



***A20 / A30***



***Automatic  
Welding Helmet***



# Professional Quality Welding Helmet

## SAFETY WARNINGS - READ BEFORE USING



### WARNING

Read & Understand All Instructions Before Using



Auto-Darkening welding helmets are designed to protect the eye and face from sparks, spatter and harmful radiation under normal welding conditions. Auto-Darkening filter automatically changes from light state to dark state when welding arc is struck, and it returns to the light state when welding stops.

**The Auto-Darkening welding helmet comes assembled. But before it can be used, it must be adjusted to fit the user properly. Set up for delay time, sensitivity and shade number for your application.**

**The helmet should be stored in dry, cool and dark area and remember to remove the battery before long-time storage.**



### WARNING



- This Auto-Darkening welding helmet is not suitable for laser welding.
- Never place this helmet and Auto-Darkening filter on a hot surface.
- Never open or tamper with the Auto-Darkening filter.
- This Auto-Darkening welding helmet will not protect against severe impact hazards.
- This helmet will not protect against explosive devices or corrosive liquids.
- Do not make any modifications to either the filter or helmet, unless specified in this manual.
- Do not use replacement 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.
- Should this helmet not darken upon striking an arc, stop welding immediately and contact your supervisor or your dealer.
- Do not immerse the filter in water.
- Do not use any solvents on the filter screen or helmet components.
- Use only at temperatures: - 5 °C ~ +55 °C (23 °F ~ 131 °F).
- Storing temperature: -20 °C ~ +70 °C (- 4 °F ~ 158 °F). The helmet should be stored in dry cool and dark area, when not using it for a long time.
- Protect filter from contact with liquid and dirt.
- Clean the filter surface regularly; do not use strong cleaning solutions. Always keep the sensors and solar cells clean using a clean lint-free tissue.
- Regularly replace the cracked / scratched / pitted front cover lens.
- The materials which may come into contact with the wearer's skin can cause allergic reactions in some circumstances.
- The ADF shall only be used in conjunction with the inner cover lens.
- The eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer.
- Toughened mineral filter oculars shall only be used in conjunction with a suitable backing ocular.
- If the symbols F or B are not common to both the ocular and the frame then it is the lower level which shall be assigned to the complete eye-protection.

## INSTRUCTIONS FOR USE

**WARNING!** Before using the helmet for welding, ensure that you have read and understood the safety instructions.

Information manual for the A20/A30 welder protective helmets comply with Para 1.4 of Appendix II of the EC Regulations.

A20/A30 helmets offer permanent protection against UV/IR rays, also face and eye protection from sparks caused by the welding process.

Do not look directly at the welding rays with unprotected eyes when the arc strikes. This can cause painful inflammation of the cornea and irreparable damage to the lens of the eye leading to cataracts.

## RANGE OF APPLICATION

**WARNING!** Before using the helmet for welding, ensure that you have read and understood the safety instructions.

ESAB welding helmets and welding filters can be used for the majority of the arc welding applications and for TIG where stated. The welding filters provide protection against harmful UV- and IR-radiation according to the requirement for shade number marked on each passive of automatic (ADF) model; eye protection remains as long as the flip up is in the down position covering the vision.

The following chart is presented as a reference for the selection of the most suitable shade for the welding filter:

Welding process Or related techniques	Current internally in amperes																											
	0.5	1	2.5	5	10	15	20	30	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500				
E manual Flux core electrodes Fluxed stick electrodes	8				9				10				11				12				13				14			
MIG / Metal-inert Gas Argon (ArHe) Stick, alloyed steels, Copper & its alloys etc.									10				11				12				13				14			
MIG / Metal-inert Gas Argon (ArHe) Aluminium, copper, nickel And other alloys.									10				11				12				13				14			
TIG / Tungsten-Inert Gas Argon (ArHe) Ar He Al, weldable metals such as: Steels, Aluminium, Copper, nickel and their alloys.	8				9				10				11				12				13							
MAG / Metal-active Gas (ArCO <sub>2</sub> ) (ArCO <sub>2</sub> /HeAr) Construction: Steel, hardware & tempered steels, Cr-Ni-steel, Cr-steel & other alloyed steels.									10				11				12				13				14			
Electric arc compressed air joining (Weld joints) carbon electrodes (C <sub>2</sub> ) Flame gouging compressed air (C <sub>2</sub> )									10				11				12				13				14			
Plasma cutting (fusion cutting) All weldable metals and NiTi Centre and outer gas: Argon (ArHe) (ArHe)									11				12				13											
Plasma cutting (fusion cutting) Micro-plasma welding Centre and outer gas: Argon (ArHe) (ArHe)	4	5	6	7	8	9	10	11	12	13	14																	

Depending upon the application conditions, the next highest or next lowest protection level can be used.

The darker fields correspond to those areas in which the corresponding welding process cannot be used.

The ESAB A20/A30 welding helmets are suitable, but not limited to the following applications:

AC/DC pulses

Inverters WIG/TIG

Stick welding

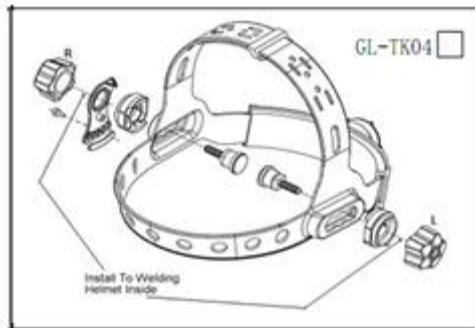
Argon/Helium

MIG/MAG protective gas electrodes

## PREPARATION & OPERATION

ESAB A20/A30 welding helmets are fully assembled and ready to be used after minor adjustments. All welding helmets are equipped with a comfortable headgear that can be adjusted in four different ways:

Install headgear by removing threaded knobs (one at a time) and fasten again after placing each threaded stud through the larger holes on the sides of the helmet. Rotate the adjustment knob at the rear of the headgear assembly to fit the users head.



Before commencing work please inspect carefully the welding helmet and ADF for any visible marks, cracks, pitted or scratched surfaces; damaged surfaces even on protection plates reduce vision impair protection. If protection plates are scratched, damaged or built up with spatter please replace.

Welding helmets should not be dropped. Do not place heavy objects or tools on or inside the helmet as they might damage the components. If used properly the welding filter requires no further maintenance during its lifetime.

## SERVICING AND MAINTENANCE

Only clean the A20/A30 with mild soap and water. Dry with a clean cotton cloth. Please note the use of solvents is strictly prohibited, as they will damage the mask and filters. Scratched or damaged visors must always be replaced.

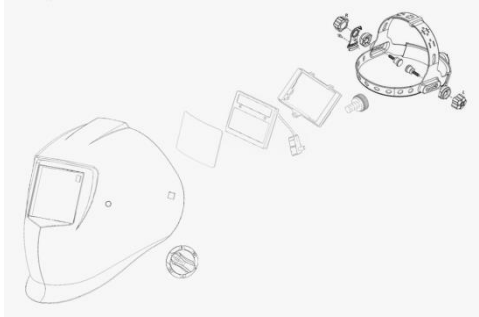
The user must make daily regular checks to ensure no damage is evident. Outer and Inner Visors are consumables and must be replaced regularly with genuine certified ESAB spare parts.

We recommend a use period of 2-3 years. The duration of use depends on various factors such as use, cleaning, storage and maintenance. Frequency of inspections and replacement

of damaged parts (which is recommended)

## REPLACING THE OUTER LENS

1. Ensure that the helmet is always fitted with an outer and inner protection lens
2. These protection lenses must be replaced if broken, damaged or covered with welding spatter to the extent that vision is impaired.
3. Outer and Inner protection lenses are consumables and must be replaced regularly with genuine certified spare parts.



4. The outer protection lens is loaded through the back, see above illustration.
5. The inner lens is loaded through back into the locaters on the auto darkening filter. Protection marked in accordance with this standard is only provided when all lens and retention components are installed according to the list of manufactures instructions
6. Change dark shade from 9 to 13 and grind mode as desired by using the variable adjustment knob. Refer to Table 1 below if necessary.



7. Adjust the Sensitivity and Delay Time as desired by using the variable adjustment knob



8. When the helmet is not used for 15 minutes the power will automatically shut-off. There is no OFF switch.

## ADF MARKING

### **CE 4/9-13 ESAB 1/1/1/2/379 EN379**

- 4 - light state scale number
- 9 - lightest dark state scale number
- 13 - Darkest state scale number
- ESAB - Manufactures identification
- 1 - Optical class
- 1 - Diffusion of light class
- 1 - Variation in luminous transmittance class
- 2 - Angle of Dependence classification
- 379 - Number of the standard

### **Helmet Marking Explanation**

#### **EN175 B**

- EN175 – Is the stanard number
- B – Is medium energy impact rating

### **Cover lens markings**

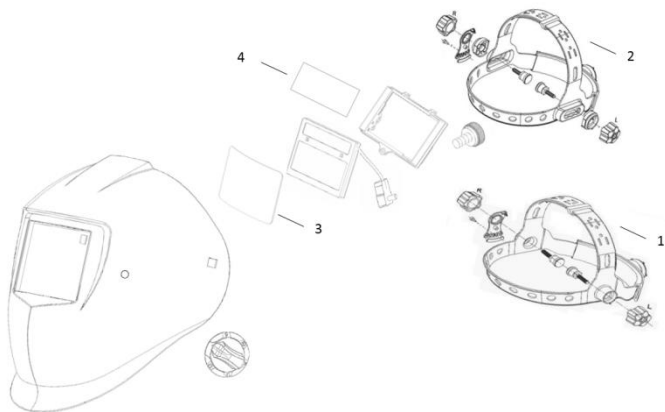
#### **EN166 1 B**

## TROUBLE SHOOTING

1. Not Switching – auto lens stays light and will not darken when welding. Stop welding immediately: Review the sensitivity recommendations and adjust sensitivity. Clean Lens cover and sensors of any obstructions. Note! Making sure the sensors are clean and facing the arc; angles of 45°or more any not allow the arc light to reach the sensors.
2. Not switching – auto lens stays dark after the weld arc is extinguished, or the auto-lens stays dark when no arc is present. Fine-tune the sensitivity setting by making small adjustments to the control by turning it toward the 'Lo' setting. In extreme light conditions, it may be necessary to reduce the surrounding light levels.

During testing or using, in case of any malfunction, please suspend using it and contact the local sales agent.

## PARTS LIST & ASSEMBLY A20 & A30



### Part List

ITEM	DESCRIPTION	PART NO.
*	A20 Helmet Complete	0700 000 720
*	A30 Helmet Complete	0700 000 730
1	Headgear A20	0700 000 721
2	Headgear A30	0700 000 731
*	Sweatband A20 & A30	0700 000 722
3	Front Cover Lens A20 & A30	0700 000 724
4	Inside Cover Lens A20	0700 000 723
4	Inside Cover Lens A30	0700 000 733

## TECHNICAL DATA A20 / A30

© Viewing Field	A20 – 96 x 39mm & A30 - 100 x 45 mm
© Optical Class	1/1/1/2
© Shade Control	Light States: DIN 4 Dark States: DIN 9 – 13 Outside adjustment
© Switching Time	Light - Dark: 0.3 ms
© Delay Time	Dark - Light: 0.1 – 0.8 sec
© Sensitivity & Delay Time	Step less adjustment
© UV/IR Protection	Up to Shade DIN16
© Operating Temperature	- 5 °C ~ +55 °C (23 °F ~ 131 °F)
© Power Supply	Solar cells assist, Inside Lithium Batteries
© Lens Control	Auto-on, Auto-off 15 minutes (when not on welding)
© Standards	CE : EN379:2009; EN175:1997
© Helmet Material	PA
© Grind Mode	A30 only (not applicable to A20)
© Total Weight	470g



## CERTIFICATION & CONTROL LABELS

The A20 & A30 welding filters are tested for eye protection by the following notified body: ECS GmbH - European Certification Service Augenschutz und Persönliche Schutzausrüstung Laserschutz und Optische Messtechnik

Test lab accredited by DAkkS D-PL-19590-02-00  
Notified by the Central  
Authority of the Federal States  
for Safety Technologies (ZLS)  
ZLS-NB-0156

We are therefore allowed to use the following marks:



**EN379, EN175B,  
EN166 B**

European Conformity mark.  
This confirms that the  
product fulfils the  
requirements of the Directive  
89/686/ EWG



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