metallkraft
Metallbearbeitungsmaschinen

# Instruction Manual

## Combined pipe, section and belt grinding machine

KRBS 101


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# Imprint

**Product identification**

Combined pipe, section and belt grinding machine

KRBS 101 3921001

**Manufacturer**

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**Indications regarding the operating instructions**

Original instructions

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Author: ES/FL

**Indications regarding the copyright**



# Content

# 1 Introduction

You have made a good choice by purchasing the Combined pipe, section and belt grinding machine made by METALLKRAFT.

**Thoroughly read the operating instructions before commissioning the machine.**

It informs you about the proper commissioning, the intended use as well as the safe and efficient operation and maintenance of your Combined pipe, section and belt grinding machine.

The operating instructions are part of the Combined pipe, section and belt grinding machine. Always keep it at the place of use of the Combined pipe, section and belt grinding machine. Furthermore, the local accident prevention regulations and the general safety notes are applicable for the field of application of the Combined pipe, section and belt grinding machine. The illustrations in these operating instructions serve the general comprehension and may deviate from the actual type.

## 1.1 Copyright



## 1.2 Customer service

Please contact your dealer if you have questions on the machine 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:**
Hotline: 0951 96555-100
Fax: 0951 96555-111
E-Mail: service@stuermer-maschinen.de
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Fax: 0951 96555-119
E-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 taking the applicable standards and rules, the state-of-the-art 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 untrained 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 conditions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicable.

# 2 Safety

This paragraph will give you an overview of all important safety packages for the protection of the people using it well as for a safe and undisturbed operation. Other task-based safety notes are included in the individual chapters.

## 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.

**WARNING!**

This combination of symbol and signal words indicates an imminently dangerous situation which may lead to death or severe injuries if they are not avoided.

**CAUTION!**

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to minor or light injuries if they are not avoided.

**ATTENTION!**

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.

**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 recommendations**

**Tips and recommendations**

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

It is necessary to observe the safety notes quoted in these operating instructions in order to reduce the risks for personal injuries and damages to property.

## 2.2 Obligations of the operating company

The operating company is the person who operates the machine for business or commercial reasons by herself, or leaves it to a third party for use or application, and who bears the legal product responsibility for the protection of the user, the staff or for third parties.

**Obligations of the operating company:**

If the machine is used for commercial purposes, the operating company must comply with the legal working safety regulations. Therefore, the safety notes in this operating manual, as well as the safety, accident prevention and environment protection regulations applying for the area of application of der Maschine must be met. The following applies in particular:

- The operating company must be informed about the applying industrial safety regulations and further analyse hazards resulting from the special working conditions at the place of use the Machine. She must implement these in form of operating manuals for the operation the Machine.
- During the entire lifetime of the Machine, the operating company must verify whether the operating manuals prepared by her correspond to the current status of the regulations, and must adapt these if necessary.
- The operating company must unambiguously regulate and determine the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operating company must ensure that all persons who work with the Machine, have read and understood this manual. Furthermore she must instruct the staff in regular intervals and inform them about the hazards.
- The operator must provide the necessary protective equipment to the staff and order the use of the necessary protective equipment in a binding way.

Furthermore the operating company is responsible to keep die Machine always in a technically flawless state. Thus, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are kept.
- The operator must have all safety devices checked regularly for their good working order and their integrity.

## 2.3 Qualification of personnel

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.

**WARNING!**

**Danger in case of insufficient qualification of the staff!**

Insufficiently qualified persons cannot estimate the risks while using the Machine and expose themselves and others to the danger of severe injuries.

- Have all works only performed by qualified persons.
- Keep insufficiently qualified persons and children out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine.

The qualifications of the personnel for the different tasks are mentioned below:

**Operator:**

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be performed beyond the operation in the standard mode must only be performed by the operator if it is indicated in these instructions and if the operating company expressively commissioned the operator.

**Electrical specialist:**

Due to his professional training, knowledge and experience as well as his knowledge of respective standards and regulations the electrical specialist is able to perform works on the electrical system and to recognise and avoid any possible dangers himself.

**Specialist staff:**

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

**Manufacturer:**

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

## 2.4 Personal protective equipment

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

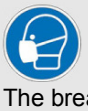
The personal protective equipment is explained in the following paragraph:

**Eye protection**

The protective goggles protect the eyes against parts flying off and splashes of liquids.

**Ear protection**

The hearing protection protects the ears against damages of hearing due to noise.



**Breathing protection**

The breathing protection serves for protecting the respiratory passages and the lung against the intake of dust particles.

**Protective gloves**

The protective gloves serve to protect the hands against sharp components as well as against friction, abrasions or deep injuries.

**Safety boots**

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.

**Protective clothes**

The protective clothes are tight clothes of little tensile strength.

## 2.5 Safety equipment

To protect against flying sparks on the housing above the contact wheel, a protective screen attached. The on-off switch unit is combined with an emergency stop switch.

## 2.6 Safety signs on the machine

The following safety signs and notes are applied on the Combined pipe, section and belt grinding Machine (Fig. 1), which need to be observed and followed.

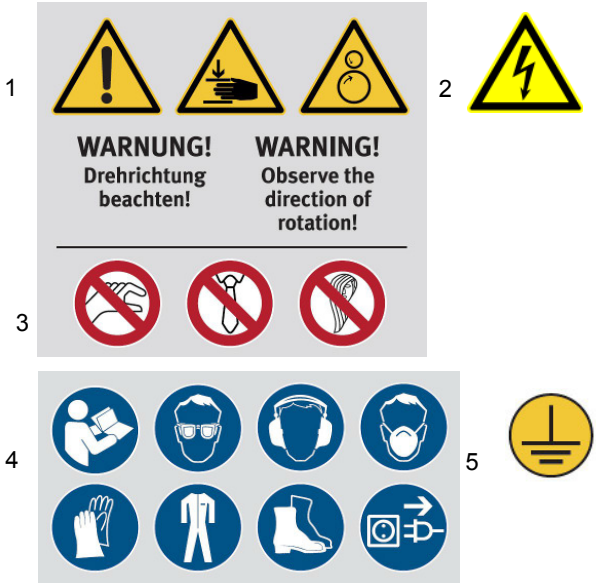



Fig. 1: Safety signs

Damaged or missing safety symbols at the machine may lead to errors with personal and material damages. The safety symbols which are applied on the machine must not be removed. Damaged safety symbols must be replaced immediately.

The machine must be put out of operation from the moment when the labels are unable to be recognized and understood at first glance, until new labels are attached.

# 3 Intended use

The pipe belt sander is designed exclusively for grinding and deburring of various metallic, cold and non-combustible materials. It must not be operated in potentially explosive environments.

For operation at the pipe grinding station on the front of the device, the workpiece must be tightened with the existing vise.

For operation on the belt grinding station on the back of the device, the supplied support table must be mounted before machining the workpiece.

When working on the various workstations, attention must be paid to the respective direction of rotation of the sanding belt (indicated by means of directional arrows at the respective workstations). The direction of rotation must be determined by means of a grinding test (eg sparking of a test piece).

Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse.

**Misuse:**

The Pipe belt sander must neither be used for grinding flammable materials (e. g. magnesium, wood or similar).

**WARNING!**

**Danger in case of misuse!**

A misuse of the Machine can result in dangerous situations.

- Only operate the Machine in the power range given in the technical specifications.
- Never bypass or override the safety devices.
- Only operate the Machine in a technically flawless status.

The company Stürmer Maschinen GmbH is not liable for any design and technical modifications on the the Machine.

Any claims due to damages because of intended use are excluded.

# 4 Technical Data

## 4.1 Table

| Technical Data | Model KRBS 101 |
|---|---|
| Belt dimensions | 100 x 2000 mm |
| Motor output | 2.5 kW/3.3 kW |
| Electrical connection | 400 V/50 Hz |
| Motor speed | 1400/2800 rpm |
| Belt speed | 15–30 m/s |
| Grindable diameter | 20 - 76 mm |
| Adjustable grinding angle | 30 - 90° (0° - 60°) |
| Extraction duct nominal width outside | 2 x 74 mm |
| Dimensions L x W x H | 1250 x 750 x 1140 mm |
| Weight | 159 kg |

## 4.2 Type Plate

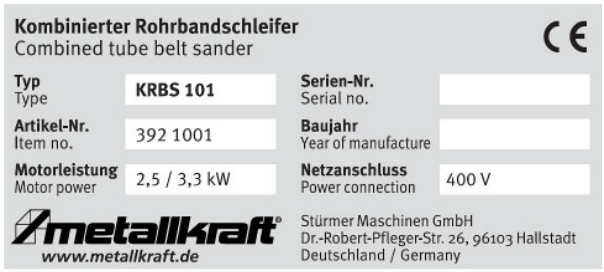



Fig. 2: Type Plate KRBS 101

# 5 Transport, packaging, storage

## 5.1 Delivery and transport

**Delivery**

Check if there are any visible transportation damages after delivery of the Machine. If the Machine shows any damages, immediately inform the carrier or the distributor.

**Transport**

**WARNING!**

**Danger to life due to falling load!**

If the weight of the equipment and the permissible lifting capacity of the lifting equipment are not observed during transport or lifting operations, the machine may tip over or crash.

- During transport and during lifting work, pay attention to the weight of the device and the permissible load capacity of the lifting equipment.

**NOTE !**

Protect the Machine against humidity.

The device may only be transported upright and only when the engine is switched off.

**Transport with a forklift / pallet truck:**

For shipment, the unit is delivered in a box on a pallet so that it can be transported by forklift or pallet truck.

**Transport by Crane:**

The machine has a special transport eyelet. Always use a crane when assembling and transporting the machine and only hang the hoists in the lifting lug.

## 5.2 Packaging

All packaging materials and packaging aids used in the device are recyclable and must always be recycled.

Packaging components made of cardboard are crushed to give waste paper collection.

The foils are made of polyethylene (PE) and the upholstery parts made of polystyrene (PS). These substances must be handed over to a recycling center or to the responsible disposal company.

## 5.3 Storage

The Machine must be stored thoroughly cleaned in a dry, clean and frost-free environment.

# 6 Description of the device

## 6.1 Image

**The illustrations in these operating instructions serve the general comprehension and may deviate from the actual type.**

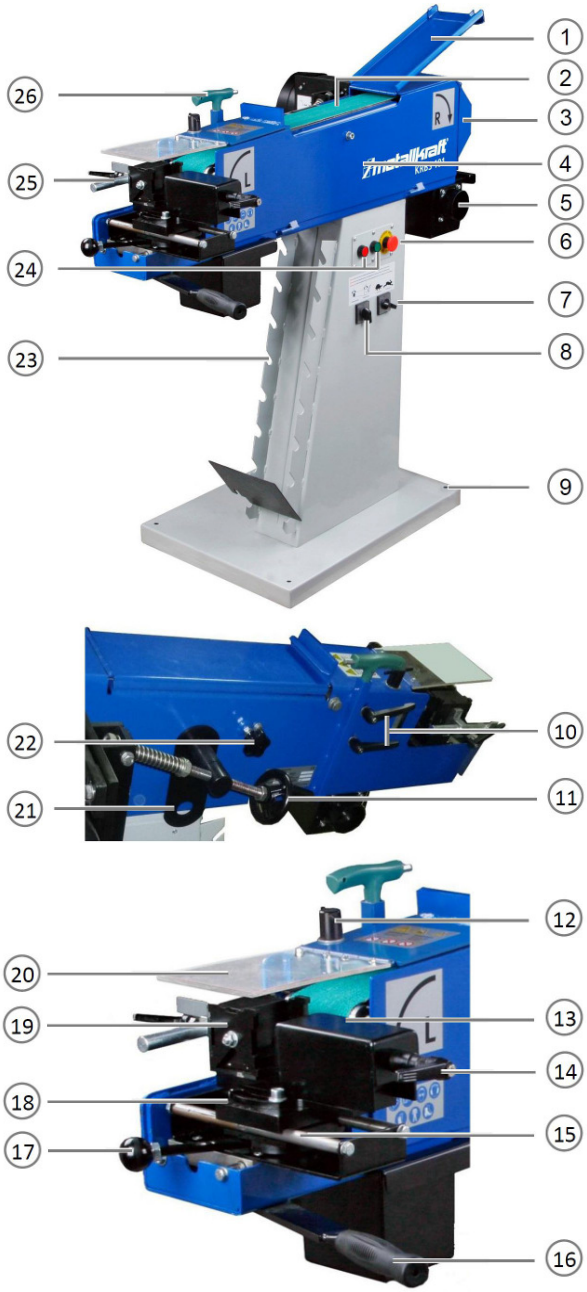



Fig. 3: Description of the device

1 Cover for surface grinding station
2 Feed grinding
3 Cover belt grinding station
4 Cover grinding belt
5 Suction
6 Emergency stop button
7 Speed stage switch
8 Changeover switch pipe grinder L - belt sander R

9 Drilling holes for anchoring
10 Clamping lever for height adjustment
11 Handwheel for adjusting the belt tension
12 Adjustment screw for height of the roller
13 Jaw
14 Clamping lever for clamping jaw
15 Guide cross slide
16 Feed lever
17 Clamping lever for cross slide
18 Grinding angle adjustment
19 Clamping prism
20 Cover tube grinding station
21 Transport lug
22 Adjustment screw
23 Contact rollers
24 START- and STOP Button
25 Workpiece stop
26 Internal hex

## 6.2 Scope of supply

- 1x Standard-grinding belt 36 grain
- 1x Spanner
- 2x Swarf catchment containers
- 1x Grinding roll Ø 42mm

## 6.3 Accessories

- Roller for 3/8“ pipe
- Roller for 1/2“ pipe
- Roller for 22 mm pipe
- Roller for 3/4“ pipe
- Roller for 28 mm pipe
- Roller for 1“ pipe
- Roller for 34 mm pipe
- Roller for 1 1/4“ pipe
- Roller for 44 mm pipe
- Roller for 1 1/2“ pipe
- Roller for 50 mm pipe
- Roller for 2“ pipe
- Roller for 62 mm pipe
- Roller for 2 1/2“ pipe
- Roller for 28 mm pipe
- Extraction unit (optional)

# 7 Installation

**ATTENTION!**

Check the floor loading capacity before you install the machine. The place of installation must be capable of bearing the weight of the machine and the workpieces.

In order to attain good functionality as well as a long durability of the Machine the installation site should fulfil certain criteria.

- The Machine may only be placed and operated in a dry, venti lated space.
- Do not place the machine in the neighbourhood of dust- and chips producing machines.
- The place of erection should be free of vibrations, so away from presses, planers etc.
- The floor hast to be suitable for the work. Pay attention to bearing capacity and levelness of the floor.
- Protruding parts, like f.i. stop plate grips etc. need to be made safe in such away that people are not jeopardized.
- there should be enough place for operation staff and transport of material.
- Think also of the accessibility for adjustment and maintenance work.
- Take care of sufficient light (minimal 300 Lux)

## 7.1 Mounting

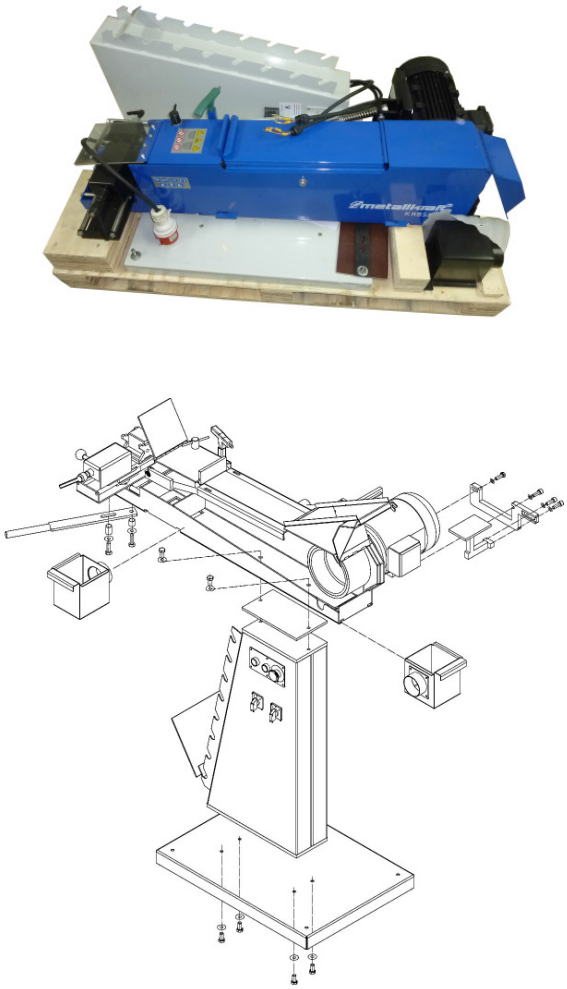


Fig. 4: Mounting

Step 1: Tighten the machine foot with the four screws on the ground plate.

Step 2: Lift the machine chassis on the foot. Put an intermediate plate between the pipe notcher and the foot, before you put him down clefinitely. We aclvise you to use a crane. **Attention:** To litt the chassis, use the transport eye.

Step 3: Put both screws in and tighten them.

Step 4: Connect the engine cable with the main connection cable in the chassis.

**ATTENTION!**

The electrical connection of the engine cable has to be done by an electircan.

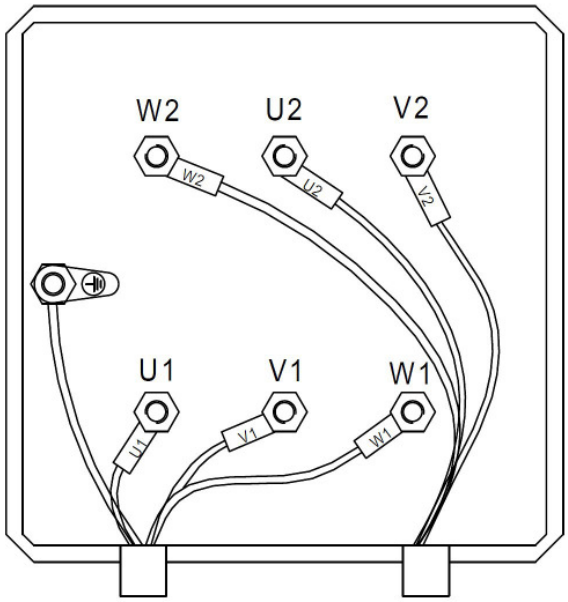



Fig. 5: Connection of the engine

Step 5: Screw on the feed lever

## 7.2 Set up

The four mounting points of the machine should be marked and bare holes should be made for anchorages. The machine should be rnounted with steel bolts to the floor.

**NOTE!**

After the erection take away the lubrication of the white rnetal parts, which has been put there for reasons ot protection.

- Use for this the usual solvents
- No water, no nitrosolvents etc.!

**Installation Site**

The machine must be set up and operated in a dry, frost-free and well-ventilated working space. The substrate must be stable and level, able to support the weight of the machine and the stresses caused by the operation of the machine. It must be paid attention to good lighting.

## 7.3 Electrical connection

**DANGER!**

**Danger by voltage!**

Danger by voltage! Working on the electrical connection may only be done by electricians

You should pay attention that:

- The connection has the same marks (voltage, supply frequency. phases) as the engine.
- The voltage of 400 V (16A fuse) has to be used.

The plug will be connected to the cables L 1, L2, L3, PE.

Eventually you can operate this machine to with a fixed connection.

**ATTENTION!**

After connecting the plug. you have to check the running direction of the engine. Should this be wrong, you have to change the two phases.

# 8 Assembly

## 8.1 Belt sander on the back of the device

Step 1: Pull out the plug.

Step 2: Take out the safety screw and open the cover.

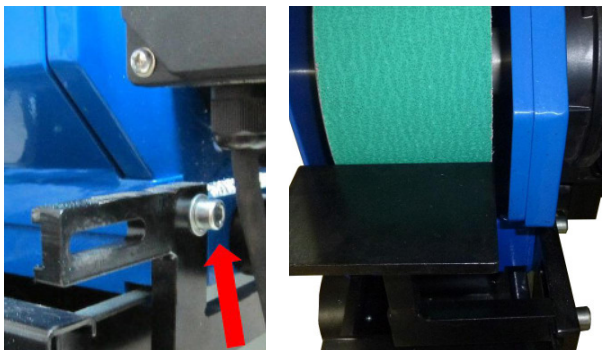


Fig. 6: Adjust the work surface

Step 3: Screw the working surface to the device side with two Allen screws.

Step 4: Adjust the position of the work surface after loosening the fixing screws on the side of the unit and then tighten the screws. The distance of the work surface to the sanding belt may be max. 2 mm.

**DANGER!**

**Risk of injury!**

Never reach into the gap between the roller and the housing when the machine is connected to the power supply!

Step 5: After completion of the work on the rear work surface, the cover must be closed. To do this, fold down the work surface after loosening the fixing screws or remove it.
Then close the cover and tighten the fixing screw.


Fig. 7: Cover on the back of the Machine

**DANGER!**

**Risk of injury!**

If you do not work at the rear grinding position, the sanding belt cover must always remain closed!

## 8.2 Pipe grinder on the front of the device

**Adjust clamping prism**

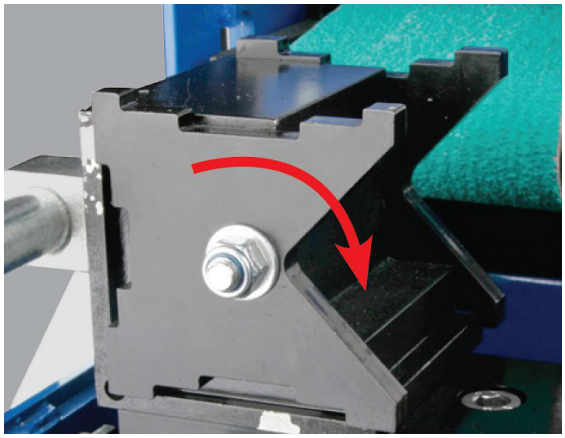


Fig. 8: Prism

The clamping prism has 4 different shots for clamping different profiles and tubes on the four sides. Depending on the shape of the workpiece, the most suitable receptacle can be selected and mounted.

Step 1: Loosen the nut on the front of the tension prism and turn the tension prism so that the desired location is on the right side opposite the jaw. Attention: Both areas of the clamping prism must always be in the same position!

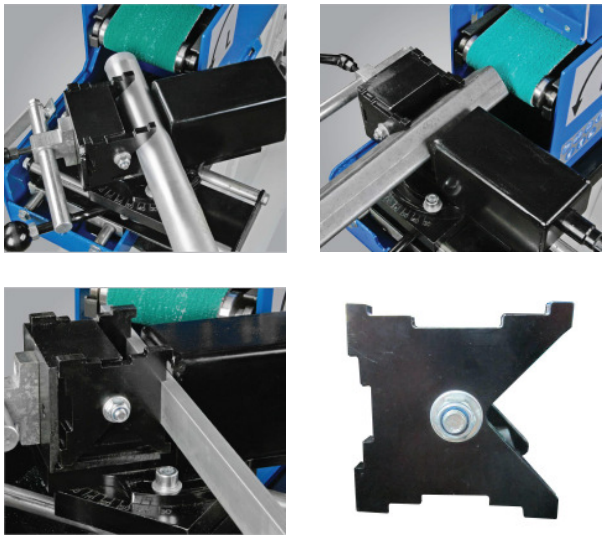


Fig. 9: Applications

### Adjust workpiece angle

The angle of attack of the tool on the sanding belt can be adjusted with the angle adjustment device in the range of 90 ° (straight workpiece position) to 30 °.

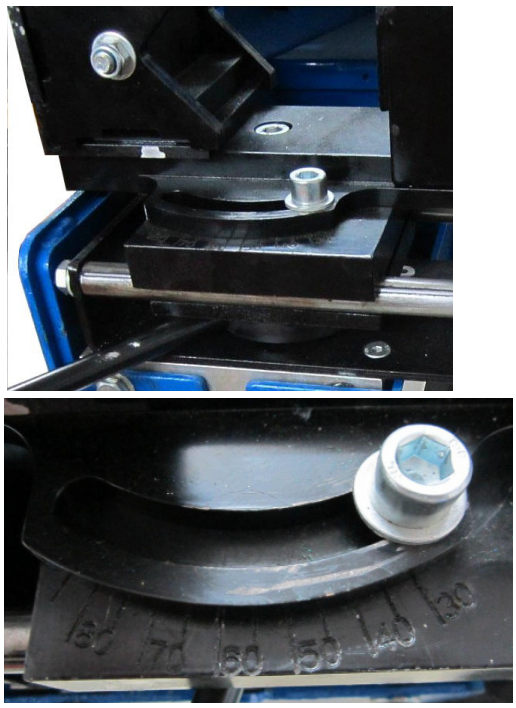


Fig. 10: Adjust workpiece angle

Step 1:To adjust the workpiece angle, loosen the clamp screw on the angle fixture, turn the workpiece fixture to the desired angle using the scale, and tighten the clamp screw again.

### Adjust feed travel

For the feed travel can be selected from 2 different travel limits. For this purpose, the feed lever must be screwed to either the front (A, Fig. 11) or the rear hole (B) at the bottom of the pipe grinder working position.

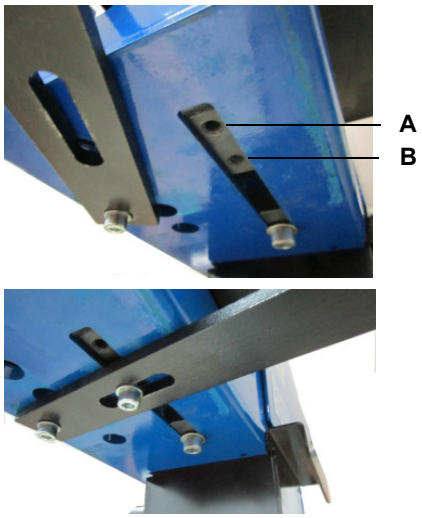



Fig. 11: Feed travel

### Adjust workpiece stop

In order to process several identical workpieces in the same way, it is advisable to set a uniform position of the workpieces in the clamping prism. This is done with the help of the workpiece stop.

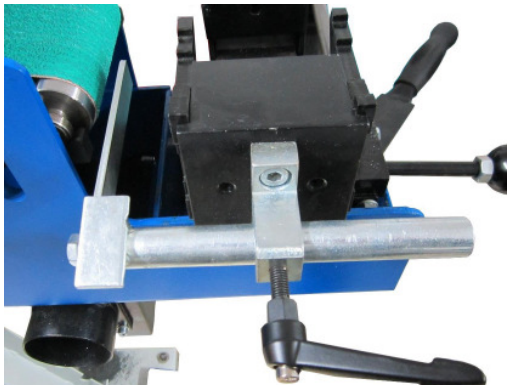


Fig. 12: Workpiece stop

Step 1: Release the clamping lever and move the workpiece stop to the desired position.

Step 2: Tighten the clamping lever and clamp the workpiece in the clamping prism. Move the workpiece stop to the desired position.

Step 3: Fold out the workpiece stop and machine the workpiece.

Step 4: To process the next workpiece, fold in the workpiece stop and position the workpiece against the stop.

**Pipe sander cover**

**DANGER!**

**Risk of injury!**

The pipe grinder cover must always be folded down while machining a workpiece!

The cover at the pipe grinder working position protects the operator from workpiece swarf and dust as well as sparks. The cover must always be mounted and lowered while the machine is in operation. Due to the transparent material, the machining process can be well monitored and controlled.

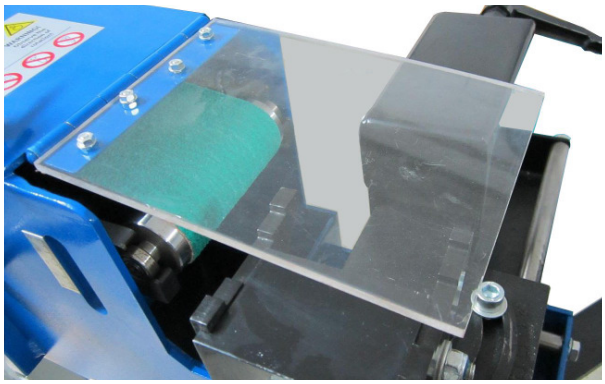


Fig. 13: Cover

**Height adjustment of the contact roller**

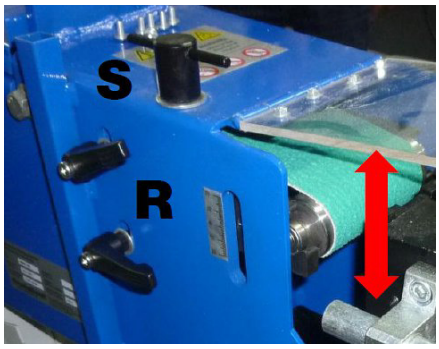



Fig. 14: Height adjustment

Step 1: Disconnect the power plug.

Step 2: Loosen the two clamping levers R (Fig. 14).

Step 3: Adjust the height of the contact roller with the adjusting screw S (Fig. 14). When lowering the contact roller, if necessary, press it down with your hand. The position of the contact roller (-20 mm - 0 mm - +20 mm) can be read on the scale.

Step 4: Tighten the two clamping levers R.

## 8.3 Surface grinding station

Step 1: Disconnect the power plug.

Step 2: Open the cover on the upper side of the device

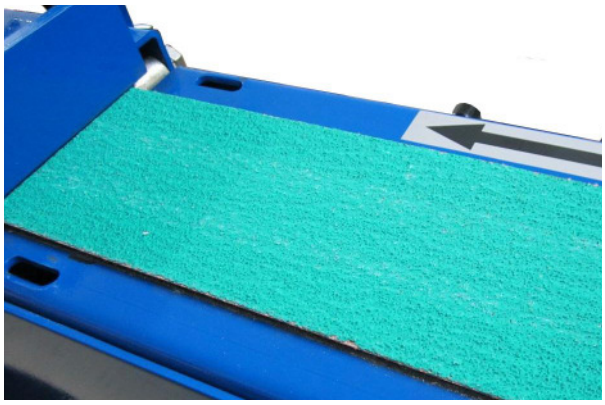


Fig. 15: Surface grinding station

The workpiece must be stopped for processing at the stop in the running direction of the belt (Fig. 15).

# 9 Operation

**WARNING!**

**Danger to life!**

There is danger to life for the operator and for other persons if they do not comply with the following rules.

- The operator must not work if he is under the influence of alcohol, drugs or medication.
- The operator must not work if he is overworked or suffers from fatigue and difficulties in concentrating.
- The Machine may only be operated by one person. Other persons must not enter the working area during operation.

Fig. 16: Never reach into the openings on the Machine

**DANGER!**

**Danger of injury!**

Never put your hands into any openings (e. g. between grinding belt and housing) of the machine, as long as it is connected to the mains!

**DANGER!**

**Danger of injury!**

During all works with the grinding machine

- well-fitting clothing must be worn.
- no jewellery must be worn.
- no scarfs, ties or similar must be worn.
- in case of long hair, a hairnet must be worn.

**Use ear protection!**

**Use protective glasses!**

**Use breathing protection!**

**Use protective gloves!**

**Use protective boots!**

**Wear protective clothes!**

Step 1: Check mains plug and cable prior to start of work.

Step 2: Check whether the workpiece support tables are firmly tightened.

Step 3: Check whether the correct grinding belt with the correct grain size is installed.

## 9.1 Working position pipe grinder

Step 4: Adjust the clamping prism to the workpiece to be clamped. V-prism for round tubes, stepped prism for flat and square material.

Step 5: If necessary, adjust the desired grinding angle via the angle setting. To do this, loosen the Allen screw and turn the workpiece clamping device to the desired degree. After adjustment, tighten the screw again.

Step 6: Depending on the desired feed travel, screw the feed lever to the appropriate position.

Step 7: If several workpieces with the same dimensions are to be machined, it is recommended to work with the workpiece stop.

Step 8: Clamp the workpiece. To do this, place the workpiece in the clamping prism, push the clamping block against the material and pull the clamping lever backwards.

Step 9: Move the carriage transversely until the sanding belt reaches the entire machining width on the workpiece. Lock the carriage after setting with the clamping lever.

Step 10: Check whether the center of the workpiece matches the center of the roller. If this is not the case or if a special application is desired, adjust the height of the contact roller.

Step 11: Set the desired belt speed

**NOTE!**

The belt speed can be changed as required during the operation of the machine in the preselected direction of rotation.

Step 12: Select the desired operating mode:
L for pipe grinder (L for surface grinder, R for belt grinder).

**DANGER!**

Before changing the operation mode pipe grinder or belt sander the engine must be switched off or stand still. If the operating mode or direction of rotation is switched while the engine is running, the machine shuts off automatically.

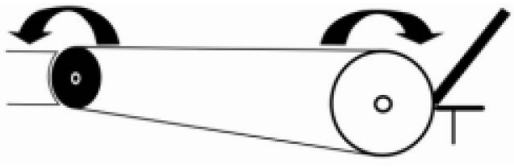


Fig. 17: Operating modes: pipe grinder L , belt grinder R

Step 13: Start the extraction system.

Step 14: Start the sanding belt motor by pressing the green Start Button.


Fig. 18: Check the direction of rotation

Step 15: Check the direction of rotation of the grinding station. The direction of rotation of the sanding belt must match the corresponding direction of rotation arrow after selecting the sanding station.

Step 16: Fold down the pipe grinder protective cover.

Step 17: Start the grinding process. To do this, push the clamped workpiece forward against the sanding belt with the feed lever (16, Fig. 3).

**ATTENTION!**

If the sanding belt is turned in the correct direction, the sparks must be directed downwards! (Fig. 21)

Step 18: When the correct radius has been ground, remove the tube from the clamp and remove the outer ridge with the face grinding surface (2).

## 9.2 Working position belt sander

Step 4: Open the cover on the back of the device. To do this, unscrew the hexagon socket screw (Fig. 19 left, arrow) and open the cover upwards.

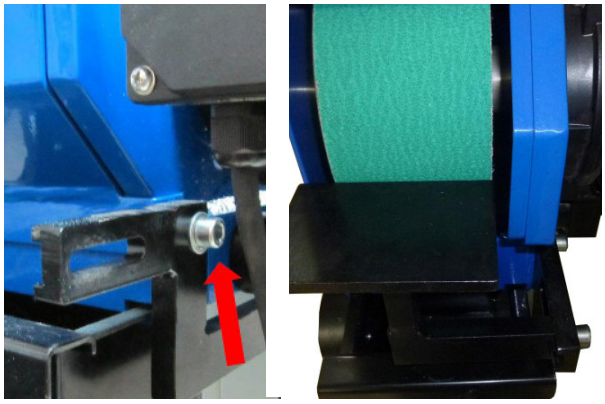


Fig. 19: Open the Cover

Step 5: Screw the work surface with two hexagon socket screws on the side of the unit and align. The distance of the work surface to the sanding belt may be max. 2 mm.

**DANGER!**

**Danger of injury!**

Never reach into the gap between the roller and the housing when the machine is connected to the power supply!

Step 6: Select the desired operating mode: R for belt sander (L for pipe grinder, L for surface grinder).

Step 7: Start the extraction system.

Step 8: Start the sanding belt motor by pressing the green START button.


Fig. 20: Check the direction of rotation

Step 9: Check the direction of rotation of the grinding station. The direction of rotation of the sanding belt must match the corresponding direction of rotation arrow after selecting the sanding station.

**ATTENTION!**

If the sanding belt is turned in the correct direction, the sparks must be directed downwards! (Fig. 21)

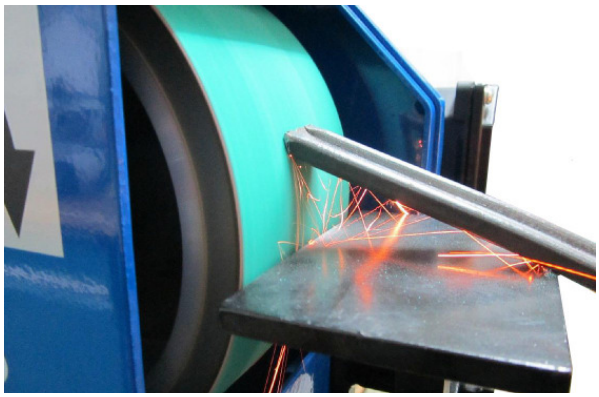


Fig. 21: Flying sparks

Step 10: Start the grinding process. To do this, stop the workpiece at the work table and guide it against the sanding belt.

Step 11: If machining of the workpiece on the belt sander is complete, deburr the workpiece with the surface grinding surface (2, Fig. 3) if necessary.

Step 12: After completion of the work on the belt grinding station, the cover must be closed. To do this, fold down the work surface after loosening the fixing screws or remove it.
Then close the cover and tighten the fixing screw.

## 9.3 Working position surface grinder

Step 4: Open the cover on the upper side of the device.

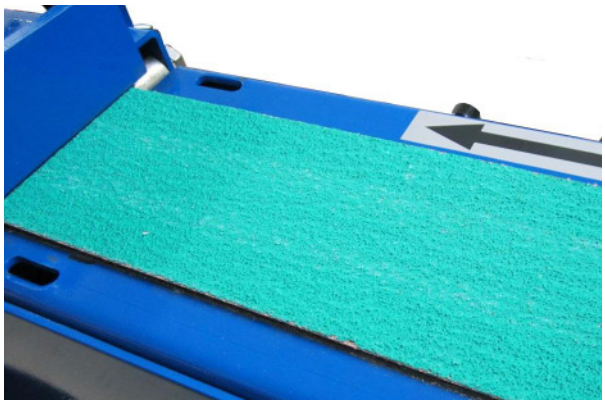


Fig. 22: Surface grinding station

Step 5. Check the running direction of the sanding belt.

Step 6. Stop the workpiece at the stop in the running direction of the belt and guide it against the sanding belt for processing.

## 9.4 Shut down the Machine

Step 1: To switch off the Machine, press the red STOP Button.

Step 2: Switch off the extraction system.

Step 3: Pull the mains plug of the grinding Machine.

# 10 Care, maintenance and overhaul/repair

**Tips and recommendations**

In order that the Machine is always in good operating status, it is necessary to regularly perform care and maintenance works.

**WARNING!**
**Danger in case of insufficient qualification of the staff!**

Insufficiently qualified persons cannot estimate the risks while performing repair work at the Machine and expose themselves and others to the danger of severe injuries.

Have all maintenance works only performed by qualified persons.

**DANGER!**
**Electric shock is life-threatening!**

There is a danger of life in case of contact with current running through components.

- Always disconnect the mains plug before you start cleaning and maintenance works.
- Connections and repairs of the electrical equipment may only be carried out by specialized electrical staff.

**NOTE!**

After maintenance, repair and cleaning works, check if all claddings and protective equipment are properly reassembled to the machine and that there are no more tools inside or in the working area of the Machine.

Damaged protection devices and machine parts must be properly repaired or replaced by an acknowledged specialist workshop.

## 10.1 Cleaning and lubrication of the machine

**ATTENTION!**

- It is indispensable to switch the machine off and to pull off the mains plug before performing cleaning and maintenance work!
- Never use solvents or cleaning solutions to clean plastic parts or lacquered surfaces. The surface may be dissolved and consequential damage may occur.

The Machine should generally be cleaned after every use.

Regularly remove the spark arrester and check whether the interior of the grinding machine must be cleaned.

Brush or wipe all open machine parts in regular intervals using a broom or a cloth.

**ATTENTION!**

- Never remove chips or grinding dust with bare hands. Danger of injuries due to sharp-edged chips.
- Never remove chips or grinding dust with a compressed air blow gun. This can lead to eye injury and may damage machine parts.

Treat blank metallic working surfaces with anti-rust spray.

Lubricate all moving parts and bearings once per month.

If necessary, replace the graphite support at the level grinding area.

## 10.2 Adjust Belt change and Belt run

**ATTENTION!**

Use only belts with the dimension 2000 mm x 100 mm. Check before installation for your own safety tl1e dimensions of the belt and check it for evt. structural faults. Always select that belt which suits to the material to be grinded.

Choose grinding belts with a weid where the opposite ends are glued together. Grinding belts with the ends glued together on top, can break when changing the belt direction.

**WARNING!**

When changing the sanding belt, the upper limbs between the drive roller and the sanding belt can be crushed.

Step 1: Switch off the machine witt1 the main switch and unplug the machine.

Step 2: Unscrew the safety screw and open Hie side coverings plate by turning the lever.

Step 3: Turn the cover of the abrasive wheel (2, Fig. 3) backwards.

Step 4: Release the bell by turning the hand wheel (11, Fig. 3).

Step 5: Take out the belt.

Step 6: Put in a new belt.

Step 7: Stretch the belt wilh lhe hand wheel. You have reached lhe right bell tension if the upper spincIle nul is culs out 7 lo 10 mm and the lension is taken over by the spring only.

Step 8: Afterwareis close lhe cover ancl lighlen the safety screw again.

Step 9: It is recommended, to adjust the band running a bit rough by pushing the belt to the abrasive wheel and turning the acljustment screw .

Step 10: Close the cover of lhe abrasive wheel and start the machine.

Step 11: The bell running can now be adjusled by lurning the acljuslmenl screw. Turn care fully ancl watch how the bell is cloing. If you have reached lhe right adjustmenl, you should be seeing lhe same distance on both sicles on lhe grincling roller.

## 10.3 Changing the contact roller

**WARNING!**

**Danger of Electric shock!**

Disconnect the mains plug before working on the device.

Step 1: Disconnect the power plug.

Step 2: Unscrew the safety screw and open the side cover.

Step 3: Relax the sanding belt by turning the handwheel. Then open the cover of the surface grinding surface .

Step 4: Remove the sanding belt.

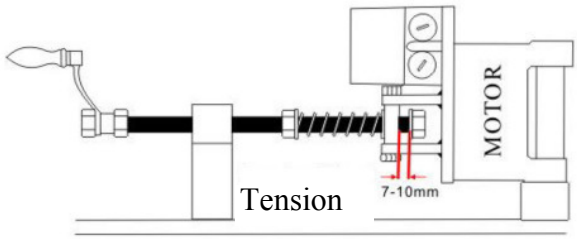
Step 5: Remove the contact roll.

Step 6: Clean the contact surfaces and the receptacle on the contact roller holder.

Step 7: Insert the new contact roller into the contact roller holder

Step 8: Apply the sanding belt.

Step 9: Tighten the sanding belt (observe clearance of 7 - 10 mm) and adjust the belt run..




## 10.4 Troubleshooting

**ATTENTION!**

If one of the following faults takes place, stop the machine at once. Before searching for lhe mistakes, switch off and unplug the machine. All repairs ancl changes may only be clone by qualified ancl trained staff.

**NOTE!**

Contact your neared Metallkraft dealer if you are unable to solve the problems with your machine. Please take the following information from the machine or from the operating manual so that we can help you in the best possible way.

- Machine model
- Serial number of the machine
- Year of manufacture
- Exact error description

| Fault | Possible cause | Solution |
|---|---|---|
| The machine doesn't work. | 1. The mains plug is not connected to the power socket.<br>2. Supply cables defective.<br>3. Switch defective.<br>4. Motor defective. | 1. Connect the mains plug.<br>2. Call a service engineer.<br>3. Call a service engineer.<br>4. Call a service engineer. |
| The belt is not running centrically. | 1. The belt operation is not adjusted.<br>2. Bearing damage in the contact roll. | 1. Adjust the belt operation.<br>2. Remove the contact roll. |
| The belt contacts the housing at the level grinding area. | 1. The graphite layer is worn. | 1. Replace the graphite layer. |
| Poor grinding result. | 1. Wrong grinding belt.<br>2. Worn grinding belt. | 1. Install the correct grinding belt.<br>2. Change the grinding belt. |

# 11 Disposal, recycling of used devices

For environmental benefits it is necessary to ensure that all components of the machine are only disposed of by the provided and allowed means.

## 11.1 Decommissioning

Immediately decommission used machines in order to avoid later misuse and endangering of the environment or of persons.

- Dispose of all environmentally hazardous operating materials of the used device.
- If required, disassemble the machine into easy-to-handle and usable components and parts.
- Supply the machine components and operating materials to the provided disposal routes.

## 11.2 Disposal of electrical devices

Electrical devices include numerous recyclable materials as well as environmentally hazardous components.

These components must be disposed of separately and professionally. In case of doubt, please contact your municipal waste management company.

For the recycling process, please request the assistance of a specialized waste disposal centre if required.

## 11.3 Disposal of lubricants

The manufacturer of the lubricant makes the disposal instructions for the used lubricants available. If applicable, ask for the product-specific data sheets.

# 12 Spare parts

## 12.1 Ordering spare parts

**NOTE!**

The manufacturer's warranty will become null and void if non admitted spare parts are being used

**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 uncertainties.

The spare parts may be purchased with the authorised dealer or directly with the manufacturer. Please find the corresponding contact data in Chapter 1.2 Customer service.

Indicate the following basic information for spare part orders:

- Type of device
- Serial number
- Quantity
- Designation
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indications regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier.

**Example**

The contact roller for the Combined pipe, section and belt grinding machine KRBS 101 must be ordered. The contact roller has the number 218 in the spare parts drawing 2.

By ordering spare parts, send a copy of the spare parts drawing (2) with the marked part (contact roller) and marked positon number (218) to the dealer or spare parts department and provide the following information:

- Type of device: **Combined pipe, section and belt grinding machine KRBS-101**
- Item number: **3921001**
- Drawing number: **2**
- Position nummer: **218**

**Item number of your device:**

Combined pipe, section and belt grinding machine KRBS 101: **3921001**

## 12.2 Spare parts drawings

In case of service, the following drawings shall help to identify the necessary spare parts. If necessary, send a copy of the parts drawing with the marked components to your authorised dealer.

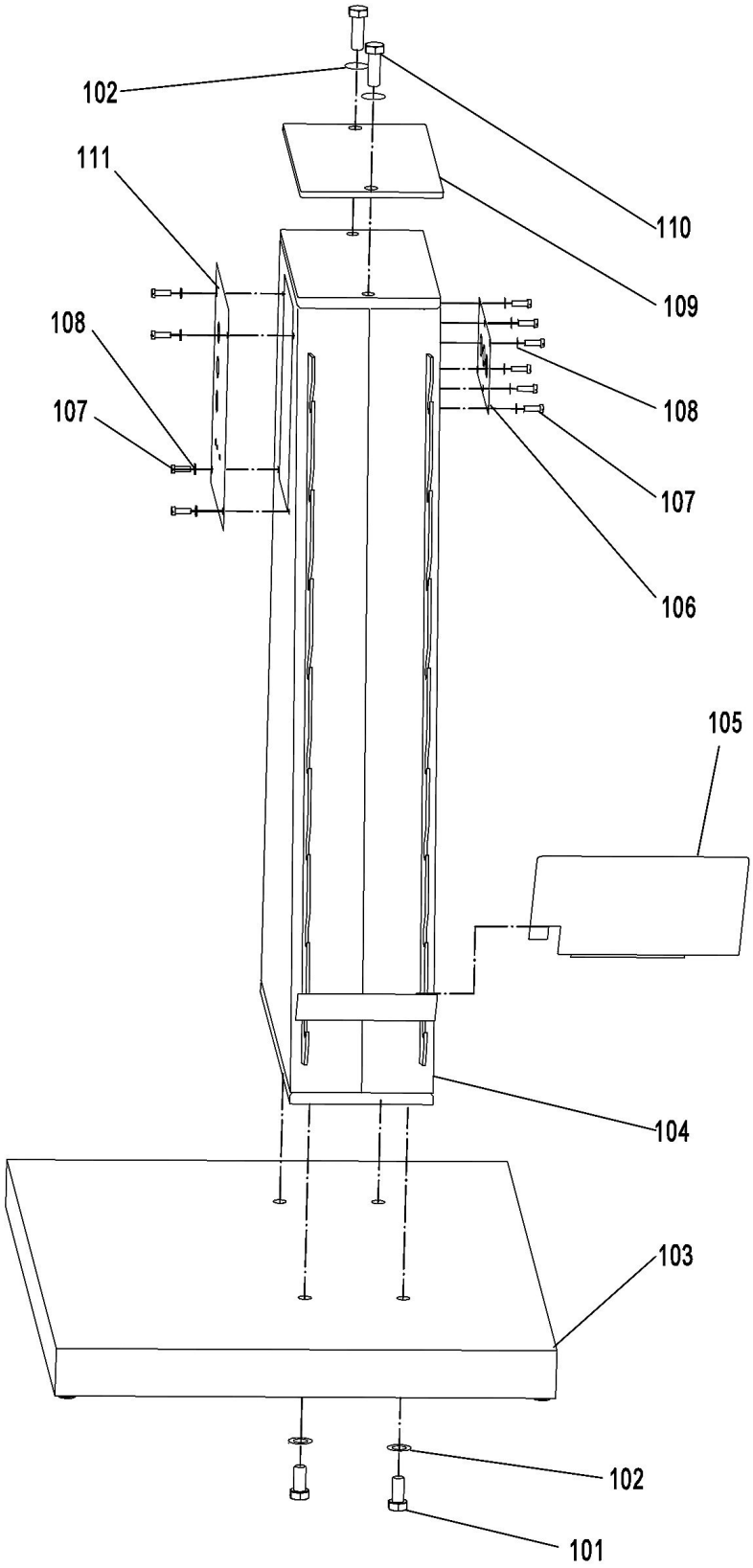



Fig. 23: Spare Parts Drawing 1 KRBS 101

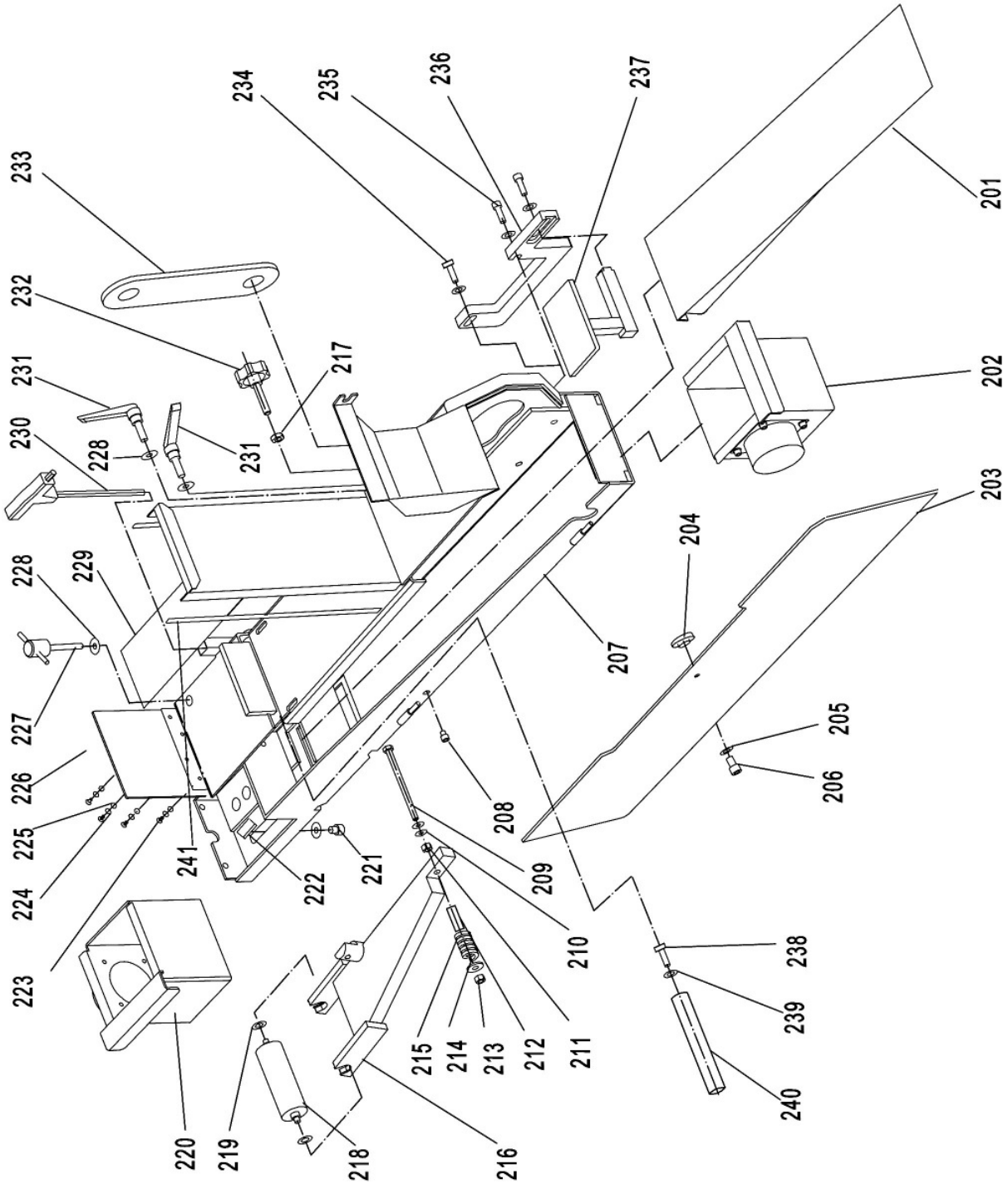



Fig. 24: Spare Parts Drawing 2 KRBS 101

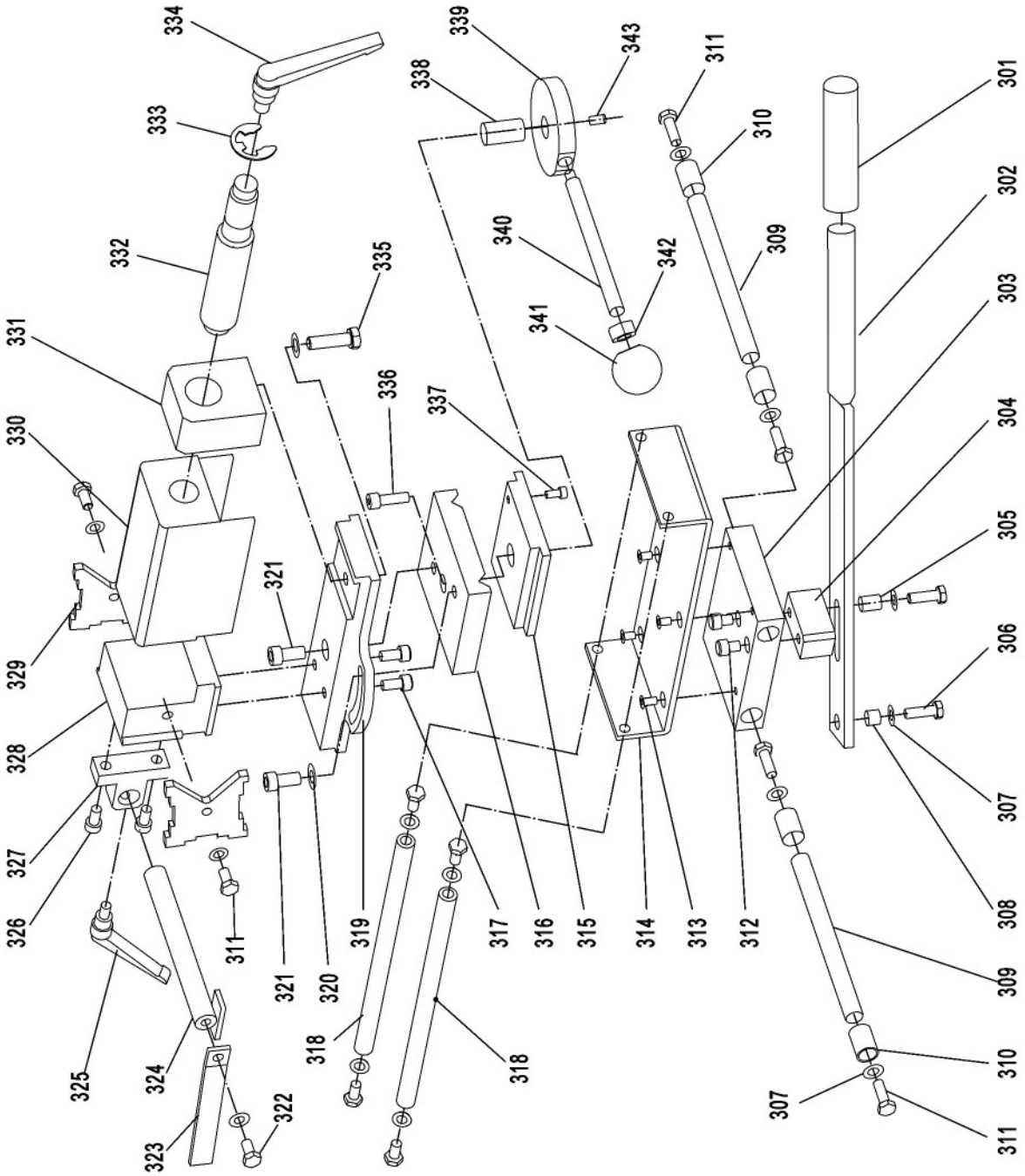



Fig. 25: Spare Parts Drawing 3 KRBS 101

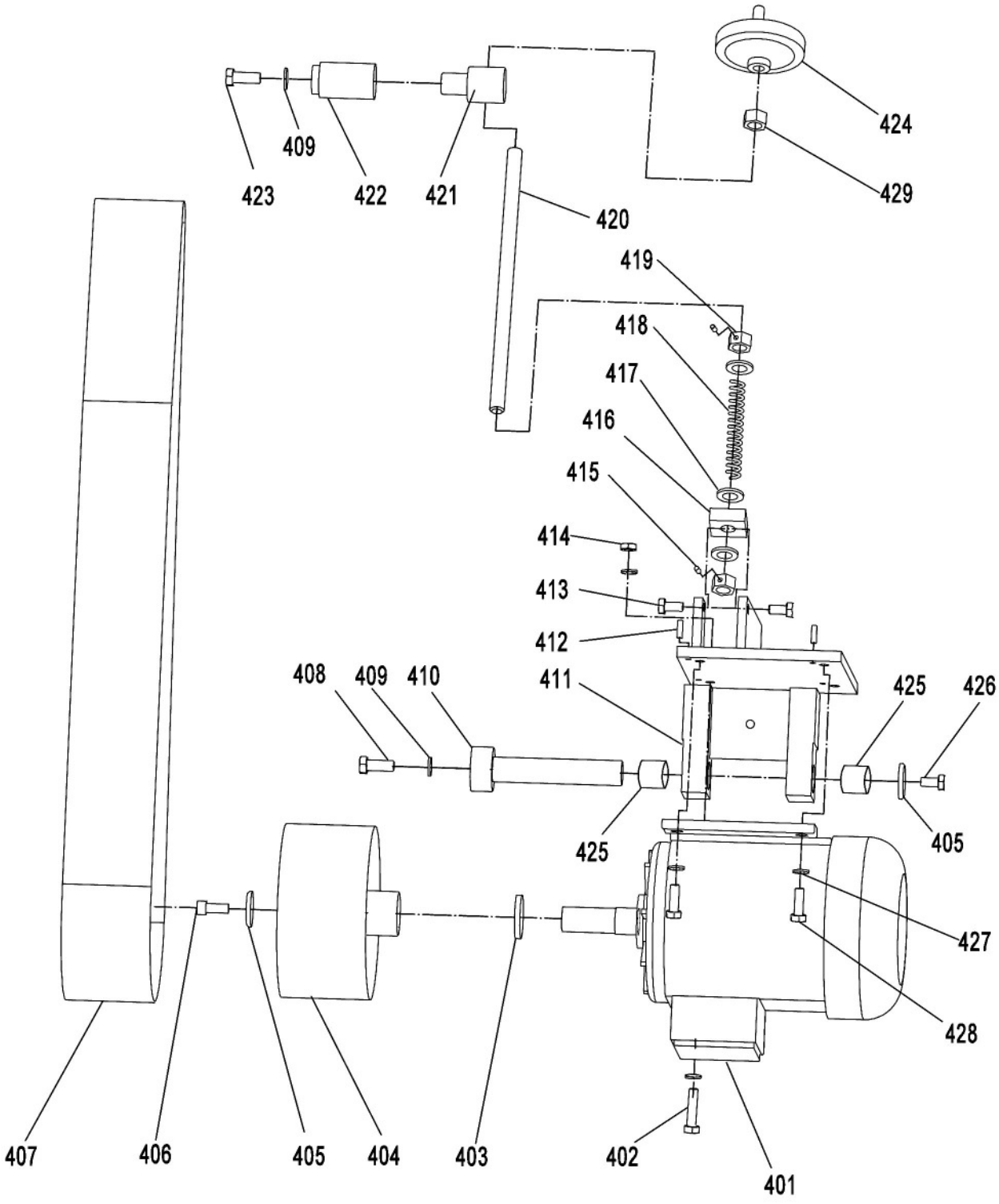



Fig.. 26: Spare Parts Drawing 4 KRBS 101

# 13 Wiring Diagram

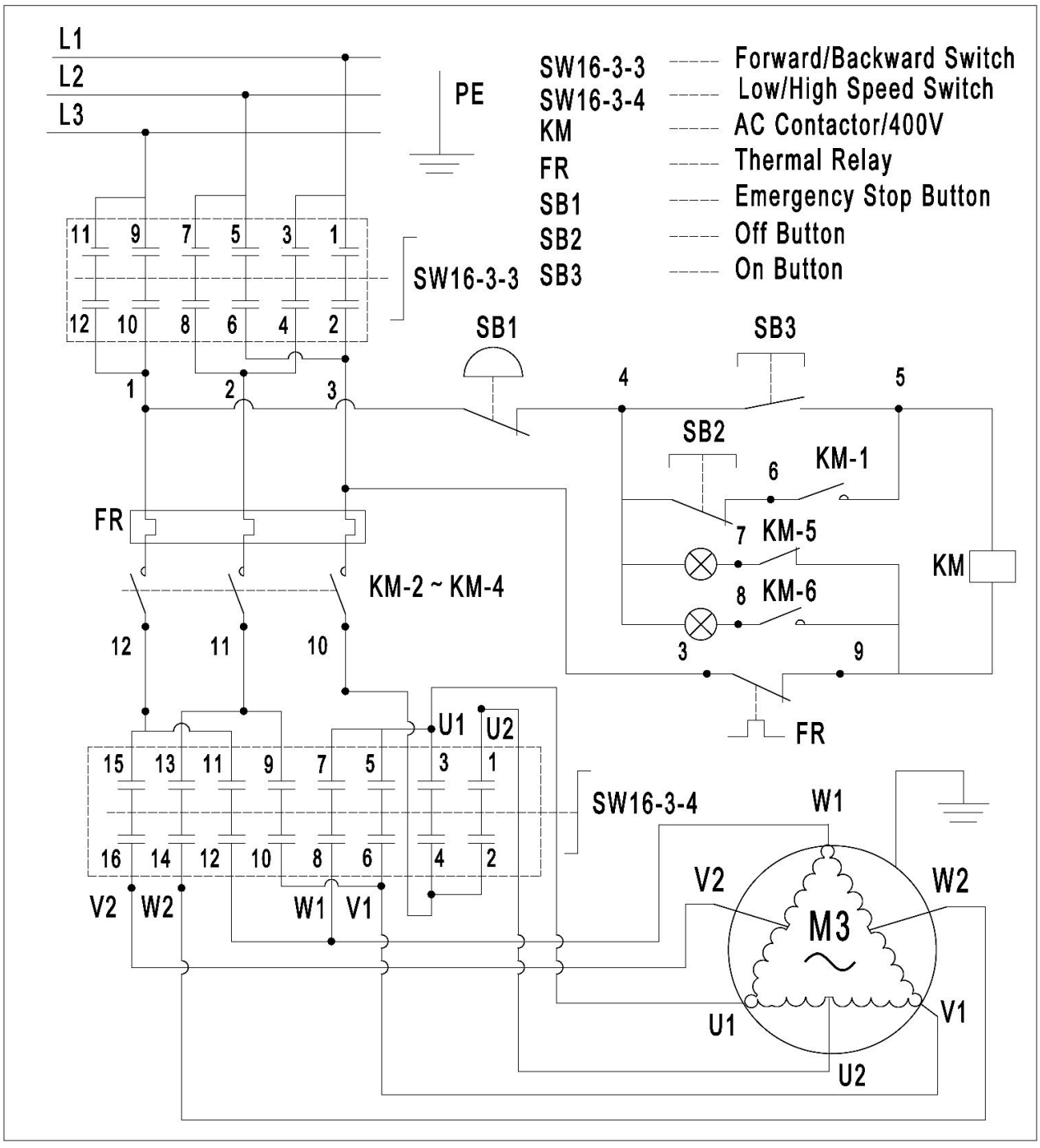



Fig. 27: Wiring Diagram KRBS 101

# 14 EC Declaration of Conformity

As per machine directive 2006/42/EC, Appendix II 1.A

**Manufacturer/distributing company:** Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Starße 26
D-96103 Hallstadt

hereby declares that the following product

| | |
|---|---|
| **Product group:** | Metallkraft® metalworking machines |
| **Machine type:** | Combined pipe, section and belt grinding machine |
| **Machine designation:** | KRBS 101 |
| **Item number:** | 3921001 |
| **Serial number:** | _____ |
| **Year of manufacture:** | 20____ |

complies with all relevant regulations of the aforementioned directive as well as any other, applicable directives (subsequently added) – including the changes applicable at the time the declaration was made.

**Applicable EU directives:** 2014/30/EU EMC Directive

**The following, harmonised standards have been applied:**

| | |
|---|---|
| DIN EN ISO 12100:2010 | Safety of machinery - general design principles - Risk assessment and reduction of risks (ISO 12100:2010) |
| DIN EN 60204-1:2007-06 | Safety of machinery - Electrical equipment of machines – Part 1: General requirements |

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

Hallstadt, 27.06.2017

Kilian Stürmer
General Manager

CE

# 15 Notes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OPTIMUM