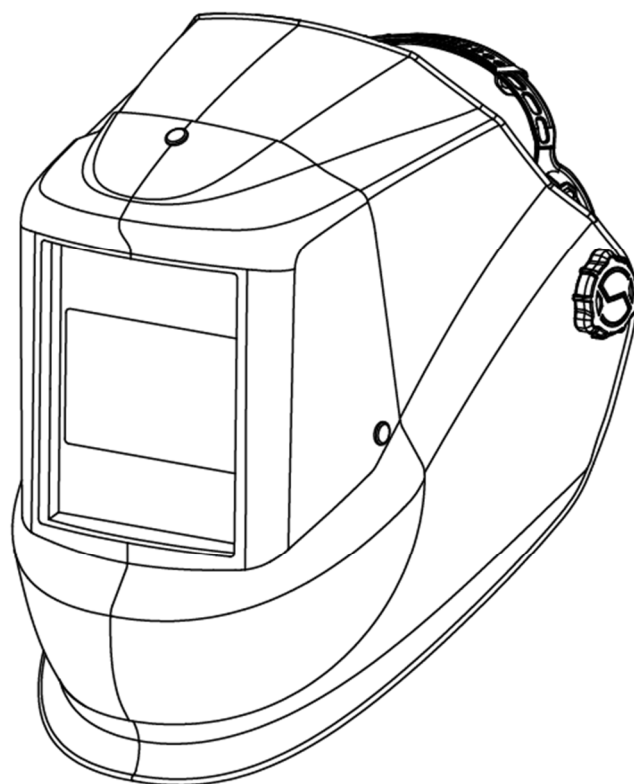


Lambda L200



OPERATING MANUAL – BRUGSANVISNING – GEBRAUCHSANWEISUNG – MANUAL DE INSTRUCCIONES
– KÄYTTÖOHJE – MANUEL D'UTILISATION – MANUALE D'USO – GEBRUIKSAANWIJZING –
BRUKSANVISNING – INSTRUKCJA OBSŁUGI – MANUAL DE UTILIZAÇÃO – MANUAL DE UTILIZARE –
ИНСТРУКЦИИ ПО ЭКСПЛУАТАЦИИ – BRUKSANVISNING – KULLANIM KILAVUZU – 操作手册

CONTENTS

1. GENERAL	3
2. SAFETY precautions	4
2.1 Symbols.....	4
2.2 Warnings.....	5
2.3 Safety of battery use	6
3. Equipment description	7
4. Operation.....	9
4.1 Helmet controls	9
4.2 Adjusting headgear	10
4.3 Replacing outer protection lens.....	11
4.4 Replacing battery	11
4.5 Installing optional magnifying lens	12
5. Maintenance	13
6. Technical data	14
7. Markings and standards applied.....	15

1. GENERAL

These instructions describe the use of Lambda L200 laser welding helmet.

Laser welding helmets are not designed to protect the eyes from intentional, continuous or repeated direct exposure to laser beams, but to prevent accidental, temporary exposure to scattering and diffuse laser light. In addition, both the limit value and resistance tests are based on a maximum exposure time of 5 seconds.

Read and understand all instructions before use. Retain this manual for future reference.

DISCLAIMER

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Kemppi reserves the right to change the specification of the product described at any time without prior notice. Do not copy, record, reproduce or transmit the contents of this guide without prior permission from Kemppi.

The source language for this document is English. All other language versions available are either professional human translations or advanced machine translations.

2. SAFETY PRECAUTIONS

Protect yourself and others from injury – read, follow, and save these important safety precautions and operating instructions.

2.1 Symbols



Note: Indicates special instructions.



Caution: Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



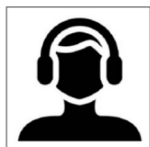
Danger: Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

This group of symbols are warnings (Warning!):



- Watch Out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards.

The symbols below refer to the necessary actions to avoid related hazards:



NOISE can damage hearing.

- Noise from some processes or equipment can damage hearing.
- Wear approved ear protection if the noise level is high.



THE HELMETS do not provide unlimited eye, ear, and face protection.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Use impact resistant safety spectacles or goggles and ear protection at all times when using this welding helmet.
- Do not use this helmet while working with or around explosives or corrosive liquids.
- Do not weld in the overhead position while using this helmet.
- Inspect the filter frequently. Immediately replace any scratched, cracked, or pitted cover lenses or filter.
- Lens and its securing components must be installed as instructed in this manual to ensure compliance with protection standards.



READ INSTRUCTIONS

- Read and follow all labels and the user manual carefully before installing, operating, or servicing the unit. Read the safety information at the beginning of the manual and in each section.
- Use only genuine spare parts from the manufacturer.
- Perform installation, maintenance, and service according to the user manual, industry standards, and national, state, and local codes.

2.2 Warnings

It is the user's responsibility to ensure that the filter used to protect the eyes from laser radiation matches the laser source used. Not wearing eye protection or choosing an inappropriate eye protection device can result in injury or blindness!

Please refer to the applicable standards and ask the person responsible for laser safety about how to choose the most appropriate eye protection device for the laser source you are using.

Laser welding helmets are not designed to protect the eyes from intentional, continuous or repeated direct exposure to laser beams, but to prevent accidental, temporary exposure to scattering and diffuse laser light. In addition, both the limit value and resistance tests are based on a maximum exposure time of 5 seconds.

Laser welding helmets are marked with the wavelength range and associated degree of protection provided in accordance with the European standard EN 207:2017.

Users must comply with the following instructions:

- Please consult the laser safety officer about appropriate eye protection equipment for the laser source used.
- Check the marking on the eye protection device and ensure that the specifications of the wavelength and protection level printed on the device are appropriate for the laser source used.
- Check the light transmittance specifications of the filter in the specification sheet.
- People working in areas where there is a risk of exposure to laser radiation must wear a laser protection device.
- The light transmittance of the lens is less than 20 %, the light at the workplace must be increased when using this eyewear.
- Detection of warning lights or warning signals can be impaired because of the color filters.
- Do not use this eye protection device while driving, engaging in recreational or sporting activities or any other activities for which it is not designed.
- Keep these instructions with the protective device.
- The filters in the frame are not interchangeable. They are only used for the laser welding helmet.
- The filters in the laser welding helmet against laser radiation must not be replaced by non-professionals.

Unauthorized modifications and spare parts will void the warranty and expose the user to the risk of personal injury.

2.3 Safety of battery use

- Remove and immediately recycle or dispose of used batteries according to local regulations and keep them away from children. Do NOT dispose of batteries in household trash or incinerate them.
- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- Non-rechargeable batteries are not to be recharged.
- The nominal battery voltage is 3V.
- Do not force discharge, recharge, disassemble, heat above 60 °C (140 °F) or incinerate the batteries. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

 **Danger:**



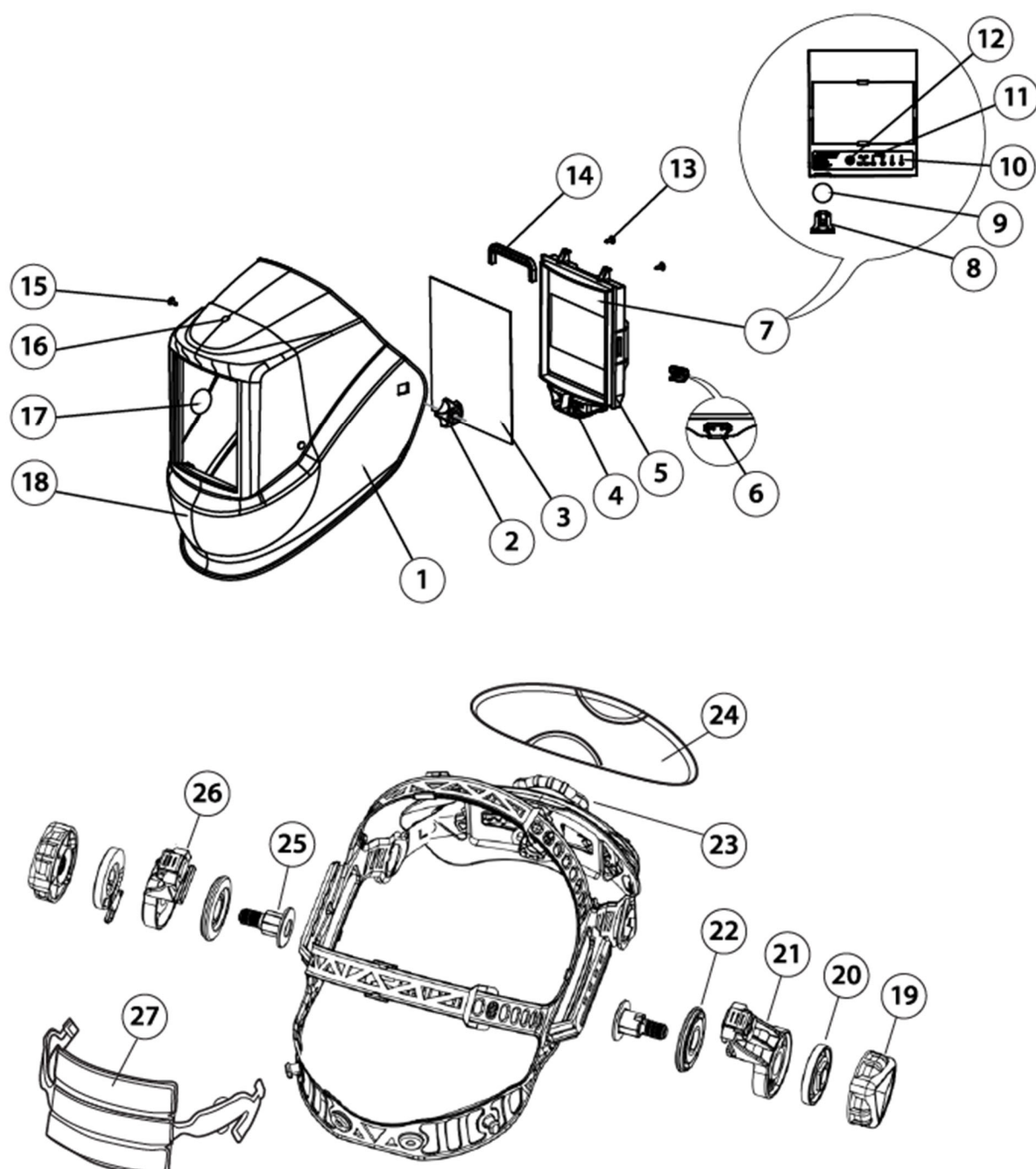
This symbol means:

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause internal chemical burns in as little as 2 hours.
- **KEEP** new and used batteries **OUT OF REACH** of **CHILDREN**.

Seek immediate medical attention if a battery is suspected to have been swallowed or inserted into any part of the body.

3. EQUIPMENT DESCRIPTION

Lambda L200 laser welding helmet:



Parts:

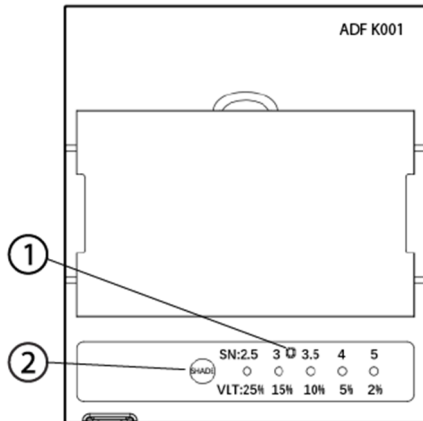
- | | |
|------------------------------------|---|
| 1. Helmet shell (polyamide) | 2. Block nut |
| 3. Outer protection lens | 4. ADF lock pin |
| 5. Filter frame | 6. ADF frame lock |
| 7. ADF | 8. Battery holder |
| 9. Battery | 10. Indicator lamp |
| 11. Low battery indicator | 12. Shade button |
| 13. H-slot tapping screw | 14. U-shaped stopper |
| 15. Dowel | 16. Metal rivet |
| 17. Insulating tape (circular) | 18. Protection shield (carbon) |
| 19. Block nut | 20. Block washer |
| 21. Headgear slider (with 5 slots) | 22. Screw washer |
| 23. Headband adjusting button | 24. Cushion |
| 25. Screw | 26. Segmental position plate (on right) |
| 27. Sweatband | |

Standards:

- EN ISO 16321-1:2022
- EN ISO 16321-2:2021
- EN 207:2017

4. OPERATION

4.1 Helmet controls



1. Low battery indicator
2. Variable shade control

The filters in the frame are not interchangeable. They are only used for the laser welding helmet.

Low battery indicator

When the red LED light is on, replace the battery with a new CR2032 lithium battery as soon as possible.

The filter consumes less than 1 microamp of battery power when in sleep mode.

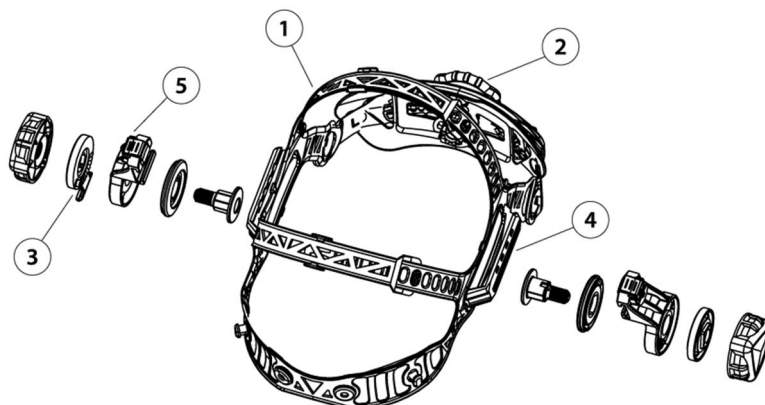
The filters in the frame are not interchangeable. They are only used for the laser welding helmet.

Variable shade control (No. 2.5 – 5)

Use the control to adjust the shade in the darkened state. Start at the highest setting and adjust to a lighter setting to suit the welding application and your personal preference.

The filters in the frame are not interchangeable. They are only used for the laser welding helmet.

4.2 Adjusting headgear



There are four headgear adjustments: headgear top, tightness, angle adjustment and distance adjustment.

1. Headgear top adjustment

Adjust the headgear to the correct depth on the head to ensure correct balance and stability.

2. Headgear tightness adjustment

To adjust, turn the adjusting knob on the back of the headgear to left or right to the desired tightness.

3. Angle adjustment

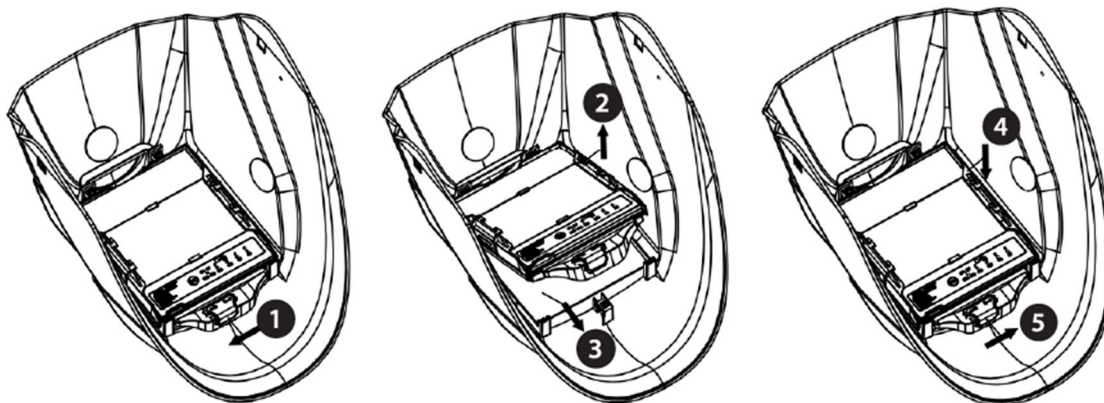
The slots on the right side of the headband provide adjustment for the forward tilt of the helmet. To adjust, lift and reposition the control arm to the desired position.

4. Distance adjustment

5. Headgear screw

Adjust the distance between the face and the lens. To adjust, loosen headgear screws and slide the headgear forward or backward to one of the three slots on the slider. Tighten the screws. (Both sides must be in line for a correct view.)

4.3 Replacing outer protection lens



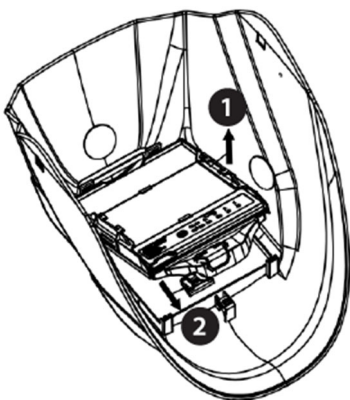
1. Slide the frame lock to the left to unlock the filter assembly.
2. Lift up the frame assembly.
3. Remove the protection lens and install a new one.
4. Press down the frame assembly.
5. Slide the lock to the right to lock the filter assembly and helmet.

4.4 Replacing battery

The helmet is powered by one CR2032 lithium battery.

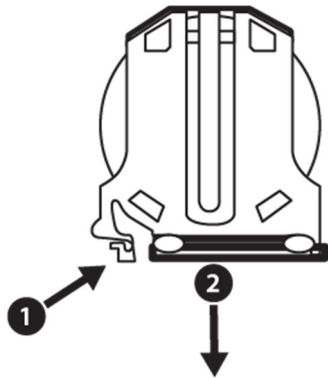
The low battery indicator lights up when there are 2–3 days of battery life left.

If the battery power is low, install a new CR2032 lithium battery.



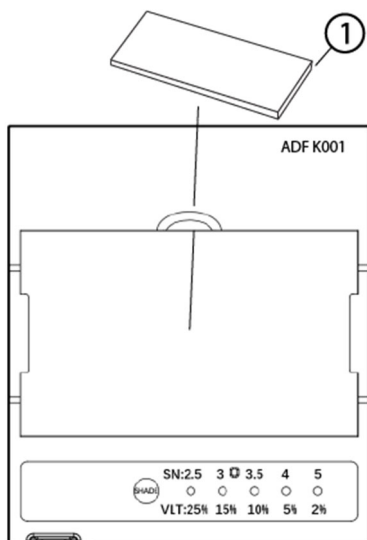
1. Lift up the frame assembly.
2. Remove the battery and battery holder from the cartridge and replace the battery with a new one.

Battery holder



1. Pinch one end of the battery holder
2. Pull the battery holder out, replace the battery, and reinsert the battery holder.

4.5 Installing optional magnifying lens



1. Optional magnifying lens

Slide the magnifying lens into the helmet retaining brackets as shown. Align the magnifying lens with the filter assembly.

To prevent the lens from fogging, install the flat side of the magnifying lens towards the filter.

5. MAINTENANCE

 *NOTE – Never use solvents or abrasive cleaning detergents.*

 *NOTE – Do not immerse the lens assembly in water.*

The helmet requires little maintenance. However, for best performance, clean the helmet after each use. Using a soft cloth dampened with a mild soap and water solution, wipe the cover lenses clean. Allow to air dry. Also the protection lens should be cleaned from time to time by gently wiping it with a soft, dry cloth.

6. TECHNICAL DATA

Helmet shell	Nylon
Filter dimension	114 x 133 x 9 mm (4.49 x 5.24 x 0.35 in.)
View size	100 x 60 mm (3.94 x 2.36 in.)
Shell front plate	Carbon fiber
Filter	LCD with laser filter
Shade No.	W2.5-5
Low battery indicator	YES
Visible light transmission	25% (W2.5)
	15% (W3)
	10% (W3.5)
	5% (W4)
	2% (W5)
Red light (650 nm) transmittance	>15%
Wavelength 900-1000 nm	OD6+
Wavelength 1000-1080 nm	OD7+
Wavelength 1064 nm	OD10+
Adjustable darkening filter with laser protection (ADF L001) 900-1080 nm	D LB7 IR LB8 CE
Protection shield (Carbon) 900-1100 nm	D LB7 IR LB8 CE
Outer protection lens	Code: SP75202 Size: 114 x 133 x 1 mm (4.49 x 5.24 x 0.04 in.)
Inner protection lens	Code: SP75203 Size: 105.8 x 65.8 x 1 mm (4.16 x 2.59 x 0.04 in.)
Operating temperature	-10 °C to +65 °C (14 °F to 149 °F)
Storage temperature	-20 °C to +85 °C (-4 °F to 185 °F)
Standards	EN ISO 16321-1:2022 EN ISO 16321-2:2021 EN 207:2017

7. MARKINGS AND STANDARDS APPLIED

Marking:

Adjustable darkening filter with laser protection (ADF L001)

16321 KMP W2.5/3/3.5/4/5 V2 900-1080 D LB7 IR LB8 CE

Protection shield (Carbon):

16321 KMP W15 900-1100 D LB7 IR LB8 CE

According to EN 207:2017 with:

- 900 - 1100: Applicable laser wavelength range
- KMP: Manufacturer code (Kemppi Oy)
- D LB7: Laser protection rating of LB7 for mode "D" (CW mode) according to EN 207:2017, clauses 3.3, Table 1 and 6.1
- IR LB8: Laser protection rating of LB8 for mode "I" (HPP mode) "R" (Q mode) according to EN 207:2017, clauses 3.3, Table 1 and 6.1
- CE: CE as per PPE Regulation (EU) 2016/425, Article 17 required for Cat. II products.

The letter "D" denotes a CW laser having a pulse length of >0.25 s.

The letter "I" denotes a pulsed laser, having a pulse length between $1\text{ }\mu\text{s}$ and 0.25 s.

The LB rating specifies the damage threshold of the filter material at maximum power or energy density.

The helmet does not only absorb (filter) laser light of a given wavelength but is also able to withstand a direct hit from the laser without breaking or melting for a specified time period of >5 s in CW mode or for 50 pulses.