



KEMPPI S1020 Automatically Darkening Welding Helmets S Line Instruction Manual

[Home](#) » [KEMPPI](#) » KEMPPI S1020 Automatically Darkening Welding Helmets S Line Instruction Manual 



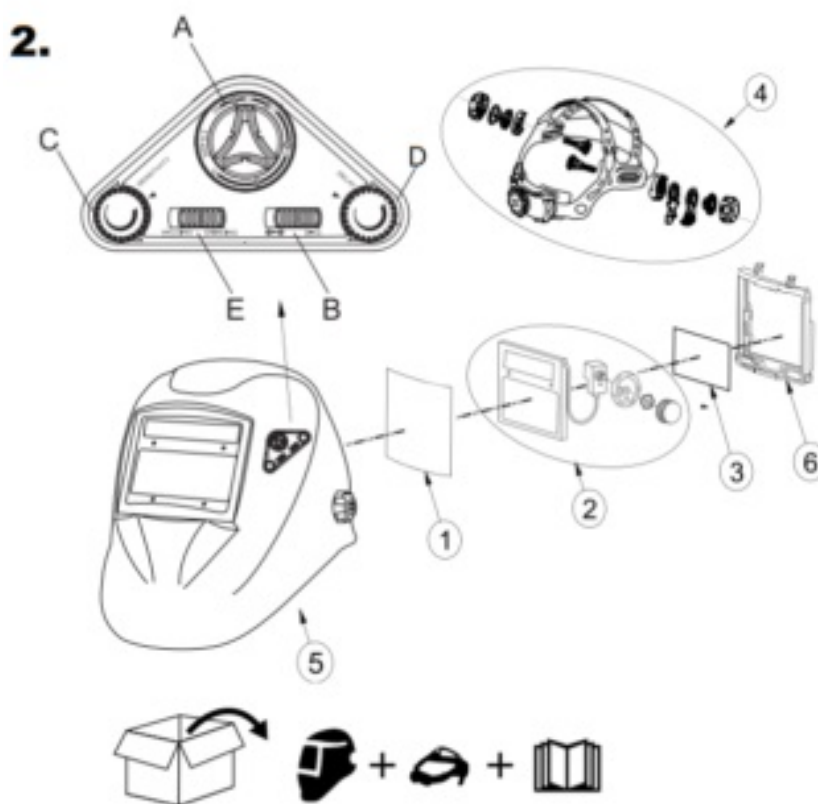
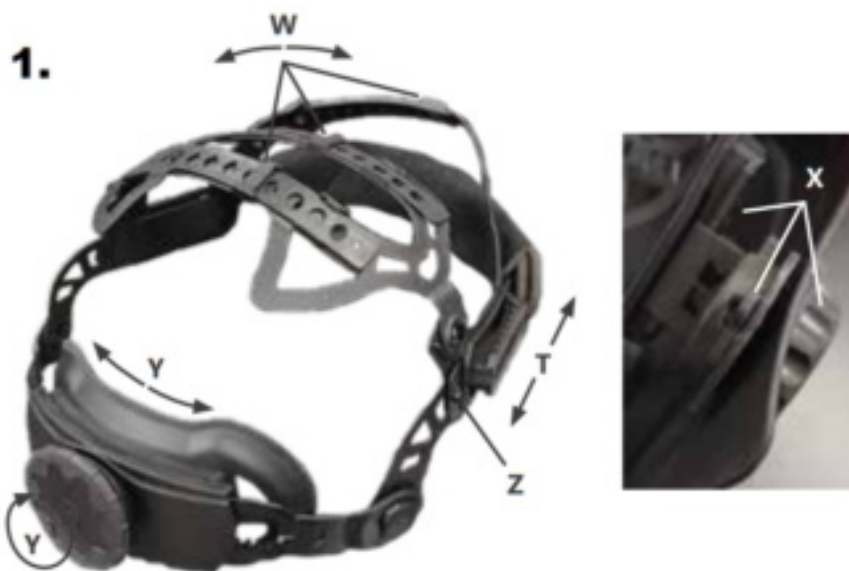
1922450
R00
S1020

User and maintenance manual

Contents

- [1 S1020 Automatically Darkening Welding Helmets S Line](#)
- [2 Introduction](#)
- [3 Safety](#)
- [4 Adjusting headband](#)
- [5 Helmet parts \(see fig. 2\)](#)
- [6 Auto-darkening filter functions](#)
- [7 Storage and maintenance](#)
- [8 Common problems and solutions](#)
- [9 Technical data](#)
- [10 Documents / Resources](#)
 - [10.1 References](#)
- [11 Related Posts](#)

S1020 Automatically Darkening Welding Helmets S Line



© Kemppi Oy 2024

Introduction




1.1 About S1020 welding helmet

The S1020 product is personal protective equipment (PPE) for welders and fabrication personnel. It is designed for arc welding (MMA, MIG/MAG (GMAW), TIG (GTAW)) and plasma welding.

The S1020 welding helmet provides the users with protection for the eyes and face from harmful radiation. It includes an auto-darkening filter (ADF).

1.2 About this manual

Read this manual carefully before using the equipment for the first time. Pay particular attention to the safety instructions.

	Convention	Used For
	Note	Gives the user particularly important information.
	Caution	Describes a situation that can result in damage to the device or the system.
	Warning	Describes a potentially dangerous situation that could result in serious or fatal injuries.

1.3 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.

Safety

Warning:

- It is strictly forbidden to use any other than Kemppi branded parts or accessories with Kemppi's personal protection equipment. If you do not respect this safety regulation, serious damage for your health may occur.
- We recommend a usage period of 5 years. The period of use depends on various factors such as use, cleaning, storage and maintenance. Inspect the helmet before each use. Replace damaged or worn parts.
- Use all adjustment features for maximum protection.
- Never weld with the welding visor up or without the welding filter.
- If the auto-darkening filter (ADF) does not darken when the arc ignites, stop welding immediately. Inspect the ADF and its power supply. Change if necessary.
- Always use welding filters together with suitable protection plates.
- Never use a welding filter without the inner protection plate.
- Never use a scratched or damaged welding filter and ocular.
- Materials which may come into contact with the wearer's skin may cause allergic reactions to susceptible individuals.
- Only operate this product within the temperature range -5...+55 °C.
- The product is not intended for use in environments with a risk of explosion.
- The helmet does not protect against explosive devices or corrosive liquids.
- The helmet is not suitable for laser welding and oxyacetylene welding/cutting processes.
- The helmet gives designed protection against high speed particles only at room temperature and only when all helmet components are properly attached, as described in the manual.
- When the helmet is worn over spectacles, they may transmit the impact of high speed particles, thus creating a hazard to the wearer.



Caution: Make sure to remove any additional protection foil from both sides of the protection lens.

Adjusting headband

3.1 Headband top (see fig. 1W)

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

3.2 Headband tightness (see fig. 1Y)

Adjust the tightness of the headband by turning the adjustment knob located on the back of the headband to the desired level.

3.3 Distance adjustment (see fig. 1Z)

To adjust the distance between the face and the lens, release the adjustment slot by pushing the locking button above the adjustment slot. Slide the helmet forwards or backwards to the desired position and tighten. Adjust both sides separately. Both sides must be in line for a correct view.

3.4 Angle adjustment (see fig. 1X)

The nine holes on the right side of the headband top allow for adjustment of the forward tilt of the helmet. To adjust, first, loosen the right outside tension adjustment knob. Next, lift the constraint arm tab and move it to the desired position. Finally, tighten the tension adjustment knob.

Helmet parts (see fig. 2)

1. Outer protection lens
2. Filter cartridge/ADF
3. Inner protection lens
4. Headband
5. Helmet shell
6. ADF holder
 - A. Shade level knob
 - B. Shade range selector
 - C. Sensitivity knob
 - D. Delay time knob
 - E. Welding/Grinding mode

Auto-darkening filter functions

5.1 Selecting the operating mode

It is possible to select: welding or grinding (see fig. 2E).

“GRINDING” – Used for metal grinding applications. In this mode the shade function is turned off. The shade is fixed at the light state allowing a clear view for grinding with the helmet providing face protection.

The grind mode is intended for grinding, not for welding. Before resuming welding, the mode must be set to “WELDING”.

“WELDING” – Used for welding applications. In this mode, the shade function is turned on. When the auto-darkening filter senses the welding arc, it reacts according to the user-defined settings; shade level, delay time and sensitivity as required.

5.2 Selecting shade range and level

The S1040 has two shade ranges, i.e. DIN 5-8 and DIN 9-13. The range used is defined with the Shade range selector (see fig. 2B).

Adjust the shade level required according to the welding process you will use (see the chart on the back cover). Use Shade level knob (see fig. 2A) to choose suitable level. Shade levels are recommended for different arc welding applications.



Note: The term “heavy metals” applies to steels, alloy steels, copper and its alloys, etc.

5.3 Selecting delay time

The delay time setting affects the time it takes to switch from dark to light state. It can be set at “MAX” (1.0 seconds) or “MIN” (0.1 seconds) by using the delay time knob (see fig. 1D)

“MAX” (1.0 seconds) – A longer delay is used in most welding applications, especially in high amperage (current) applications.

“MIN” (0.1 seconds) – A shorter delay is used in spot welding applications.

Longer delay can also be used for TIG (GTAW) welding in order to prevent the welding filter lens from

lightening when the light path to the sensors is temporarily obstructed by a hand, torch, etc.

5.4 Selecting sensitivity

The sensitivity can be set to “HI” (High) or “LO” (Low) by using the sensitivity knob (see fig. 2C)

For best performance, it is recommended to set the sensitivity high at the beginning and then gradually reduce it until the filter reacts only to the flashes of the welding light, not to ambient lighting (direct sun, strong artificial light, the neighboring welder’s arc, etc.).

“**HI**” (**High**) – For most welding applications, especially for low welding current work.

“**LO**” (**Low**) – Only in some specific surrounding lighting conditions in order to avoid unwanted triggering.

5.5 Power

The welding helmet is powered by a replaceable lithium battery. Battery must be replaced when the “LOW BAT.” light aside the ADF is flashing.

Storage and maintenance

When not in use, the filter should be stored in a dry place within the temperature range of -10°C – +60°C.

Prolonged exposure at temperatures above 45°C may decrease the battery lifetime of the filter. It is recommended to keep the solar cells of the filter in the dark or not exposed to light during storage in order to maintain the powerdown mode. This can be achieved by simply placing the filter face down on the storage shelf. Both inner and outer protection plates (polycarbonate), must be used in conjunction with the auto-darkening filter in order to protect it against permanent damage.

It is always necessary to keep the solar cells and the light sensors of the filter free of dust and spatters: cleaning can be done with a soft tissue or a cloth soaked in mild detergent.

Never use aggressive solvents such as acetone.

If protection plates are in any way damaged, they must be immediately replaced.

Replacing outer cover plate:

Remove the filter holder by moving the locks toward center (see fig. 2) and lift up the filter holder to remove/replace the outer protection plate.

Replacing inner cover plate:

Place your fingernail into the recess below the cartridge of the view window and flex the lens upwards until it releases from the edges of the cartridge of the view window.

Common problems and solutions

Irregular darkening/dimming

The headband has been set unevenly and there is an uneven distance from the eyes to the filter lens. (Readjust the headband to reduce the distance difference to the filter).

The filter does not darken or flickers

The outer cover plate is soiled or damaged (please change the cover lens);

Sensors are soiled / blocked or solar panel is blocked (Clean the surface of the sensor and make sure not to cover the sensors or the solar panel with your hand or other obstruction during welding);

Sensitivity is set to low or delay time is set to short (Adjust to the required level);

Make sure proper shade is selected (not grind mode).

The filter darkens even when the arc is not ignited

Sensitivity set too high (adjust sensitivity to the required level).

The filter remains dark after completing a weld

Delay time set to too long (adjust delay time to the required level).

Slow response

Operating temperature is too low. Do not use at temperatures below -5°C.

Welding helmet slips

The headband is not properly adjusted. (Readjust the headband).

Technical data

Filter model: S020

Standards: EN 175:1997, ISO 16321-2:2021, AS/NZS 1337.1, AS/NZS 1338.1

Filter dimension: 110 x 90 x 9 mm

View area: 100 x 60 mm

Optical classification: 1/1/1/2

True color: Yes

Arc sensors: 4 pcs

Darkening degree: DIN 4/5-8/9-13

Sensitivity: Stepless

Delay time: 0.1-1.0 s

Reaction time: < 0.3 ms

UV/IR protection: Protection at all times

Power supply: Solar cell, replaceable Li-battery

Battery: 1 x CR2450

Low battery indicator: Yes

Grinding function: Yes

Operating temperature: -5°C – +55°C

Markings

Helmet	
KMP	Manufacturer
EN 175	Standard reference and conformity marking
F	Class
CE	CE marking (European Conformity)
16321 KMP W13 C 1-M CE	
16321	Standard reference
KMP	Manufacturer
W	Welding protector
13	Maximum filter shade
C	Impact level
1-M	Avarage medium head size
CE	CE marking (European conformity)

Filter	
16321 KMP W4/5-8/9-13 V2 CE	
16321	Standard reference
KMP	Manufacturer
W	Welding filter
4/5-8/9-13	Variable shade
V2	Angle dependence class
CE	CE marking (European Conformity)

Welding process	A (Current)																					
	1 5	6	1 0	1 5	3 0	4 0	60	7 0	10 0	125	150	175	200	2 2 5	25 0	30 0	350	4 0 0	4 5 0	500	6 0 0	
Covered electrodes	8						9		10		11		12		13			14				
MAG	8							9	10		11		12			13		14				
TIG	8				9			10		11			12		13	14						
MIG with heavy metals	9									10		11		12		13		14				
MIG with light alloys	10											11		12		13		14				
Air-arc gouging	10											11	12		13		14		15			
Plasma jet cutting	9									10	11	12		13								
Microplasma arc welding	4	5	6			7	8		9	10		11		12								



userdoc.kemppi.com



<https://kemp.cc/ud>

Documents / Resources



KEMPPI S1020 Automatically Darkening Welding Helmets S Line [pdf] Instruction Manual
S1020, S1020 Automatically Darkening Welding Helmets S Line, S1020, Automatically Darkeni
ng Welding Helmets S Line, Darkening Welding Helmets S Line, Welding Helmets S Line, Helm
ets S Line, S Line, Line

References

-  Redirecting
- User Manual

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.