerous radiation under normal welding conditions. **ADF 600S** 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.

ADF 600S 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. 1/20000 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.

PRODUCT CHARACTERISTICS

- This **ADF 600S** - 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 1/20,000 sec.
- 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.).
- The variable shading (DIN) between DIN9 and DIN13 is set by turning the shading dial (shading variable).

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 **ADF 600S** 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 **ADF 600S** 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 **ADF 600S** - 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.

- Clean the **ADF 600S** 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 ADF 600S

- | | |
|----------------------------|---|
| • Viewing field: | 95 x 40 mm |
| • Size of filter cassette: | 110 x 95 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: | variable |
| • Switching time: | |
| a) light to dark: | 1/20,000 s -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: | 436 g |
| • CE-regulations: | Eye protection EN 379
Face protection EN 176 |

PRODUCT GUARANTEE ADF 600S

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 is required as proof of purchase. Please keep this guarantee in a safe place.

LIST OF PARTS ADF 600S

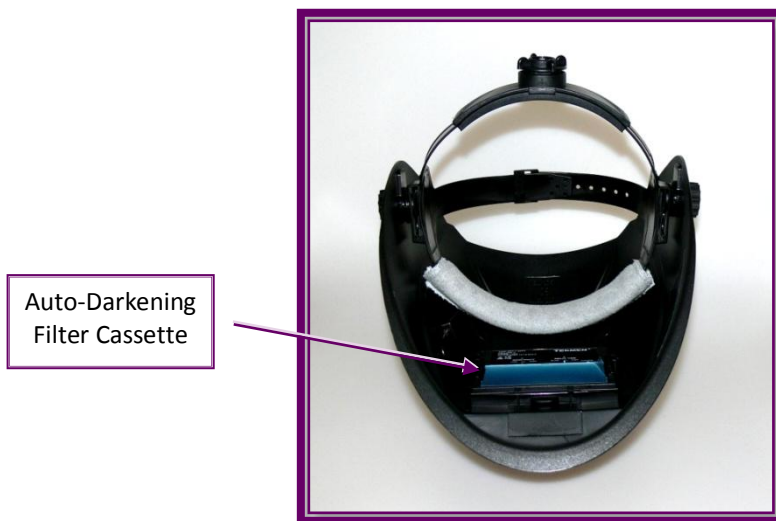


Table of Hints for Shading ADF 600S

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/CO₂					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



ECS GmbH - European Certification Service



EC-type examination certificate

C953.1YXE

Identification of the applicant / manufacturer	YXE
Product type	Automated welding filter, single shade 3/11
Model name	ADF-600S
Standard(s) / technical rules	DIN EN 379:2002 Annex II of the PPE-Directive 89/686/EEC
Test report	10361-ECS-09
Optical properties	Optical class: 1 Diffusion of light class: 3 Variations in luminous transmittance class: 1
Marking	3/11 YXE 1/3/1/379 CE

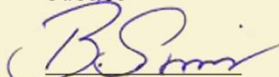
Herewith, ECS certifies that the named model complies with the basic requirements for health and safety as they are provided by the European Directive for Personal Protective Equipment 89/686/EEC. This certificate is based both / either on the test results as they are summarized in the named test reports, and/or on the technical documentation as it is delivered by the manufacturer. The applicant / manufacturer agrees to the General Business Rules of the ECS GmbH and to additional agreements as they are named in the application for conformity assessment.

The eye-protection device is to be marked as assigned. Either / both the frame and / or the ocular, spectacle, goggle or shield must be signed, as appropriate. If different marking has been assessed, the lowest marking must be applied, respectively.

The validity of this EC-type examination will expire, if the manufacturer modifies the safety-relevant properties of this product with comparison to the tested one or if the requirements in the standards or technical rules will be revised and/or tightened.

Name, address and identification number 1883 of the notified body ECS must be indicated in the information brochure of this product.

ECS GmbH
Notified Body 1883
04/06/09


Dr. Bernhard Schmitz
ECS-Certification



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