metallkraft
Metallbearbeitungsmaschinen

Instruction Manual

Metal belt grinding machine

- MBSM 75-240-1, MBSM 75-240-2
- MBSM 100-140-1, MBSM 100-140-2
- MBSM 150-240-2

MBSM 100-140-2 / 400 V

MBSM 150-240-2 / 400V

MBSM-SERIES

Imprint

Product identification

Metal belt grinding machine

Model	Item number
MBSM 75-240-1 / 230 V	3923271
MBSM 75-240-1 / 400 V	3923272
MBSM 75-240-2 / 400 V	3923273
MBSM 100-140-1 / 230 V	3923141
MBSM 100-140-2 / 400 V	3923142
MBSM 150-240-2 / 400 V	3923315

Manufacturer

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Indications regarding the operating instructions

Original instructions

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Author: FL/SN

Indications regarding the copyright

Subject to technical modifications and error.

Contents

1 Introduction

You have made a good choice by purchasing the METALLKRAFT metal belt grinding machine.

Read the operating manual thoroughly before commissioning the machine.

It gives you information about the proper commissioning, intended use and safe and efficient operation and maintenance of your metal belt grinding machine.

The operating manual is part of the metal belt grinding machine package. Always keep this operating manual in the location where your metal belt grinding machine is being operated. All local accident prevention regulations and general safety instructions for the operating range of your metal belt grinding machine must also be complied with.

Illustrations in this operating manual serve the general understanding and may deviate from the actual design.

1.1 Copyright

The contents of these instructions are copyright. They may be used in conjunction with the operation of the metal belt grinding machine. Any application beyond those de-scribed is not permitted without the written approval of Stürmer GmbH.

For the protection of our products, we shall register trademark, patent and design rights, as this is possible in individual cases. We strongly oppose any infringement of our intellectual property.

1.2 Customer service

Please contact your dealer if you have questions concerning your metal belt grinding machine or if you need techni-cal 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: 0951 96555-111
E-Mail: service@stuermer-maschinen.de

Spare part orders:
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 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 untrained staff,
- Unauthorized 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 section provides an overview of all important safety packages for the protection of 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 high-lighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.

DANGER!

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

WARNING!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to death or severe injury if not avoided.

CAUTION!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to slight or minor injury if 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 potentially dangerous situation which may lead to material or environmental damage if not avoided.

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 written in these operating instructions in order to reduce the risk of 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 the machine 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 the 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 Requirements to staff

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 vacuum cleaner and expose themselves and others to the danger of severe or lethal injuries.

- Have all works only performed by qualified persons..
- Keep insufficiently qualified persons 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 behavior. 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.

Electrically qualified person:

Electrically qualified person is due to their professional training, knowledge and experience as well as knowledge of the relevant standards and regulations, in a position to carry out work on the electrical systems and to independently recognize and avoid possible dangers.

Qualified personnel:

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 recognize 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 member has to wear personal protective 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:

Respiratory protection

Respiratory protection is used to protect the respiratory tract and lungs against the absorption of dust particles.

Eye Protection

The Eye protection protect the eyes from flying parts and liquid splashes.

Ear protection

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

Head protection

The industrial helmet protects the head against falling objects and knocking against fixed objects.

Protective gloves

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

Safety boots

Safety boots protect the feet from being crushed, falling parts and slipping over on slippery ground.

Protective clothes

Protective clothes are made of a tightly fitted fabric without the protruding parts of low tear strength.

2.5 Safety devices

Protective screen

To protect against flying sparks, a protective disk is attached to the housing above the contact wheel.

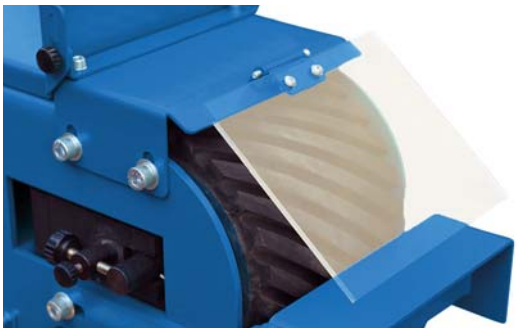

Fig. 1: Protective screen

Motor pr otection switch

A motor protection switch is installed on the machine to protect against overload.

Fig. 2: Motor protection switch

Emergency stop button

The machine is stopped immediately by pressing the emergency stop button (Fig. 3). After the emergency stop button has been pressed, it must be unlocked by turning it so that it can be switched on again.

Fig. 3: Emergency stop button

2.6 Safety identifications on the machine

The following safety identifications have been attached to the workshop press (Fig. 1) which must be observed

Fig. 4: Safetyl abels

The safety markings affixed to the machine must not be removed. Damaged or missing safety markings can lead to incorrect handling, personal injury and damage to property. They must be replaced immediately.

If the safety markings are not visible and understandable at first sight, the machine must be taken out of operation until new safety markings have been applied.

2.7 Safety data sheets

You can obtain safety data sheets for dangerous goods from your specialist dealer or by calling +49 (0) 951 / 96555-0.

Specialist dealers can find safety data sheets in the download area of the partner portal.

2.8 General Safety Instructions

NOTE!

The machines are designed to meet the general safety requirements. Please always observe the relevant accident prevention regulations. In case of doubt, ask the technical supervisor.

DANGER!

Before starting, using, maintaining or otherwise interfering with the machine, the instructions for use and maintenance must be read carefully. The handling and working with the machine may only be carried out by persons who are thoroughly familiar with the handling and operation of the machine.

- When working with the machine, never put your hands near rotating parts!
- Do not remove sharp-edged chips by hand; use a hand brush or chip hook!
- Use the safety devices and fasten them securely. Never work without safety devices and keep them in working order. Check that they are functional before starting work.
- Always keep the machine and its working environment clean. Ensure adequate lighting.
- Always secure your workpiece with suitable clamping devices when working. Ensure that there is an adequate support surface.
- The machine may not be modified in its design and may not be used for purposes other than those intended by the manufacturer.
- Never work under the influence of concentration disorders, fatigue, drugs, alcohol or medication.
- Remove tool keys and other loose parts from the machine after assembly or repair before switching it on.
- Observe all safety and danger instructions on the machine and keep it in a perfectly legible condition
- Keep children and persons not familiar with the machine away from your working environment, the machine and tools.

- The machine may only be used, equipped and maintained by persons who are familiar with it and have been informed about the dangers.
- Always switch off the machine when carrying out maintenance, set-up and repair work. Additionally pull the mains plug or disconnect the machine from the power supply!
- Do not pull on the mains cable around the plug from the socket.
- Protect the cable from heat, oil and sharp edges.
- Make sure that the main switch is in the "OFF" position when you connect the machine to the power supply to prevent unintentional switch-on.
- Wear close-fitting work clothing, safety glasses, safety shoes and hearing protection. Tie up long hair. Do not wear watches, bracelets, chains, rings or gloves when working (rotating parts!).
- Wear a dust mask when working in dusty conditions.
- Wear a face shield.
- Ensure that you have a secure footing and sufficient balance when working. Never work in a bent position, but always stand upright.
- Read the instructions carefully. Familiarize yourself with the possible applications, the limitations of the tool and the potential dangers.
- The machine must be earthed.
- Risk of fire if the motor is insufficiently ventilated.
- Immediately rectify any faults that impair safety.
- Never leave the machine unattended and stay with the machine until the tool has come to a complete standstill. Then pull out the mains plug to protect against unintentional switch-on.
- Protect the machine from moisture (danger of short circuit!).
- Care for the tool carefully. The work is best done with clean and sharp tools.
- Follow the instructions for lubrication and replacement of spare parts.
- Never use power tools and machines in the vicinity of flammable liquids and gases (danger of explosion!).
- Make sure that no parts are damaged before each use of the machine. Damaged parts must be replaced immediately to avoid sources of danger!
- Do not overload the machine! You will work better and safer in the specified performance range.
- Use the correct tools! Make sure that the tools are not blunt or damaged.
- The workpiece may only be brought into contact with the abrasive belt after it has been switched on.
- Protruding parts, such as stop plates, handles, etc. must be secured in such a way that people are not endangered.
- Keep your hands away from rotating parts.
- This machine is not suitable for wet grinding. Never use water on the workpiece surface or on the grinding belt.
- Only use original spare parts and accessories to avoid any risk of danger and accidents.

3 Intended use

The machine is designed for grinding angular metal and metal-like workpieces.

The machine is universally applicable for schools, handicraft businesses, workshops and for the do-it-yourselfer, but not for industrial use.

Proper use also includes compliance with all the information in these instructions. Any use beyond the intended use or any other use is considered misuse.

NOTE!

Unauthorized modifications to the machine or improper use of the machine as well as disregard of the safety regulations or the operating instructions exclude any liability of the manufacturer for any resulting damage to persons or objects and invalidate the grant claim!

WARNING!

Severe injuries due to improper use.

Conversions and changes to the metal belt grinding machine are prohibited.

They endanger people and can lead to damage to the metal belt grinding machine.

If not used as intended

- can cause danger to persons,
- can endanger the metal belt grinding machine and other material assets,
- the function of the metal belt grinding machine may be impaired.

Stürmer Maschinen GmbH accepts no liability for design and technical modifications to the metal belt grinding machine. Claims of any kind for damage due to improper use are excluded.

3.1 Predictable misuse

- Machining of too large or heavy workpieces.
- Machining of unfixed or insufficiently fixed workpieces.
- Grinding of flammable materials (e.g. magnesium, wood or similar).

3.2 Residual risks

- Touching rotating parts or tools
- Injuries caused by flying workpieces or parts of workpieces
- Touching live parts
- Tearing of the grinding belt due to incorrect tension
- Impairment of hearing during prolonged work without hearing protection

4 Technical Data

Model MBSM	75-240-1	75-240-2	100-140-1	100-140-2	150-240-2
Length [mm]	1000	1000	640	640	1000
Width/depth [mm]	500	500	450	450	570
Height [mm]	1150	1150	420	420	1150
Net weight [kg]	82	82	39	39	98
Supply voltage [V]	230 / 400	400	230	400	400
Drive motor output [kW]	3,3	3/4	1,5	1/1,5	3/4
Graphite support length [mm]	495	495	285	285	495
Graphite support width [mm]	75	75	100	100	150
Graphite support thickness [mm]	2	2	2	2	2
Max. sanding width [mm]	75	75	100	100	150
Drive wheel diameter [mm]	240	240	140	140	240
Contact wheel diameter [mm]	200	200	127	127	200
Sanding belt length [mm]	2000	2000	1220	1220	2000
Sanding belt width [mm]	75	75	100	100	150
Circumferential belt speed(s) [m/s]	36	18/36	20	10,20	18/36
Extraction duct nominal width outside [mm]	2 x 100	2 x 100	2 x 75	2 x 75	2 x 100
Emissions sound pressure level at workstation Lp (idling without extraction unit) [dB(A)]	87	87	87	87	87
Protection class	IP 43	IP 43	IP 43	IP 43	IP 43

4.1 Noise level

The noise level of the belt grinders is 87 dB(A), measured according to the applicable regulations of the employers' liability insurance association.

WARNING!

It should be noted that the duration of the noise exposure, the type and nature of the working area and other machines operating at the same time also influence the noise level at the workplace.

4.2 Type plate

Fig. 5: Type plate

5 Transport, Packing, Storage

5.1 Delivery and Transport

Check the machine for visible transport damage after delivery. If the machine shows any damage, report this immediately to the transport company or dealer. The belt grinder is delivered on a pallet. This can also be used as an internal transport foundation.

WARNING!

Danger to life from falling load!

If the weight of the machine is not observed during transport, the machine may tip over.

Transport

The machine may only be transported standing up and only with the motor switched off.

Improper transport is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

WARNING!

Severe or fatal injuries may occur if parts of the machine tumble or fall down from the forklift truck, pallet truck or from the transport vehicle. Follow the instructions and information on the transport box.

Note the total weight of the machine. The weight of the machine is indicated in the "Technical data" of the machine. When the machine is unpacked, the weight of the machine can also be read on the rating plate.

Only use transport devices and load suspension gear that can hold the total weight of the machine.

WARNING!

The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension gear has sufficient load-bearing capacity and that it is in perfect condition.

Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other competent supervisory authority, responsible for your company.

Fasten the loads properly.

NOTE!

Protect the belt sander from moisture.

General risks during internal transport

WARNING: DANGER OF TIPPING

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads.

Warn employees and, if necessary, advise employees of the hazard.

Devices may only be transported by authorized and qualified persons. Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time

of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.

Transport with a forklift/lift truck:

For shipping, the device is fixed on a pallet so that it can be transported with a forklift or pallet truck.

5.2 Packaging

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

Shredded cardboard packaging components must be sent to the waste paper collection.

The films are made of polyethylene (PE) and the padded parts of polystyrene (PS). These materials are to be handed in at a reusable material collection point or at the responsible disposal company.

5.3 Storage

Store the metal belt grinding machine thoroughly cleaned in a dry, clean and frost-free environment.

Cover the machine with a protective tarpaulin and ensure that the machine cannot be started by unauthorized persons.

6 Device description

6.1 Presentation

Illustrations in this operating manual are for basic understanding and may differ from the actual design.

6.1.1 MBSM 100-140-1 and 100-140-2

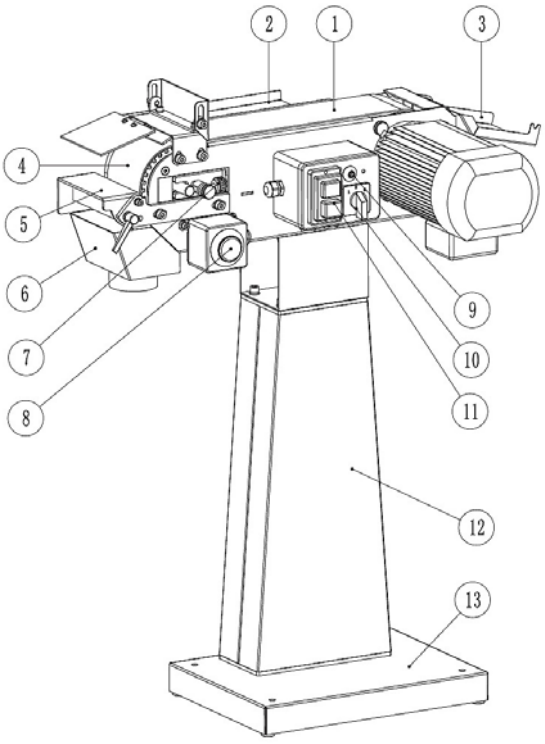

Fig. 6: Description of MBSM 100-140-1 and 100-140-2

1 Surface grinding table with grinding belt

2 Protective cover

3 Protective cover

4 Grinding roller

5 Support surface for workpiece

6 Dust collection container

7 Sanding belt adjustment

8 Emergency stop button

9 Motor protection switch

10 Speed step switch

11 On / Off switch

12 Substructure

13 Base plate with anchoring holes

6.1.2 MBSM 75-240-1 , MBSM 75-240-2 , MBSM 150-240-2

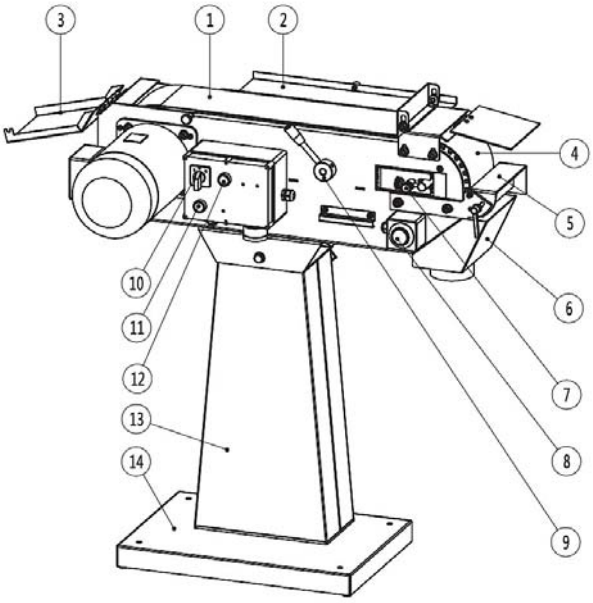

Fig. 7: Description of MBSM 75-240-1 , MBSM 75-240-2 , MBSM 150-240-2

1 surface grinding table with grinding belt

2 Protective cover

3 Protective cover

4 Grinding roller

5 Support surface for workpiece

6 Dust collection container

7 Sanding belt adjustment

8 Emergency stop button

9 Tension lever

10 Speed step switch

11 Stop button

12 Start button

13 Substructure

14 Base plate with anchoring holes

7 Set up and assembly

DANGER!

Before setting up the machine, check the load capacity of the ground. The place where the machine is set up must be able to bear the weight of the machine and the workpieces to be ground.

7.1 Setting up the machine

In order to maintain a good working ability of the machine, the working place should meet the following requirements:

- The machine may only be installed and operated in a dry, ventilated room.
- The surface must be level, firm and free of vibration.
- The subfloor must not allow lubricants to pass through.
- Ensure that the ground has sufficient load-bearing capacity and is level.
- Sufficient space must be available for the operating personnel, for material transport and for adjustment and maintenance work.
- The installation site must have good lighting (at least 300 lux).

7.2 Assembly

DANGER!

Danger of injury from a machine that is not stable!

Check the stability of the machine after it has been set up on a stable surface.

DANGER!

Observe the weight of the machine!

The machine may only be set up by two persons together.

Check the auxiliary equipment for sufficient dimensions and load capacity.

NOTE!

For a safe stand, it is recommended to fix the machine on a stable flat surface (preferably concreted) using the holes provided in the machine base.

NOTE!

Clean bare metal parts thoroughly. Use common solvents for this purpose. Do not use water!

7.2.1 MBSM 100-140-1 and 100-140-2

Mount the metal belt sander with the following steps:

Step 1: Unpack the machine and check for completeness and damage.

Step 2: Lift the metal belt grinding machine onto the base frame with the help of a second person.

Step 3: Mount the underframe and base plate to the metal belt sander using the 8 screws.

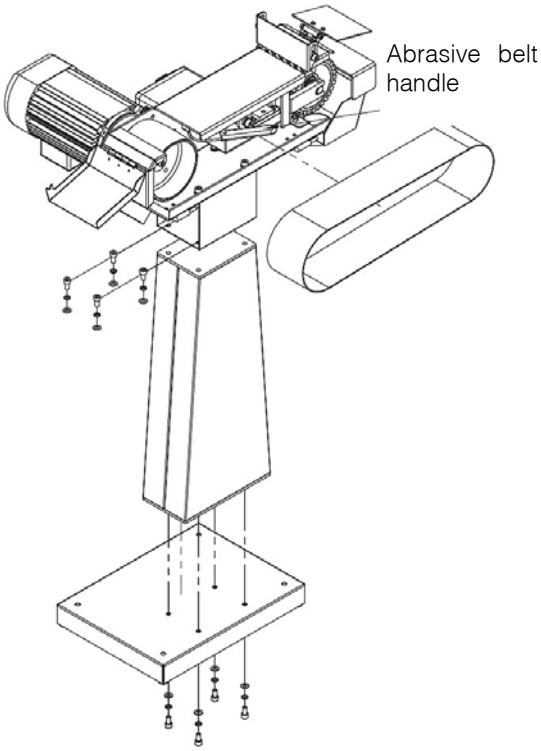

Fig. 8: Assembly MBSM 100-140-1 and 100-140-2

Step 4: Insert the grinding belt into the metal belt grinding machine and tension it.

Step 5: Close the side protective cover.

Step 6: Using steel bolts, fasten the machine to the floor through the 4 fastening points in the base plate.

7.2.2 MBSM 75-240-1 , MBSM 75-240-2 , MBSM 150-240-2

Mount the metal belt sander with the following steps:

Step 1: Unpack the machine and check for completeness and damage.

Step 2: Lift the metal belt grinding machine onto the base frame with the help of a second person.

Step 3: Mount the underframe and base plate to the metal belt sander using the 8 screws.

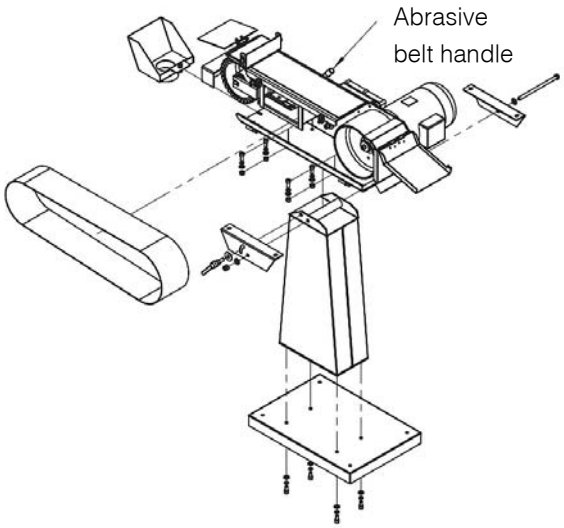

Fig. 9: Assembly MBSM 75-240-1 , MBSM 75-240-2 , MBSM 150-240-2

Step 4: Insert the grinding belt into the metal belt grinding machine and tension it.

Step 5: Close the side protective cover.

Step 6: Using steel bolts, fasten the machine to the floor through the 4 fastening points in the base plate.

7.3 Electrical connection

DANGER!

Danger to life from electric shock!

There is a danger to life when in contact with live components. Switched-on electrical components can execute uncontrolled movements and cause serious injuries.

- Unplug the machine from the mains before making adjustments to the machine.

DANGER!

The machine is supplied without mains plug. The electrical connection to the mains supply and the installation of the mains plug may only be carried out by a qualified electrician.

Only use the metal belt sander in a dry environment. Operate the metal belt grinding machine only with a power supply that meets the following requirements:

- the mains voltage and the current frequency of the power supply must correspond to the specifications on the rating plate.
- Machines with 400 V voltage must be protected with a 16A fuse.
- Fuse protection with a residual current circuit breaker (RCD).
- Use of a grounding contact socket (properly grounded socket).
- Lay the power cable so that it does not interfere with work and cannot be damaged.
- Protect the power cord from heat, aggressive liquids and sharp edges.

Check direction of motor rotation 400 V models

After electrical connection, check that the direction of rotation of the grinding belt corresponds to the direction indicated on the plate. If the direction of rotation is wrong, the connections of the phase wires must be replaced.

If equipped with a phase inverter:

Press the disc in the plug with a screwdriver and turn it through 180°.

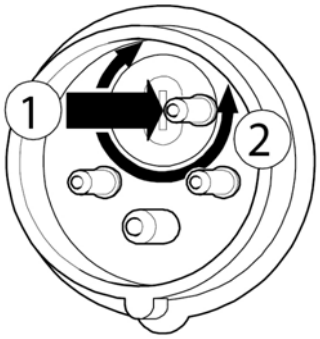

Fig. 10: Change motor direction of rotation

DANGER!

There is a risk of injury if the direction of rotation is incorrect. Switch on the machine only briefly to find out the correct direction of rotation (if possible without workpiece).

8 Operation

8.1 General

DANGER!

Rotating parts! Wear close-fitting clothing. Ensure that hair or clothing is not caught by rotating parts! Wear a hairnet. Do not wear jewellery when working with the machine.

DANGER!

Risk of injury!

Flying chips and flinging away parts! Always wear protective goggles! Protect your eyes from flying chips and other splinters.

The following checks must be carried out before starting any work:

- Check all cables and connectors.
- Check that the workpiece supports are aligned and tightened securely.
- Note that there are different grit sizes of abrasives for different jobs.
- Before starting the machine, make sure that the abrasive belt allows you to turn freely and that it is not slowed down or blocked by adjacent workpieces.
- Lubricate the machine regularly according to point Maintenance
- Before commissioning, check that the grinding belt is running in the centre!
- Check belt tension!

8.2 Grinding on the surface grinding table

Step 1: Connect the machine to the power supply.

Step 2: Open the upper protective cover.

Step 3: Check that the EMERGENCY OFF switch is unlocked.

Step 4: Switch on the machine by pressing the START button.

Step 5: Set the grinding belt speed.

Step 6: Place the workpiece on the surface grinding table and slowly guide it against the grinding belt.

Step 7: Switch off the belt grinding machine after finishing work by pressing the STOP button.

Step 8: Close the protective cover and pull the mains plug.

The service life of a new sanding belt is considerably extended if you sand with light pressure.

DANGER!

Do not work with too much pressure, otherwise the grinding belt will wear out too quickly. Do not bring your fingers into contact with the abrasive belt.

8.3 Grinding on the workpiece support

Step 1: Connect the machine to the power supply.

Step 2: Close the upper protective cover.

Step 3: Check that the EMERGENCY OFF switch is unlocked.

Step 4: Switch on the machine by pressing the START button.

Step 5: Set the grinding belt speed

Step 6: Place the workpiece on the support. Use both hands to slowly guide the workpiece against the grinding belt and hold it firmly.

Step 7: Switch off the belt grinding machine after finishing the work by pressing the STOP button.

Step 8: Pull out the mains plug.

DANGER!

The edge of the workpiece supports must be positioned in such a way that there is a distance of max. 1 mm to the grinding belt to prevent workpieces or fingers from being trapped between the table and grinding belt.

9 Notes for the grinding process

Observe the safety instructions when grinding and use the safety devices on the machine as well as your personal protective equipment (safety goggles, hearing protection, safety shoes, etc.).

Special information on situations that can cause damage to persons, the machine and/or the environment or lead to financial losses:

- Ensure that the gap between the worktable and grinding belt is not set too large. Particularly with thin workpieces there is a risk that the workpiece will be drawn into the gap!
- As the machine does not have a clamping device, it is important that your workpiece rests on the worktable over as large a surface as possible and can be held firmly!
- Ensure that the abrasives are in good condition and replace used abrasives in good time. You can only achieve a good sanding quality with flawless tools!

10 Care, maintenance and repair

DANGER!

Danger to life through electric shock!

There is a danger to life when in contact with live components. Switched-on electrical components can execute uncontrolled movements and cause serious injuries.

- Before starting cleaning and maintenance work, switch off the machine and pull the mains plug.
- Connection and repair of the electrical equipment may only be carried out by a qualified electrician.

10.1 Care after end of work

Wear protective gloves!

NOTE!

Never use harsh cleaning agents for any cleaning work. This can lead to damage or destruction of the device.

Step 1: Unplug the power cord from the wall outlet.

Step 2: Clean the machine from chips and dust with compressed air (Attention: wear protective goggles and dust mask!) and/or with a dry cloth.

Step 3: Spray or oil all unpainted metal surfaces with some anti-rust spray.

Step 4: Empty and clean the chip container.

Step 5: Check the machine for damage of the safety devices. If necessary, carry out or arrange for repair work to be carried out in accordance with the safety instructions.

Step 6: Check the machine regularly for

- Lubrication of the bearings (1x month)
- Loose screws and nuts
- Worn or damaged switches

Step 7: Every 6 months, for daily use monthly check the graphite layer, replace if worn or damaged

10.2 Maintenance and repair

Maintenance and repair work may only be carried out by qualified personnel.

If the metal belt grinding machine does not function properly, contact a specialist dealer or our customer service. The contact details can be found in chapter 1.2 Customer service.

10.2.1 Sanding belt change

DANGER!

Only use tapes with the dimensions specified in the technical data. Before installation and for your own safety, check the dimensions of the abrasive belt and inspect it for possible design faults. Always choose an abrasive belt that matches the material to be sanded.

Choose abrasive belts with a fabric where the opposite ends are glued together. Abrasive belts whose ends are glued together at the top can tear when the belt direction is changed.

Change the grinding belt with the following steps:

Step 1: Switch off the machine and unplug the power cord.

Step 2: Loosen the locking screw and open the side protective cover.

Step 3: Open the front protective cover of the workpiece support by turning the lever and fold it upwards.

Step 4: Release the grinding belt with the lever (Fig.11).

Fig. 11: Loosen the grinding belt

Step 5: Slowly push the grinding belt against the running direction and at the same time pull the grinding belt sideways off the guide rollers.

Step 6: Insert new abrasive belt and tension.

Step 7: Close the side protective cover again and tighten the locking screw.

Step 8: Tension the abrasive belt by turning the adjusting screws (Fig.12).

Step 9: Adjust the running of the abrasive belt by turning the adjusting screws (Fig.12) in the centre.

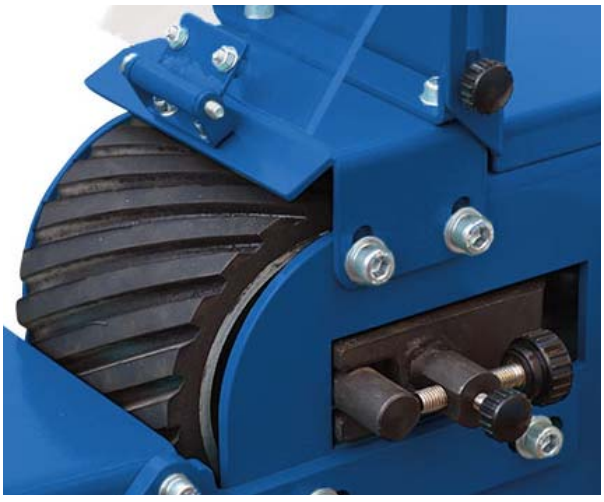

Fig. 12: Tension grinding belt

Step 10: Close the front protective cover of the workpiece support.

Change tape guide roller

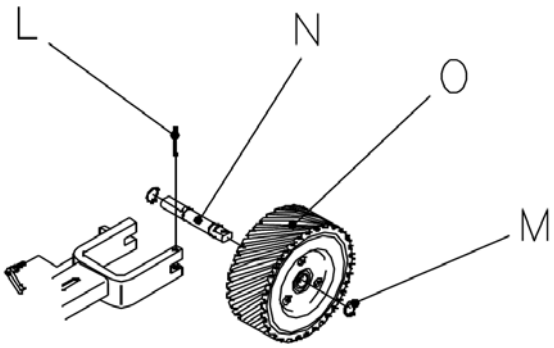

Fig. 13: Belt guide roller

Step 1: Before changing the belt guide roller, remove the belt, grinding device and housing.

Step 2: Press out the pin (M) with a 6 mm mandrel.

Step 3: Pull out the belt guide roller with axle and bearing.

Step 4: Remove the circlip (P) and dismount the axle (N).

Step 5: Mount the new tape guide roller (O) in reverse order.

DANGER!

The grain size of the abrasives must be selected according to the requirements.

DANGER!

When mounting the grinding belt, ensure that the direction of the arrow (see inside of grinding belt) corresponds to the direction of the arrow on the housing.

11 Troubleshooting

NOTE!

If you cannot solve the problems with your machine yourself, please contact your nearest Metallkraft dealer. Please write down the following information about the machine or the operating instructions beforehand so that you can be helped with your problem in the best possible way.

- Model of the machine
- Serial number of the machine
- Year of manufacture
- Exact error description

DANGER!

If one of the following errors occurs, stop working with the machine immediately. Before you start troubleshooting, turn off the machine and unplug the power cord. All repair or replacement work may only be carried out by qualified and trained personnel.

Fault	Possible reason	Remedy
Motor does not start.	Damaged on/off switch. Defective power cable Relay damaged. Motor defective. Fuses are defective.	Have the machine checked by an electrician and replace the damaged parts.
Machine slows down while working.	Too much pressure is applied.	Exert less pressure on the workpiece.
Short service life of the abrasives	Sanding belt with too fine grit.	Use abrasive belt with coarser grit
Poor grinding pattern	Abrasive belt with too coarse grit	Use sanding belt with finer grit
The belt comes into contact with the housing near the grinding wheel	Graphite layer is worn out	Replace graphite layer
Abrasive belt runs optically out of round	Abrasive belt not correctly applied	Apply sanding belt in the middle
Abrasive belt runs off the drive rollers	Tape run is not set correctly.	Adjust the belt run after

12 Disposal, recycling of old equipment

In the interest of the environment, it must be ensured that all components of the machine are disposed of only through the designated and approved channels.

12.1 Decommission

Discarded devices must be taken out of service immediately in a professional manner in order to avoid later misuse and danger to the environment or persons.

- Dispose of all environmentally hazardous operating materials from the old device.
- If necessary, dismantle the machine into manageable and recyclable assemblies and components.
- Dispose of the components and operating materials in the appropriate disposal channels.

12.2 Disposal of lubricants

DANGER!

Please make sure that the coolants and lubricants used are disposed of in an environmentally friendly manner. Observe the disposal instructions of your municipal waste disposal company.

Used oils should not be mixed, as only unmixed waste oils can be recycled without pre-treatment.

The disposal instructions for the lubricants used are provided by the lubricant manufacturer. If necessary, ask for the product-specific data sheets.

12.3 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 this equipment).

The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but should be handed in at a collection point for the recycling of electrical and electronic equipment. By helping to dispose of this product correctly, you will help protect the environment and the health of those around you. The environment and health are endangered by incorrect disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local authority, municipal waste disposal service or the shop where you purchased the product.

13 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 uncertainties.

Loss of warranty

Using non-approved spare parts voids the manufacturer's warranty.

13.1 Ordering spare parts

The spare parts can be obtained from the authorised dealer or directly from the manufacturer. The contact details can be found in chapter 1.2 Customer service.

Specify the following key data when making inquiries or ordering spare parts:

- Device type
- Item number
- Position number
- Year of manufacture
- Quantity
- desired mode of dispatch (mail, freight, sea, air, express)
- Shipping address

Spare parts orders without the above information cannot be considered. In the absence of information on the mode of dispatch, dispatch will be at the discretion of the supplier.

Information on the device type, item number and year of manufacture can be found on the type plate attached to the machine.

Example

The motor for the metal belt grinding machine MBSM 100-140-1 230V must be ordered. The motor has the number 50 in the spare parts drawing 3.

By ordering spare parts, send a copy of the spare parts drawing (3) with the marked part (motor) and marked positon number (50) to the dealer or spare parts department and provide the following information:

- Type of device: **Metal belt grinding machine MBSM 100-140-1 230V**
- Item number: **3923141**
- Drawing number: **3**
- Position number: **50**

Item number of your devices:

MBSM 75-240-1 / 230 V	3923271
MBSM 75-240-1 / 400 V	3923272
MBSM 75-240-2 / 400 V	3923273
MBSM 100-140-1 / 230 V	3923141
MBSM 100-140-2 / 400 V	3923142
MBSM 150-240-2 / 400 V	3923315

13.2 Spare parts drawing

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

13.2.1 Spare parts drawings MBSM 100-140-1 230V and MBSM 100-140-2 400V

Spare parts drawing 1

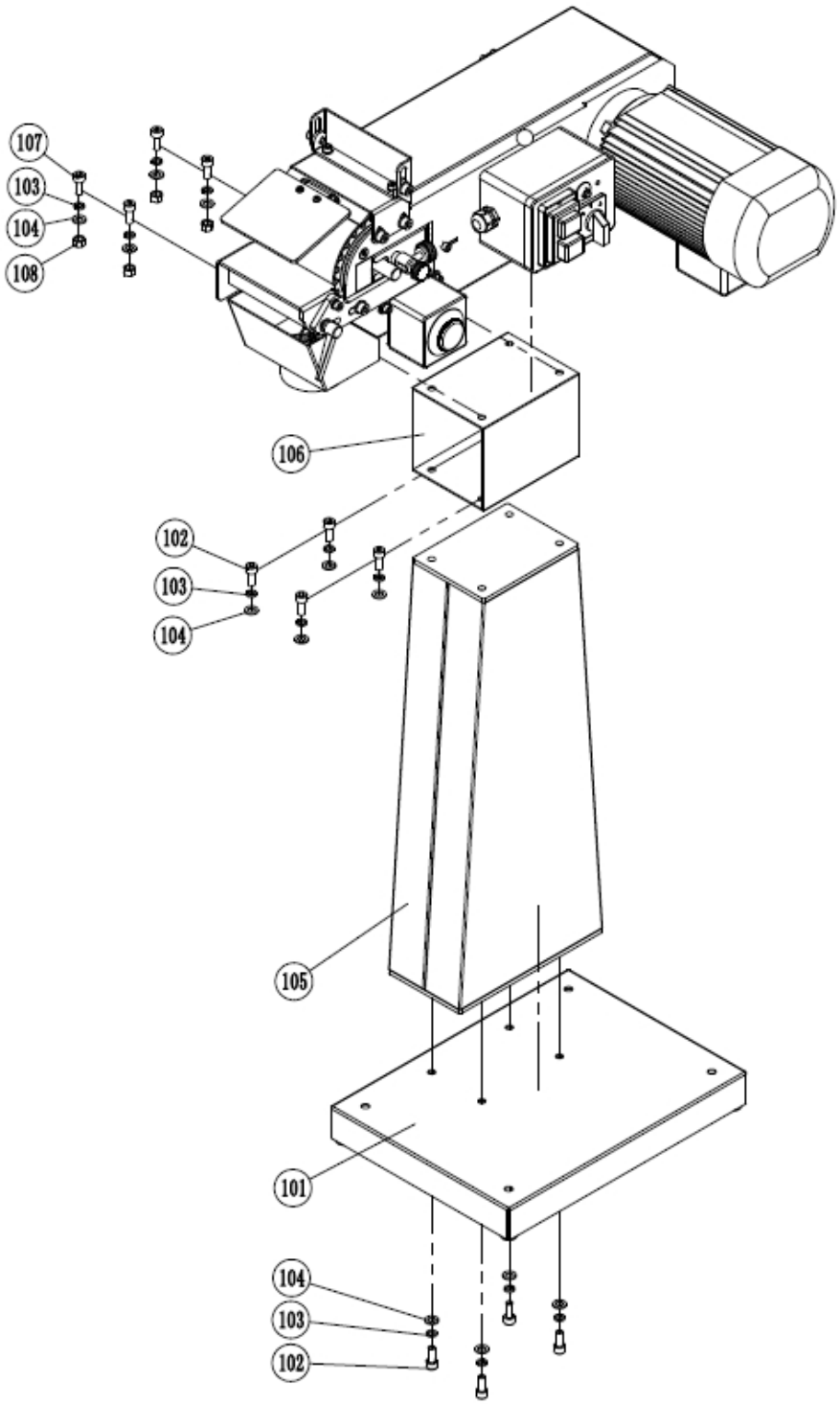

Fig. 14: Spare parts drawing 1 MBSM 100-140-1 230V and MBSM 100-140-2 400V

Spare parts drawing 2

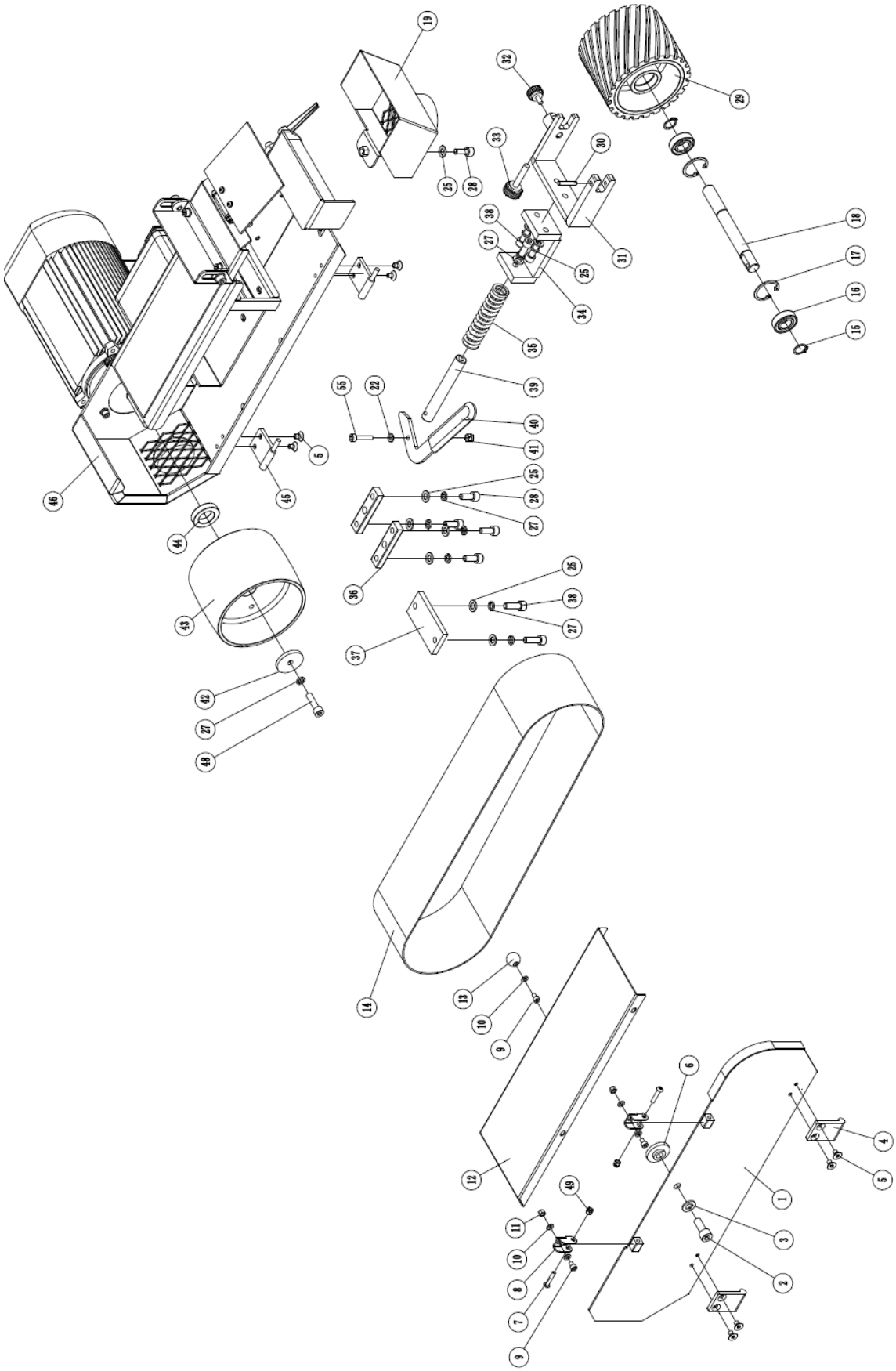

Fig. 15: Spare parts drawing 2 MBSM 100-140-1 230V and MBSM 100-140-2 400V

Spare parts drawing 3

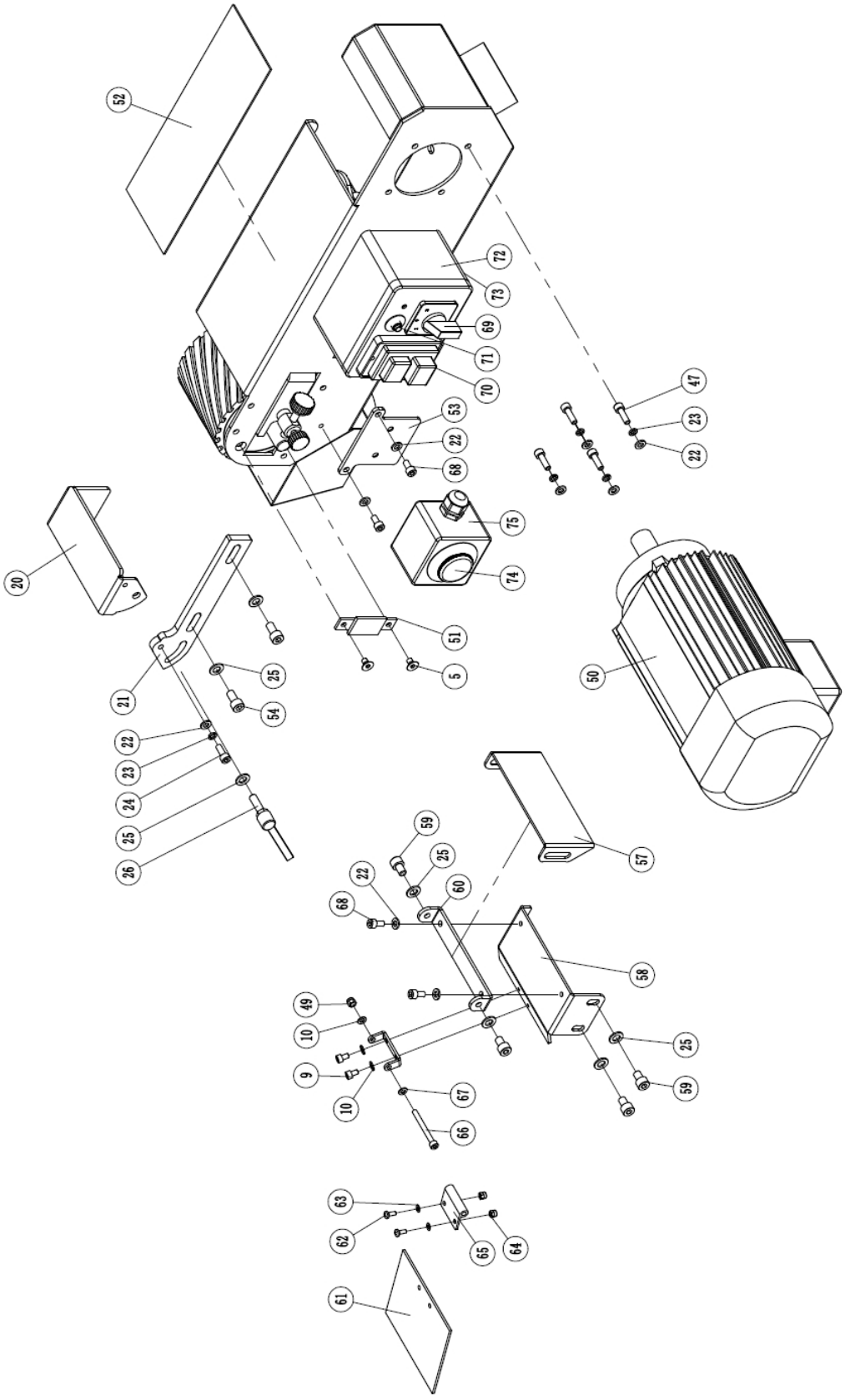

Fig. 16: Spare parts drawing 2 MBSM 100-140-1 230V and MBSM 100-140-2 400V

13.2.2 Spare parts drawings MBSM 75-240-1 230 V /400 V, MBSM 75-240-2 400V and MBSM 150-240-2 400V

Spare parts drawing 1

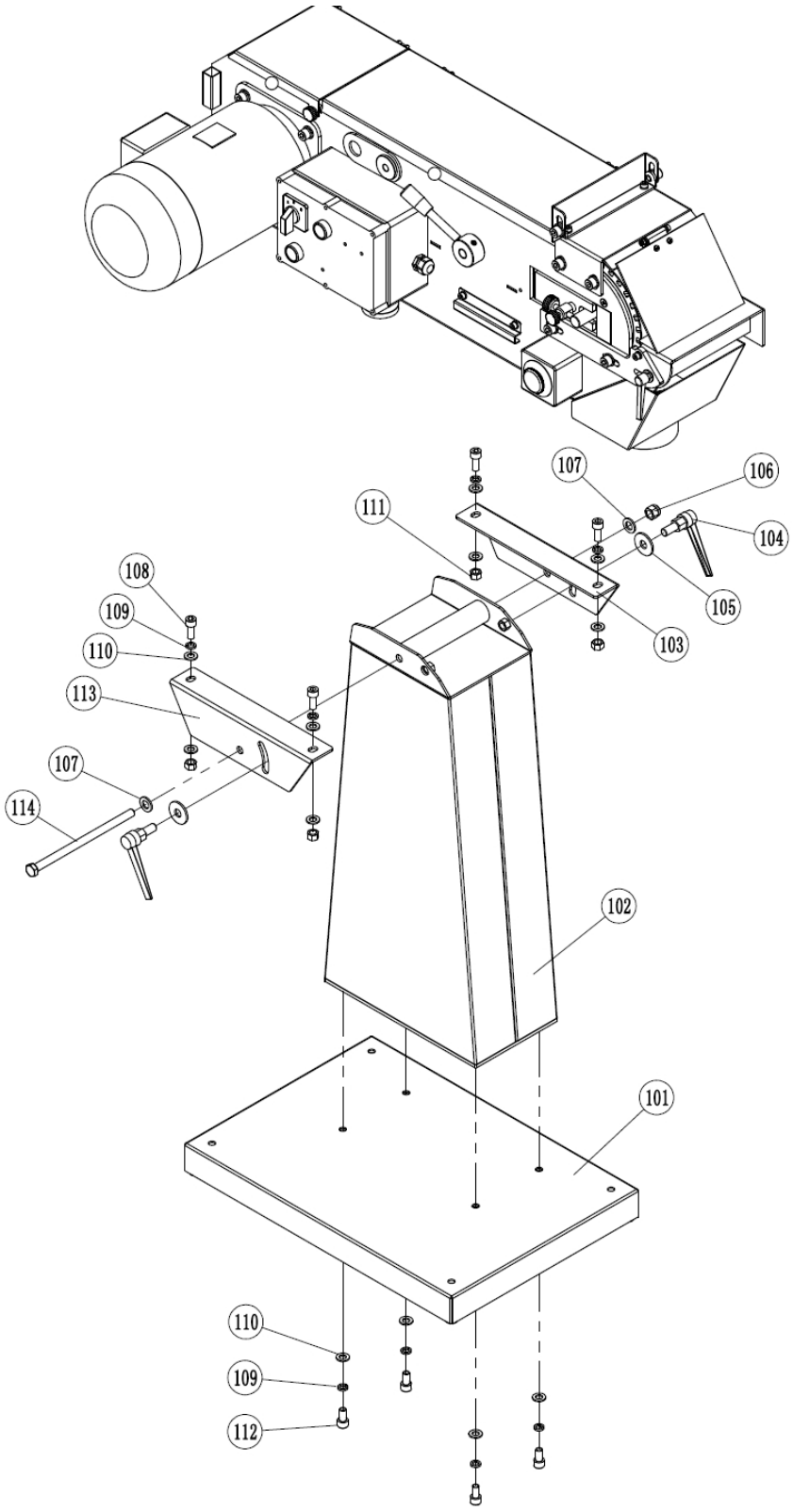

Fig. 17: Spare parts drawing 1 MBSM 75-240-1 230 V /400 V, MBSM 75-240-2 400V and MBSM 150-240-2 400V

Spare parts drawing 2

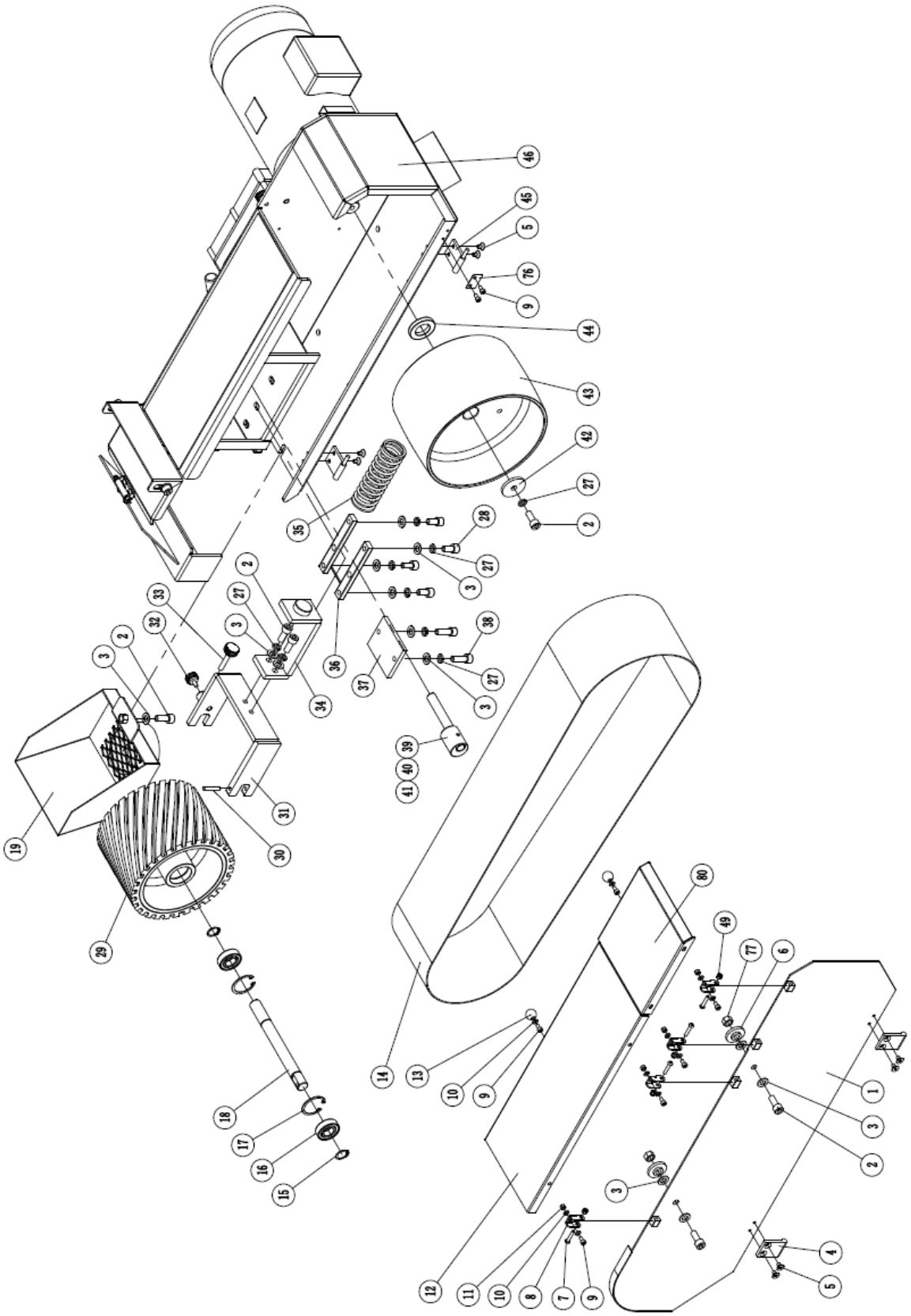

Fig. 18: Spare parts drawing 2 MBSM 75-240-1 230 V /400 V, MBSM 75-240-2 400V and MBSM 150-240-2 400V

Spare parts drawing 3

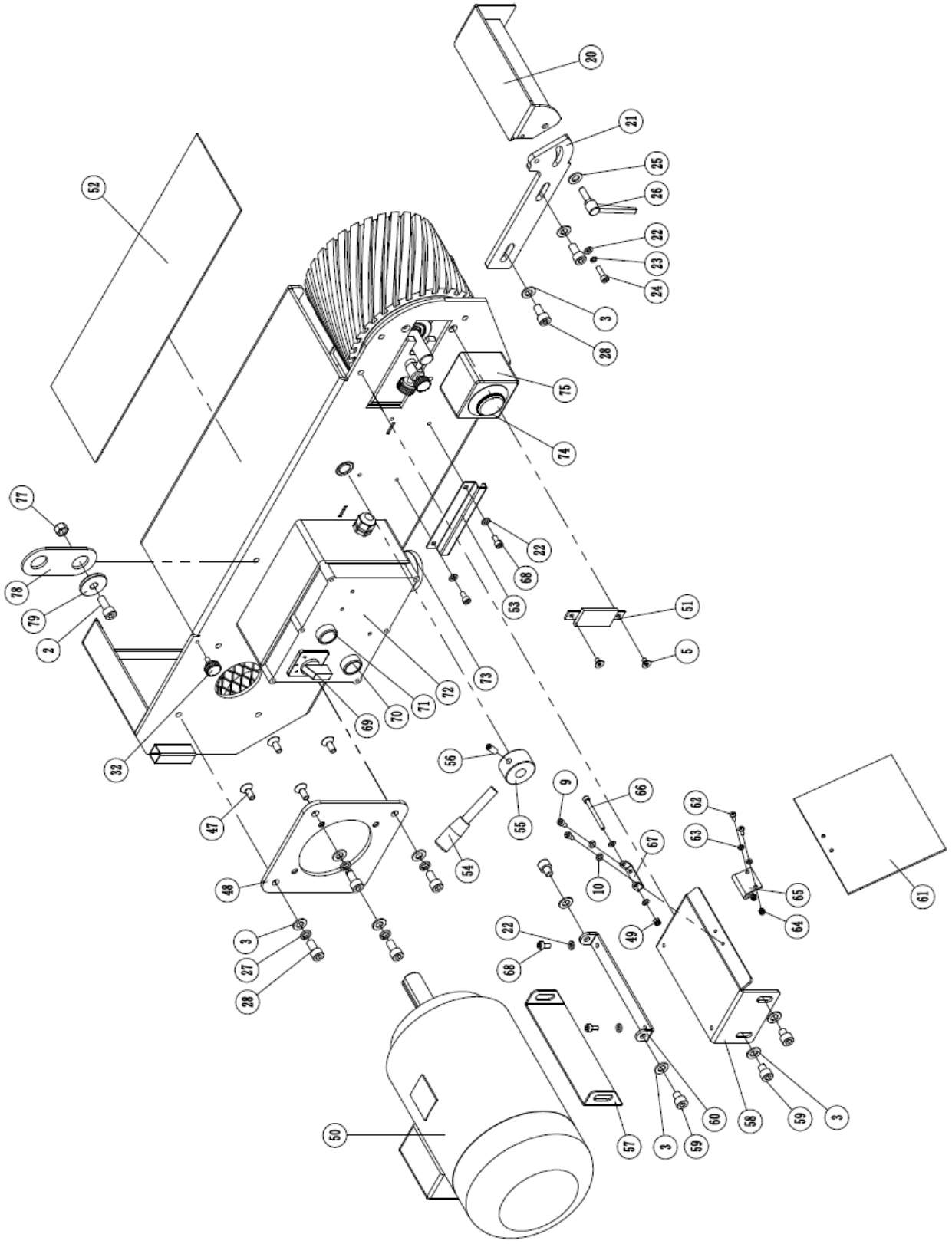

Fig. 19: Spare parts drawing 3 MBSM 75-240-1 230 V /400 V, MBSM 75-240-2 400V and MBSM 150-240-2 400V

14 Electrical circuit diagrams

14.1 Electrical circuit diagram MBSM 100-140-1 230V

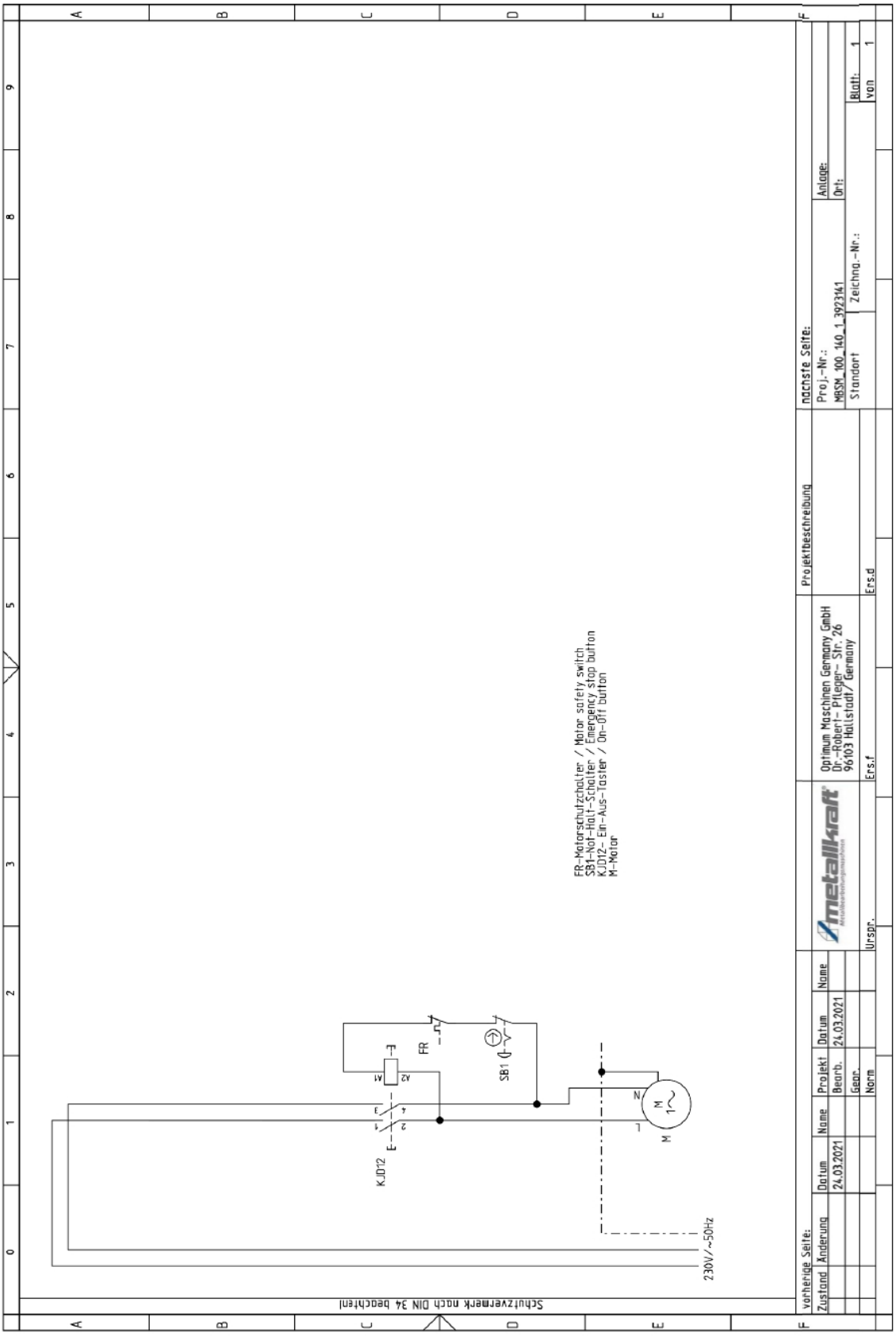

Fig. 20: Electrical circuit diagrams MBSM 100-140-1 230V

14.2 Electrical circuit diagram MBSM 100-140-2 400V

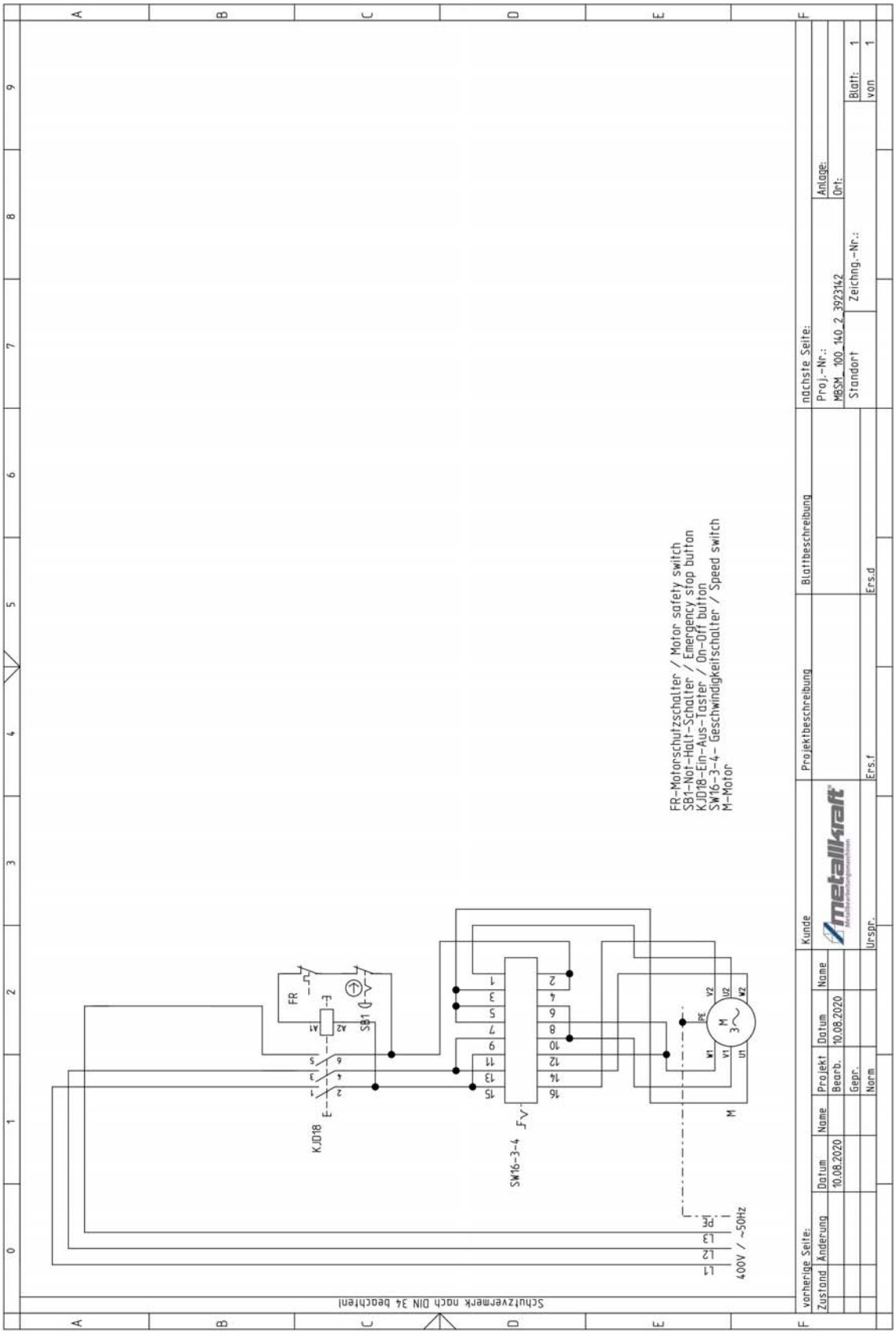

Fig. 21: Electrical circuit diagram MBSM 100-140-2 400V

14.3 Electrical circuit diagram MBSM 75-240-1 230V

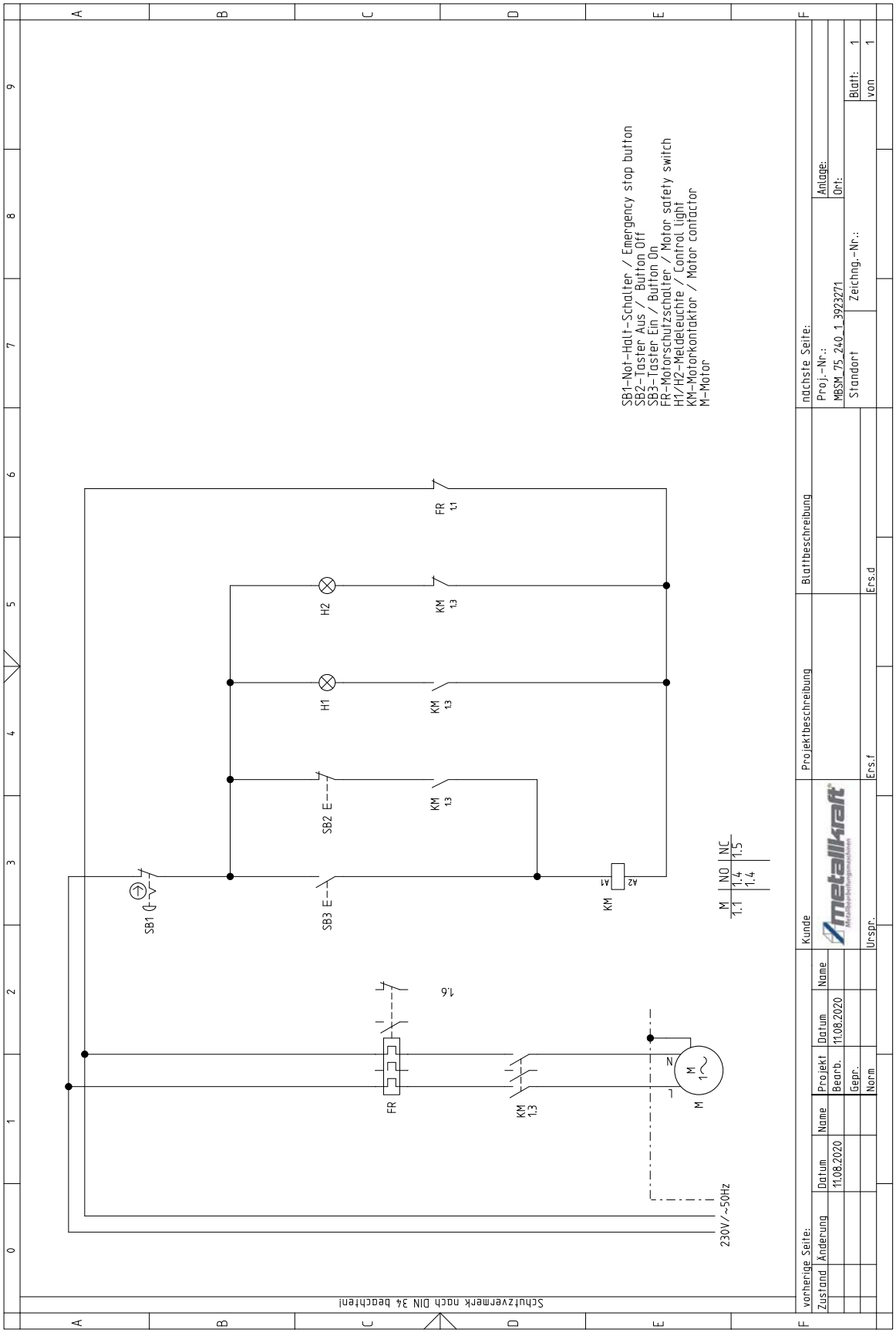

Fig. 22: Electrical circuit diagram MBSM 75-240-1 230V

14.4 Electrical circuit diagram MBSM 75-240-1 400V

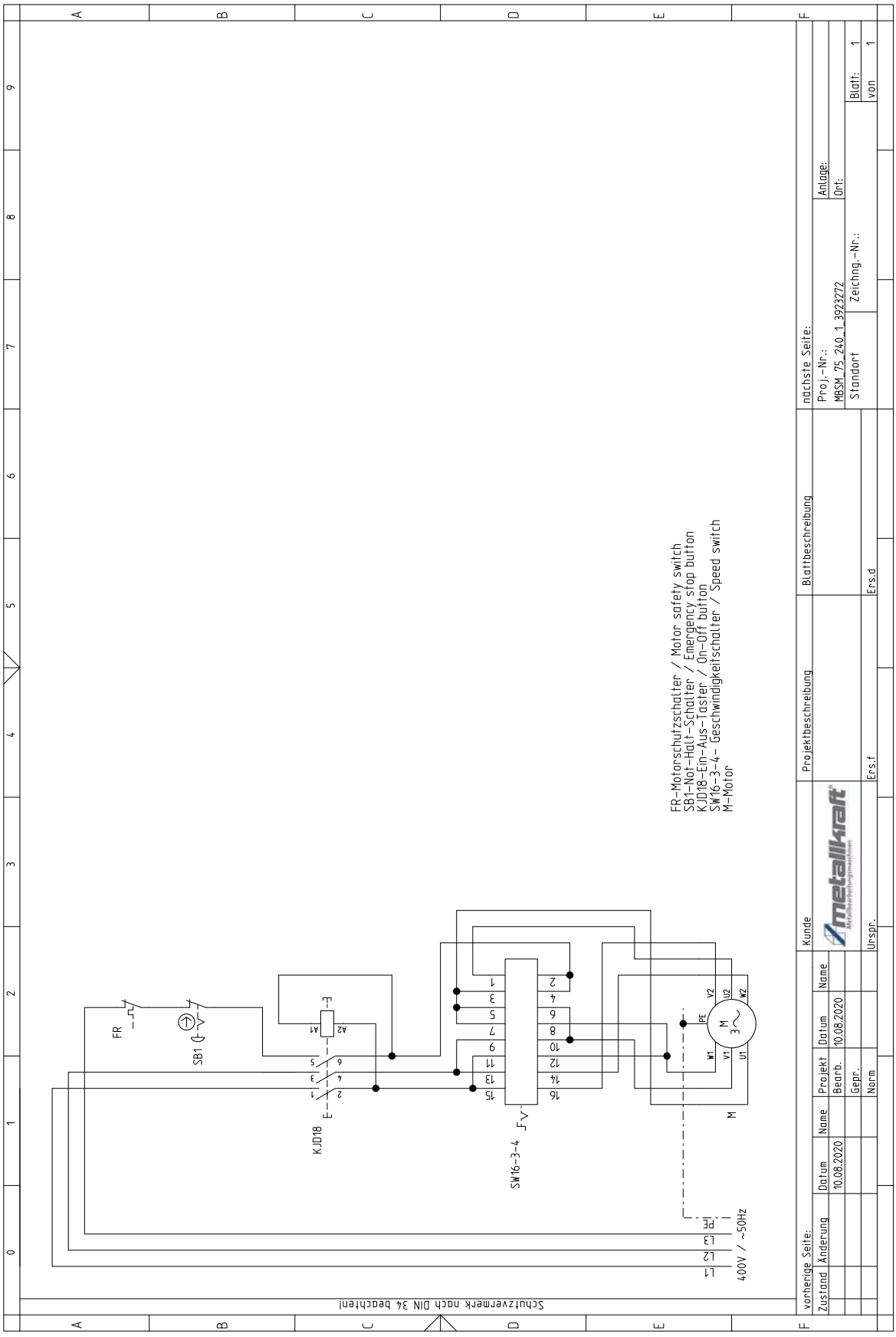

Fig. 23: Electrical circuit diagram MBSM 75-240-1 400V

14.5 Electrical circuit diagram MBSM 75-240-2 400V

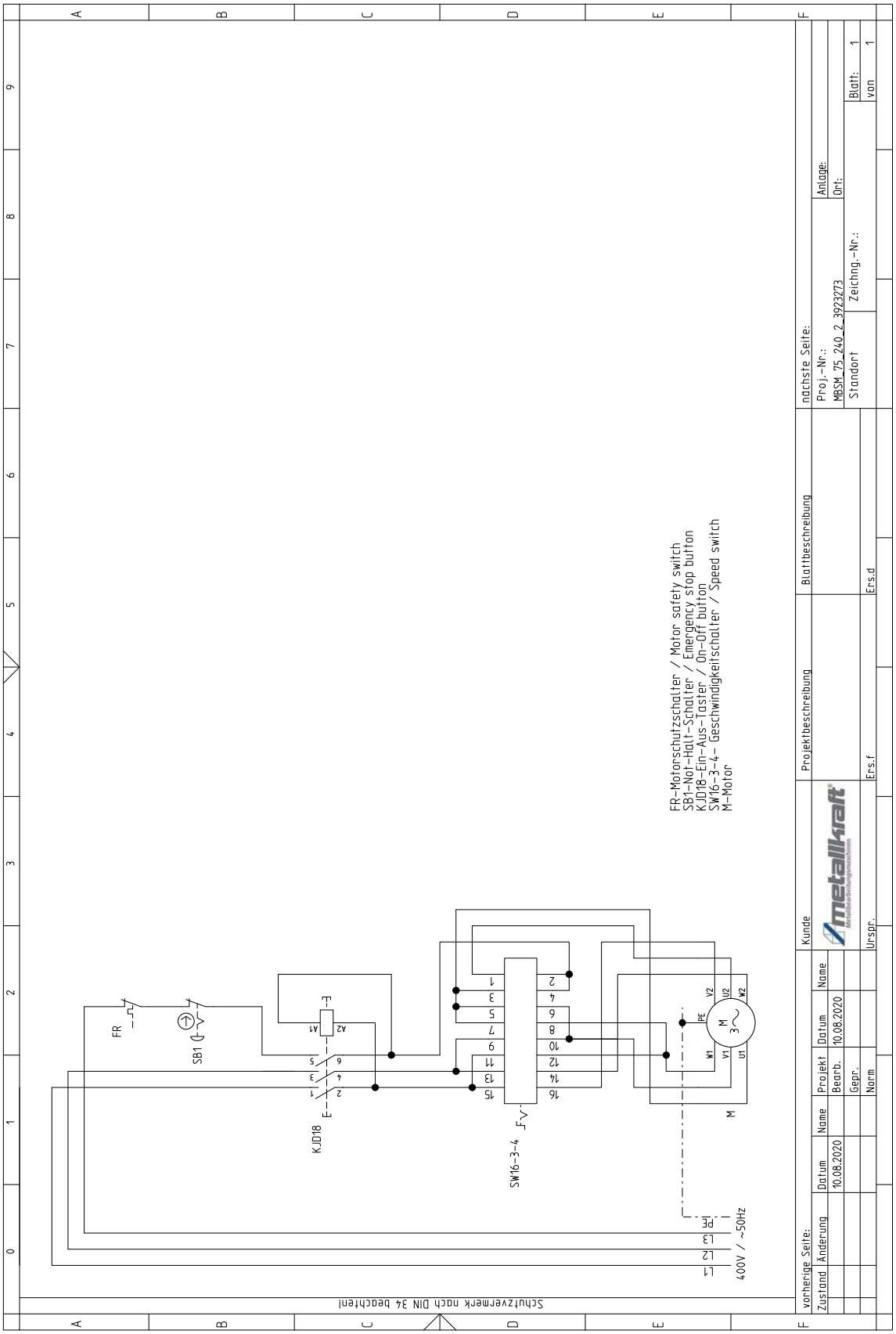

Fig. 24: Electrical circuit diagram MBSM 75-240-2 400V

14.6 Electrical circuit diagram MBSM 150-240-2 400V

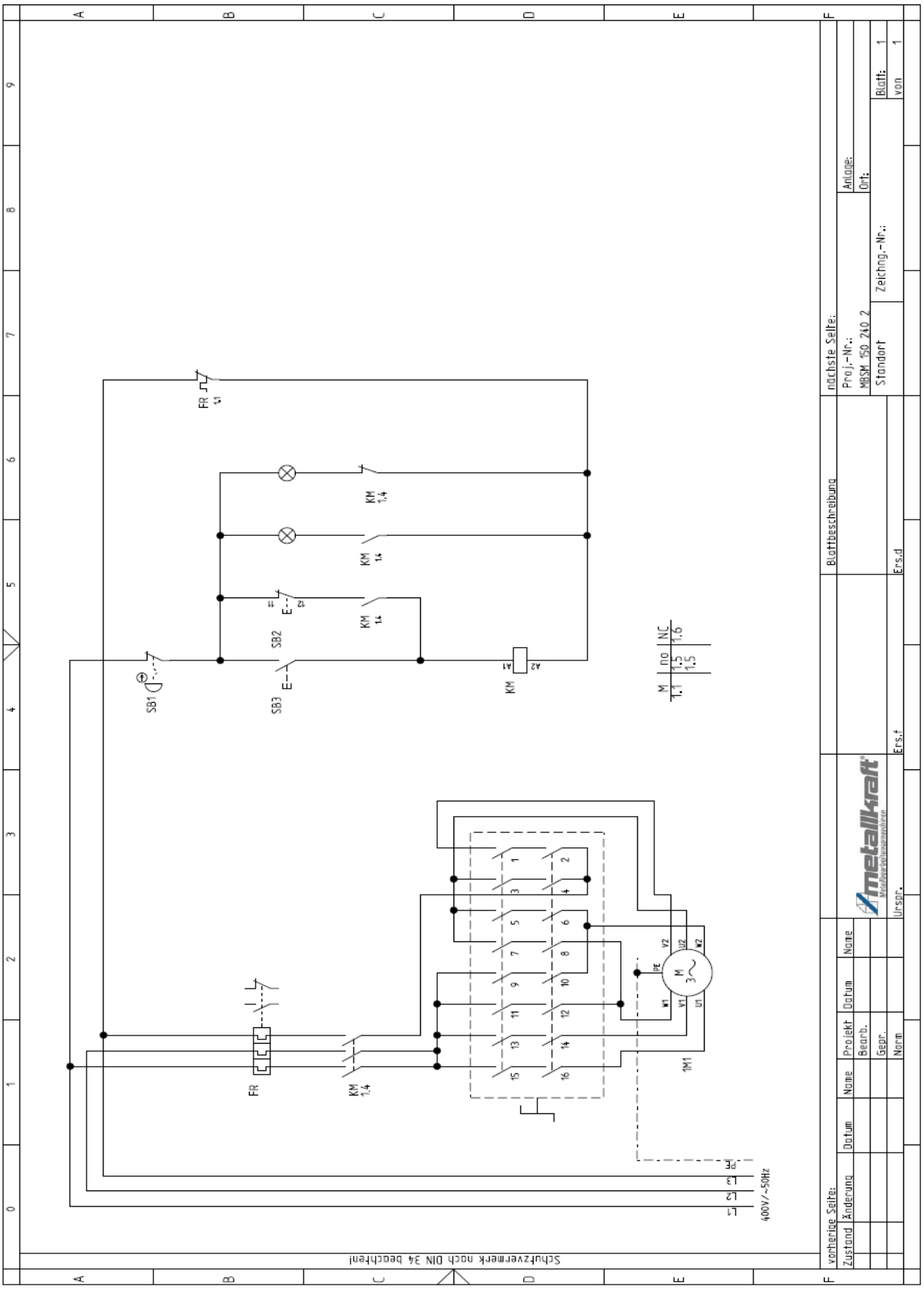

Abb. 25: Electrical circuit diagram MBSM 150-240-2 400V

15 EC-Declaration of Conformity

According to machine directive 2006/42/EC Annex II 1.A

Manufacturer/retailer: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Straße 26
D-96103 Hallstadt

herewith declares that the following product

Product group: Metallkraft® Metal working machines

Maschinentyp: Metal belt grinding machine

Designation of machine*:		**Item number *:**	
	☐ MBSM 75-240-1 /230 V		☐ 3923271
	☐ MBSM 75-240-1 / 400V		☐ 3923272
	☐ MBSM 75-240-2 / 400V		☐ 3923273
	☐ MBSM 100-140-1 / 230V		☐ 3923141
	☐ MBSM 100-140-2 / 400V		☐ 3923142
	☐ MBSM 150-240-2 / 400V		☐ 3923315

Serial number*: _____

Year of manufacture*: 20___

* please fill in according to the information on the type plate

complies with all the relevant provisions of the abovementioned Directive and of the other Directives applied (hereafter referred to as the Directives), including the amendments thereto in force at the date of this declaration.

Relevant EU directives		
	2014/30/EU	EMC-Directive
	2012/19/EU	WEEE-Directive
	2011/65/EU	RoHS-Directive

The following harmonized standards were applied:

DIN EN ISO 12100:2011-3	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
DIN EN 60204-1:2019-06	Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)

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

Hallstadt, 29. 05. 2020

Kilian Stürmer
Manager

CE


stürmer
OPTIMUM