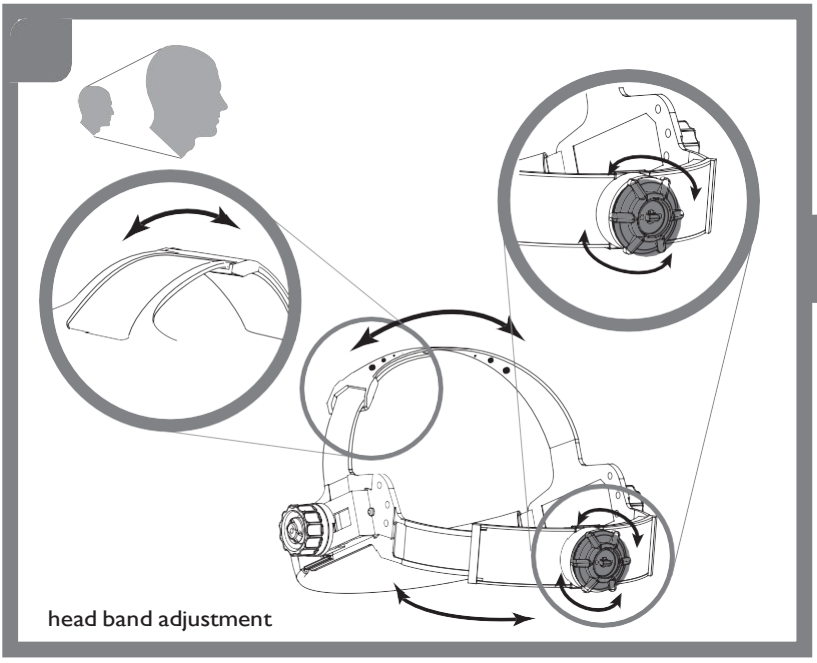
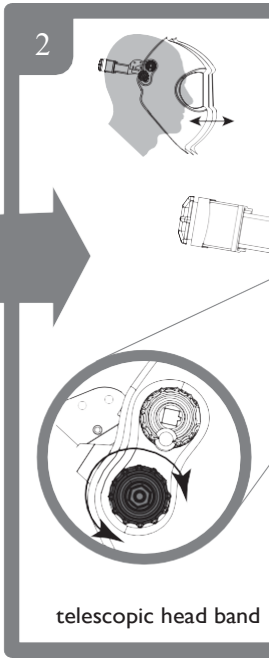
optrel®
swiss made

liteflip autopilot

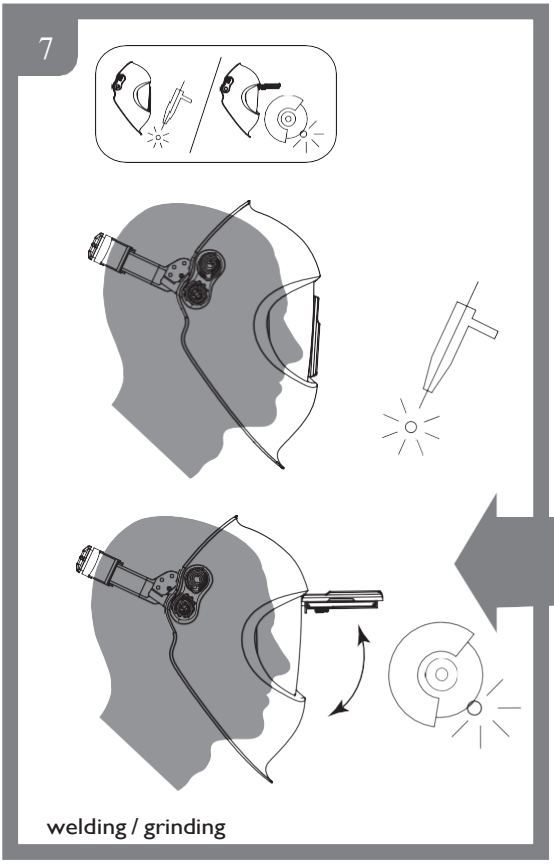


head band adjustment

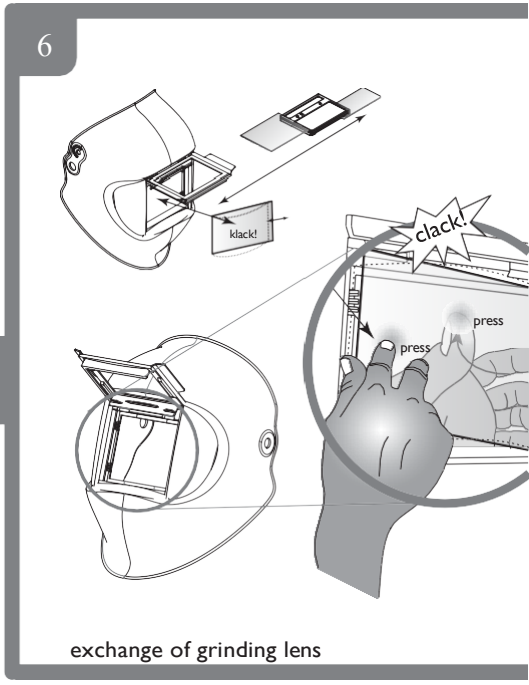


telescopic head band

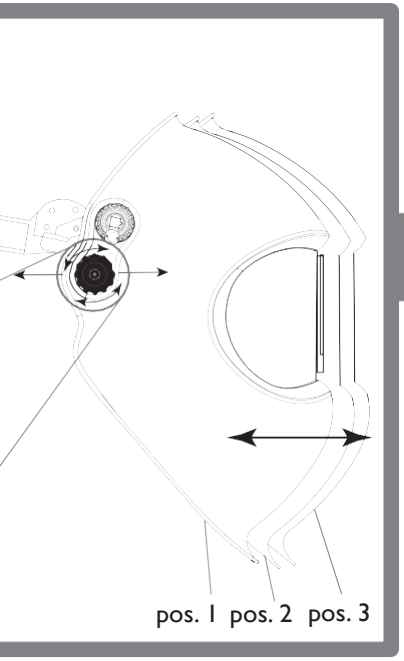
liteflip autopilot



welding / grinding



exchange of grinding lens



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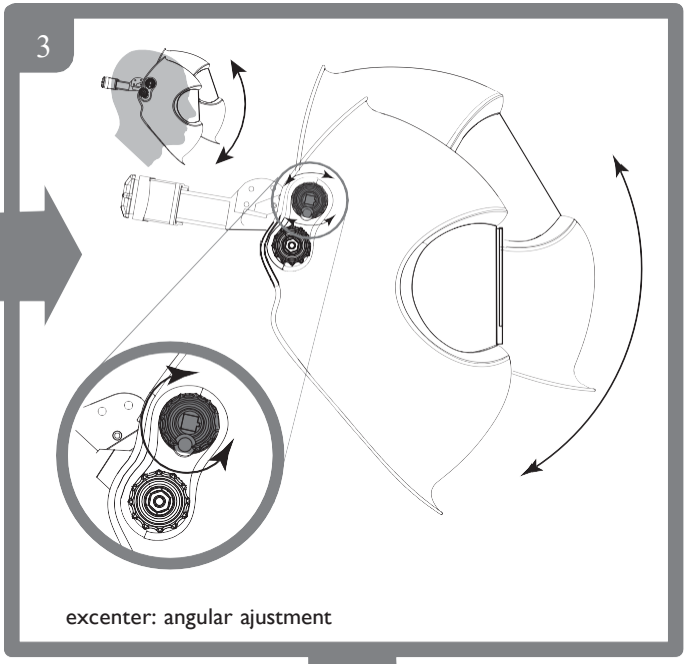
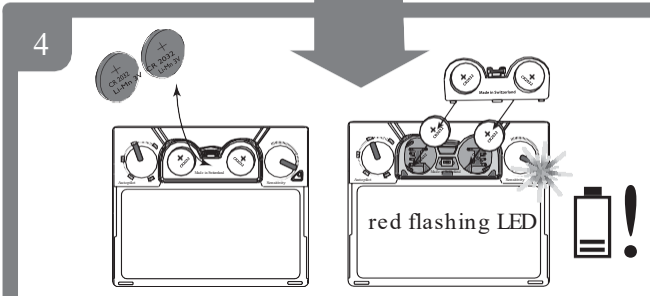


quick start guide

4



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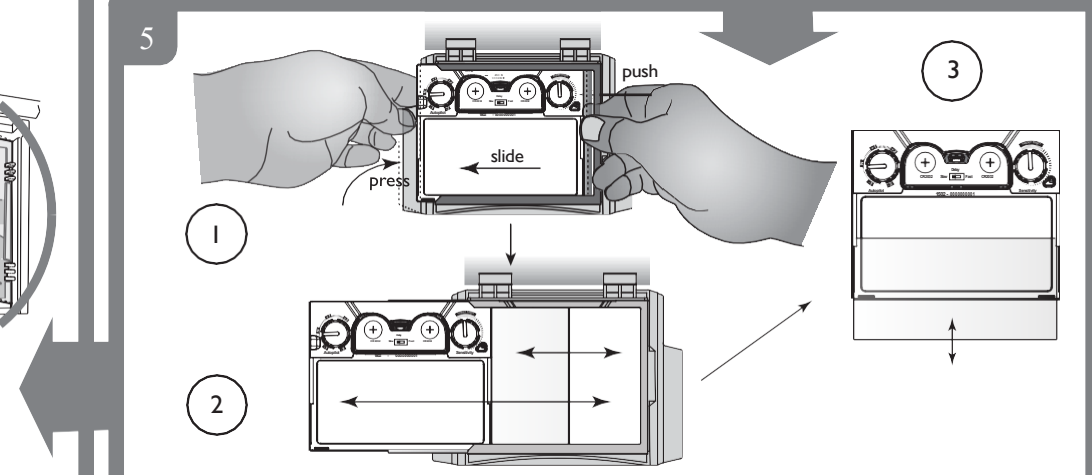
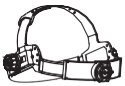
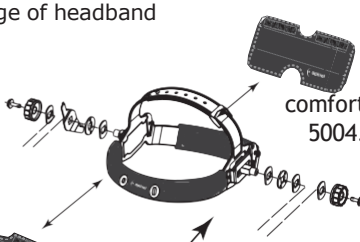


liteflip
spare p

exchange of headband

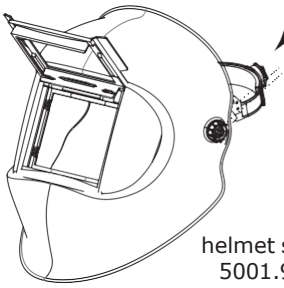


head band
5003.250



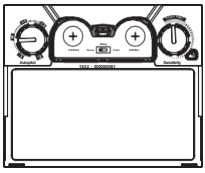
comfort band
5004.020

sweat band
5004.073



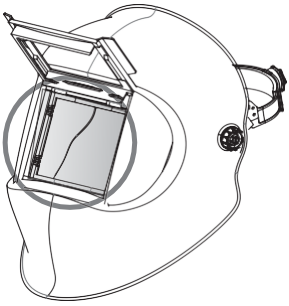
helmet shell 5001.916 / PAPR helmet shell 4290.000

inside cover len

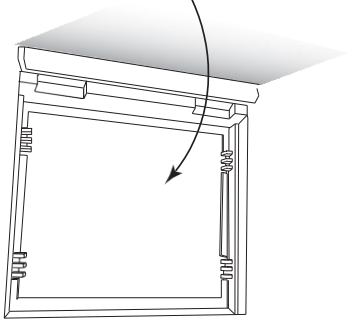


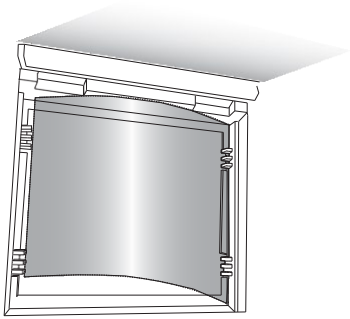
inside cover lens
5000.001

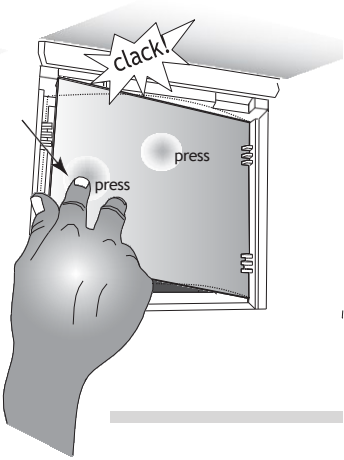
safety lens exchange



safety lens
5000.390

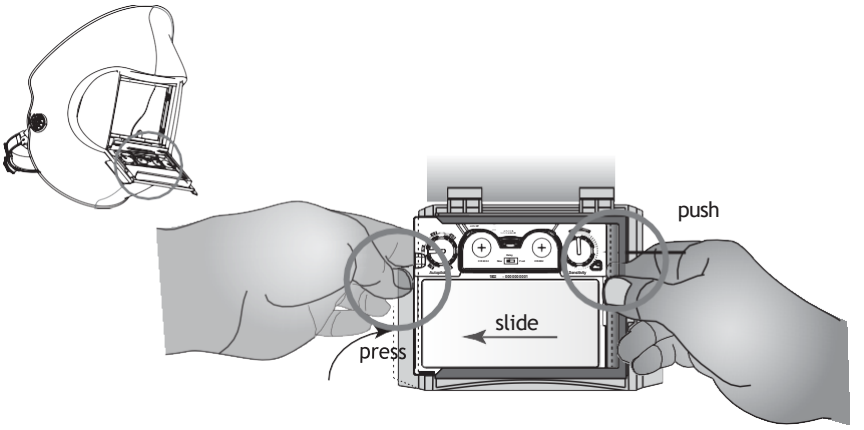




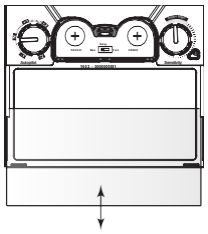


autopilot

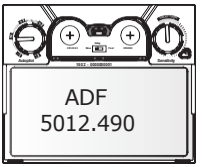
arts

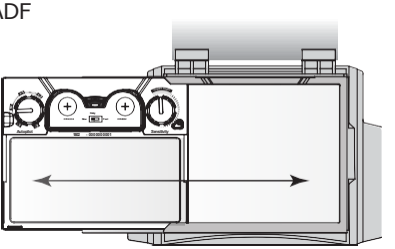


s exchange

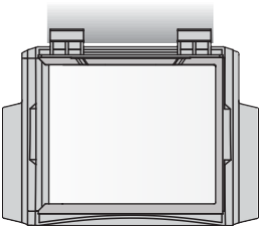


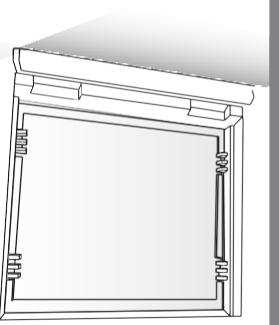
exchange of ADF



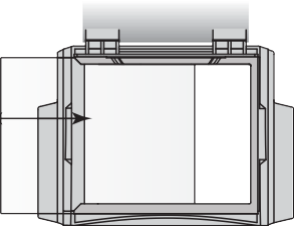


front cover lens exchange





front cover lens
5000.391

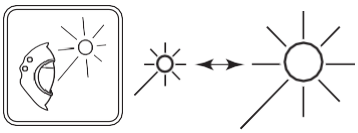


functions and settings

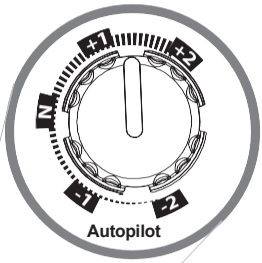
setting Autopilot

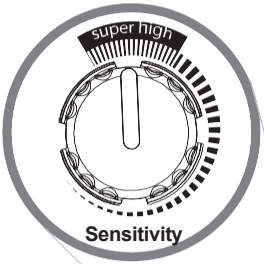
+/- 2 shade number “Manual Offset“

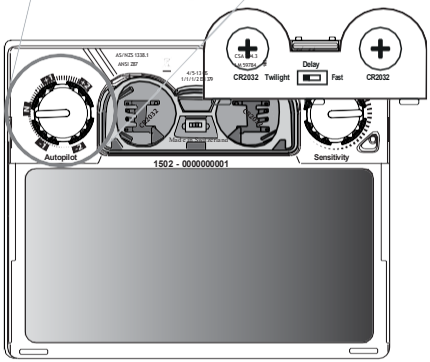
setting sensitivity

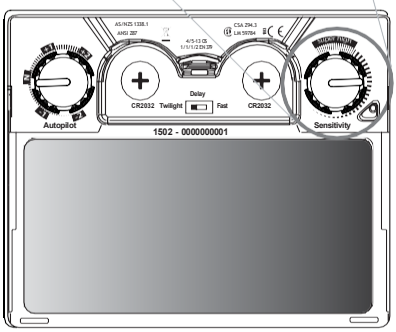


“super high“ range

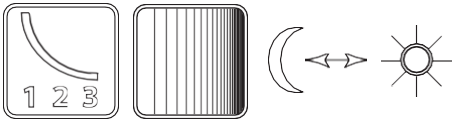






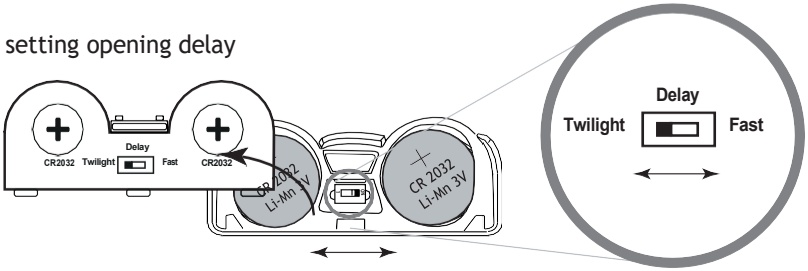


setting opening delay (fast/twilight)



Twilight = 1.5 s delay (with fading effect)
Fast = 0.3 s delay

setting opening delay



Schutzstufentabelle EN169
Shade level chart EN169

Process	Ampere																				
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600
	8							9		10		11		12			13			14	
Fe								9		10		11			12		13		14		
Al										10		11		12		13		14			
			8			9			10			11			12		13				
CO_2	8							9		10		11			12			13			
									9	10	11		12			13					
	4		5		6		7	8	9		10		11		12						

Je nach persönlichem Empfinden kann die nächst höhere oder tiefere Schutzstufe verwendet werden

According to the perception of the welder it is possible to use the next higher or lower shade number

Selon la perception du soudeur il est possible d utiliser un échelon de protection plus haut ou plus bas

A seconda della sensibilità personale è possibile impostare il livello di protezione immediatamente superiore o inferiore

Die auf dem Schweisserschutzfilter angebrachte Kennzeichnung bedeutet:

4 / 5-14 — Hellstufe, Dunkelstufen

OS 1 / 1 / 1 / 2 / EN379 — Hersteller, Optische Klasse, Streulichtklasse, Homogenität, Blickwinkelabhängigkeit, Nummer der Norm

The marking on the welding filter indicates:

4 / 5-14 — Light shade, Dark Shade range

OS 1 / 1 / 1 / 2 / EN379 — Manufacturer, Optical Class, Difusion of light class, Homogeneity, Angualr dependence, Number of the standard

Le marquage apposé sur le filtre de protection pour soudeur signifie :

4 / 5-14 — Échelon de protection à l' état clair, Échelon de protection à l' état foncé

OS 1 / 1 / 1 / 2 / EN379 — Identification du fabricant, Classe optique, Classe de la difraction de la lumière, Homogénéité, Angulaire dépendance, Marque de certifications

Il contrassegno riportato sul filtro di protezione per saldatore contiene i seguenti dati:

4 / 5-14 — Grado di protezione in stato chiaro, Grado di protezione in stato scuro

OS 1 / 1 / 1 / 2 /EN379 — Identificazione del fabbricante, Classe ottica, Classe della difusione della luce, Omogeneità, Angulare dipendenza, Numero della norma

Kennzeichnung Helmschale:

OS 175 B CE — Hersteller, Nummer der Norm, Mittlere Stossenergie

Marking helmet shell:

OS 175 B CE — Manufacturer, Number of the standard, Medium energy impact

Marquages masque :

OS 175 B CE — Identification du fabricant, Marque de certifications, Impacts moyenne énergie

Marcaggi maschera:

OS 175 B CE — Identificazione del fabbricante, Numero della norma, Impatto media energia

Kennzeichnung Vorsatzscheibe (EN166):

OS 1 B CE — Hersteller, Optische Klasse, Mittlere Stossenergie

Marking safety cover plate (EN166):

OS 1 B CE — Manufacturer, Optical class, Medium energy impact

Marquages écran de protection extérieur (EN166)

OS 1 B CE — Identification du fabricant, Classe optique, Impacts moyenne énergie

Marcaggi vetro di protezione esterno (EN166):

OS 1 B CE — Identificazione del fabbricante, Classe ottica, Impatto media energia

English

Introduction

A welding helmet is a type of headgear used when performing certain types of welding to protect the eyes, face and neck from flash burn, ultraviolet light, sparks, infrared light, and heat. The helmet consists of several parts (see spare parts list). An automatic welding filter combines a passive UV and a passive IR filter with an active filter, the luminous transmittance of which varies in the visible region of the spectrum, depending on the irradiance from the welding arc. The luminous transmittance of the automatic welding filter has an initial high value (light state). After the welding arc strikes and within a defined switching time, the luminous transmittance of the filter changes to a low value (dark state). Depending on the model, the helmet can be combined with a protective helmet and / or with a PAPR (Powered Air Purifying Respirator) system.

Safety instructions

Please read the operating instructions before using the helmet. Check that the front cover lens is fitted correctly. If it is not possible to eliminate errors, you must stop using the cartridge.

Precautions & protective restrictions / Risks

During the welding process, heat and radiation are released, which can cause damage to the eyes and skin. This product offers protection for the eyes and face. When wearing the helmet, your eyes are always protected against ultraviolet and infrared radiation, regardless of the shade level. To protect the rest of your body, appropriate protective clothing must also be worn. In some circumstances, particles and substances released by the welding process can trigger allergic skin reactions in correspondingly predisposed persons. Materials that come into contact with skin may cause allergic reactions to susceptible persons.

The protective welding helmet must only be used for welding and grinding and not for other applications. The manufacturer assumes no liability when the welding helmet is used for purposes other than intended or with disregard for the operating instructions. The helmet is suitable for all established welding procedures, excluding gas and laser welding. Please note the recommended protection level in accordance with EN169 on the cover. Scratched or damaged lenses must be replaced. The helmet does not replace a safety helmet. Depending on the model, the helmet can be combined with a protective helmet.

The helmet can affect the field of view due to constructive specifications (no view on the side without turning the head) and may affect a color perception due to the light transmission of the auto darkening filter. As a result, signal lights or warning indicators may not be seen. Further there is an impact hazard due to a larger contour (head with helmet on). The helmet also reduces the audio and heat perception.

Not suitable for overhead welding!

Sleep mode

The cartridge has an automatic switch-off function, which increases the service life. If the light falls on the catridge for a period of approx 10 minutes less than 1 Lux, it automatically switches off. To reactivate the cartridge,it must be briefly exposed to daylight. If the shade cartridge cannot be reactivated or does not darken when the welding arc is ignited, the batteries must be replaced.

Warranty & liability

Please see the instructions of the national sales organisation of the manufacturer for warranty provisions. For further information in this respect, please contact your official dealer. Warranty is only granted for material and manufacturing defects. In the case of damage caused by improper use, unauthorised intervention or through usage not intended by the manufacturer, the warranty or liability are no longer valid. Likewise, liability and the warranty are no longer valid if spare parts other than those sold by the manufacturer are used.

Expected Lifetime

The welding helmet has no expiration date. The product can be used as long as no visible or invisible damage or functional problems occur.

How to use (Quick Start Guide)

1. Head band (p. 2-3) Adjust the upper adjusting band to the size of your head. Push in the ratchet knob (p. 2) and turn until the head band fits securely but without pressure.
2. Distance from eyes and helmet angle (p. 2-3) By releasing the locking knobs, the distance between the cartridge and the eyes can be adjusted. Adjust both sides equally and do not tilt. Then tighten the locking knobs again. The helmet angle can be adjusted using the rotary knob.
3. Autopilot/ Shade Level (p. 6) This welding helmet has an automatic shade level setting "Autopilot" adjusted to the intensity of the light arc via sensors. This welding helmet covers all shade levels between 5 and 14 (according to EN 379) in the active state. The ADF should be used at the start in the neutral position "N" and corrected via rotary knob according to personal preference by up to two shade levels up or down.
4. Grinding / visual inspection (p. 2-3) By folding the ADF up, the welding helmet can be used for grinding or visual inspections without compromising on safety. Never grind without the safety lens.
5. Sensitivity (p.6) With the sensitivity button the light sensitivity is adjusted according to the welding arc and the ambient light. By turning the knob, these can be customized adapted to the application, the environment and the welding process. In the "Super High" range the maximum light sensitivity can be achieved.
6. Delay switch (p. 6) The opening delay switch (Delay) allows to select an opening delay from dark to light. The switch is located under the battery cover and allows a choice of 0.3s "Fast" or 1.5 "Twilight" (with fading effect). The Twilight setting is not suitable for high frequent tack welding applications
   For tack welding the "Fast" setting is recommended.

Cleaning and disinfection

The shade cartridge and the front cover lens must be cleaned with a soft cloth at regular intervals. No strong cleaning agents, solvents, alcohol or cleaning agents containing scouring agent must be used. Scratched or damaged lenses must be replaced.

Storage

The welding helmet must be stored at room temperature and with low air humidity. Storing the helmet in the original packaging or in the included storage bag will increase the service life of the batteries.

Removing / installing the ADF (p. 4-5)

1. Fold the flip adapter up
2. Press the latch by pressing down slightliy the opening sash (on right side)
3. Slide the ADF simultaneously with the other hand out of the adapter to the right until the ADF is removed completely.

The shade cartridge is installed in the reverse order.

Replacing the front cover lens (p. 4-5)

Before changing the front cover lens, the ADF must be removed. See the previous section "Removing / installing the ADF". After removing the ADF the front cover lens can be pulled out easily from the flip adapter. The front cover lens is installed in the reverse order.

Replacing the inside cover lens. (p. 4-5)

Before changing the inside cover lens, the ADF must be removed. See the previous section "Removing / installing the ADF". Lift the inside cover lens slightly in the middle and pulling it downward. The inside cover lens is installed in the reverse order.

Replacing the safety lens / grinding lens (p. 4-5)

1. Fold up the flip adapter. Press the safety lens strongly in the middle to the outside.
2. Slip the new safety lens to the left or right between the lower frame and the holder.
3. Press it with the lower hand, centrally upwards. At the same time you have to press the unfixed edge with the upper hand downwards until the lens can be fixed on the other side between the frame and the holder (for this step the safety lens must be buckled shortly to be able to place it properly).

Replacing the batteries (p. 2-3)

The shade cartridge has replaceable lithium button cell batteries, type CR2032. The batteries must be replaced when the LED on the cartridge flashes in red.

1. Carefully remove battery cover
2. Remove batteries and dispose of in accordance with the national regulations for special waste
3. Use type CR2032 batteries as depicted
4. Carefully remount battery cover

If the shade cartridge does not darken when the welding arc is ignited, please check battery polarity. To check whether the batteries still have sufficient power, hold the shade cartridge against a bright lamp. If the red LED flashes, the batteries are empty and must be replaced immediately. If the shade cartridge does not operate correctly in spite of correct battery replacement, it must be declared unusable and must be replaced.

Troubleshooting

Cartridge does not darken
→ Adjust sensitivity → Replace the batteries
→ Clean sensors or front cover lens
→ Check the light flow to the sensor (do not cover the sensors)

Protection level too light
→ adjust shade level correction according individual preference up to 2 additional shade levels
→ Replace front cover lens (dirty cover lenses can interfere with sensors)

Protection level too dark
→ adjust shade level correction according individual preference up to minus 2 additional shade levels

Cartridge flickers
→ Adjust position of the delay switch to "Fast" → Replace the batteries

Poor vision
→ Clean the front cover lens, inside cover lens, grinding lens or ADF
→ Adjust the shade level correction to the welding procedure → Increase the ambient light

Welding helmet slips
→ Adjust/tighten the head band

Specifications (Right reserved to make technical changes)

Shade level	shade level 1 (open flip adapter) shade level 4 (bright mode, folded flip adapter) shade level 5<14 (dark mode, folded flip adapater)
UV/IR protection	Maximum protection in light and dark modes (folded flip adapter)
Switching time from light to dark	0.1 ms (23°C / 73°F) 0.1 ms (55°C / 131°F)
Switching time from dark to light	"Fast" = 0.3 s "Twilight" = 1.5 s with fading effect
Shade cartridge dimensions	90 x 110 x 9.5mm / 3.54 x 4.33 x 0.37"
Field of view dimensions	50 x 100mm / 1.97 x 3.94"
Power supply	Solar cells, 2 pcs. replaceable 3V LI-batteries (CR2032)
weight standard welding helmet (incl. ADF) weight PAPR welding helmet (incl. ADF)	Non PAPR: 520 g / 18.3425 oz PAPR: 730 g / 25.75 oz
Operating temperature	-10 °C – 70 °C / 14 °F – 157 °F
Storage temperature	-20°C – 70°C / -4°F – 157°F
Classification in accordance with EN379	Optical class = 1 Homogeneity = 1 Scattered light = 1 Viewing angle dependence = 2
Certifications	CE, ANSI, EAC, complies with CSA
Additional markings for PAPR version (notified body CE1024)	EN12491 (TH3 in combination with e3000 or e3000X, TH2 for versions with hardhat and e3000 or e3000X) EN 14594 Class 3B

Spare parts (p. 5-6)

-helmet shell without ADF (5001.916)
-PAPR helmet shell without ADF (4290.000)
-Auto Darkening Filter (5012.490)
-inside cover lens (5000.001)
-complete headband (5003.250)
-sweatband/ comfortband (5004.073 / 5004.020)
-front cover lens (5000.391)
-safety lens (5000.390)

Declaration of conformity

See internet link adress at last page.

Legal information

This document complies with the requirements of EU regulation 2016/425 point 1.4 of Annex II.

Notified body

See last page for detailed information.