



# User Manual

# **FERREX<sup>®</sup>** **AUTO DIMMING WELDING HELMET**

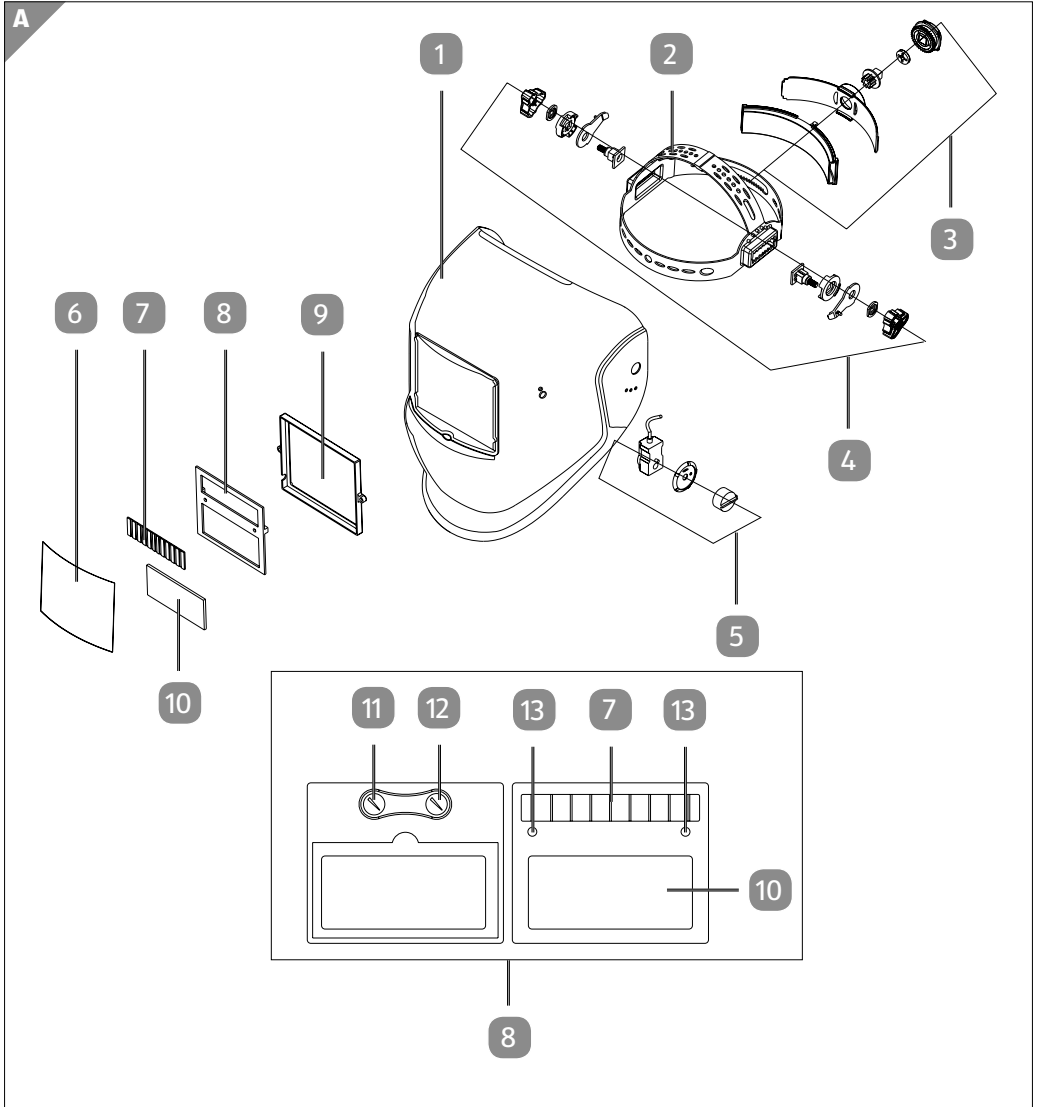


**Original Instructions**



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## Package contents/part list

- 1 Automatic welding helmet
- 2 Warranty Card
- 3 Instruction manual

## General Information

### Read the operating instructions and keep them safe



These operating instructions belong to this automatic welding helmet.

They contain important information for safety, operation and care.

Read through the operating instructions carefully before starting to use the automatic welding helmet. Pay particular attention to the safety instructions and warnings. Disregarding the information in these operating instructions can result in serious injuries or damage to the automatic welding helmet.

Observe the applicable local or national regulations for the use of this product. Keep these operating instructions safely in a secure location for future reference. If you pass the automatic welding helmet on to a third party, ensure that these operating instructions are passed on too.

### Explanation of symbols

The following symbols and signal words are used in these operating instructions, on the automatic welding helmet, or on the packaging.



**WARNING!**

Indicates a hazardous situation that can result in serious or fatal injuries if not avoided.



**CAUTION!**

Indicates a hazardous situation that can result in light or moderate injuries if not avoided.

**NOTICE!**

Warns of potential property damage.



Declaration of conformity (see chapter “Declaration of conformity”): Products marked with this symbol meet all applicable Community regulations for the European Economic Area.



Read the user manual.



Warranty period



**Attention:** The welding helmet does not provide any eye, ear or face protection!



**Warning:** arc rays can injure the eye's retinas!

## Intended purpose

This welding helmet protects the eyes and face from sparks, splashes and UV rays while welding and automatically adapts to the lighting conditions. It ensures an immediate, sensor-controlled darkening upon arc ignition as well as automatic illumination at the end of the welding procedure (including a short delay to protect against afterglow).

This welding helmet provides a freely adjustable DIN protection level with a lateral adjustment wheel and is also adjustable for flying sparks during grinding work. Only use the product as described and for its indicated purpose. Keep these instructions in a safe place.

When passing this product on to others, please also include all the documents. Any use other than the intended is prohibited and potentially dangerous. Damages resulting from noncompliance or misuse are not covered by the warranty and are not included in the manufacturer's liability. This device has been designed for household use and may not be used for commercial or industrial purposes.

## Safety instructions

Please carefully read the instructions for use and follow the specified notices. Familiarise yourself with the equipment, its proper use and the safety notices using these instructions for use. All technical data about this welding helmet is on the label, please learn about this product's technical facts.

- The product is not suitable for laser welding.
- The product is only approved for use within a temperature range of between -5 °C to 55 °C.
- The product is not fire-resistant.
- Welding helmet and ADF filter must not be exposed to any heat or moisture.
- Do not remove the ADF filter from the welding helmet and never open the housing of the ADF filter without authorisation from the manufacturer.



- Prior to each use, check whether the Welding/Grinding setting was selected correctly.
- The cover lens must be installed on the outer side of the ADF filter. Otherwise, the ADF filter can get damaged.
- Do not carry out any modifications/replacements on the welding helmet and ADF filter without consent.
- If the filter does not darken automatically whilst welding please stop the operation immediately and contact the dealers without delay.
- Do not use any alcohol, fuel or diluting agents to clean the ADF filter. Do not place the ADF filter in water.
- The response time of the ADF liquid crystal slows down if the ambient temperature is lower, however this does not have an impact on the protective functions.
- Please replace the housing of the ADF filter immediately if it is damaged or scratched because this can impair visibility and the protective performance.
- Please replace the viewing pane immediately if it is broken or scratched. Do not use any hard objects to replace the viewing pane of the filter.
- Regularly clean the surfaces of the ADF filter, sensor and solar cells.
- The welding helmet cannot withstand any damages that are caused by a heavy blow, explosion or abrasive liquids.
- The useful life depends on many different individual factors such as usage, cleaning, storage and maintenance. Regular inspections and replacement in the case of damage are recommended.
- The material used to manufacture the product will age over time. This can result in breakages on the welding helmet, for example. As a result of these damages, the welding helmet is no longer able to provide effective protection. In this case, the user should replace the welding helmet immediately.
- This product cannot be used for overhead welding work and cutting operations. If this product is used for overhead welding or cutting, the molten metal drops could burn through the ADF filter and result in injuries to the user.
- If the filter is faulty, the user must stop using the welding helmet immediately. Slag splashes can damage the surface of the filter and cause injury to the user's skin or cause other serious accidents.
- This product is temperature resistant but not inflammable. Contact with naked flames or with high temperatures may cause the helmet to burn or melt. Please store and only use the welding helmet in the manner described in order to reduce such risks.

- The ADF filter is an electronic product that is not waterproof. Please ensure it is kept dry and clean and not stored in a damp environment.
- Improper use could result in injury to the user and cause other types of diseases.
- Please examine the filter prior to each use. As soon as the function and appearance seem defective, they must no longer be used.
- The use of the welding helmet is prohibited if the filter flickers or if the level of darkening no longer corresponds to the standard value or there are other abnormal working conditions.
- Please do not expose this product to unnecessary solar radiation.
- Please only use original spare parts. The use of non-original parts can cause problems with regard to the protective function, serviceability and degree of product protection.
- Exceeding the service life (insufficient protection) – please check the protective glasses prior to each use for damage and durability.
- Using eye protection without the filter effect against radiation (damages the eyes) – prior to each use check whether the eye protection exhibits the necessary scale number.
- Using the product against splashes (insufficient protection) – always check whether the correct protective effect is present.
- Using the product against large dust particles (injury, accident). The eye protection equipment must only be used for the work described in the operating instructions. Any deviation from the instructions in the operating instructions can result in injuries or accidents.
- Using damaged products (insufficient protection) – prior to each use check the protective glasses for damage and durability.
- Improper use of the eye protection (injury, accident). The eye protection device must only be used for the work described in the operating instructions. Any deviation from the instructions can result in injuries or accidents.
- This device may be used by children aged 16 years and up, as well as by persons with reduced physical, sensory or mental capacities, or lacking experience and / or knowledge, so long as they are supervised or instructed in the safe use of the device and understand the associated risks. Do not allow children to play with the product. Cleaning and user maintenance should not be performed by children without supervision.
- The welding helmet with automatic darkening is not suitable for laser and gas welding.
- Never place the welding helmet on hot surfaces.

- Never open the welding helmet. Never carry out repairs on or modifications to the welding helmet. These may only be carried out by trained experts.
- Please ensure that you have set the automatic darkening before each welding procedure.
- The safety visor should not be opened. It protects the filter from dirt and damage.
- If the filter does not automatically darken, then immediately end the welding procedure and contact the manufacturer.
- Only use the welding helmet in temperatures between  $-5\text{ }^{\circ}\text{C}$  and  $+55\text{ }^{\circ}\text{C}$ . The filter's reaction time will slow down if this temperature has not been reached or is exceeded.
- Clean the filter, the surface of the helmet and the solar cells regularly.
- Replace the protective visor if scratches or damages appear.
- The welding helmet does not provide protection against impact.
- Frequent use, cleaning or storage can mean that the service life is less than 3 years. Replace the welding helmet immediately if the viewing panel gets scratched or the viewing panel is visibly damaged in any other way.

**⚠ ATTENTION!** Materials that come into contact with the wearer's skin may cause allergic reactions in people with sensitive skin.

**⚠ ATTENTION!** Eye protection can represent a hazard for the wearer if it is worn over normal corrective glasses due to the impact from high-speed particles.

**⚠ ATTENTION!** If protection against high-speed particles at extreme temperatures is required, the eye protection chosen must be labelled with the letter T directly after the letter for the impact intensity, i. e. FT, BT or AT. If the letter for the impact intensity is not followed by the letter T, the eye protection may only be used against high-speed particles at room temperature.

### **Safety instructions for handling batteries**

1. Always make sure that the batteries are inserted with the correct polarity (+ and -), as indicated on the battery.
2. Do not short-circuit batteries.
3. Do not charge non-rechargeable batteries.
4. Do not overcharge batteries!
5. Do not mix old and new batteries or batteries of different types or manu-

- facturers! Replace an entire set of batteries at the same time.
6. Immediately remove used batteries from the device and dispose of them properly! Do not dispose batteries with household waste. Defective or used batteries must be recycled according to Directive 2006/66 / EC. Give back batteries and / or the device has been offered to the collective facilities. About disposal facilities you can inform by your municipal or city government.
  7. Do not allow batteries to heat up!
  8. Do not weld or solder directly on batteries!
  9. Do not dismantle batteries!
  10. Do not allow batteries to deform!
  11. Do not throw batteries into fire!
  12. Keep batteries out of the reach of children.
  13. Do not allow children to replace batteries without supervision!
  14. Do not keep batteries near fire, ovens or other sources of heat. Do not use batteries in direct sunlight or store them in vehicles in hot weather.
  15. Keep unused batteries in the original packaging and keep them away from metal objects. Do not mix unpacked batteries or toss them together! This can lead to a short-circuit of the battery and thus damage, burns or even the risk of fire.
  16. Remove batteries from the equipment when it will not be used for an extended period of time, unless it is for emergencies!
  17. NEVER handle batteries that have leaked without appropriate protection. If the leaked fluid comes into contact with your skin, the skin in this area should be rinsed off under running water immediately. Always prevent the fluid from coming into contact with the eyes and mouth. In the event of contact, please seek immediate medical attention.
  18. Clean the battery contacts and corresponding contacts in the device prior to inserting the batteries.

## Device description (Fig. A)

1. Helmet shell
2. Head band
3. Head band rear knob
4. Head band side knob
5. Darkening control
6. Front panel
7. Solar cell
8. Filter cassette (ADF filter)
9. Rear panel
10. UV/IR filter
11. Delay setting
12. Sensitivity setting
13. Sensor

## Technical data

<b>Filter cartridge size:</b>	110 x 90 x 10 mm
<b>Field of vision:</b>	92 x 42 mm
<b>Bright state:</b>	DIN 4
<b>Dark state:</b>	DIN 9-13
<b>Switching times</b>	
<b>Bright to dark:</b>	0.2~0.83 ms
<b>Dark to bright:</b>	0.1 - 1 s
<b>Switch on / off:</b>	Fully automatic
<b>Energy supply:</b>	Solar cell + 2x CR2032 battery
<b>UV / IR protection:</b>	DIN 16
<b>Operating temperature:</b>	-5°C - +55°C
<b>Storage temperature:</b>	-20°C - +70°C
<b>Welding procedure:</b>	MMA, MIG, MAG, TIG, plasma cutting and plasma welding

# Commissioning

**Note:** Only use the welding helmet with the built-in rear panel (9).

**Note:** Keep the sensors (13) of the UV/IR filter (10) clean and clear.

⚠ Immediately after opening the packaging, check that the scope of delivery is complete and in perfect condition. Please contact your vendor immediately if the scope of delivery is incomplete or contains defects.

Do not operate the device if it is defective.

⚠ Before each use check that the welding helmet and the protective panel are intact. If the protective panel exhibits scratches, cracks or unevenness, it must be replaced before use, otherwise serious injuries may occur.

- Remove the protective film from the inside and outside of the visor.
- Adjust the welding helmet using the head band (2). Turn the rear knob of the head band (3) to adjust the welding helmet to the respective head size and the side knobs of the headband (4) to lock the welding helmet. When adjusting it, make sure that the welding helmet sits as low as possible on your head and as close as possible to your face.
- Set the appropriate darkening level before the welding process (see table below). The darkening level can be set manually by turning the darkening control (5) on the outside of the helmet.

⚠ **ATTENTION!** The darkening control (5) has the setting position “Grind”. When the darkening control (5) is set to this position, automatic darkening is deactivated. Only use this setting if you do not want to use the welding helmet for welding. Automatic darkening is then not active.

- Check the light proofing before each use.

Table for setting the protection levels

	Arc current (amperes)																								
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600				
Grind	Grinding function - automatic dimming not active																								
SMAW	8							9			10			11			12			13			14		
MAG	8							9		10			11			12			13			14			
TIG/ GTAW	8				9			10			11			12			13								
MIG (heavy)	9							10			11			12			13			14					
MIG (light)	10							11			12			13			14								
PAC	9							10		11		12			13										
PAW	4	5	6	7	8	9	10	11			12														

**SMAW:** welding with coated electrodes

**MIG (heavy):** MIG welding heavy metals

**MIG (light):** MIG welding light metals and alloys

**TIG / GTAW:** welding with inert gases

**MAG:** welding with metal active gass

**PAC:** plasma cutting

**PAW:** plasma welding

**Grind:** Grinding function: Automatic dimming not active. Only use the setting if you do not use welding helmet for welding.

### Carrying out the test procedure

- Approach an external light source with more than 40 W of the viewing pane and check whether the pane darkens or brightens. To do this, turn the darkening control (5) clockwise from "Grind" to the next stage. This automatically causes the filter to darken.
- If you turn the darkening control (5) counterclockwise back to
- "Grind", the automatic darkening of the filter is deactivated again.

### Delay setting

With the delay setting (11), depending on the welding process, it is possible to set whether or not the automatic darkening should be switched off immediately after completion of the welding process. At the min. level the automatic darkening switches off straight away. The more the knob is turned clockwise in the direction of the max. level, the longer the darkening will last after the welding process. This function is very useful for afterglowing.

### **Sensitivity setting**

With the sensitivity setting (12) it is possible to control the light sensitivity of the sensor. In the event of low light incidence, it is possible to set the controller to max. level so that automatic darkening occurs even with a weak light source. This additional function also allows users to set the light sensitivity of the sensor according to their own needs.

## **Maintenance, cleaning and ordering spare parts**

- Do not use caustic cleaning agents to clean the helmet shell (1).
- Never bring the UV/IR filter (10) into contact with water.
- Clean the product with a soft and dry cloth, with a damp cloth or with a cloth moistened with disinfectant.

### **Ordering spare parts**

Only use original accessory parts:

Frequently ordered accessories:

Front panel: Article number 7906610701 (109,6 x 86 x 1,0 mm)

Rear panel: Article number 7906610702 (103,8 x 52,8 x 0,8 mm)

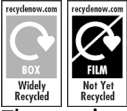
When ordering spare parts, please contact the service partner indicated on the warranty card.

## **Storage**

- the device in a dry place and out of reach of children.



# Disposal and recycling



The equipment is supplied in packaging to prevent it from being damaged in transit. The raw materials in this packaging can be reused or recycled. The equipment and its accessories are made of various types of material, such as metal and plastic. Defective components must be disposed of as special waste. Ask your dealer or your local council.

Contact your local refuse disposal authority for more details of how to dispose of packaging.

## Old devices must not be disposed of with household waste!



This symbol indicates that this product must not be disposed of together with domestic waste in compliance with the Directive (2012/19/EU) pertaining to waste electrical and electronic equipment (WEEE). This product must be disposed of at a designated collection point. This can occur, for example, by handing it in at an authorised collecting point for the recycling of waste electrical and electronic equipment. Improper handling of waste equipment may have negative consequences for the environment and human health due to potentially hazardous substances that are often contained in electrical and electronic equipment. By properly disposing of this product, you are also contributing to the effective use of natural resources. You can obtain information on collection points for waste equipment from your municipal administration, public waste disposal authority, an authorised body for the disposal of waste electrical and electronic equipment or your waste disposal company.



As the consumer you are legally obliged (by the German Battery Ordinance) to return any and all used batteries. Batteries containing harmful substances are labelled with the adjacent symbol, which indicates the prohibition on disposal in household waste. The abbreviations for the relevant heavy metals are: Cd = cadmium, Hg = mercury, Pb = lead.

Take used batteries to a waste management company in your city or community, or return them to your dealer. This satisfies your legal obligations while also making an important contribution to protecting the environment.

## Troubleshooting

<b>Fault</b>	<b>Possible cause</b>	<b>Cause</b>
The filter does not darken or flickers regularly.	The sensor (13) is dirty.	Clean the sensor (13).
Reactions are slower.	The ambient temperature is too low/high.	Only use the welding helmet at temperatures between -5 °C and +55 °C.
	The sensitivity is too low.	Set the level of the sensitivity sensor (12) higher.
Visibility is poor.	The front panel (6)/back panel (9) is dirty.	Clean the front panel (6)/rear panel (9).
	The protective film on the front panel (6)/back panel (9) has not been removed.	Remove the protective film.
	The ambient light is not sufficient.	Increase the amount of light in your working environment.
	The wrong darkening level is set.	Reset the darkening level.
The welding helmet is slipping	The head band (2) is incorrectly adjusted.	Readjust the head band (2) and tighten it.

# Label meanings

Product	Model name	Labelling	Explanation
Welder face shield	WEGA400 – Matt Black WEGA400 – Carbon WEGA400 – Flame	SF EN 175 S CE	SF= manufacturer code EN 175 = test standard S = increased mechanical strength CE= CE symbol
Automatic welder protective filter	SF-500S	4/9-13 SF 1/1/1/2/379 CE	4= bright state 9-13 = dark state SF = manufacturer code Ziffer 1 = optical class Ziffer 2 = scattered light grade Ziffer 3 = homo-geneity class Ziffer 4 = angle dependency class 379 = test standard CE = CE symbol
Front lense against welding spatter	VS-WEGA400	SF S CE	SF = manufacturer code S = increased mechanical strength CE = CE symbol
Rear pane	HS-WEGA400	SF 1 S CE	SF = manufacturer code 1 = optical class S = increased mechanical strength CE = CE symbol

**CE - Konformitätserklärung** Originalkonformitätserklärung  
**CE - Declaration of Conformity**



Schepbach, Fabrikation von Holzbearbeitungsmaschinen GmbH  
 Günzburger Str. 69, 89335 Ichenhausen, Germany

<b>DE</b>	erklärt folgende Konformität gemäß EU-Richtlinie, Verordnung und Normen für den Artikel
<b>GB</b>	hereby declares the following conformity under the EU Directive, regulations and standards for the following article

Marke / Brand: **FERREX**  
 Art.-Bezeichnung / Article name: **Automatik-Schweißhelm / Automatic welding helmet**  
**Schweißer-Gesichtsschutzschirm /**  
**Welder face shield:** **WEGA400 - Matte Black / WEGA400 - Flame / WEGA400 - Carbon**  
**Automatischer Schweißerschutzfilter /**  
**Automatic welder protective filter:** **SF-500S**  
**Vorsatzscheiben gegen Schweißspritzer /**  
**Front lenses against welding spatter:** **VS-WEGA400 (109,6 x 86 x 1,0 mm)**  
**Hinterlegscheibe / Rear pane:** **HS-WEGA400 (103,8 x 52,8 x 0,8 mm)**  
 Art.-Nr. / Art. no.: **809458**

<input checked="" type="checkbox"/> 2014/30/EU	<input checked="" type="checkbox"/> (EU)/2016/425
<input checked="" type="checkbox"/> 2011/65/EU*	<input checked="" type="checkbox"/> 2001/95/EG

**Standard references:**

**EN 166:2001; EN 175:1997; EN 379:2003+A1:2009**

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.  
 This declaration of conformity is issued under the sole responsibility of the manufacturer.

Die notifizierte Zertifizierungsstelle DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Alboinstraße 56, 12103 Berlin, Notified body number 0196, hat die EU-Baumusterprüfung durchgeführt und die EU-Baumusterprüfbescheinigung C6490SF/R0, C6491SF/R0, C6492SF/R0, C6493SF/R0 ausgestellt.

The notified certification body DIN CERTCO Gesellschaft für Konformitätsbewertung GmbH, Alboinstraße 56, 12103 Berlin, Notified body number 0196, carried out the EC type examination and issued the EC type examination certificate C6490SF/R0, C6491SF/R0, C6492SF/R0, C6493SF/R0.

\* Der oben beschriebene Gegenstand der Erklärung erfüllt die Vorschriften der Richtlinie 2011/65/EU des Europäischen Parlaments und des Rates vom 8. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten.

The object of the declaration described above fulfils the regulations of the directive 2011/65/EU of the European Parliament and Council from 8th June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Ichenhausen, den 30.04.2021

Unterschrift / Andreas Pecher / Head of Project Management

**First CE: 2020**  
**Subject to change without notice**

Technische Dokumentation verfügbar bei:  
 Documents registrar: Georg Kohler  
 Schepbach, Fabrikation von Holzbearbeitungsmaschinen GmbH  
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Great care has gone into the manufacture of this product and it should therefore provide you with years of good service when used properly. In the event of product failure within its intended use over the course of the first 3 years after date of purchase, we will remedy the problem as quickly as possible once it has been brought to our attention. In the unlikely event of such an occurrence, or if you require any information about the product, please contact us via our helpline support services, details of which are to be found both in this manual and on the product itself.



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MODEL: WEGA400	10/2021

<b>3</b> <b>YEAR</b> <b>WARRANTY</b>
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