

# **Instruction Manual**



\_\_\_\_\_ EG 5



EG 5



# Imprint

#### Product identification

Electric grinder	Item number
EG 5	1692005

#### Manufacturer

	aschinen GmbH Pfleger-Str. 26 Ilstadt
Fax:	0049 (0) 951 96555 - 55

E-Mail:	info@schweißkraft.de
Internet:	www.schweißkraft.de

## Indications regarding the operating instructions

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Author: MS

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#### Indications regarding the copyright

Copyright © 2021 Stürmer Maschinen GmbH, Hallstadt, Germany.

Subject to technical modifications and error.



# 1 Introduction

You have made a good choice by purchasing the electrode grinder from Schweißkraft.

# Read the operating instructions carefully before using the machine.

These are an important part and must be kept near the machine and accessible to every user.

The operating instructions inform you about the proper commissioning, the intended use as well as the safe and efficient operation and maintenance of the electrode grinding machine.

In addition, observe the local accident prevention regulations and general safety regulations for the area of application of the electrode grinding unit.

## 1.1 Copyright

The contents of these instructions are protected by copyright and are the sole property of Stürmer Maschinen GmbH. Their use is permitted within the scope of the use of the electrode grinding unit. Any other use is not permitted without the written consent of the manufacturer.

Passing on and reproduction of this document, utilisation and communication of its contents are prohibited unless expressly permitted. Violations will result in liability for damages. We register trademark, patent and design rights to protect our products, insofar as this is possible in individual cases. We emphatically oppose any infringement of our intellectual property.

## 1.2 Customer service

Please contact your dealer if you have questions concerning your device or if you need technical advice. They will help you with specialist information and expert advice.

#### Germany:

Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26 D-96103 Hallstadt

#### Repair service:

 Fax:
 0049 (0) 951 96555-111

 E-Mail:
 service@stuermer-maschinen.de

#### Spare part orders:

Fax:0049 (0) 951 96555-119E-Mail:ersatzteile@stuermer-maschinen.de

We are always interested in valuable experience and knowledge gained from using the application which then could be shared and be valuable to develop our products even further.

## 1.3 Limitation of liability

All information and notes in these operating instructions were summarised while taking applicable standards and rules, the state-of-the-art technology and our long-term knowledge and experiences into consideration.

In the following cases the manufacturer is not liable for damages:

- Non-observance of the operating instructions,
- Inappropriate use
- Use of inexperienced staff,
- Unauthorised modifications
- Technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may deviate from the explanations and presentations described here in case of special models, when using additional ordering options or due to latest technical modifications.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery condi-tions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicablen.

# 2 Safety

This section provides an overview of all important safety packages for the protection of the operating personnel as well as for safe and fault-free operation. Other task based safety notes are included in the paragraphs of the individual phases of life.

## 2.1 Symbol explanation

## Safety instructions

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.





#### DANGER!

This combination of symbol and signal word indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

#### WARNING!

This combination of symbol and signal word indicates a potentially dangerous situation that will result in death or serious injury if not avoided.

#### CAUTION!

This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in minor or slight injury.

#### ATTENTION!

This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in damage to property and the environment.



## NOTE!

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.

#### Tips and recommendation

# Tips and recommendation

This symbol highlights useful tips and recommendation as well as information for all efficient and trouble-free operation.

It is necessary to observe the safety notes written in these operating instructions in order to reduce the risk of personal injuries and damages to property.

## 2.2 Responsibility of the operator

The operator is the person who operates the machine himself for commercial purposes or who makes it available to a third party for use or application and who bears the legal product responsibility for the protection of the user, personnel or third parties during operation.

#### Obligations of the Operator:

If the machine is used in the commercial sector, the operator of the machine is subject to the legal obligations for occupational safety. Therefore, the safety instructions in these operating instructions as well as the safety, accident prevention and environmental protection regulations valid for the area of application of the machine must be observed. The following applies in particular:

- The operator must inform himself about the applicable occupational health and safety regulations and determine additional hazards in a hazard assessment that result from the special working conditions at the place of use of the machine. He must implement these in the form of operating instructions for the operation of the machine.
- During the entire period of use of the machine, the operator must check whether the operating instructions he has drawn up correspond to the current status of the regulations and, if necessary, adapt them.
- The operator must clearly regulate and define the responsibilities for installation, operation, trouble-shooting, maintenance and cleaning.
- The operator must ensure that all persons handling the machine have read and understood these instructions. In addition, he must train the personnel at regular intervals and inform them about the dangers.
- The operator must provide the personnel with the required protective equipment and instruct them to wear the required protective equipment.

Furthermore, the operator is responsible for ensuring that the machine is always in technically perfect condition. Therefore, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are observed.
- The operator must have all safety devices checked regularly for functionality and completeness.



## 2.3 Qualification of the staff

#### WARNING!

#### Danger in case of insufficient qualification of persons!

Insufficiently qualified persons cannot assess the risks when handling the machine and expose themselves and others to the risk of serious or fatal injuries.

- All work must only be carried out by qualified persons.
- Keep insufficiently qualified persons away from the work area.

Only persons who can be expected to perform this work reliably are permitted for all work. Persons whose ability to react is influenced by drugs, alcohol or medication, for example, are not permitted.

In these operating instructions, the qualifications of the persons listed below are named for the various tasks:

#### **Operator:**

The operator has been instructed by the operator about the tasks assigned to him and possible dangers in case of improper behaviour. The operator may only perform tasks that go beyond operation during normal operation if this is specified in these operating instructions and the operator has expressly entrusted him with them.

#### **Qualified electrician:**

Due to their technical training, knowledge and experience as well as knowledge of the relevant standards and regulations, the qualified electrician is able to carry out work on electrical systems and to recognize and avoid possible dangers independently.

#### Specialist staff:

Due to their technical training, knowledge and experience as well as knowledge of the relevant standards and regulations, the specialist staff is able to carry out the work assigned to them and to independently recognize and avoid possible dangers.

#### Manufacturer:

Certain work may only be carried out by qualified personnel from manufacturer. Other staff is not authorized to carry out this work. Contact our customer service to carry out the work

## 2.4 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protec-tive equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:



## Hearing protection

Hearing protection protects the ears from hearing damage caused by noise.



## Safety goggles

Protective goggles protect the eyes from flying parts.



## Use suitable protective gloves

The protective gloves protect the hands from sharpedged components, as well as from friction, abrasions or deeper injuries.



## Safety boots

The safety boots protect the feet from crushing, falling parts and slipping on slippery surfaces.



## Protective clothing

The protective clothing is tight-fitting clothing with low tear resistance.



## **Protective apron**

The chemical protection apron protects against contamination and chemicals.

The heat protection apron protects against heat.

The stab protection apron protects against mechanical injuries.



## 2.5 General safety regulations

- Before commissioning, check the device for externally visible damage and defects.
- After grinding, do not remove the electrode holder until the motor has come to a standstill.
- Repair defects and damage immediately.
- Work on the electrical equipment may only be carried out by a qualified electrician.
- Do not use the device in damp wet conditions, rain, etc.
- Make sure that the switch is switched off when plugging the plug into the socket to prevent inadvertent startup.
- The operator must follow the instructions for operating the device.
- Memorize the switch positions of the device to react properly in an emergency.
- Please interrupt the power supply immediately if smoke, odor or noise occur during operation.
- Check that the sanding device is firmly installed.
- Check the tightness of the unit before switching on the power supply.
- Then check the attachment of the grinder one more time.
- Use the cover plate while working.
- It is forbidden to bring your hand into the grinding zone during work.
- Make sure the power supply is turned off and disconnected when cleaning the consumables.
- Be sure to use the tungsten pin clamp that meets the specifications of the tungsten electrode.
- Non-professional personnel may not remove the device housing.

## 2.6 Safety data sheets

Safety data sheets for hazardous materials can be obtained from your specialist dealer or by phone: +49 (0)951/ 96555-0. Specialist dealers can find safety data sheets in the download area of the partner portal.

## 2.7 Safety devices



## WARNING!

#### Danger from life from non-functioning safety devices!

If safety devices do not work or are disabled, there is a risk of serious injuries or even death.

- Before starting work, check whether all safety devices are functional and correctly installed.
- Never bypass or disable the safety devices.
- Make sure that all safety devices are always accessible.



## WARNING!

#### Danger from uncontrolled restart!

Uncontrolled switching on of the device can lead to serious injuries.

- Before switching on again, ensure that the cause of the switch-off has been eliminated and that all safety devices are installed and functional.
- Do not switch on the electric grinder until there is no longer any danger.

# 3 Intended Use

The EG 5 tungsten electrode grinder is only to be used to grind commercially available TIG welding electrodes. It is mainly used for sharpening tungsten rods, tungsten electrodes, tungsten needles and welding pins. The device is only to be used for electrode diameters of 1.6 mm to 5.0 mm and a minimum electrode length of 35 mm.

The device is not suitable for use with tungsten electrodes containing thorium oxide.

Intended use also includes compliance with all information in these instructions.



## 3.1 Reasonably foreseeable misuse

Any use that goes beyond the intended use or is different is deemed to be misuse.

#### Possible misuse can be:

- Failure to observe the signs of wear and damage.
- Use of the device in potentially explosive and fireprone environments without appropriate fire protection measures and in rooms with insufficient fresh air supply.
- Service work by untrained or unauthorized personnel.
- Operating the device if the operating instructions have not been read and understood in full.
- Installation of spare parts and use of accessories or equipment that are not approved by the manufacturer.
- Improper use of the electrode grinder.
- Modifications to the device, accessories or protective devices without the consent of the manufacturer.
- Use of the device with parameters that do not match the information on the nameplate.
- Deliberate or careless handling of the device during operation.

Misuse of the device can lead to dangerous situations.

In the event of constructive and technical changes to the electrode grinder takes over the company Stürmer Maschinen GmbH no liability.

Claims of any kind due to damage due to improper use are excluded.

## 3.2 Residual risks

Even if all safety regulations are observed and the machine is used correctly, there are still residual risks, which are listed below.

- There is a risk of injury to the upper limbs (e.g. hands, fingers).
- Heat development on components can lead to burns and other injuries.
- Electrical hazard from contact with parts and high voltage (direct contact) or with parts that are under high voltage due to a defect in the device (indirect contact).

#### **Technical Data** 4

Туре	EG 5
Length (product) approx.	225 mm
Width/depth (product) approx.	150 mm
Height (product) approx.	195 mm
Net weight approx.	4,1 kg
Supply voltage	220- 230 V
Current type	AC
Mains frequency	50-60 Hz
Electrode diameter	1,6 - 5,0 mm
Max. electrode length	35 mm
Grinding angle	15-60°
Speed	6500 min <sup></sup> 1
Diamond disk diameter	90 mm
Drive motor output	0,07 kW

## 4.1 Type plate





# 5 Transport, Packaging, Storage

## 5.1 Delivery and Transport

#### Delivery

Check the device for visible transport damage after delivery. If the device shows damage, it must be reported immediately to the transport company or the dealer.

#### Scope of delivery:

- Electric grinder EG 5
- Diamond disc Ø 90 mm
- One collet chuck each 1.6 / 2.0 / 2.4 / 3.2 / 4.0 mm
- Instruction Manual

## 5.2 Packaging

All used packaging materials and packaging aids are recyclable and should be taken to a materials recycling depot to be disposed of.

The delivery packaging is made of cardboard, so please dispose carefully by having it chopped up and given to the recycling collection.

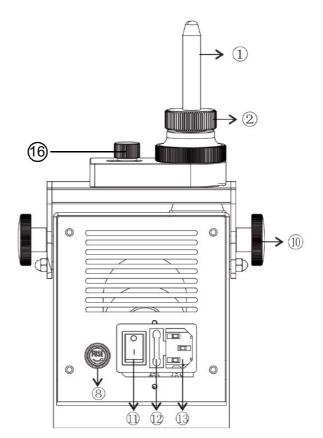
The film is made of polyethylene (PE) and the cushioned parts of polystyrene (PS). These materials should be taken to a collection point for recyclable materials or to the local waste disposal company.

## 5.3 Storage

The device must be thoroughly cleaned before storing it in a dry, clean and frost-free environment.

# 6 Description of the Device

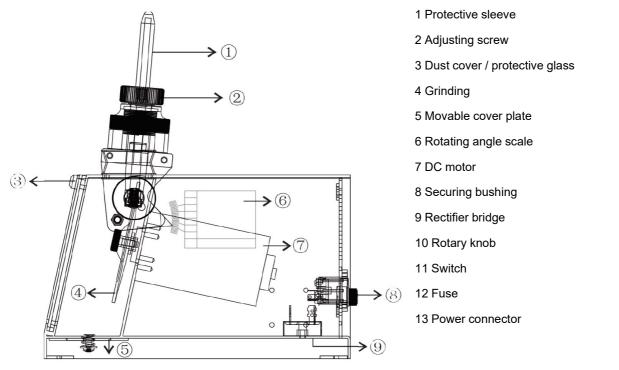
## 6.1 Overall view



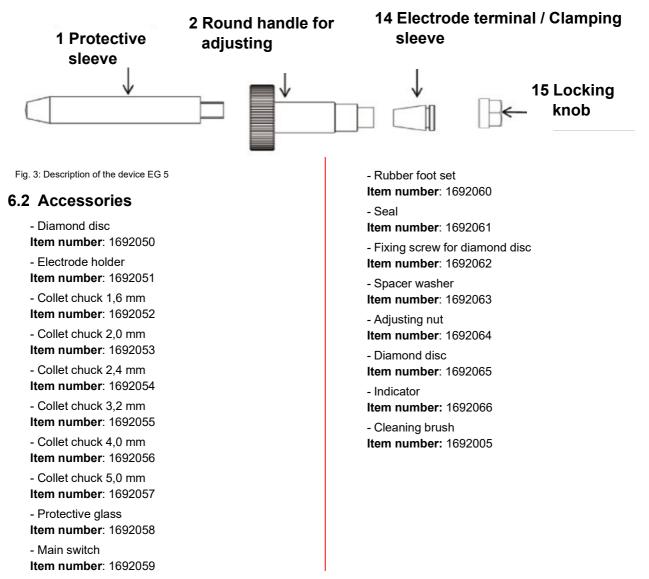
- 1 Protective sleeve
- 2 Sdjusting screw
- 3 Cover plate
- 4 Grinding wheel
- 5 Movable cover plate
- 6 Rotating angle scale
- 7 DC motor
- 8 Securing bushing
- 9 Rectifier bridge
- 10 Rotary knob
- 11 Switch
- 12 Fuse
- 13 Power connector

Fig. 2: Description of the device EG 5





Electrode clamping device / Electrode holder





# 7 Electrical Connection



## DANGER!

**Danger of electrocution!** 

Work on the electrical connection may only be carried out by qualified electricians.

It must be ensured that the power connection has the same characteristics (voltage, mains frequency) as the motor.

# 8 Installation and Commissioning

## 9 Service

Always follow the safety instructions and follow the relevant regulations.

Before switching on the device, the electrode holder must always be in the supply channel.



## CAUTION!

When grinding, the protective glass must always be closed.



## Ear protection

When using the tungsten electrode grinder, wear ear protection!

The A - weighted - equivalent continuous sound pressure level at the workplace is higher than 70 dB (A). Measured according to EN ISO 11201.



## Eye protection

The goggles protect the eyes from flying parts and liquid splashes.



#### Use suitable Protective gloves

The protective gloves protect the hands from sharpedged components as well as from friction, abrasions or deeper injuries.



## Safety shoes

The safety shoes protect the feet against bruising, falling parts and slipping on slippery surfaces.

## 9.1 Operation



# NOTE!

Before use, check the validity of the inspection period with reference to the relevant statutory safety regulations for electrical installations and equipment.



## Wear respiratory protection!

The dust mask protects against coarse dust particles.

Prior to commissioning, make sure that the mains voltage and mains frequency stated on the rating plate match the data of your mains supply. The connection is only permitted on sockets with protective contact.

The device is equipped with a clamping sleeve for certain electrode diameters. It is possible that another collet must be used for a different diameter. The device must then be converted accordingly.

Step 1: Turn the rotating body (A) to the required angular position by referring to the angle indicator (C). Set the grinding angle according to the required grinding effect and tighten the fastening knob (B, Fig.4) on both sides.



Fig. 4: Angular adjustment of the rotary body

- Step 2: Set the extension length of the tungsten electrode (Item 2, Fig. 2, the lock knob is on the rotary body and the tungsten electrode tip is between the two lines of the longitudinal position setting block).
- Step 3: Turn the upper (Item 2, Fig. 2) and lower adjustment knob to the highest position.

#### Grinding the tungsten electrode

- Step 4: Insert the electrode into the grinder to start the grinding process. Use the left hand to actuate the adjustment handle (item 2, Fig. 2) for the upward and downward movement of the grinding tip length infeed. Use the right hand to turn the adjustment handle (Item 16. Fig.2) to adjust the position of the tip.
- Step 5: Observe the degree of grinding. When the required effect has been achieved, the tungsten electrode can be removed.

#### After completion of the work order

- Step 6: Turn off the power after grinding, remove the tungsten electrode clamp (Fig.3). Turn the locking knob (Item 15, Fig. 3) open. Remove the Tungsten electrode clamp (Pos.14, Fig.3) and the electrode. Place the finished tungsten electrode in a protected location.
- Step 7: Turn the movable cover plate (Pos.5, Fig.2) in the bottom of the unit so that you can remove the coarse dust.



## NOTE!

Before switching on the device, the electrode holder must always be in the supply channel.

Before the electrode holder is removed, the motor must come to a standstill.

If this notice is disregarded, sanding dust may leak from the supply channel or become lodged in the supply channel.

At the next feeding, the electrode holder may jam in the feed channel due to the grinding dust deposit.

Before repair, - change the maintenance and grinding wheel and after use pull out the mains plug.

## 10 Care, Maintenance and Repair



## **CAUTION, MAINTENANCE!**

Always unplug the power cord before servicing. Maintenance work extends the life of the machine if it is carried out regularly and professionally.

Before repair, maintenance and grinding wheel change and after use pull the mains plug.



# NOTE!

After servicing, maintenance and repair work, check that all panels and protective devices are correctly installed on the Electric grinder again.

Damaged safety devices and equipment must be repaired or replaced by the customer service.

- After using the equipment, the wearing parts must be cleaned promptly. Keep the device clean.
- Add lubricants to the rotating parts in a timely manner to ensure smooth rotation.
- It is forbidden to service the device in the area of corrosive gases or smoke.
- Use a stable voltage source for the power supply.
- Make sure the power cord is undamaged to prevent fire or electric shock.
- Disconnect the power supply during maintenance.

## 10.1 Maintenance



## DANGER!

Repairs or maintenance may only be carried out by qualified and trained specialist personnel.

- Use only original spare parts.

If the device does not work properly, contact a dealer or our customer service. The contact details can be found in chapter 1.2 Customer Service.



# NOTE!

Before servicing and maintaining the Electric Grinder, the maintenance instructions must be read carefully. The use of the Electric Grinder is only permitted for persons who are familiar with the Electric Grinder.



## DANGER!

#### Danger due to insufficient qualification of persons!

Insufficiently qualified persons can not assess the risks involved in maintenance work on the Electric Grinder and expose themselves and others to the risk of serious injury.

- All maintenance work should only be carried out by qualified persons.

# 1

#### Tips and recommendations

To ensure that the device is always in good operating condition, regular care and maintenance work must be carried out.



## 10.2 Care by cleaning

- Clean the device externally with a cloth.
- Do not use a damp cloth or light oil, solvents or alcohol to clean the unit. Otherwise, it may cause fading or deformation.
- Under the condition that the unit is heavily soiled, you can use a piece of cloth and put in a neutral detergent dilution, then dry until slightly damp. Use the slightly damp cloth to wipe off the product. After the dirt has been removed, dry the product with a soft, dry cloth.

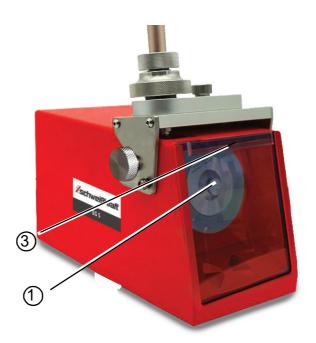
## 10.3 Grinding wheel change



#### ATTENTION!

Perform a device cleaning before!

- Step 1: Turn the rotating body backwards.
- Step 2: Remove the front panel (protective glass) 3 from the unit by pulling it upwards.
- Step 3: Unscrew the fixing screw 1 of the sanding plate 4.
- Step 4: Remove the sanding plate 4.



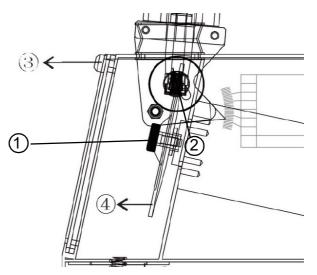


Fig. 5: Replacing the grinding wheel

- Step 5: When inserting the new sanding plate, make sure that the spacer 2 is inserted.
- Step 6: Reassemble the remaining components in reverse order.

## **10.4 Troubleshooting**

In case of malfunction or wear of a part, contact your local dealer.



# 11 Disposal, Recycling of used Devices

Please take care in your own interest and in the interest of the environment that all component parts of the ma-chine are only disposed of in the intended and permitted way.

## 11.1 Decommissioning

Disused equipment must be taken out of service immediately in order to avoid later misuse and endangering the environment or people.

- Dispose of all environmentally hazardous fluids from the old device.
- If necessary, disassemble the machine into manageable and usable assemblies and components.
- Supply the machine components and operating materials to the appropriate disposal channels.

## 11.2 Disposal of electrical equipment

Electrical equipment contains a variety of recyclable materials and environmentally harmful components.

These components must be separated and properly disposed of. If in doubt, contact municipal waste management.

If necessary, the help of a specialized waste disposal company can be used for the treatment.

# 11.3 Disposal via municipal collection points

Disposal of used electrical and electronic equipment (Applicable in the countries of the European Union and other European countries with a separate collection system for these appliances).

The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be returned to a collection point for the recycling of electrical and electronic equipment. By helping to properly dispose of this product, you are protecting the environment and the health of others. Environment and health are endangered by improper disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local community, municipal waste management, or the shop where you purchased the product.

## 12 Spare parts



## DANGER!

# Danger of injury by the use of wrong spare parts!

Dangers may result for the user and damages as well as malfunctions may be caused by using wrong or damaged spare parts.

- Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.
- Always contact the manufacturer in case of uncer-tainties.



## LOSS OF WARRANTY!

The manufacturer's warranty will become null and void if non-permissible spare parts are used.

## 12.1 Ordering spare parts

The spare parts may be purchased with the authorised dealer.

Indicate the following basic information for requests or orders of spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare parts orders without the aforementioned data cannot be taken into account. The supplier shall deter-mine the shipping type if no relevant data was provided.

Data on the machine type, item number and year of manufacture is listed on the type plate attached to the device.

#### Example

The engine for the Electric grinder EG 5 must be ordered. The engine has the number 5 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (engine) and marked positon number (5) to the dealer or spare parts department and provide the following information:

Type of device:	Electric grinder EG 5
Item number:	1692005
Drawing number:	1
Position number:	5



## 12.2 Spare parts drawing

The following spare parts drawing is intended to help identify the necessary spare parts. To order, please send a copy of the list of spare parts with the marked components to your dealer.

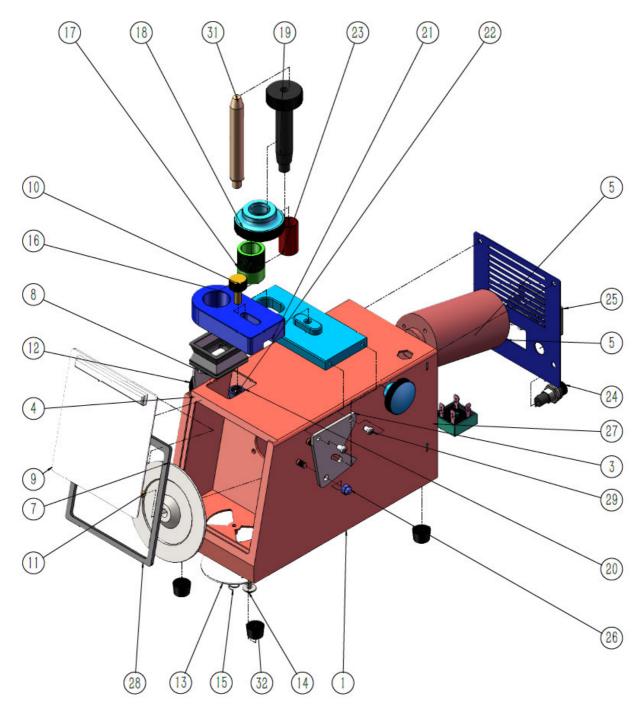


Fig. 6: Spare parts drawing EG 5



# 13 Electrical Wiring Diagram

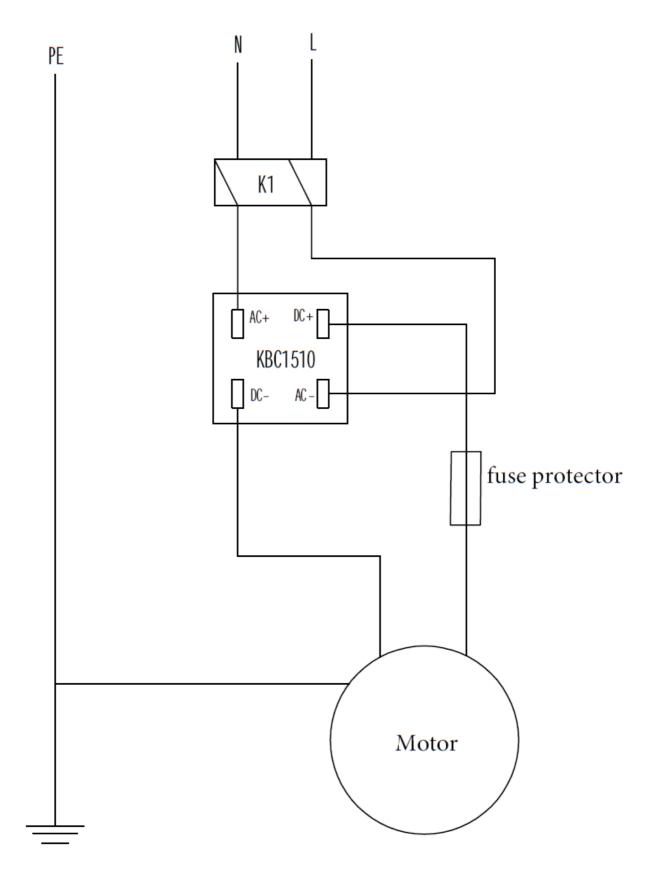


Fig. 7: Electrical wiring diagram



# 14 EC Declaration of Conformity

According to Machinery Directive 2006/42/EC, Annex II 1.A

Manufacturer / distributor:	Stürmer Maschinen GmbH DrRobert-Pfleger-Straße 26 D-96103 Hallstadt
hereby declares that the following proc	duct
Product group:	Schweißkraft® Welding technology
Designation of the machine:	EG 5
Type of machine:	Electric grinder
Item number:	1692005
Serial number*:	
Year of manufacture*:	20* please fill in according to the information on the type plate

Due to its design and construction, as well as in the version we have placed on the market, it complies with the relevant basic health and safety requirements of the above-mentioned and subsequent EC directives.

Applicable EU Directives:	2014/30/EU	EMV-Directive
	2012/19/EU	WEEE-Directive
	2011/65/EU	RoHS-Directive
	EU 2015/863:2015-03-31	Amendment of Annex II to Directive 2011/65 / EU

#### The following harmonized standards were applied:

DIN EN 61000-6-1:2007-10	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:2005)
DIN EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:2006 + A1:2010)
DIN EN 61000-3-2:2010-03	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current <= 16 A per phase) (IEC 61000-3-2:2005 + A1:2008 + A2:2009)
DIN EN 61000-3-3:2014-03	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection (IEC 61000-3-3:2013)
DIN EN 62841-1:2016-07	Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 1: General requirements (IEC 62841-1:2014, modified + Cor. 1:2014 + Cor. 2:2015)

Responsible for documentation: Kilian Stürmer, Stürmer Maschinen GmbH, Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 27.08.2019

Kilian Stürmer Manager





## 15 Notes





- www.schweißkraft.de -