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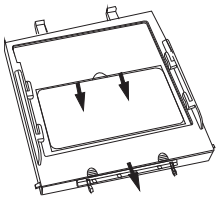
S1020

EN User and maintenance manual DA Brugs- og vedligeholdelsesmanual
DE Bedienungs- und Wartungsanleitung ES Manual de uso y manutención
FI Käyttö- ja huolto-ohje FR Manuel d'utilisation et d'entretien
IT Manuale d'uso e manutenzione NL Gebruikers- en onderhoudshandleiding
NO Bruker- og vedlikeholdsveiledning PL Instrukcja obsługi i konserwacji
PT Manual de usuário e manutenção RO Manual de utilizare și întreținere
RU Руководство по эксплуатаци SV Användar- och underhållshandbok
TR Kullanım ve bakım kılavuzu ZH 用户和维护手册

1.



2.

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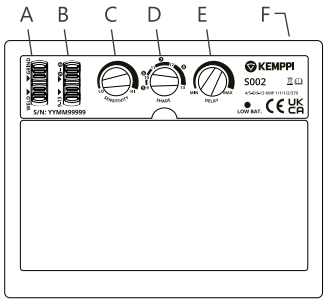

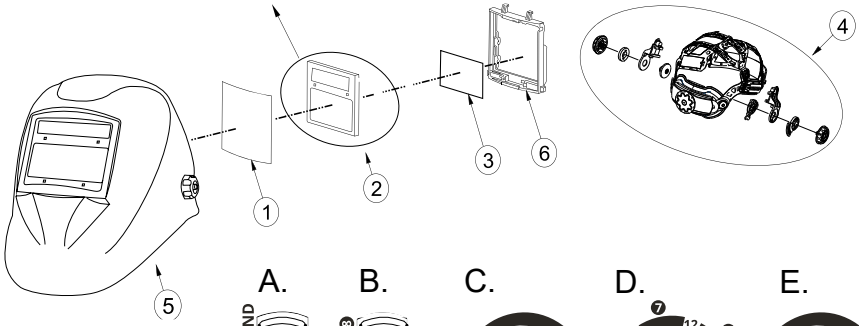

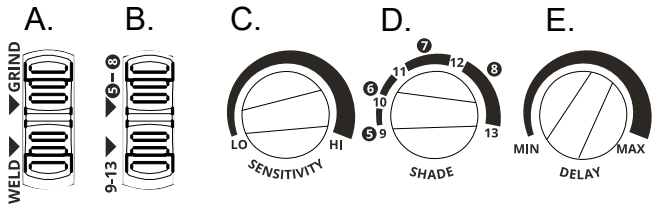

1. Introduction

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)), plasma welding and cutting.

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 a piece of information of particular importance.**
	Caution	**Describes a situation that may result in damage to the equipment or system.**
	Warning	**Describes a potentially dangerous situation that may result in personal damage or fatal injury.**

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.

2. 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 oxy-acetylene 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.

3. Adjusting headband

3.1 Headband top (see fig. 2W)

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

3.2 Headband tightness (see fig. 2Y)

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. 2Z)

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. 2X)

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.

4. Helmet parts (see fig. 3)

1. Outer protection plate
2. Filter cartridge/ADF
3. Inner protection plate
4. Headband
5. Shell
6. ADF holder

A. Weld/Grind mode
B. Shade range selector
C. Sensitivity knob
D. Shade level knob
E. Delay time knob
F. Lithium battery holder (CR2032)

5. Auto-darkening filter functions

5.1 Selecting the operating mode

There are two operating modes available: welding and grinding (see fig. 3A).

"Grind" – 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 "Weld".

"Weld" – Used for most welding applications. In this mode, the shade function is turned on. When the auto-darkening filter optically 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 S1020 has two shade ranges, i.e. DIN 5-8 and DIN 9-13. The range used is defined with the Shade range selector knob (see fig. 3B).

Use Shade level knob (see fig. 3D) to choose suitable level. Adjust the shade level required according to the welding process you will use (see the chart on the back cover). 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. 4E).

"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 at "HI" (High) or "LO" (Low) by using the sensitivity knob (see fig. 3C).

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 but especially for low welding current work.

"LO" (Low) – Only in certain ambient lighting conditions in order to avoid unwanted triggering.

5.5 Power

The welding helmet is powered by a replaceable Li-battery. Replace the battery when the "LOW BAT." light is flashing.

6. 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 to temperatures above 45°C may decrease the battery life 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 any 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 the protection plates are in any way damaged, they must be replaced immediately.

Replacing outer protection plate: Remove the filter holder by moving the locks toward the center (see fig. 1) and lift up the filter holder to remove/replace the outer protection plate.

Replacing inner protection plate: Place your fingernail into the recess below the view window cartridge and pull the plates upwards until it comes off from the edges.

7. 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. (Re-adjust 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 plate); Sensors are soiled / blocked or the 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 the correct 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

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

8. Technical data

Filter model: S002
Standards: EN 175:1997, ISO 16321-2:2021 AS/NZS 1337.1, AS/NZS 1338.1
Filter dimension: 110 x 90 x 9.6 mm
View area: 100 x 53 mm
Optical classification: 1/1/1/2
True color: Yes
Arc sensors: 4 pcs
Darkening degree: DIN 4/5-8/9-13, stepless
Sensitivity: Stepless
Delay time: 0.1-1.0 s, stepless
Reaction time: < 0.3 ms
UV/IR protection: Shade DIN 16 (permanent)
Power supply: Solar cell, replaceable Li-battery
Battery: 1 x CR2032
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	Medium head size
CE	CE marking (European conformity)

Filter	
4	Clear DIN level
5-8	Shade DIN level
9-13	Shade DIN level
KMP	Manufacturer
1	Optical class
1	Diffusion of light class
1	Variations in luminous transmittance class
2	Angle dependency class
379 CE	Standard reference and conformity marking

Welding process	A (Current)																				
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600
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 (heavy metals)	9									10			11			12		13	14		
MIG (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			

DA
Svejseproces
A (Strøm)
Beklædte elektroder
MAG, TIG,
MIG (tungmetaller)
MIG (lette legeringer)
Luft-buemejsling
Plasma-stråleskæring
Mikroplasmabuesvejsning

DE
Schweißprozess
A (Strom)
Umhüllte Elektroden
MAG, WIG,
MIG (Schwermetalle)
MIG (Leichtmetalle)
Fugenhobeln mit Luft-Lichtbogen
Plasmaschneiden
Mikroplasma-Lichtbogenschweißen

ES
Proceso de soldadura
A (Corriente)
Electrodos recubiertos
MAG, TIG
MIG (metales pesados)
MIG (aleaciones ligeras)
Corte por arco de aire
Corte con plasma
Soldadura por arco de microplasma

FI
Hitsausprosessi
A (Virta)
Päällystetyt elektrodit
MAG, TIG,
MIG (raskasmetallit)
MIG (kevyet seokset)
Hiilikaaritalttaus
Plasmaleikkaus
Mikroplasmakaarihitsaus

FR
Procédé de soudage
A (courant)
Électrodes couvertes
MAG, TIG,
MIG (métaux lourds)
MIG (alliages légers)
Gougeage à l'arc pneumatique
Découpe plasma
Soudage à l'arc microplasma

IT
Procedimento di saldatura
A (corrente)
Elettrodi coperti
MAG, TIG,
MIG (metalli pesanti)
MIG (leghe leggere)
Scriccatura ad arco d'aria
Taglio con plasma
Saldatura ad arco con microplasma

NL
Lasproces
A (Stroom)
Bedekte elektroden
MAG, TIG,
MIG (zware metalen)
MIG (lichte legeringen)
Gutsen met luchtboog
Plasmasnijden
Microplasma booglassen

NO
Sveiseprosess
A (strøm)
Dekkede elektroder
MAG, TIG,
MIG (tunge metaller)
MIG (lette legeringer)
Kullbuemeisling
Plasmajetskjæring
Mikroplasmalysbuesveising

PL
Proces spawalniczy
A (prąd)
Elektrody otulone
MAG, TIG,
MIG (metale ciężkie)
MIG (stopy lekkie)
Żłobienie łukiem powietrznym
Cięcie plazmowe
Spawanie łukowe mikroplazmą

PT
Processo de soldagem
A (corrente)
Eletrodos cobertos
MAG, TIG,
MIG (metais pesados)
MIG (ligas leves)
Goivagem com arco de ar
Corte a jato de plasma
Soldagem a arco com microplasma

RO
Proces de sudare
A (Curent)
Electrozi acoperiți
MAG, TIG,
MIG (metale grele)
MIG (aliaje ușoare)
Crăițuire cu electrod cu aer
Tăiere cu jet de plasmă
Sudare cu arc de microplasmă

RU
Сварочный процесс
A (ток)
Покрытые электроды
MAG, TIG,
Сварка MIG (тяжелые металлы)
Сварка MIG (легкие сплавы)
Воздушно-дуговая строжка
Плазменная резка
Микроплазменная дуговая сварка

SV
Svetsmetod
A (ström)
MMA
MAG, TIG,
MIG (tunga applikationer)
MIG (lättmetall)
Bågluftsmejsling
Plasmaskärning
Mikroplasmasvetsning

TR
Kaynak işlemi
A (Akım)
Örtülü elektrotlar
MAG, TIG,
MIG (ağır metaller)
MIG (hafif alaşımlar)
Hava ark oluk açma
Plazma jet kesme
Mikroplazma ark kaynağı

ZH
焊接工艺
A（电流）
覆盖的电极
MAG、TIG
MIG（重金属）
MIG（轻合金）
空气电弧气刨
等离子喷射切割
微等离子弧焊

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DE Konformitätserklärungen ES Declaraciones de conformidad
FI Vaatimustenmukaisuusvakuutuksia FR Déclarations de conformité
IT Dichiarazioni di conformità NL Verklaringen van overeenstemming
NO Samsvarserklæringer PL Deklaracje zgodności PT Declarações de conformidade RO Declarație de conformitate RU Заявления о соответствии
SV Försäkran om överensstämmelse TR Uygunluk Beyanı ZH 符合性声明

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