

Instruction Manual

— Bead bending machine

— SBM 140-12 E



SBM 140-12 E

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Imprint

Product identification

Type of machine	Item number
SBM 140-12 E	3814003

Manufacturer

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Indications regarding the operating instructions

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1 Introduction

You have made a good choice by purchasing the METALLKRAFT Bead bending 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 Bead bending machine.

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

1.1 Copyright

The contents of these instructions are copyright. They may be used in conjunction with the operation of the device. Any application beyond those described 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 Bead bending machine or if you need technical advice. They will help you with specialist information and expert advice.

Germany:

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D-96103 Hallstadt

Repair service:

Fax: 0049 (0) 951 96555-111
E-Mail: service@stuermer-maschinen.de

Spare part orders:

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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,
- 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 section provides an overview of all major safety packages for personal protection and safe and trouble-free operation. Further task-related safety instructions are contained in the individual chapters. The term "machine" below replaces the usual trade name of the object to which these operating instructions refer (see cover sheet).

2.1 Symbol explanation

Safety instructions

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



DANGER!

This combination of symbol and signal 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



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 Requirements to staff

Qualifications

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 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 expressly 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 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..

2.3 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:



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.

2.4 Standards and guidelines

The design adhered to the essential health and safety requirements of applicable laws, standards and guidelines. The safety of the machine is documented by the CE marking and by the declaration of conformity.

All safety information refers to the currently valid regulations of the European Community. In other countries, the applicable laws and regulations must be complied with.

In addition to the safety instructions in this operating manual, the generally valid regulations for accident prevention and environmental protection must be observed and adhered to.

2.5 General safety regulations



WARNING!

Danger in case of misuse!

The bead bending machine may only be operated in a technically perfect condition. Any faults must be eliminated immediately. Unauthorized changes to the bead bending machine or improper use of the bead bending machine as well as the disregard of the safety instructions or the operating instructions exclude a liability of the manufacturer for resulting damage to persons or objects and cause the warranty to expire!



DANGER!

Before starting, using, servicing or otherwise intervening on the machine, read the instructions for use and maintenance carefully. Dealing with and working with the machine is only allowed for people who are familiar with the handling and operation of the machine exactly familiar.



WARNING!

Repairs, maintenance and upgrades may only be carried out by qualified personnel at shutdown and secured machine (pull power plug!)

Please note the following:

1. Despite the observance of all working instructions, safety and accident prevention regulations, there remains a residual risk when handling the machine. Thorough concentrated and forward-looking work and action, you can reduce the residual risk.
2. The machine may only be operated and maintained by persons who have read and understood this operating manual. The operator must be adequately trained in application, adjustment and operation.
3. If you pass on this machine, you must hand over all the tools and documents supplied with the machine.
4. Switch on the machine immediately before starting the bending work. Switch off the machine during breaks and when the machine is not in use. Never leave the machine on standby unattended.
5. Never open the protective covers by hand while the machine is running.
6. Keep the workplace and the floor in the vicinity of the machine free of any objects which jeopardize your stability or pose a risk of tripping. Keep order in the workplace. Clutter can result in accidents.
7. Before and during work, check the danger zone so that there are no unauthorized persons in it. Do not allow the machine to be touched by other people, especially children.
8. Use the machine only in dry rooms or in a dry environment and ensure a sufficiently lit work area.
9. Protect your work from rain, moisture and moisture so that the machine does not pose an electrical hazard.
10. Maintain the machine with care. Keep the bending machine in working order and clean in order to be able to work well and safely in the long term. Observe the notes on maintenance and service.
11. At the end of their service life, the machine and all replaced wear and spare parts, as well as all auxiliary materials, such as lubricants, must be disposed of in accordance with environmental and regulations. Sicherheitshinweise zum Personenschutz

Please note the following:

1. Do not use the machine if you are unfocused.
2. Operation or maintenance of the machine is prohibited for persons under the age of 16 or under the influence of alcohol, drugs or medication.
3. Before starting the processing, find out about the type of material to be processed. Take appropriate precautions, if necessary.
4. Always wear protective goggles when working with the machine. The wearing of loose clothing (ties, scarves, open jackets and tight-fitting garments) is prohibited. There is a risk of injury from being caught or pulled into moving machine parts. For long hair, a hairnet should be worn.
5. Protect yourself from noise by wearing suitable and approved hearing protection.
6. Profiles can be sharp-edged. Wear protective gloves if necessary. Pay attention to your posture and keep your balance at all times. Wear work shoes to increase their stability. Wear appropriate work clothes

2.6 Safety measures when dealing with electricity

Please note the following:

1. The conditions for electrical equipment apply to the machine. These must be checked for electrical safety at regular, recurring intervals by a recognized electrician. The test cycles depend on the applicable regulations.
2. To protect yourself against electric shock, have the machine clamped by a qualified electrician only to a suitable, secure power outlet.
3. Do not use the machine if it can not be properly switched on or off with the switch and the control components will not reach their proper operating condition.
4. Protect the power cord from heat, oil and sharp edges.

2.7 Safety instructions for the use of tools

Please note the following:

1. Use only bending rollers that are not deformed or damaged.
2. Use only original bending rollers.

3. Immediately replace deformed and damaged bender rollers. Until the bending rolls are replaced, the use of the machine is prohibited.
4. Always use bending rolls adapted to the workpiece.
5. Only use bending rolls with suitable dimensions.
6. Check the drive components of the bending rollers for contamination. Clean the clamping area of the bending rollers before mounting.

2.8 Safety instructions for working on the machine

Please note the following:

1. Use the machine only for performing normal work.
2. Do not use the machine for purposes it is not intended to, for example for bending brittle materials.
3. Observe the maximum dimensions of the workpieces specified in the technical data (see chapter "Technical data").
4. Do not overload the machine. She works better and safer in the specified performance range. Do not use the machine for heavy work requiring a more powerful machine.
5. Check the stability of the machine and the secure screw connection with the foundation.
6. Note that using tools other than those recommended by the manufacturer may result in injury to you and other accessories.
7. Do not leave any tools stuck. Before switching on, check that all repair and adjustment tools have been removed.
8. Do not leave the machine unattended in the machining process and keep a sufficient safety distance to the moving machine parts.
9. Only start the machine when the bending rollers are free to run.
10. Block the bending rollers during machining by clamping the workpiece, stop the motor rotation by pressing the emergency stop button.
11. The clamping or removal of workpieces may only be carried out with fully standing bending rollers.

2.9 Safety measures during maintenance and servicing

Please note the following:

1. When carrying out maintenance and repair work always switch off the machine at the main switch and secure it by taking appropriate measures to prevent it being restarted by a third party.
2. After maintenance, repair and cleaning work, check that all coverings and protective devices are correctly mounted on the machine again and that no tools are left inside or in the processing area of the machine.
3. Damaged protective devices, machine parts and switches must be replaced or repaired as intended by a recognized specialist workshop.
4. Make sure that repairs to electrical machines may only be carried out by a qualified electrician. Only original spare parts may be used. Otherwise, the operator is at risk of accidents.
5. Avoid accidentally starting the machine and make sure that the main switch is switched off when connecting the machine to the mains.

2.10 Safety markings on the bead bending machine

There are various warning labels and safety labels attached to the bead bending machine, which must be observed and followed. The safety markings attached to the bead bending machine must not be removed. Damaged or missing safety markings can lead to malfunctions, personal injury and property damage. They are to be replaced immediately. If the safety markings are not immediately recognizable and comprehensible, the bead bending machine should be taken out of operation until new safety markings have been made.

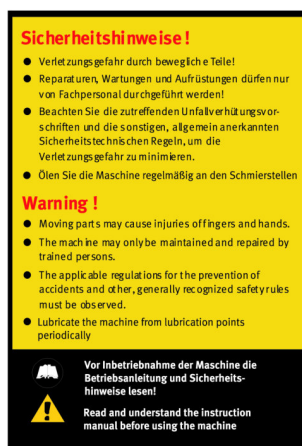


Fig. 1: Safety labels

3 Intended use

The bead bending machine SBM 140-12 E is an electrically operated bending machine. The machine may only be used as described in this manual. The bead bending machine is designed for beading and beading up to a maximum sheet thickness of 1.2 mm. It may only be operated by persons trained and trained in the use and maintenance of Bead Bending Machines.

Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse. Use of the bead bending machine in other areas and for other purposes is considered improper use. For structural and technical changes to the bead bending machine, the company Stürmer Maschinen GmbH assumes no liability. Claims of any kind due to damage due to improper use are excluded.



WARNING!

Dangers in case of unintended use!

Misuse of the machine can lead to dangerous situations.

- Only operate the bead bending machine in the capacity range specified in the technical data.
- Never bypass or override the safety devices.
- Only operate the bead bending machine in a technically perfect condition.

3.1 Residual risks

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

- There is a risk of injury to the upper limbs (e.g., hands, fingers).
- Danger from falling workpieces.

3.2 Technical condition

The machine corresponds in design and execution the current state of the art and is built according to the recognized safety rules. The CE conformity explicitly refers only to the machine as delivered.

Note the following:

1. The functionality of protective covers and guards must be guaranteed.
2. Any manipulation of protective covers and other safety devices is prohibited.
3. Before each restart the machine should be checked for externally visible damage.
4. After each restart, the operating behavior is observed.
5. In the event of safety-relevant deviations from the delivery condition, the machine must be inspected by an authorized specialist and, if necessary, repaired.
6. From the point in time when the machine is no longer in the normal operating condition, the profile bending machine must be taken out of service until repaired.

DANGER

Unauthorized modifications or changes, in particular those that affect the security of the Operator are basically prohibited. Technical changes, conversions and extensions made by the user at the Machine, the CE conformity of the machine may become invalid leave and are the responsibility of the operator.

DANGER!

In the interest of further technical development or changing regulations, the manufacturer reserves the right to make changes to the characteristics of the product at any time without prior notice.

4 TechnicalData

4.1 Table

Type	SBM 140-12 E
Roller length	140 mm
Max. sheet thickness*	1,2 mm
Roller Ø	62 mm
Collar width	100 mm
Roller speed	32 rpm
Motor output	0,75 kW
Electrical connection	400 V / 50 Hz
Weight	110 kg
Dimensions	
Length	900 mm
Width	450 mm
Height	1.350 mm

* Performance data based on material with tensile strength 400N / mm²

4.2 Type plate

SBM 140-12 E
motorische Sickenbiegemaschine

Artikelnummer 381 4003
 Seriennummer [redacted]
 Baujahr [redacted]

Wälzlänge 140 mm
 Blechstärke max. 1,2 mm
 Walzen-Ø 62 mm
 Halsweite 100 mm
 Walzengeschwin. 32 1/min.
 Motorleistung 0,75 kW / 400 V
 Gewicht 110 kg

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 D-96103 Hallstadt

CE

Fig. 2: Type plate SBM 140-12 E

4.3 Scopa of delivery

Description	Amount
Bead bending machine SBM 140-12 E	1
Standard rollers S1-S8	8
Foot pedal	1
Special wrench for disassembly and assembly of the rollers	1

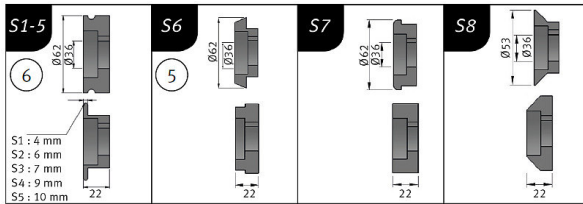


Fig. 3: Standard rollers Type S

4.4 Accessories

Description	Item number
Bending rollers type E1	3880131
Bending rollers type E2	3880132
Bending rollers type E3	3880133
Bending rollers type E4	3880134
Bending rollers type E5	3880135
Bending rollers type E6	3880136
Bending rollers type E7	3880137
Bending rollers type E8	3880138

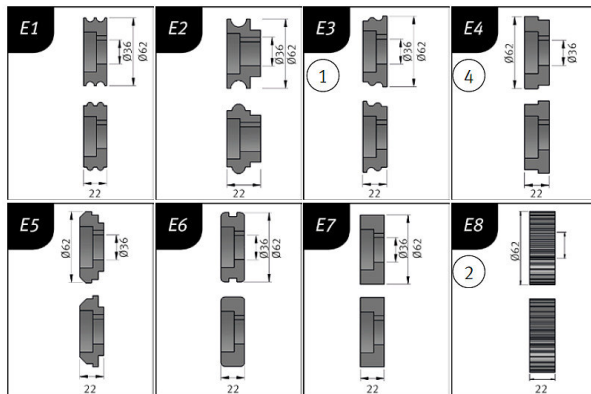


Fig. 4: Bending rollers type E

5 Transport, packaging, storage

5.1 Delivery and Transport

5.1.1 Delivery

Check the Machine on delivery for any visible transportation damage. If you notice any damage to the device please report this immediately to the carrier or dealer.

All packaging must be removed; the corresponding instruction of this installation manual must be read. Possible transport damages are to be photographically documented immediately for the purpose of insurance benefits.

To avoid accidents, the necessary precautions must be taken when unloading and transporting the machine. Refer to the chapter on safe handling of this machine.

5.1.2 Transport



CAUTION!

Injuries caused by parts falling over or off a forklift, pallet truck or transport vehicle.
Only use means of transport that can carry the total weight and are suitable for it.

Improper transport of individual devices, unsecured devices stacked on top of each other or next to each other in packed or already unpacked condition 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.



DANGER!

When transporting and lifting the bead bending machine, observe that the transport and lifting equipment can take the load.



WARNING! Danger to life!

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

General risks during internal transport



CAUTION: 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.

5.2 Packaging

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

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

The film is made of polyethylene (PE) and the cushioned parts of polystyrene (PS). Deliver these substances to a collection point for recyclable materials or to the waste disposal company which looks after your region.

5.3 Storage

The bead bending machine must be thoroughly cleaned before storing in a dry, clean and frost-free environment.

5.4 Set up



Wear safety gloves!



Wear safety shoes!



ATTENTION!

Danger of Crushing!

The Machine can tilt when setting up and cause injury.

To achieve good functionality and long life of the plate rolling machine, the site should meet the following criteria:

- The substrate must be level, firm and vibration-free.
- For a safe footing, the machine should be firmly anchored in the ground, with the lower working shaft aligned with the spirit level. Only use quality soil anchors that have sufficient sizing.
- There must be sufficient space for the operating personnel, for material transport as well as for adjustment and maintenance work.

5.5 Electrical connection

The connection diagrams are located under the chapter "Circuit diagrams". Connection only after reading the instructions and complete understanding of the sketches. In case of ambiguity, contact the manufacturer or the dealer immediately.

The electrical connection may only be made by qualified personnel. When switching on the motor for the first time, pay attention to the correct direction of rotation.



DANGER!

Damage caused by incorrect connections is not covered by the warranty, and

Metalkraft disclaims any responsibility for consequential damages resulting therefrom.

Always disconnect the mains connection before connecting or disconnecting.

6 Description of the device

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

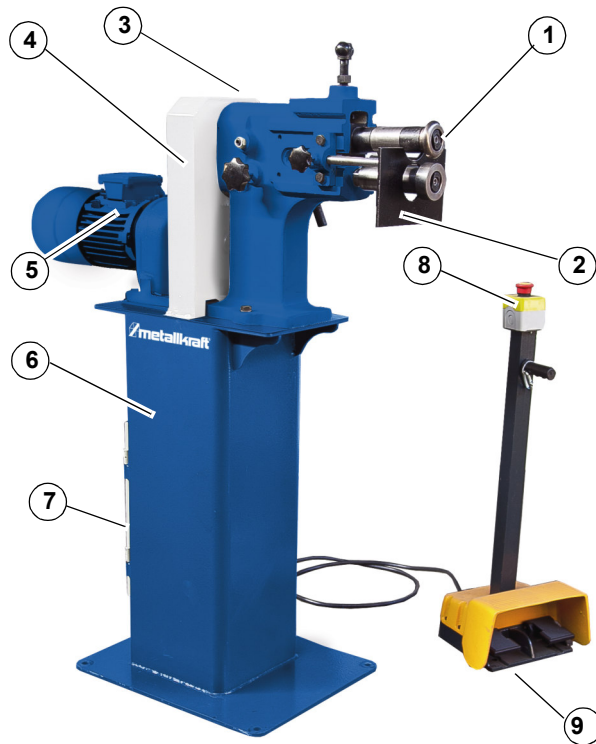


Fig. 5: Description of the device

1. Bending rolls
2. Stop plate
3. Gearbox protection cover
4. Gear
5. Electric motor
6. Sheet metal substructure
7. Control cabinet
8. EMERGENCY STOP switch
9. Foot pedal

7 Description of the standard roles

7.1 Application examples and roles

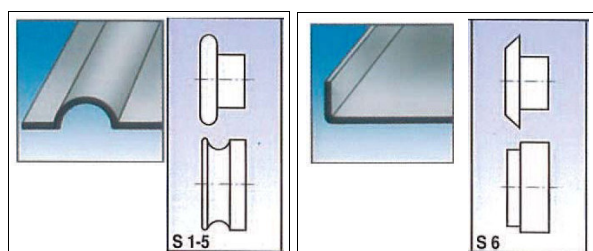


Fig. 6: Application examples with the S-rolls

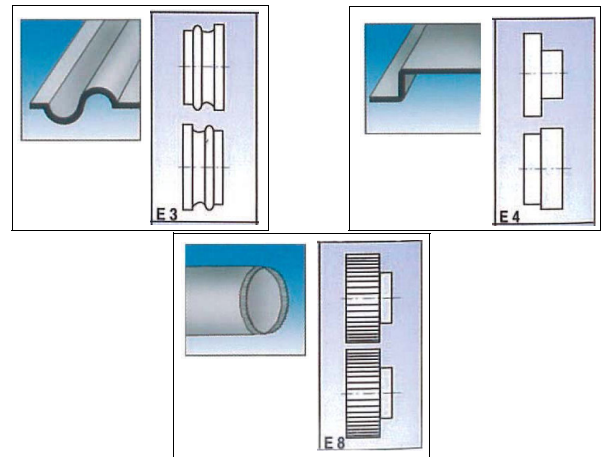


Fig. 7: Application examples with the E-rollers

7.2 Roller set S1 to S5

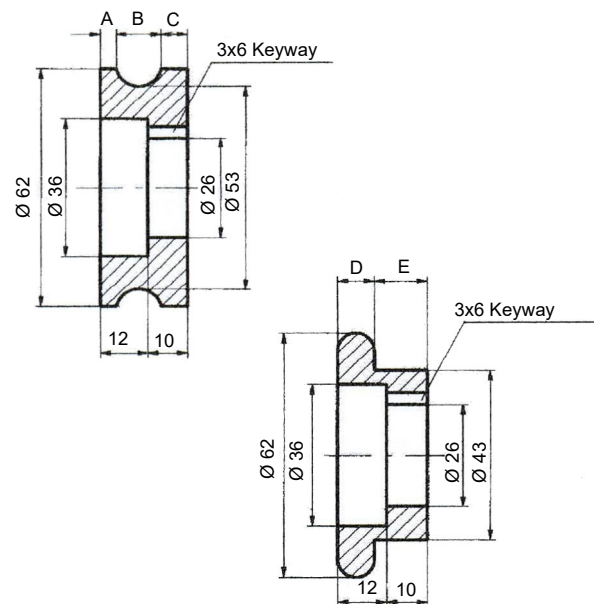


Fig. 8: Dimensions of the roller set S1-S5

Description	S1	S2	S3	S4	S5	
A	mm	3	3,5	4	4	4
B	mm	6,4	8,4	9,4	11,4	12,4
C	mm	12,6	10,1	8,6	6,6	5,6
D	mm	4	6	7	9	10
E	mm	18	16	15	13	12

The dimensions of the standard bending roll sets are listed in the table. Here is S1 for roller set 1, S2 for roller set 2, etc.

7.3 Roller set S6

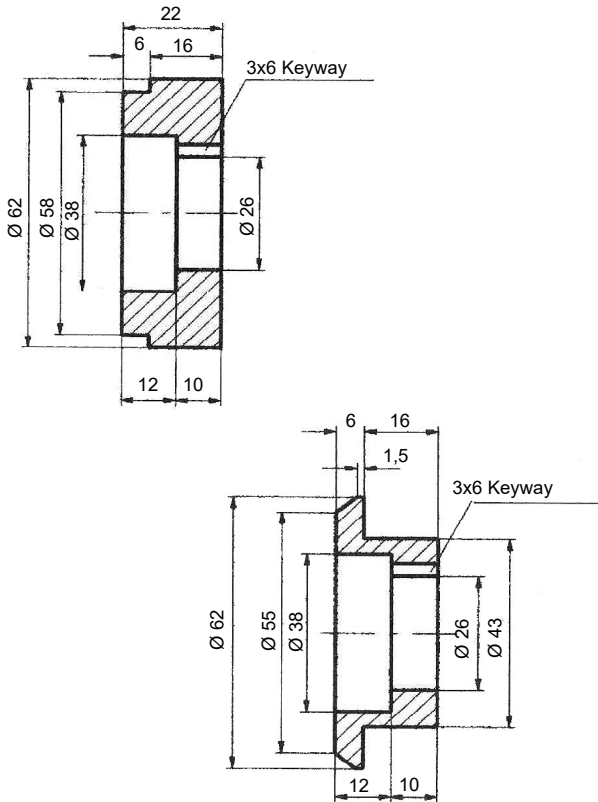


Fig. 9: Dimensions of the roller set S6

7.4 Roller set S7

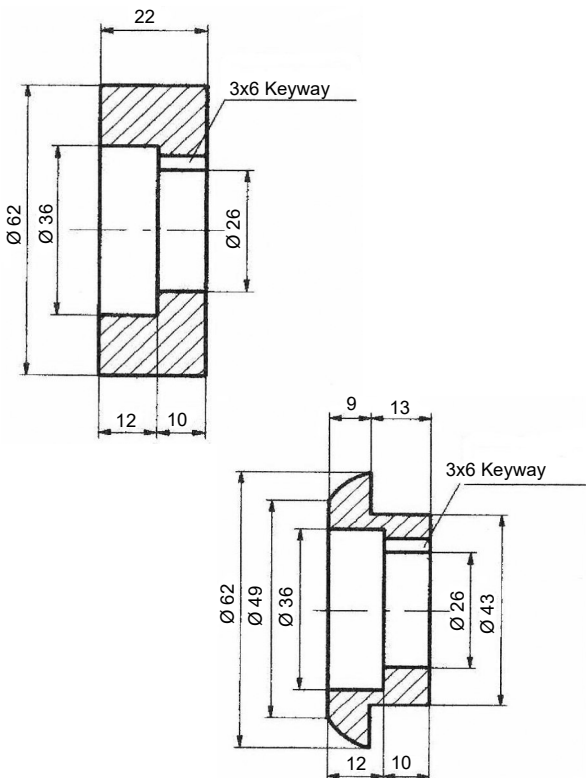


Fig. 10: Dimensions of the roller set S7

7.5 Roller set S8

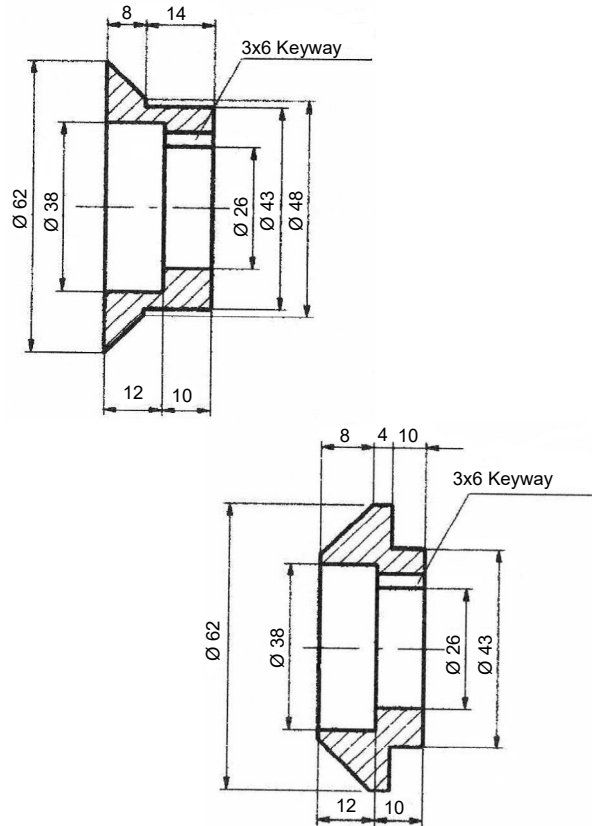


Fig. 11: Dimensions of the roller set S8

8 Replacing the rollers (Fig.12)

Step 1: Using the thumbscrew, move the upper drive shaft upwards so that the rollers are free and can be pulled off.

Step 2: Open the two fastening nuts from the bending rollers. Use the supplied special key for this purpose.



DANGER!

The thread on the upper roller is a right-hand thread and the thread on the lower roller is a left-hand thread.

Step 3: Now remove the two castors and assemble the ones you want.



DANGER!

In order to prevent interchanging the upper and lower rollers, the shaft diameters differently.

Step 4: Tighten the two nuts after mounting the bending rollers.

Step 5: Then pull the rollers to center. To do this, open the adjusting screw of the longitudinal adjustment and adjust the rollers to the middle, through the lever located on the opposite side.

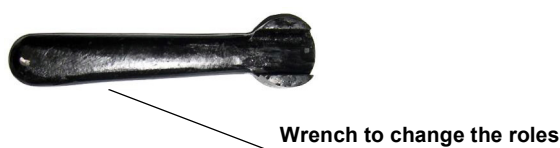
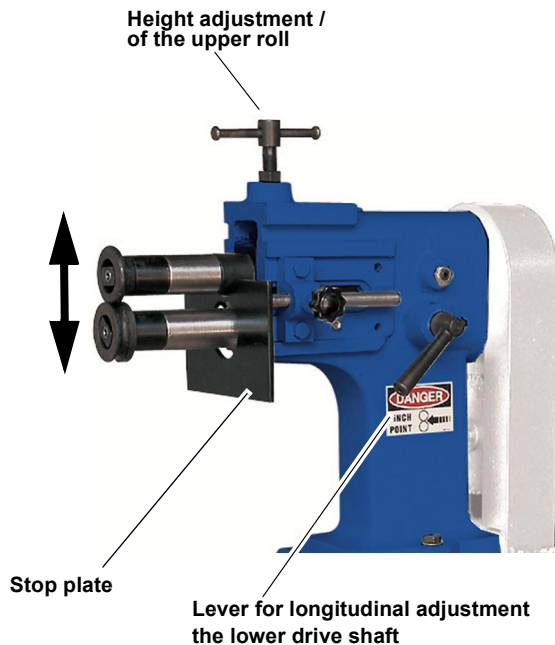
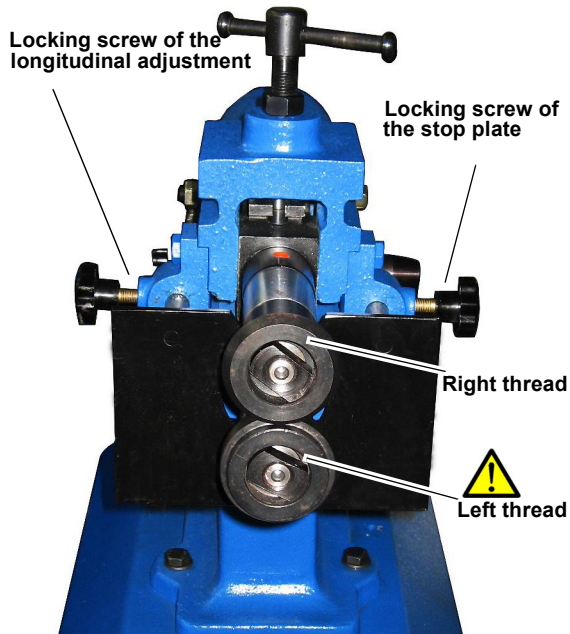


Fig. 12: Replacing the rollers

9 Working with the bead bending machine SBM 140-12 E

Step 1: As a first step you have to assemble the right rolls for your upcoming work (see chapter "Replacing the rolls").

Step 2: Now adjust the stop plate by loosening the two locking screws on the left and right and manually moving the stop plate to the desired dimension. Then fix the stop plate again with the two locking screws.

Step 3: Set the max. Delivery by the upper shaft with the help of the thumb screw to the desired level and turn the nut all the way down.

Step 4: For the bends in the sheet, e.g. Stiffening ribs, use the height adjustment knob to move the upper shaft up until the material fits between the bending rollers. Slide the material to the stop plate. Now turn the upper shaft down to the stop screw (set in step 3).

Step 5: Now move the foot switch to drive the shafts / rollers in the desired direction and reshape the sheet metal.

If it is not possible to deliver the complete delivery in one go due to the high material thickness, this is also possible in several sub-steps. Repeat steps 3 to 5 until the desired infeed depth / forming is achieved.

Before the actual bending process, press the foot switches to test the running direction of the rollers.



Fig. 13: Working with the SBM 140-12 E

10 Care, maintenance and repair



Tips and recommendations

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



NOTE!

Before servicing and maintaining the bead bending machine, the maintenance instructions must be read carefully. The handling of the bead bending machine is only permitted to persons who are familiar with the bead bending machine.



DANGER!

Danger due to insufficient qualification of persons!

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

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

After maintenance, repair and cleaning, check that all panels and guards are correctly installed on the bead bending machine and that there is no tool left inside or inside the bead bending machine.

10.1 Care by cleaning

Regularly clean the bead bending machine with a soft, damp cloth.

10.2 Lubrication chart (Fig. 14)



NOTE!

The bead bending machine must be greased at regular intervals to ensure efficient operation and long life of the machine.

All moving parts and guides should be oiled weekly with SAE 30 oil.

The gear wheels are to be lubricated monthly with the commercial grease.

Should the service life of the machine be more than 8 hours per day, it must be lubricated more frequently. To lubricate the gear wheels, you must first unscrew the 4 screws and remove the gear cover



DANGER!

The bending rolls of the bead bending machine must never be lubricated or oiled, as otherwise the material could slip through and not be bent. Always keep the bending rollers free of oil and grease. Also make sure that the material to be bent is free of oil, grease and dirt.

When not using the machine for a long time, lightly oil the bending rollers. This oil layer should be removed before restarting.

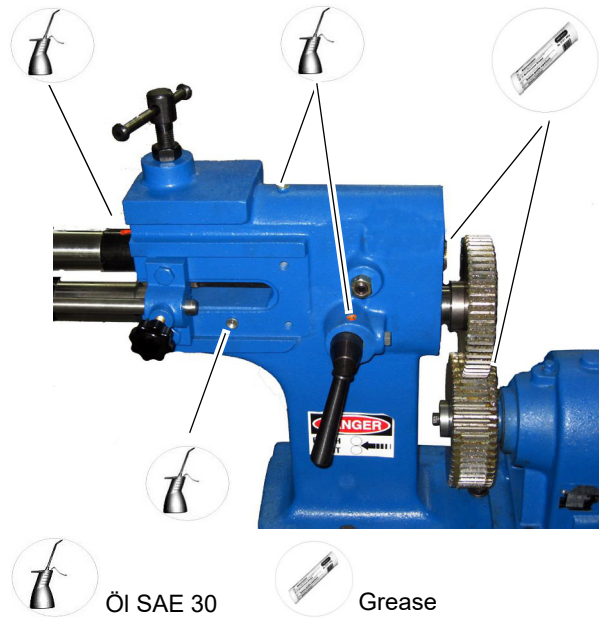


Fig. 14: Lubrication chart

11 Troubleshooting



DANGER!

If one of the following errors occurs, stop working with the machine immediately. It could lead to serious injuries. All repairs or replacement work may only be carried out by qualified and trained specialist personnel.

Fault	Possible cause	Remedy
The Machine does not work.	1. The mechanics are broken.	1. Check the mechanics. 2. Contact the dealer.
The Machine does not bend the material correctly.	1. The material thickness could be wrong. 2. The wrong material has been inserted.	1. max. Note plate thickness. 2. Insert only the correct material

Fault	Possible cause	Remedy
The Machine does not bend the materials as indicated in the catalog.	1.The material thickness could be wrong. 2.The mechanics are faulty.	1.Check the material to be bent. 2.Contact the dealer.

12 Disposal, recycling of used devices

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

12.1 Decommissioning

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

- Unplug the power plug.
- Cut the connection cable.
- Remove all environmentally hazardous fluids from the Alt device.
- If available, remove batteries and rechargeable batteries.
- If necessary, dismantle the machine into manageable and usable assemblies and components.
- Guide the machine components and operating materials to the appropriate disposal routes.

12.2 Disposal of new equipment packaging

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

The packaging wood can be sent for disposal or recycling.

Packaging components made of cardboard can be crushed for waste paper collection.

The films are made of polyethylene (PE) or upholstery parts made of polystyrene (PS). These substances can be reused after reprocessing if they are forwarded to a recycling center or to the disposal company responsible for them.

Only pass on the packaging material sorted, so that it can be directly recycled.

12.3 Disposal of the old device

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

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

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

12.4 Disposal of electrical and electronic components

Please ensure proper disposal of the electrical components in accordance with the legal requirements.

The device contains electrical and electronic components and must not be disposed of as household waste. According to European Directive 2002/96 / EC on waste electrical and electronic equipment and its transposition into national law, used electric tools and electrical machines must be collected separately and recycled in an environmentally sound manner.

As a machine operator, you should obtain information about the authorized collection or disposal system that is valid for you.

Please ensure that the batteries and / or rechargeable batteries are properly disposed of in accordance with legal regulations. Please throw only discharged batteries into the collection boxes at retailers or municipal waste disposal companies.

12.5 Disposal of lubricants



DANGER!

Please pay attention to an environmentally friendly disposal of the used coolants and lubricants. Observe the disposal instructions of your municipal disposal companies.



INFORMATION!

Spent coolant emulsions and oils should not be mixed with each other as only non-mixed waste oils can be used without pretreatment.

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

12.6 Disposal via municipal collection points

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



The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be returned to a collection point for the recycling of electrical and electronic equipment. By helping to properly dispose of this

product, you are protecting the environment and the health of others. Environment and health are endangered by improper disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local community, municipal waste management, or the shop where you purchased the product.

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.



NOTE!

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

13.1 Ordering spare parts

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 requests or orders of spare parts:

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

Spare 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.

You will find information regarding the device type, item No. and year of manufacture on the type plate fixed to the Machine.

Example

The lower shaft for the Bead bending machine SBM 140-12 E must be ordered. The lower shaft has the number 5 in the spare parts drawing 1.

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

Type of device: **Bead bending machine**
SBM 140-12 E

- Item number: **3814003**
- Drawing number: **1**
- Position number: **5**

Item number of your machine:

SBM 140-12 E

3814003

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 authorised dealer.

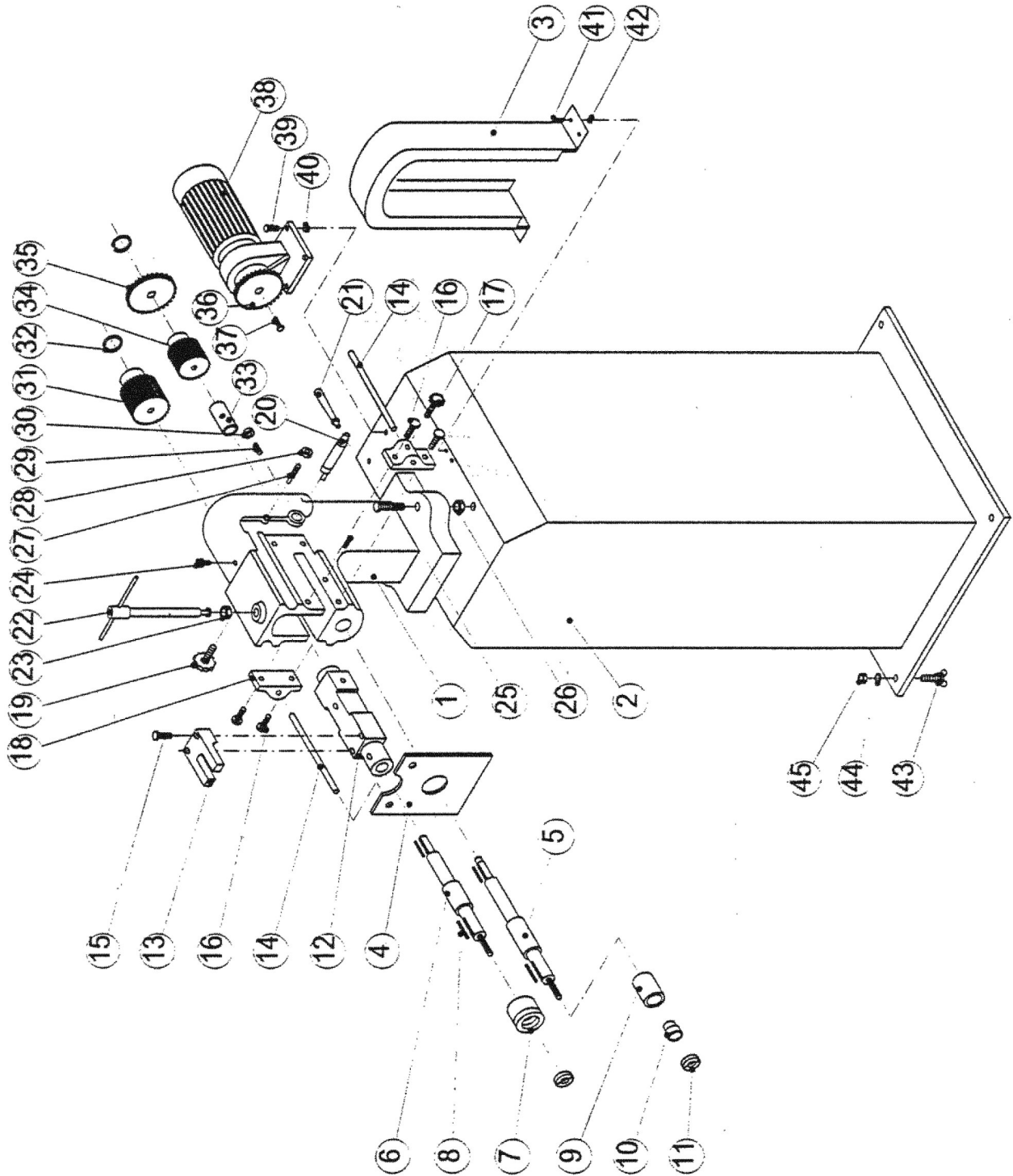


Fig. 15: Spare parts drawing

13.3 Spare parts list

Pos.	Description
1	Machine housing
2	Undercarriage
3	gear cover
4	stop plate
5	Lower shaft
6	Upper shaft
7	Intermediate sleeve above
8	Adjusting spring
9	Intermediate sleeve below
10	Ring
11	Fixing nut
12	Shaft guide upper shaft
13	Guidance of the height adjustment
14	Guide rod for stop plate
15	Screw
16	Screw
17	Clamping screw guide rod
18	Guide housing
19	Locking screw lengthwise adjustment
20	Eccentric shaft longitudinal adjustment
21	Lever for eccentric shaft
22	Screw for height adjustment
23	Nut
24	Oiler
25	Screw
26	Nut
27	Connecting bolts
28	Nut
29	Bolt
30	Nut
31	Drive gear upper shaft
32	Circlip
33	Spacer sleeve
34	Drive gear lower shaft
35	Intermediate gear above

Pos.	Description
36	Intermediate gear below
37	Screw
38	Engine
39	Screw
40	Shaft
41	Screw
42	Nut
43	Machine base
44	Washer
45	Nut
46	Foot pedal (without picture.)

14 Electrical schematics

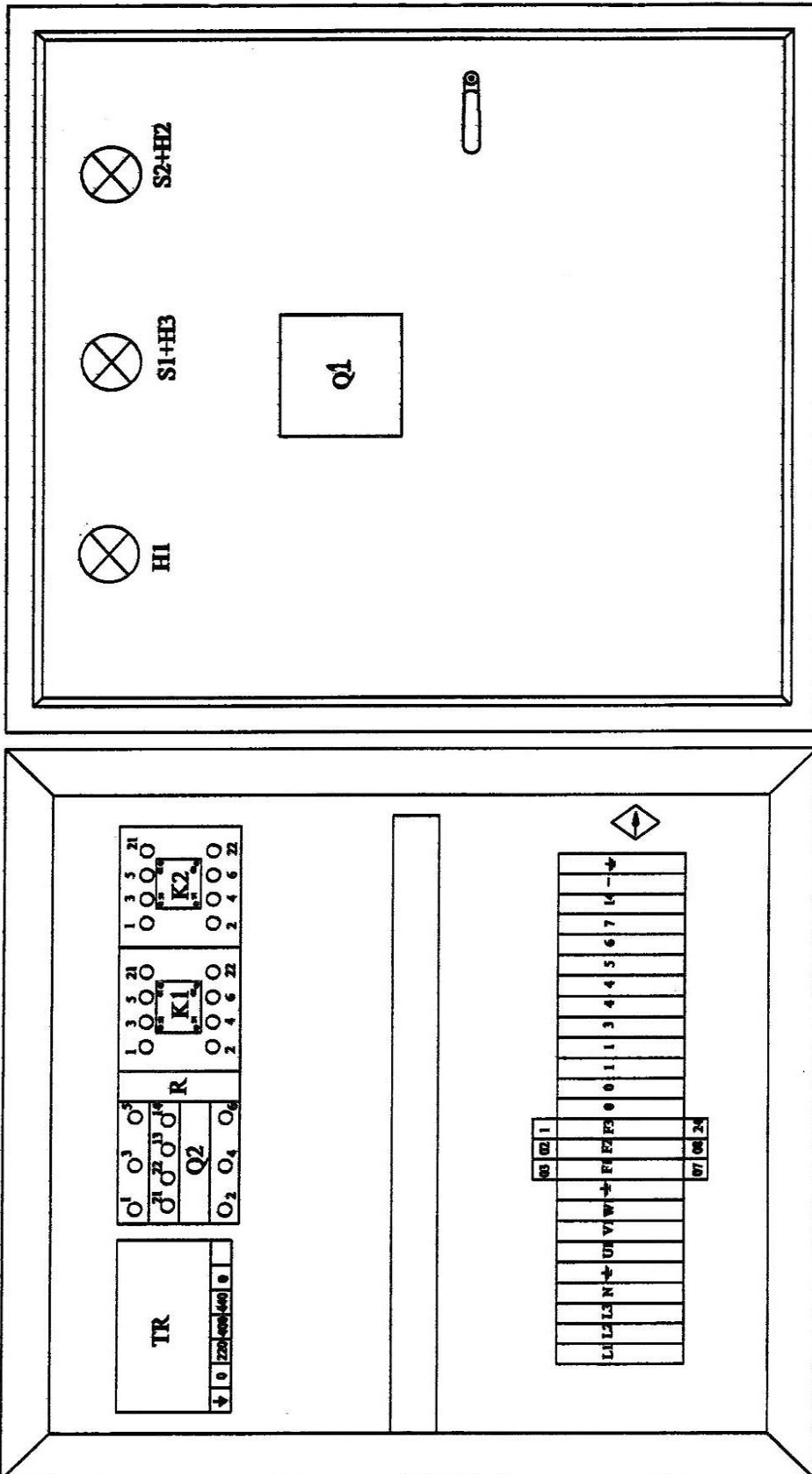


Fig. 16: Electrical schematics 1

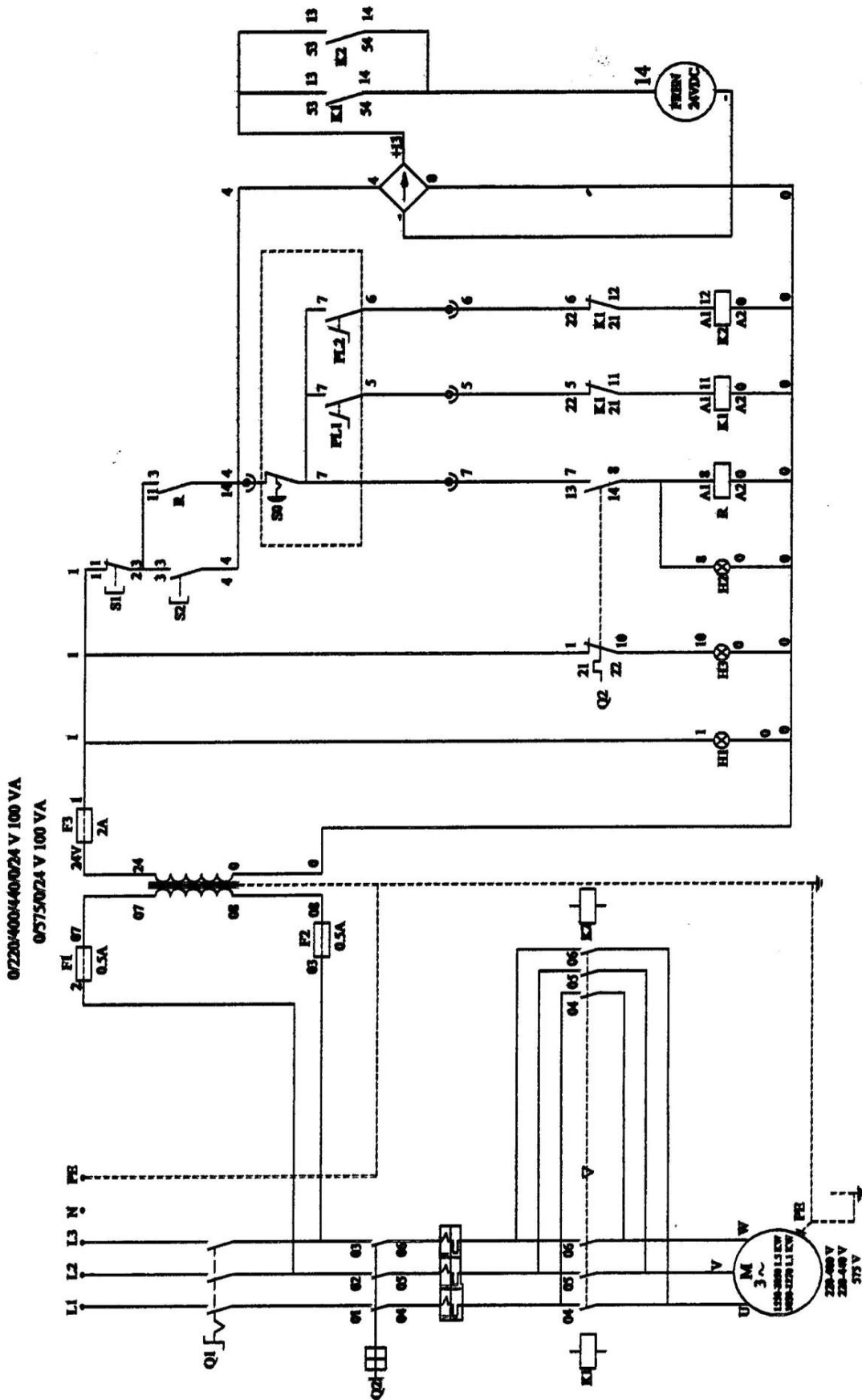


Fig. 17: Electrical schematics 2

15 EC-Declaration of Conformity

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

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

hereby declares that the following product (below)

Product group: Metalkraft® Metal working machines
Machine type: Bead bending machine
Designation of the machine: SBM 140-12 E
Item number: 3814003
Serial number: _____
Year of manufacture: 20____

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

Relevant EU directives: 2014/30/EU EMC Directive

The following harmonized standards were applied:

DIN EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
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, 15.04.2016



Kilian Stürmer
General Manager



