OPTIMUM®
MASCHINEN - GERMANY

Operating Manual

Version 1.1.2

Metal band saw

OPTI saw® S 13IGH

Part no. 3300131

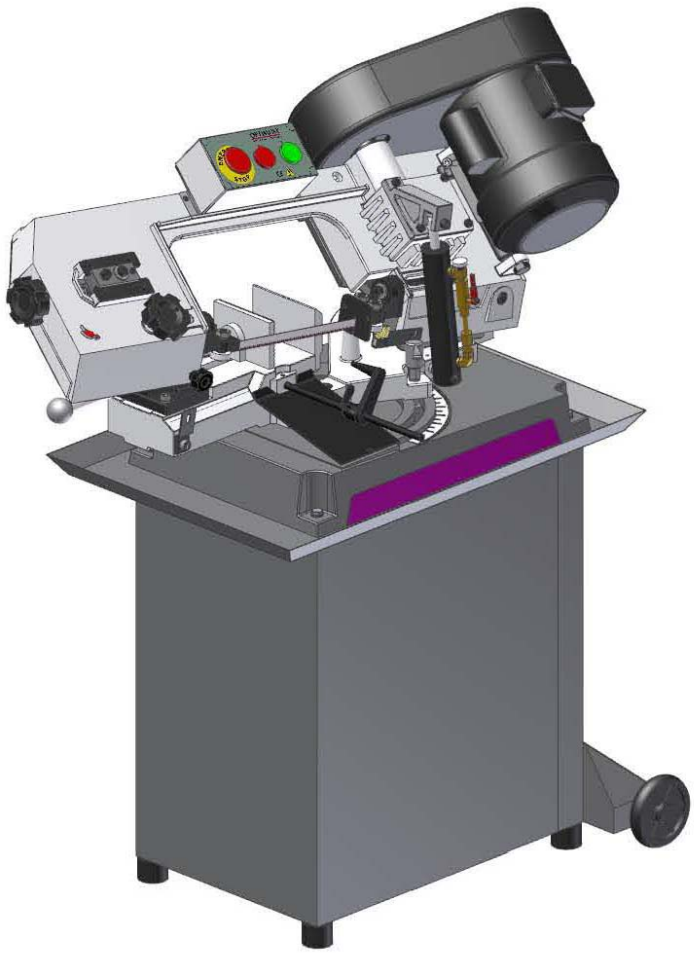

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Table of contents

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Preface

Dear customer,

Thank you very much for purchasing a product made by OPTIMUM.

OPTIMUM metal working machines offer a maximum of quality, technically optimum solutions and convince by an outstanding price performance ratio. Continuous enhancements and product innovations guarantee state-of-the-art products and safety at any time.

Before commissioning the machine please thoroughly read these operating instructions and get familiar with the machine. Please also make sure that all persons operating the machine have read and understood the operating instructions beforehand.
Keep these operating instructions in a safe place nearby the machine.

Information

The operating instructions include indications for safety-relevant and proper installation, operation and maintenance of the machine. The continuous observance of all notes included in this manual guarantee the safety of persons and of the machine.

The manual determines the intended use of the machine and includes all necessary information for its economic operation as well as its long service life.

In the paragraph "Maintenance" all maintenance works and functional tests are described which the operator must perform in regular intervals.

The illustration and information included in the present manual can possibly deviate from the current state of construction of your machine. Being the manufacturer we are continuously seeking for improvements and renewal of the products. Therefore, changes might be performed without prior notice. The illustrations of the machine may be different from the illustrations in these instructions with regard to a few details. However, this does not have any influence on the operability of the machine.
Therefore, no claims may be derived from the indications and descriptions. Changes and errors are reserved!

Your suggestion with regard to these operating instructions are an important contribution to optimising our work which we offer to our customers. For any questions or suggestions for improvement, please do not hesitate to contact our service department.

If you have any further questions after reading these operating instructions and you are not able to solve your problem with a help of these operating instructions, please contact your specialised dealer or directly the company OPTIMUM.

Optimum Maschinen Germany GmbH

Dr.- Robert - Pfleger - Str. 26

D-96103 Hallstadt

Mail: info@optimum-maschinen.de

Internet: www.optimum-maschinen.com

1 Safety

Glossary of symbols

☞	provides further instructions
➜	calls on you to act
❍	enumerations

This part of the operating instructions

- ❍ explains the meaning and use of the warning notes included in these operating instructions,
- ❍ defines the intended use of the metal band saw,
- ❍ points out the dangers that might arise for you or others if these instructions are not observed,
- ❍ informs you about how to avoid dangers.

In addition to these operation instructions, please observe

- ❍ the applicable laws and regulations,
- ❍ the statutory provisions for accident prevention,
- ❍ the prohibition, warning and mandatory signs as well as the warning notes on the metal band saw.

European standards must be kept during installation, operation, maintenance and repair of the circular metal saw.

If European standards have not yet been incorporated in the national legislation of the country of destination, the specific applicable regulations of each country must be observed.

If required it is necessary to take the corresponding measures to comply with the country-specific regulations before commissioning the metal band saw.

Always keep this documentation close to the metal band saw.

INFORMATION

If you are unable to rectify an issue using these operating instructions, please contact us for advice:

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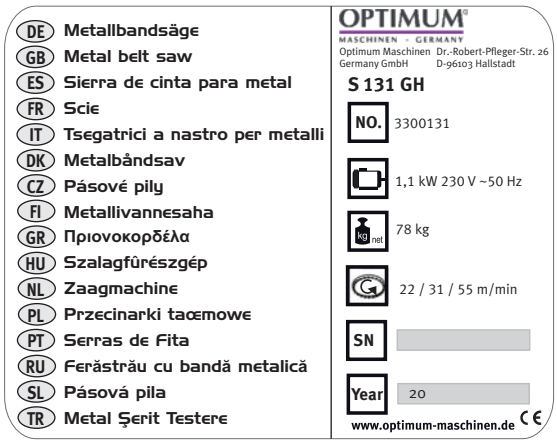
1.1 Rating plate



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1.2 Safety instructions (warning notes)

1.2.1 Classification of hazards

We classify the safety warnings into different categories. The table below gives an overview of the classification of symbols (ideogram) and the warning signs for each specific danger and its (possible) consequences.

Symbol	Alarm expression	Definition / consequence
	**DANGER!**	Impending danger that will cause serious injury or death to people.
	WARNING!	A danger that can cause serious injury or death.
	CAUTION!	A danger or unsafe procedure that can cause personal injury or damage to property.
	**ATTENTION!**	Situation that could cause damage to the machine and product and other types of damage. No risk of injury to people.
	**INFORMATION**	Practical tips and other important or useful information and notes. No dangerous or harmful consequences for people or objects.

In case of specific dangers, we replace the pictogram with

general danger

by a warning of

injury to hands, verletzungen,

hazardous electrical voltage,

or

rotating parts.

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1.2.2 Other pictograms

Activation forbidden!

Pull the main plug!

Wear protective glasses!

Use ear protection!

Wear protective gloves!

Wear safety shoes!

Wear a protective suit!
tragen!

Protect the environment!

Contact address

1.3 Intended use

WARNING!

In the event of improper use, the metal band saw

- **will endanger personnel,**
- **will endanger the machine and other material property of the operating company,**
- **the correct function of the machine may be affected.**

The metal band saw is designed and manufactured to be used in environments where there is no potential danger of explosion.

The metal band saw is designed and manufactured to saw cold metal, cast material and plastics or other material that are not health hazardous and do not generate dust.

The metal band saw must not be used on wood.

The pieces to be cut must be of a shape that will allow them to be securely attached in the workholder vice and ensure that the piece does not come loose when it is being sawed.

The metal band saw must only be installed and operated in a dry and ventilated place.

If the metal band saw is used in any way other than described above, modified without authorization of Optimum Maschinen Germany GmbH, then the metal band saw is being used improperly.

We will not be held liable for any damages resulting from any operation which is not in accordance with the intended use.

We expressly point out that the guarantee or CE conformity will expire due to any constructive technical or procedural changes which had not been performed by the company Optimum Maschinen Germany GmbH.

It is also part of intended use that you

- observe the limits of the metal band saw,
- the operating manual is observed,
- the inspection and maintenance instructions are observed.

☞ Technical specification on page 15

The decisive factor for achieving efficient cutting and the necessary angular tolerance is the correct choice of parameters such as the saw band, feed, cutting pressure, cutting speed and cooling agent.

WARNING!

Extremely severe injuries.

It is forbidden to make any modifications or alternations to the operation values of the metal band saw! They could endanger people and cause damage to the metal band saw.

1.4 Reasonably foreseeable misuse

Any other use other than that specified under "Intended use" or any use beyond the described use shall be deemed as non-intended use and is not permissible.

Any other use has to be discussed with the manufacturer.

In order to avoid misuse, it is necessary to read and understand the operating instructions before first commissioning. The metal band saw operator must be qualified.

1.4.1 Avoiding misuse

- Use the correct metal band saw bands, tooth pitch, depending on the material to be sawed.
- Correct belt speed and feed rate of the to be sawed material.
- Clamp the workpiece firmly and free of vibration.
- Long workpieces must be propped up. Use a suitable support.

1.5 Possible dangers caused by the metal band saw

The metal band saw has undergone a safety inspection (analysis of danger with assessment of risks). It has been designed and built on the basis of this analysis using the latest technological advances.

Nevertheless, there is a residual risk as the metal band saw operates with

- electrical voltage and currents,
- an revolting saw band.

We have used construction resources and safety techniques to minimize the health risk to personnel resulting from these hazards.

If the metal band saw is used and maintained by personnel who are not duly qualified, there may be a risk resulting from incorrect or unsuitable maintenance of the metal band saw.

INFORMATION

Everyone involved in the assembly, commissioning, operation and maintenance must

- be duly qualified,
- and strictly follow these operating instructions.

In the event of improper use

- there may be a risk to personnel,
- the metal band saw and further property might be endangered,
- the correct function of the metal band saw may be affected.

Always disconnect the metal band saw from the electrical power supply when performing cleaning or maintenance works.

WARNING!

The metal band saw may only be used with the safety devices activated.

Disconnect the metal band saw immediately whenever you detect a failure in the safety devices or when they are not mounted!

All additional devices installed by the operator have to be equipped with the prescribed safety devices.

This is your responsibility being the operating company! ☞ **Safety devices on page 9**

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1.6 Qualification

1.6.1 Target group private users

The machine can be used in the private domain. The acumen of people in the private sector with training in metal working was taken into consideration for creating this operation manual. Vocational training or further instruction in a metal working profession is a prerequisite for safe operation of the machine. It is essential that the private user is aware of the dangers involved in operating this machine. We recommend visiting a training course in the operation of metal band saws. Your specialist dealer can offer you an appropriate training course. These courses are also offered by adult education centres in Germany.

1.6.2 Obligations of the User

The user must

- ❍ have read and understood the operating manual,
- ❍ be familiar with all safety devices and regulations,
- ❍ be able to operate the metal band saw.

1.6.3 Additional requirements regarding the qualification

Additional requirements apply for work on electrical components or equipment:

- ❍ Must only be performed by a qualified electrician or person working under the instructions and supervision of a qualified electrician.

Before starting work on electrical parts or operating agents, following measures are to be performed in the following order:

- ➜ disconnect all poles,
- ➜ secure against restarting,
- ➜ Ensure that there is no voltage.

1.7 Operator positions

The operator must stand beside the metal band saw.

INFORMATION

The mains plug of the metal band saw must be freely accessible.

Img. 1-1: Operator positions

1.8 Safety devices

Use the metal band saw only with properly functioning safety devices.

Stop the drilling machine immediately if there is a failure on the safety device or if it is not functioning for any reason.

It is your responsibility!

If a safety device has been activated or has failed, the metal band saw must only be used if you

- ❍ the cause of the fault has been eliminated,

- you have verified that there is no danger to personnel or objects.

WARNING!

If you bypass, remove or override a safety device in any other way, you are endangering yourself and other persons working on the metal band saw. The possible consequences include:

- **Injuries due to components or workpieces flying off at high speed,**
- **contact with rotating and revolting parts,**
- **fatal electrocution,**

The metal band saw includes the following safety devices:

- An emergency stop button,
- A protective cover of the V-belts,
- Saw blade casing with protective cover at the rear.

WARNING!

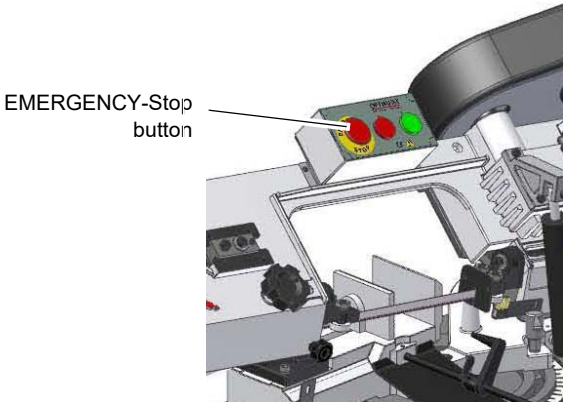
The separating protective equipment which is made available and delivered together with the machine is designed to reduce the risk of workpieces or fractions of them which being expelled, but not to remove them completely.

1.8.1 EMERGENCY-Stop button

The EMERGENCY-Stop button switches the metal band saw off.

INFORMATION

After actuation, turn the EMERGENCY-STOP push button clockwise in order to switch the metal band saw on again.



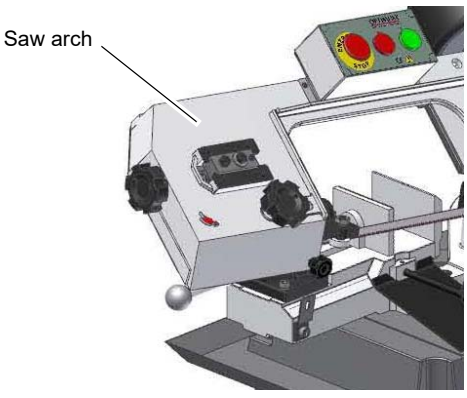
Img. 1-2: Emergency stop button

1.9 Saw arch

The saw arch of the metal band saw is fitted with a protective cover firmly screwed laterally. The protective cover protects the belt guide pulleys and the rotating saw belt.

WARNING!

Danger of injury! The teeth of the saw belt are sharp. Take thorough care when removing the rear cover to change the saw belt.



Img. 1-3: Saw blade housing

Close and mount all protective covers before restarting the metal band saw.

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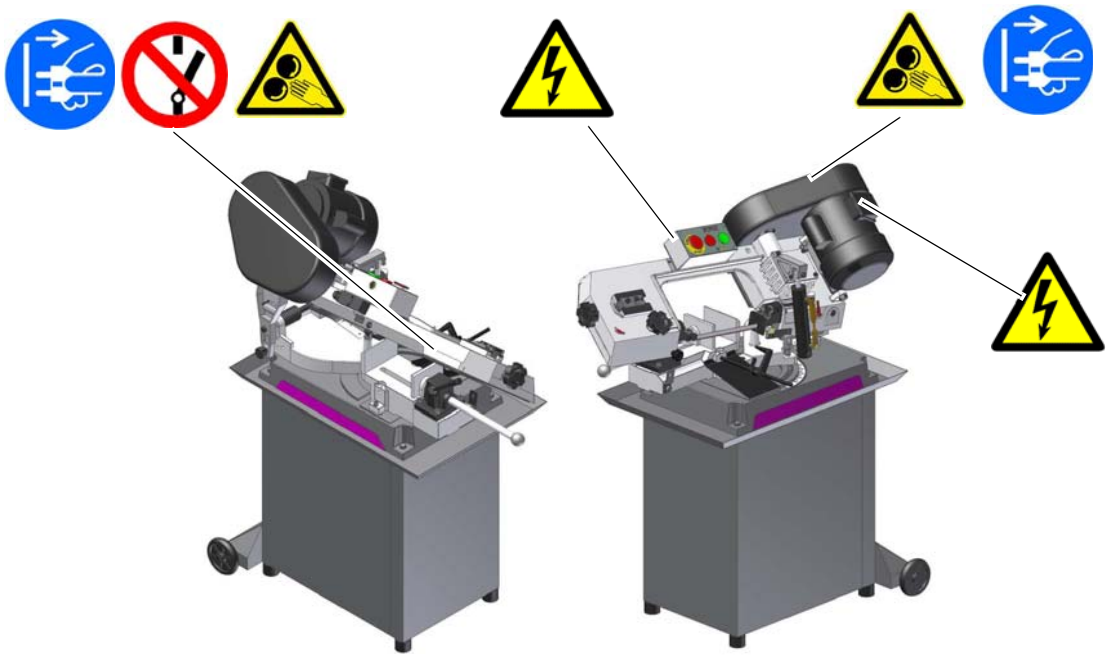
1.9.1 Prohibition, warning and mandatory signs

INFORMATION

All warning signs must be legible. They must be checked regularly.

Position of labels on the metal band saw:



Img. 1-4: metal band saw S131GH

Check the metal band saw at least once per shift. Inform the person responsible immediately of any damage, defects or changes in the operating function.

Check all safety devices

- at the beginning of each shift (with the machine stopped),
- once a week (with the machine in operation),
- after all maintenance and repair work.

Check that prohibition, warning and information signs and the labels on the metal band saw

- are legible (clean them, if necessary)
- are complete.

1.10 Safety check

Check the metal band saw at least once per shift. Inform the person responsible immediately of any damage, defects or changes in the operating function.

Check all safety devices

- at the beginning of each shift (with the machine stopped),
- once a week (with the machine in operation),
- after all maintenance and repair work.

Check that prohibition, warning and information signs and the labels on the metal band saw

- are legible (clean them, if necessary)
- are complete.

INFORMATION

Organise the checks according to the following table;

General check		
Equipment	**Check**	**OK**
Guards	Mounted, firmly bolted and not damaged	
Signs, Markers	Installed and legible	
Date:	**checked by (signature):**	

Functional check		
Equipment	**Check**	**OK**
EMERGENCY-Stop button	When the EMERGENCY-Stop push button is activated, the metal band saw must switch off.	
Date:	**checked by (signature):**	

1.11 Personal protective equipment

For some works you need personnel protective equipment as protective equipment. This includes:

- Safety helmet,
- protective glasses or face guard,
- protective gloves,
- safety shoes with steel toe caps,
- ear protection.

Before starting work make sure that the required personnel protective equipment is available at the work place.

CAUTION!

Dirty or contaminated personnel protective equipment can cause illness. Clean it each time after use and once a week.

Personal protective equipment for special work

Protect your face and your eyes: Wear a safety helmet with facial protection when performing work where your face and eyes are exposed to hazards.

Wear protective gloves when handling pieces with sharp edges.

Wear safety shoes when you assemble, disassemble or transport heavy components.

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1.12 Safety during operation

We specifically point out the dangers when describing the work with and on the drilling machine.

CAUTION!

Before switching on the metal band saw make sure that there are

- **no dangers generated for persons,**
- **no objects are damaged.**

Avoid any unsafe work methods:

- Make sure that nobody is endangered by your work.
- The instructions mentioned in these operating instructions have to be strictly observed during assembly, operation, maintenance and repair.
- Do not work on the metal band saw, if your concentration is reduced, for example, because you are taking medication.
- Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other supervisory authorities responsible for your company.
- Stay at the metal band saw until all movements have come to a complete standstill.
- Use the prescribed personnel protective equipment. Make sure to wear a well-fitting work suit and, if necessary, a hairnet.
- Inform the supervisor about all hazards or faults.

1.13 Safety during maintenance

Inform the operators in good time of any maintenance and repair works.

Report all safety relevant changes and performance details of the metal band saw. Any changes must be documented, the operating instructions updated and machine operators instructed accordingly.

1.13.1 Disconnecting and securing the metal band saw

Disconnect the main plug of the metal band saw and secure the metal band saw against restarting. Place a warning sign on the machine.

1.13.2 Using lifting equipment

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

- **they have sufficient load carrying,**
- **and that it is in perfect condition.**

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

Fasten the loads properly.

Never walk under suspended loads!

1.13.3 Mechanical maintenance work

Remove or install protection safety devices before starting or after completing any maintenance work; this include:

- covers,
- safety instructions and warning signs,
- grounding cables.

If you remove protection or safety devices, refit them immediately after completing the work.

Check if they are working properly!

1.14 Accident report

Inform your supervisors and Optimum Maschinen Germany GmbH immediately in the event of accidents, possible sources of danger and any actions which almost led to an accident (near misses).

There are many possible causes for "near misses".

The sooner they are notified, the quicker the causes can be eliminated.

INFORMATION

We provide information about the dangers of working with and on the metal band saw in these work descriptions.

1.15 Electronics

Have the machine and/or the electrical equipment checked regularly, at least every six months.

Immediately eliminate all defects such as loose connections, defective wires, etc.

A second person must be present during work on live components to disconnect the power in the event of an emergency.

Disconnect the metal band saw immediately if there is a malfunction in the power supply !

☞ Maintenance on page 31

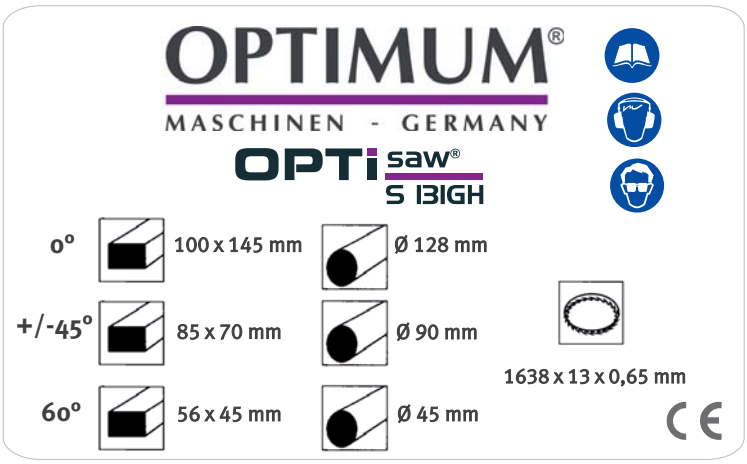
2 Technical specification

The following information represents the dimensions and indications of weight and the manufacturer‘s approved machine data.

2.1 Electrical connection

Total connected load	230 V; ~50 Hz (~60Hz) ; 0.5 kW (from model year 2014 ; 1.1 KW)

2.2 Cutting area



2.3 General

Cutting angle adjustment	using the rotating saw arch
Saw belt guide	Saw belt guides supported on ball bearings
Raising the saw arch	manually
Feed	continuously adjustable
Saw belt tension	Manually using the hand wheel
Material tension	manual in the quick-action vice

2.4 Dimensions

Height of work area [mm]	☞ Installation plan on page 17
Weight of the metal band saw [kg]	81
Dimensions of saw band [mm]	1638 x 13 x 0.65

2.5 Speed of saw band

[m/min]	22 31 55

2.6 Environmental conditions	
Temperature	5-35 °C
Humidity	5 - 80 %

2.7 Operating material	
Hydraulic cylinder	Hydraulic oil, viscosity 32 - 46 as per DIN 51519, HLP Quality
Worm gear	Mobilgear 629, ISO VG 150 or a comparable oil
Spindle of the machine vice	commercial slide bearing grease
Slide bearing	commercial slide bearing grease

Emissions

The generation of noise emitted by the metal band saw is 75 to 80 dB(A). If the metal band saw is installed in an area where various machines are in operation, the noise exposure (immission) on the operator of the metal band saw at the working place may exceed 80 dB(A).

INFORMATION

This numerical value was measured on a new machine under the operating conditions specified by the manufacturer. The noise behaviour of the machine might change depending on the age and wear of the machine.

Furthermore, the noise emission also depends on production engineering factors, e.g. speed, material and clamping conditions.

INFORMATION

The specified numerical value represents the emission level and does not necessarily a safe working level. Though there is a dependency between the degree of the noise emission and the degree of the noise disturbance it is not possible to use it reliably to determine if further precaution measures are required or not. The following factors influence the actual degree of the noise exposure of the operator:

- Characteristics of the working area, e.g. size or damping behaviour,
- other noise sources, e.g. the number of machines,
- other processes taking place in proximity and the period of time, during which the operator is exposed to the noise.

Furthermore, it is possible that the admissible exposure level might be different from country to country due to national regulations. This information about the noise emission should, however, allow the machine operator to evaluate the hazards and risks more easily.

CAUTION!

Depending on the overall noise exposure and the basic threshold values, machine operators must wear appropriate hearing protection. We generally recommend the use of noise protection and hearing protection.

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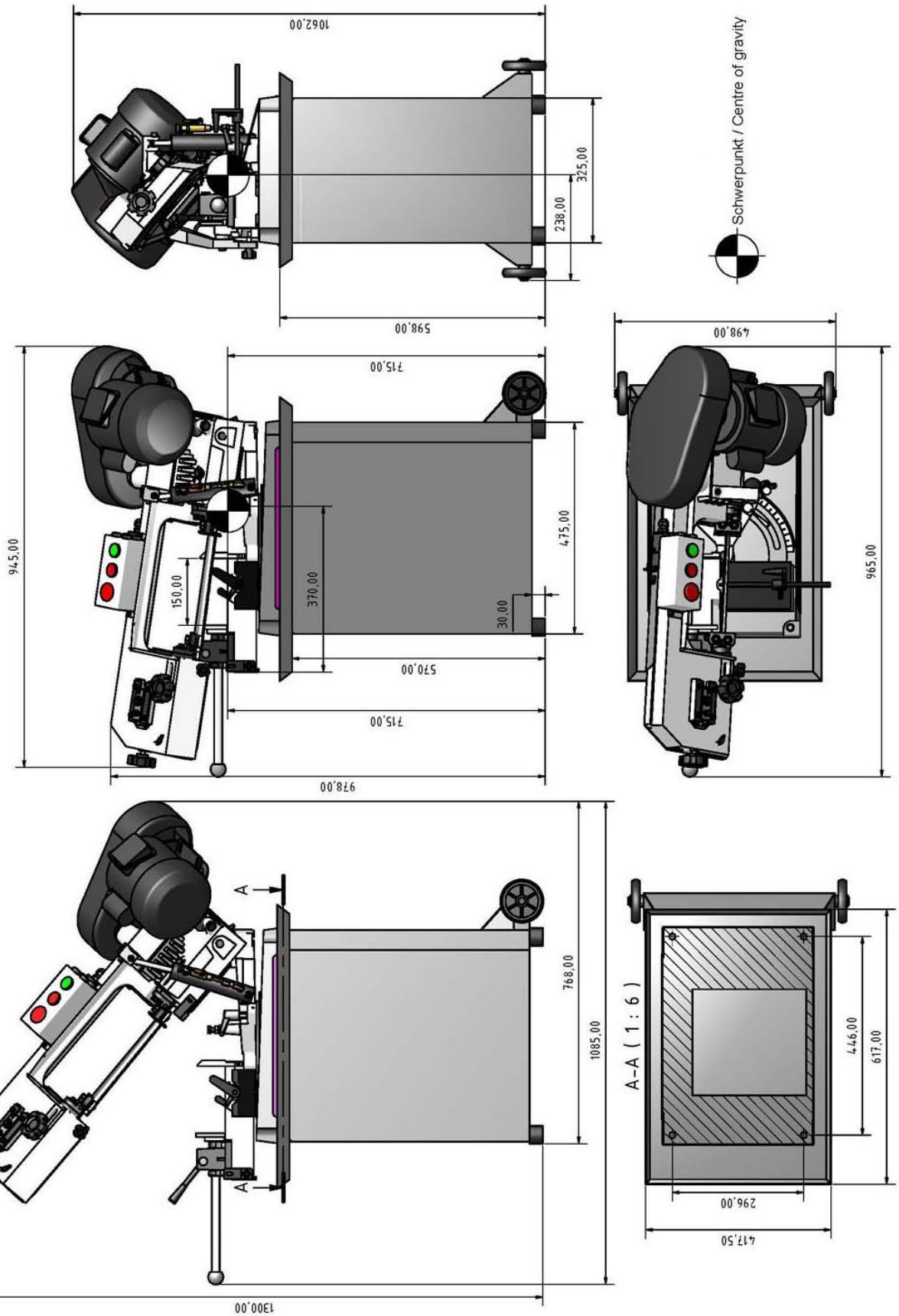
2.8 Installation plan



Img.2-1: Installation plan

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3 Delivery, interdepartmental transport and unpacking

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.

3.1 Notes on transport, installation and unpacking

Improper transport of individual devices and minor machines, unsecured devices and minor machines 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.

3.1.1 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.

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.

3.2 Scope of delivery

INFORMATION

The metal band saw is delivered pre-assembled.

When the metal band saw is delivered, please check immediately that it has not been damaged during transport. Also check that no fastening screws have come loose.

- metal band saw
- Saw belt
- Material stop
- Protective cover of the V-belts
- V-belt
- Fixing material
- Instruction manual

3.3 Storage

ATTENTION!

In case of wrong and improper storage components might get damaged and destroyed.

Store packed and unpacked parts only under the intended environmental conditions ☞ Environmental conditions on page 16.

Consult Optimum Maschinen Germany GmbH if the metal band saw and accessories are stored for more than three months or are stored under different environmental conditions than those given here.

3.4 Set-up and assembly

3.4.1 Requirements regarding the installation site

Organize the working area around the metal band saw according to the local safety regulations.
☞ Dimensions on page 15

The work area for operation, maintenance and repair must not be restricted.

INFORMATION

The mains plug of the metal band saw must be freely accessible.

3.4.2 Assembling the machine stand

CAUTION!

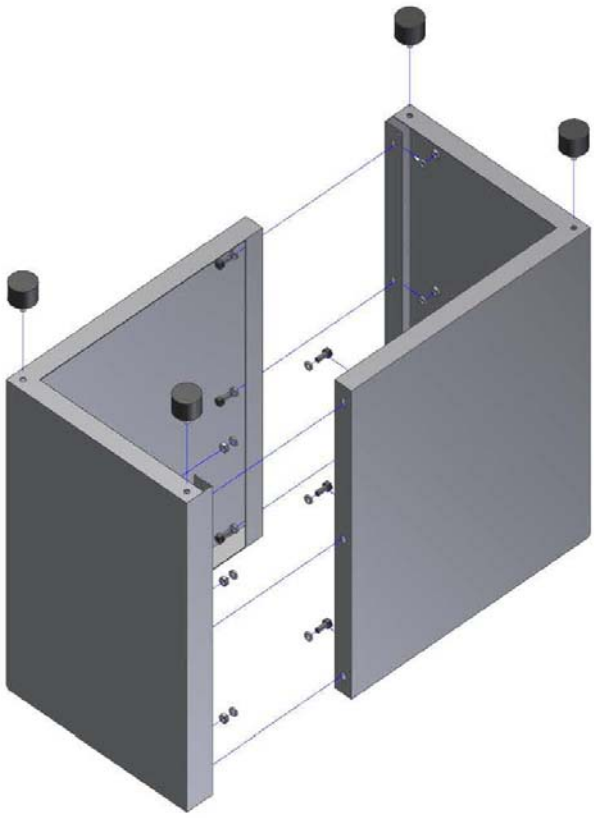
Danger of crushing and tilting.
Proceed with caution during the work described below.

➜ Screw the rubber feet to the side panels.

➜ Screw the side panels with-each other. To do so, use the fixing material included in the delivery.

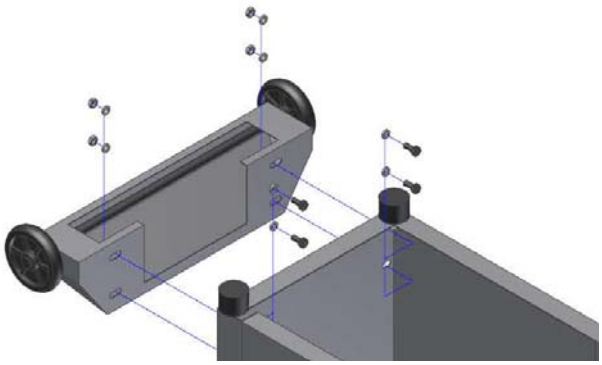
➜ Screw the side panels with-each other. To do so, use the fixing material included in the delivery.

➜ Check the machine substructure after assembly on stability.



Img.3-1: Assembly 1

➜ Mount the axle suspension at the side part. To do so, use the fixing material included in the delivery.



Img.3-2: Assembly 2

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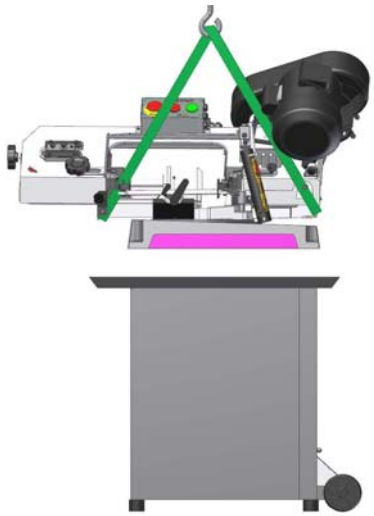
- ➜ Place the collecting tray on the machine substructure. Make sure that the holes in the collecting tray and the machine substructure are aligned.
- ➜ Place the metal band saw on the machine substructure.
- ➜ Attach a load slings to the vise and the rear part of the metal band saw. Make sure that the load attachment point is balanced.
- ➜ Use an adequate conveyor equipment, for instance a crane.
- ➜ Make sure that the load attachment does not cause damage to components or paint.



Img. 3-3: Assembly 3

- ➜ Fasten the metal band saw with the hexagon socket screws on the machine substructure. To do so, use the fixing material included in the delivery.

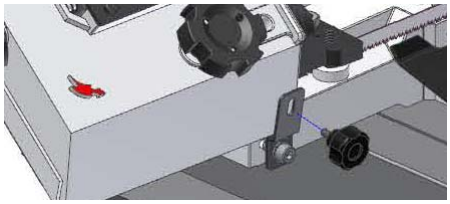
CAUTION!

Danger of crushing and tilting. The installation of the metal band saw must be performed by at least 2 persons.

Img. 3-4: Assembly 4

3.4.3 Transport lock

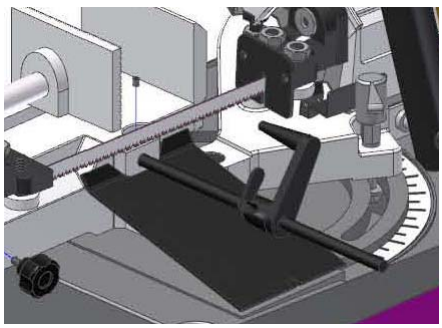
- ➜ Remove the transportation lock on the front side of the saw frame.



Img. 3-5: Disassembly of the transportation lock

3.4.4 Material stop and protective plate

- ➜ Mount the material stop.
- ➜ Fix the material stop on the vice using the threaded pin.
- ➜ Push the saw stop onto the stop rod.
- ➜ Lock the saw stop using the limit stop fixture.
- ➜ Mount the protective plate onto the vice.



Img. 3-6: Assembly of material stop and protective plate

3.4.5 Mounting the V-belt housing

➜ Mount the V-belt housing on the metal band saw. To do so, use the fixing material included in the delivery.

Img. 3-7: Assembly V-belt housing

3.4.6 Mounting the V-belt

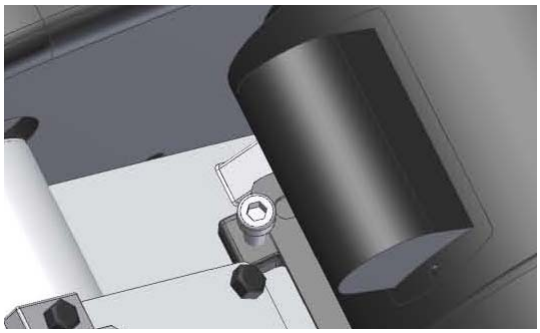
➜ Place the V-belt in the required position on the pulleys.

Img. 3-8: Assembly V-belt

➜ Tighten the V-belt with the tensioning screw and Allen screw on the motor.

➜ Check the tension in the V-belt. The tension in the V-belt is correct if you can push it approximately 1 cm with your finger.

➜ Close and screw down the protective cover.



Img. 3-9: Tension V-belt

INFORMATION

As long as the protective cover is not closed it is not possible to start the machine.

ATTENTION!

Watch for the proper tension of V-belts. Too heavy or too low tension of the belt can cause damage.

3.5 First commissioning

WARNING!

When first commissioning the metal band saw by inexperienced staff you endanger people and the machine.

We do not accept any liability for damages caused by incorrectly performed commissioning.

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3.5.1 Checks

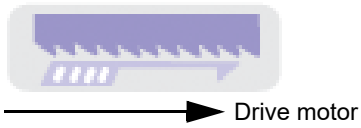
Perform the following checks.

CAUTION!

Danger of cutting, perform the works described hereunder with care. Use the prescribed protective equipment. ☞ Personal protective equipment for special work on page 12

Direction of the saw teeth

Check the direction of the saw teeth. The saw teeth have to point to the drive engine.

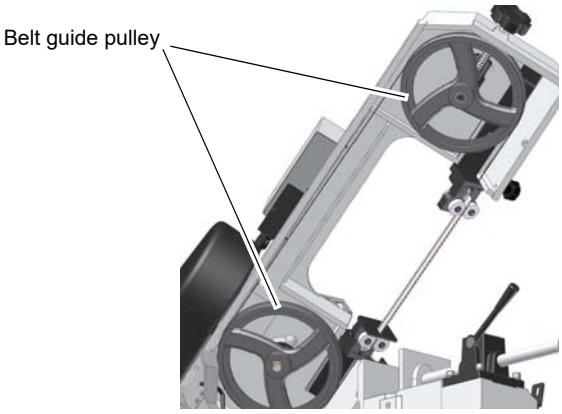


Running direction of the saw belt

The running direction of the saw belt is counter-clockwise.

Inspecting the belt guide pulleys

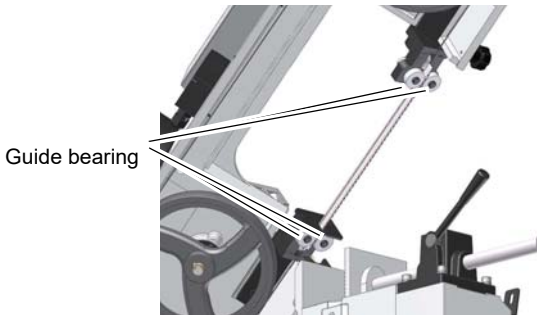
Check if the saw belt is mounted correctly onto the belt guide pulleys.



Img.3-10: Belt guide pulley

3.5.2 Saw belt guide bearings

Check that the saw belt fits snugly inside the guide bearings.



Img.3-11: Guide bearing

3.5.3 Saw belt tension

Check the tension of the saw belt. The correct saw belt tension is achieved, when you can move the saw belt with a power of about 50 N in the middle by 3 mm.

Setting ☞ Saw belt tension on page 25

4 Installation and function

With the metal band saw you can saw different materials.

A change of speed of the saw belt is performed by switching on the control panel.

There are three speed levels available, which allow a wide range of material for sawing.

The saw arch of the metal band saw OPTI S131 GH can be turned from -45° to 60° in order to allow angular sawing.

A hydraulic cylinder with manually adjustable feed regulation valve serves to adjust the feed of the saw arch.

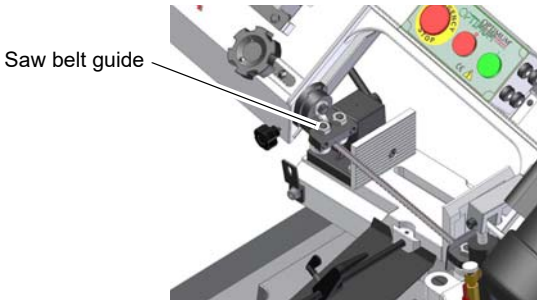
The tension of the saw belt is adjusted with the handwheel.

4.1 Hydraulic feed

The lowering speed of the saw arch is performed by a hydraulic cylinder.

4.2 Saw belt guide

The adjustable saw belt guiding serves to readjust the clearance when sawing workpieces of little dimensions.



Img.4-1: Saw belt guide

ATTENTION!

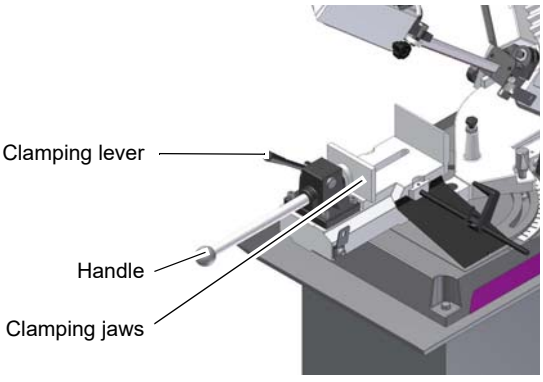
An unnecessarily wide space between the work piece and the saw belt guide, in combination with a high feed rate very quickly causes the saw belt to wear down.

4.3 Machine vice

The machine vice serves as clamping device for the workpiece.

The machine vice consists of

- the working table,
- the clamping jaws,
- the handle,
- the clamping lever.



Img.4-2: Machine vice

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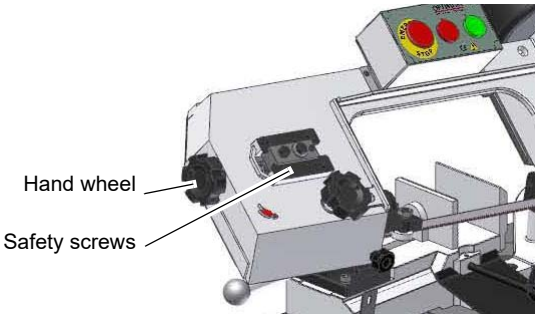
4.4 Saw belt tension

The saw belt tension is set using the handwheel. Loosen the four safety screws in order to tense the saw belt.



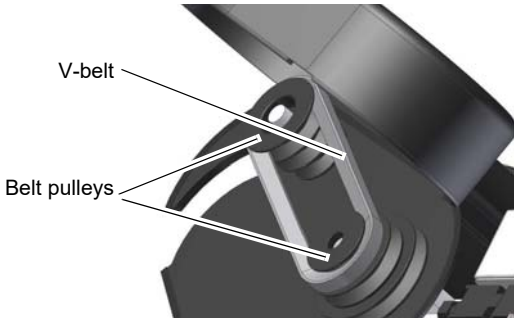
Img.4-3: Tension of the saw band

4.5 Speed of saw belt

4.5.1 V-belt

The speed is selected by changing the position of the V-belt on the belt pulley.

There are three speeds available.



Img.4-4: V-belt

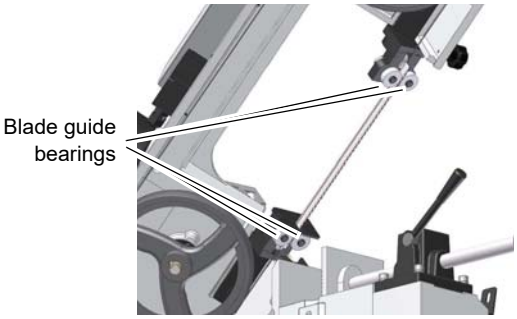
4.6 Blade guide bearings

ATTENTION!

The metal band saws are to be used with the following saw bands.

- **1638 x 13 x 0.65 mm**

When using saw bands with other dimensions the metal band saw might be damaged.



Img.4-5: Belt guide bearings

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5 Operation

5.1 Safety

Use the metal band saw only under the following conditions:

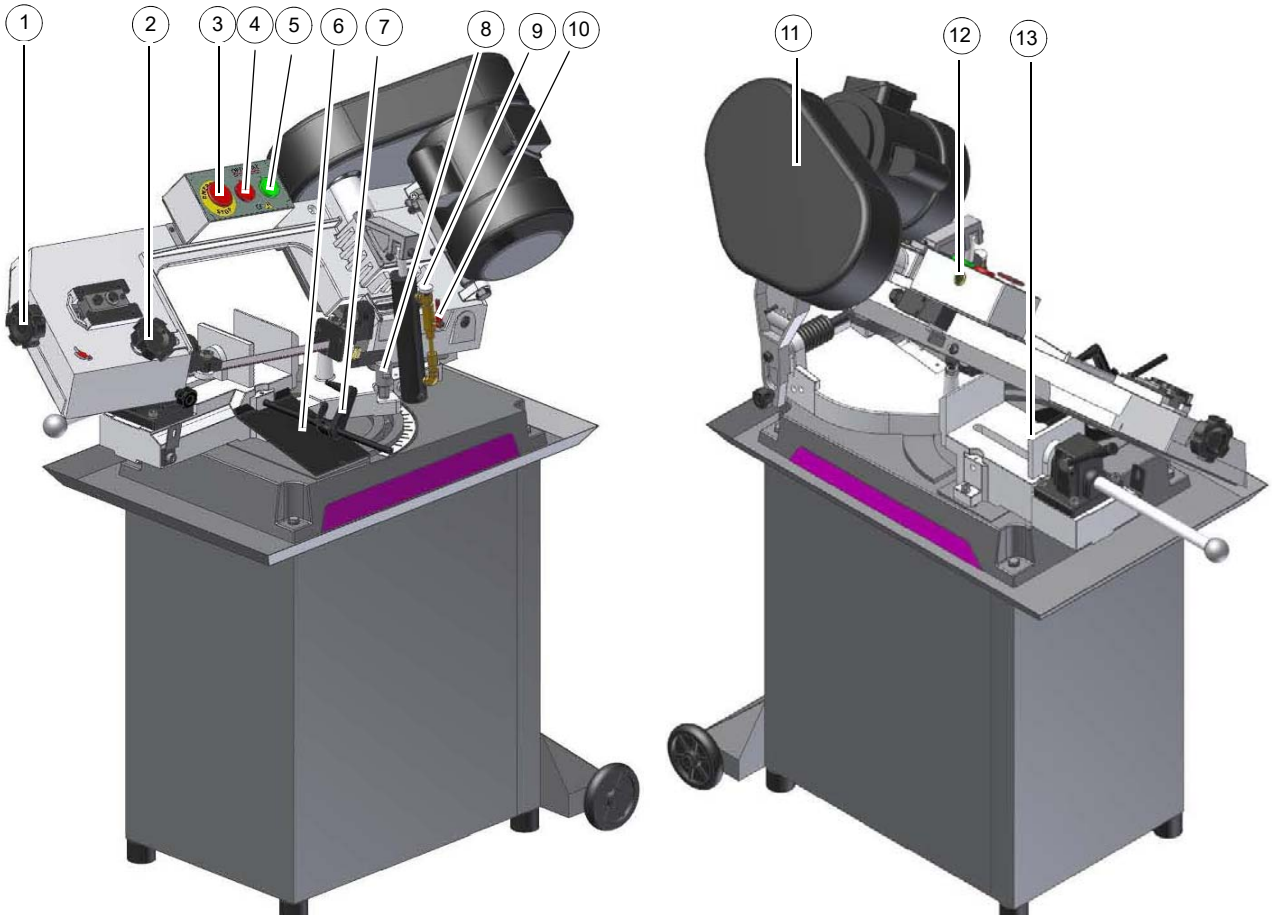
- The metal band saw is in proper working order.
- The metal band saw is used as prescribed.
- The operating manual is followed.
- All safety devices are installed and activated.

Eliminate or have all malfunctions rectified promptly. Stop the machine immediately in the event of any abnormality in operation and make sure it cannot be started-up accidentally or without authorisation.

Notify the person responsible immediately of any modifications.

☞ Safety during operation on page 13

5.2 Control and indicating elements



Img.5-1: metal band saw S131GH

No.	Designation	No.	Designation
1	Saw belt tension	7	Material stop
2	Adjustable saw belt guiding	8	Clamping lever for the slewable saw bow
3	Emergency stop switch	9	Feed regulation valve
4	Push button "ON"	10	Stop cock
5	Push button "OFF"	11	V-belt housing
6	Protectice cover	12	Reset push button
		13	Quick action vice

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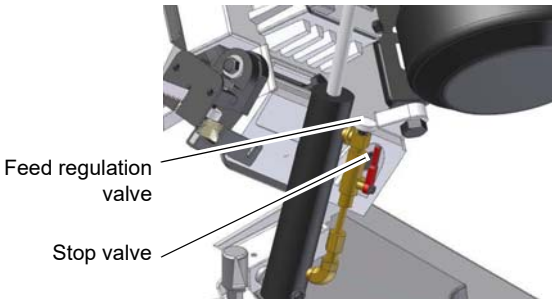
5.3 Inserting the workpiece

➜ Lift the saw arm arch and close the stop valve.

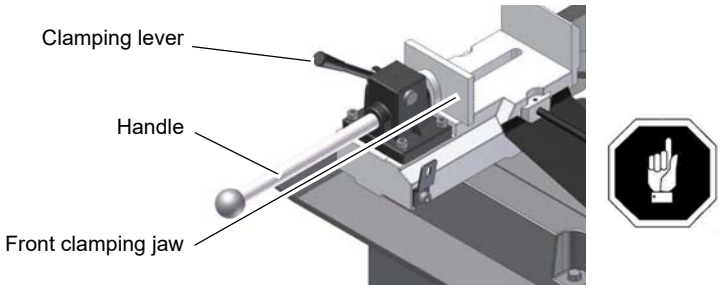


Img. 5-2: Hydraulic feed

➜ Place the piece to be cut in the work-holder vice.

ATTENTION!

Risk of toppling the metal band saw. Support long work pieces before pushing the piece to be cut into the work-holder vice.



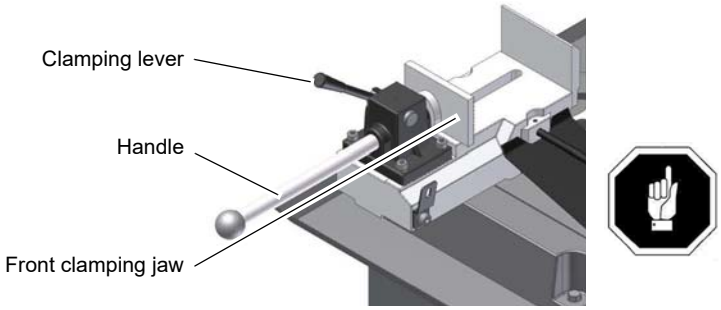
Img. 5-3: Machine vice

➜ Position the front clamping jaw with the handle about 2 mm in front of the workpiece.

➜ Press the clamping lever downward.

ATTENTION!

Make sure, that the workpiece is really firmly clamped.



Img. 5-4: Handle and clamping lever

5.4 Starting the metal band saw

➜ Connect the electrical supply cable.

➜ Select the saw belt speed. ☞ Speed of saw belt on page 29

➜ Press the push button "On".

5.5 Switching off the metal band saw

➜ Press the push button "Off".

➜ Pull out the mains plug if the machine is not to be used for a protracted period.

5.6 Restarting the metal band saw

If the motor circuit breaker is triggered, the metal band saw must be restarted.

➜ Disconnect the electrical supply cable from the power supply.

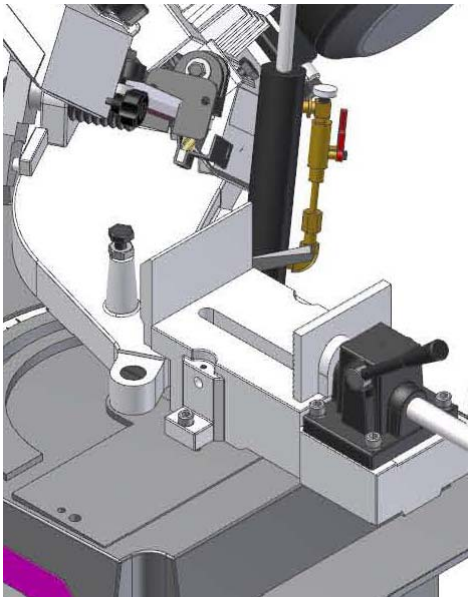
➜ Reconnect the electrical supply cable.

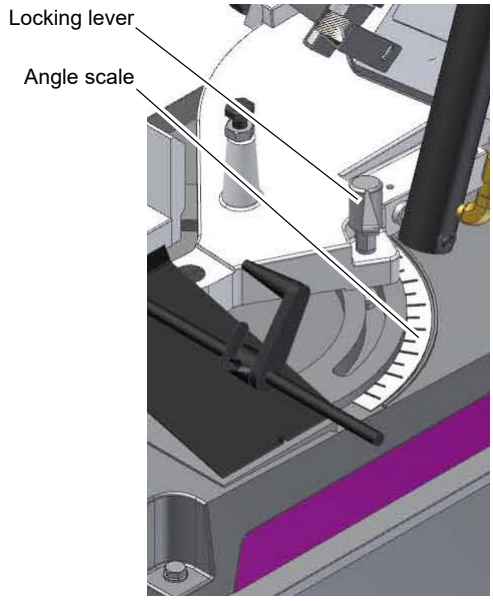
➜ Press the push button "Reset" .

➜ Press the push button "On".

5.7 Sawing of angles

To saw angles greater than 45°, the vice must be offset.





Img.5-5: Angular cut setting

ATTENTION!

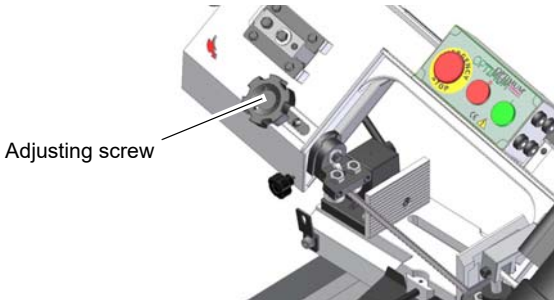
Make sure that the saw is clean and free of chips in the slewing area before adjusting it.

➜ Remove the vice.
➜ Fix the vice in the new position.
➜ Release the locking lever.
➜ Turn the saw arch to the required cutting position.
➜ Retighten the locking lever.

5.8 Adjusting the saw belt guide

Change the position of the saw belt guidance depending on the size of the pieces to be cut.

➜ Loosen the set screw.
➜ Adjust the saw belt guidance close to the workpiece without influencing or hindering the sawing procedure.



Img.5-6: Adjusting screw

➜ Re-tighten the set screw.

ATTENTION!

An unnecessarily wide space between the work piece and the saw belt guide, in combination with a high feed rate very quickly causes the saw belt to wear down.

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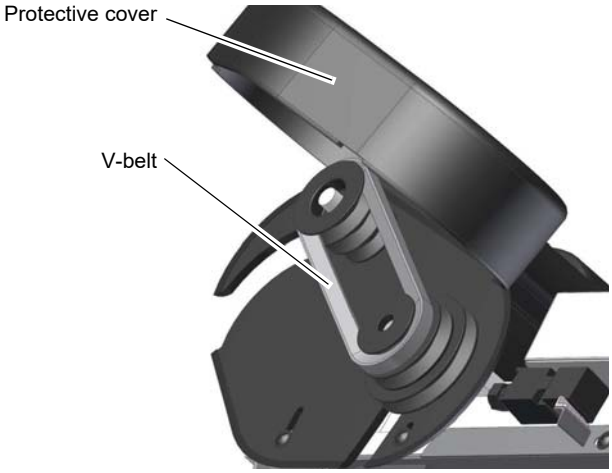
5.9 Speed of saw belt

WARNING!

Pull out the mains plug before you open the protective cover. Close and screw down the protective cover after each change of speed.

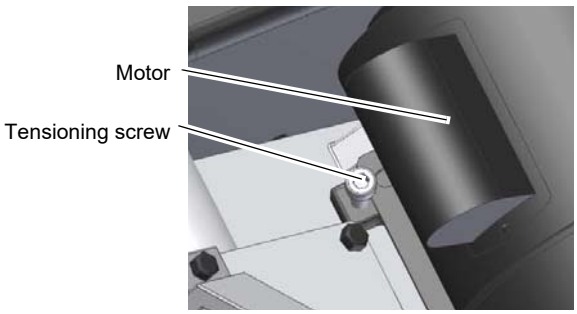
5.9.1 Speed setting

- ➜ Disconnect the metal band saw from the power supply.
- ➜ Slacken the V-belt with the tensioning screw and Allen screw on the motor.
- ➜ Place the V-belt in the required position on the pulleys.
- ➜ Tighten the V-belt with the tensioning screw and Allen screw on the motor.



Img. 5-7: Speed setting

- ➜ Check the tension in the V-belt. The tension in the V-belt is correct if you can push it approximately 1cm with your finger.
- ➜ Close and screw down the protective cover.



Img. 5-8: Release / tense V-belt

INFORMATION

You cannot start the machine if the protective cover is not closed.

ATTENTION!

Watch for the proper tension of V-belts. Too heavy or too low tension of the belt can cause damage.

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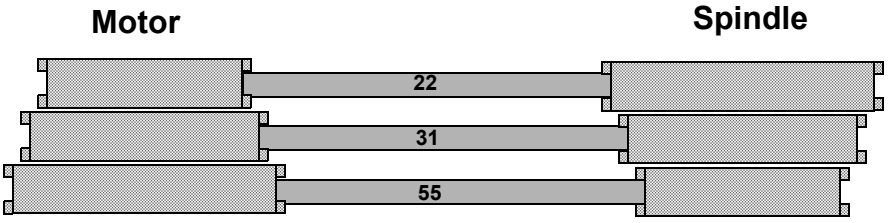
Saw belt speed reference values

Material	[m / min]	Material	[m / min]	Material	[m / min]
Tool steel	22	semi-hard alloyed carbon steel	31	Low-alloy carbon steel	55
Nickel-chrome steel		Hard brass		Soft brass	
High-grade steel					
Medium to high alloy carbon steels		Hard aluminium		Soft aluminium	
Hard brass				Plastic	
Bronze					



Img.5-9: Graphics: Speed of saw belt

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6 Maintenance

In this chapter you will find important information about

- Inspection
- Maintenance
- Repair

of the metal band saw.

ATTENTION!

Properly performed regular maintenance is an essential prerequisite for

- **operational safety,**
- **failure-free operation,**
- **long service life of the metal band saw and**
- **the quality of the products which you manufacture.**

Installations and equipment from other manufacturers must also be in good order and condition.

ENVIRONMENTAL PROTECTION

Make sure that the coolant lubricants and oils are not split on the floor.

Clean up any spilt liquid or oils immediately using proper oil-absorption methods and dispose of them in accordance with current environmental protection regulations.

Collect leakages

Do not re-introduce liquids spilt outside the system during repair or as a result of leakage from the reserve tank; collect them in a collecting container for disposal.

Disposal

Never dump oil or other environmentally hazardous substances which are harmful to the environment in water inlets, rivers or channels.

Used oils must be delivered to a collection centre. Please consult your supervisor for further information on your nearest collection point.

6.1 Safety

WARNING!

The consequences of incorrect maintenance and repair work may include:

- **very serious injury to personnel working on the metal band saw,**
- **damage to the metal band saw.**

Only qualified staff should carry out maintenance and repair work on the metal band saw.

Use the prescribed protective equipment.

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6.1.1 Preparation

WARNING!

Only carry out work on the metal band saw if it has been disconnected from the mains power supply.

☞ Disconnecting and securing the metal band saw on page 13

Attach a warning sign.

6.1.2 Restarting

Before restarting, run a safety check.

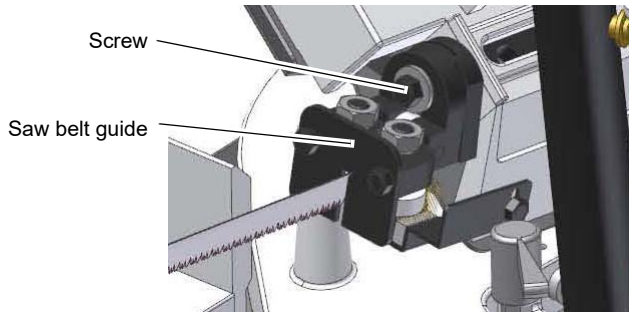
WARNING!

Before starting the metal band saw you must be sure that
- ❍ **no dangers generated for persons,**
- ❍ **the metal band saw is not damaged.**

6.2 Inspection and maintenance

The type and level of wear depends to a large extent on the individual usage and operating conditions. Any indicated intervals therefore are only valid for the corresponding approved conditions.

Interval / When	Where?	What?	How?
As required	**Saw belt guide**	Adjusting the saw belt guide with respect to the work table	➜ Place a angular measure with 90° in the work-holder vice and compare the position. ➜ Using the angular measure, check whether the saw belt is parallel to the angle. ➜ Loosen the screws on the saw belt guide if the angle is incorrect and adjust the saw belt guide accordingly. **INFORMATION** **Check the adjustment with a thin test cut.**



Img.6-1: Saw belt guide

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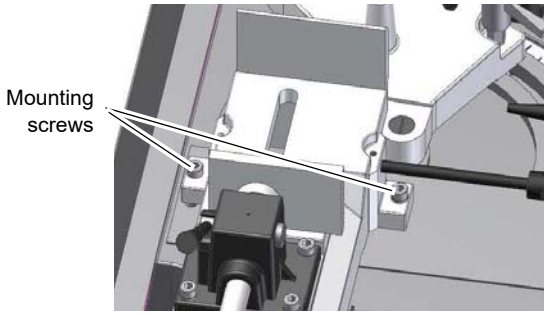
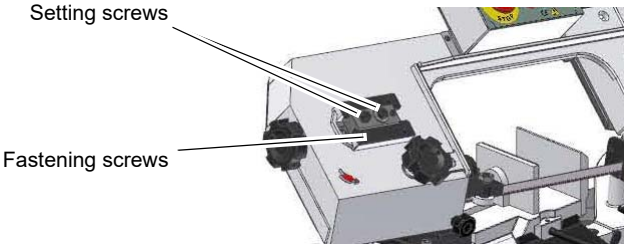
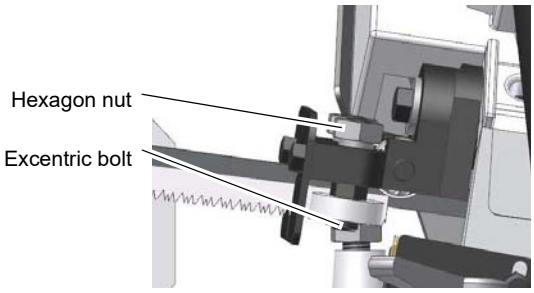
<table>
<tr><th>Interval / When</th><th>Where?</th><th>What?</th><th>How?</th></tr>
<tr><td>As required</td><td>Vice</td><td>Adjusting the saw belt guide with the vice</td><td>➜ Check the angle adjustment of the saw frame.
➜ Place a angular dimension on the fixed vice jaw.
➜ Loosen the mounting screws of the vice.
➜ Align the vice according to the angle.
 
Img.6-2: vice

INFORMATION
Replace the saw belt. With a deformed saw belt, it is not possible to adjust the tracking.</td></tr>
<tr><td>As required and after changing the saw belt</td><td>Saw arch</td><td>Adjusting the Saw belt tension</td><td>➜ Turn the handwheel clockwise to increase the tension in the saw band.
➜ The correct saw belt tension is achieved, when you can move the saw belt with a power of about 50 N in the middle by 3mm.
 
Img.6-3: Saw belt tension

INFORMATION
Do not strain the saw belt more than necessary. The saw belt could be overstretched and become warped.</td></tr>
</table>

<table>
<tr><th>Interval / When</th><th>Where?</th><th>What?</th><th>How?</th></tr>
<tr><td>As required</td><td>Saw belt</td><td>Aligning the saw belt</td><td>➜ Place the saw arch in the upper position and close the stop cock on the hydraulic cylinder.
➜ Check the saw belt tension.
☞ Adjusting the Saw belt tension on page 33
➜ Remove the protective cover from the saw arch.
➜ Switch on the metal band saw and check the running of the saw belt over the belt pulleys.
➜ Loosen the fastening screws and turn setting screw by monitoring the running of the saw belt.
➜ Change the settings with the setting screw in a way, that the saw belt is running as near as possible to the housing of the saw arch.
➜ When the settings are terminated refasten the fastening screws.
 

Img.6-4: Saw arch

INFORMATION
Before adjusting the tracking, replace the saw belt. With a deformed saw belt, it is not possible to adjust the tracking.</td></tr>
<tr><td>As required</td><td>Saw belt guide</td><td>Adjusting the belt guide bearings</td><td>➜ Put the saw arch to the highest position and check the safe position of the saw arch.
➜ Loosen the hexagon nut.
 

Img.6-5: Blade guide bearings
➜ Adjust the belt guide bearing with the excentric bolt in a way that the saw belt can not be moved back andforth any more, the belt guide bearings can still be turned manually.</td></tr>
</table>

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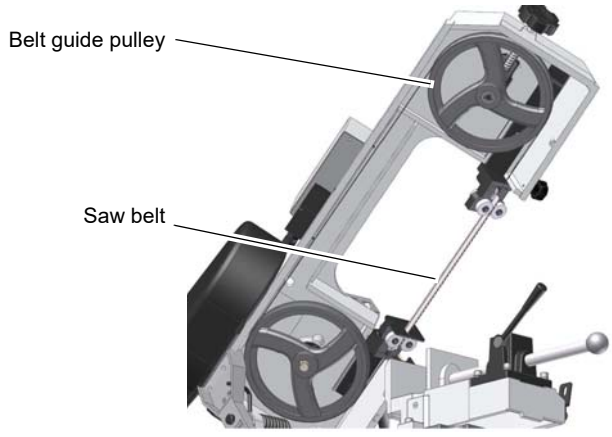
Interval / When	Where?	What?	How?
Depending on wear	**Saw arch**	Changing the saw belt	**ATTENTION!** **This metal band saw is constructed for saw bands with the dimension 1638 x 13 x 0,65 mm. The use of other saw bands may lead to worse cutting results. ☞ Personal protective equipment for special work on page 12** ➜ Put the saw arch to the highest position and check the safe position of the saw arch. ➜ Disassemble the saw belt brush. ➜ Remove the protective cover of the saw belt guide. ➜ Remove the protective cover from the saw arch. ➜ Loosen the tension of the saw belt by turning the hand wheel anti-clockwise. ☞ Adjusting the Saw belt tension on page 33 ➜ Carefully remove the old saw belt. ➜ Fit the new saw band by inserting it first into the saw belt guide. ➜ Check the running direction and toothing. ☞ Direction of the saw teeth on page 23 ➜ Place the saw belt on the two pulleys so that it is as close as possible to the casing of the saw arch. ➜ Tighten the saw belt. ☞ Adjusting the Saw belt tension on page 33. ➜ Perform the checks as described under ☞ Checks on page 23. ➜ For fitting the components, proceed in reverse order. ➜ Proceed a trial run. ➜ Re-fit the protective covers.  Img.6-6: Changing the saw belt

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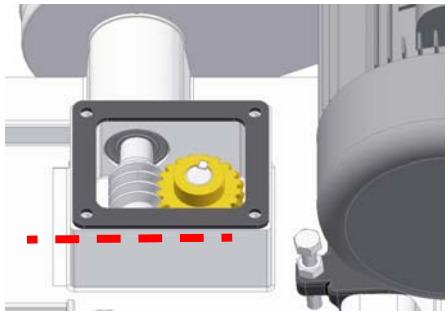
Interval / When	Where?	What?	How?
As required	**Belt guide bearings**	Replacement of the belt guide bearings	**ATTENTION!** **Replace the belt guide bearings always paired.**
every week	**Belt guide bearings**	Bearings	• Oil
As required	**Machine vice**	Spindle	• Lubricate the spindle of the work-holder vice
every six months	**Worm gear**	Check and top up the oil	• Lower the saw arch completely • Disconnect the lowering cylinder from its mounting on the top. • Remove the top mounting. • Unscrew the gearbox cover. • If necessary, top up with Mobilgear 629 (ISO VG 150) or a comparable oil. Level  Img.6-7: Worm gear

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6.3 Repair

6.3.1 Customer service technician

For any repair work request the assistance of an authorised customer service technician. Contact your specialist dealer if you do not have customer service's information or contact Stürmer Maschinen GmbH in Germany who can provide you with a specialist dealer's contact information. Optionally, the

Stürmer Maschinen GmbH

Dr.-Robert-Pfleger-Str. 26

D- 96103 Hallstadt

can provide a customer service technician, however, the request for a customer service technician can only be made via your specialist dealer.

If the repairs are carried out by qualified technical personnel, they must follow the indications given in these operating instructions.

Optimum Maschinen Germany GmbH accepts no liability nor does it guarantee against damage and operating malfunctions resulting from failure to observe these operating instructions.

For repairs, only use

- faultless and suitable tools,
- original parts or parts from series expressly authorised by Optimum Maschinen Germany GmbH.

7 Ersatzteile - Spare parts

7.1 Ersatzteilbestellung - *Ordering spare parts*

Bitte geben Sie folgendes an - *Please indicate the following :*

- Seriennummer - *Serial No.*
- Maschinenbezeichnung - *Machines name*
- Herstellungsdatum - *Date of manufacture*
- Artikelnummer - *Article no.*

Die Artikelnummer befindet sich in der Ersatzteilliste. *The article no. is located in the spare parts list.* Die Seriennummer befindet sich am Typschild. *The serial no. is on the rating plate.*

7.2 Hotline Ersatzteile - Spare parts Hotline

+49 (0) 951-96555 -118

ersatzteile@stuermer-maschinen.de

7.3 Service Hotline

+49 (0) 951-96555 -100

service@stuermer-maschinen.de

7.4 Ersatzteilzeichnungen - Spare part drawings

A Ersatzteilzeichnung 1 von 4 - Parts drawing 1 of 4

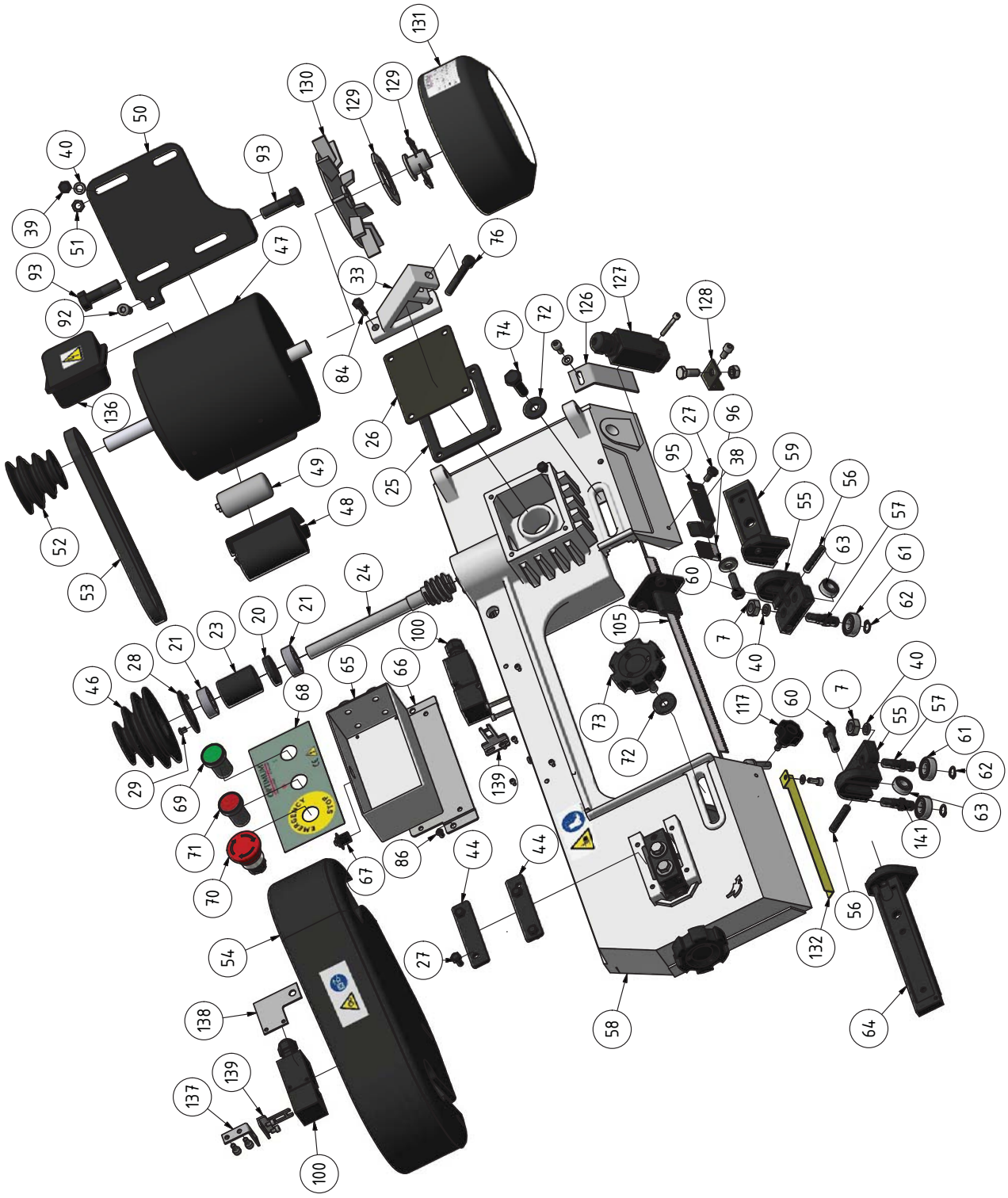

Abb. 7-1: Ersatzteilzeichnung 1 von 4 - Parts drawing 1 of 4

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B Ersatzteilzeichnung 2 von 4 - Parts drawing 2 of 4

Abb. 7-2: Ersatzteilzeichnung 2 von 4 - Parts drawing 2 of 4

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C Ersatzteilzeichnung 3 von 4 - Parts drawing 3 of 4

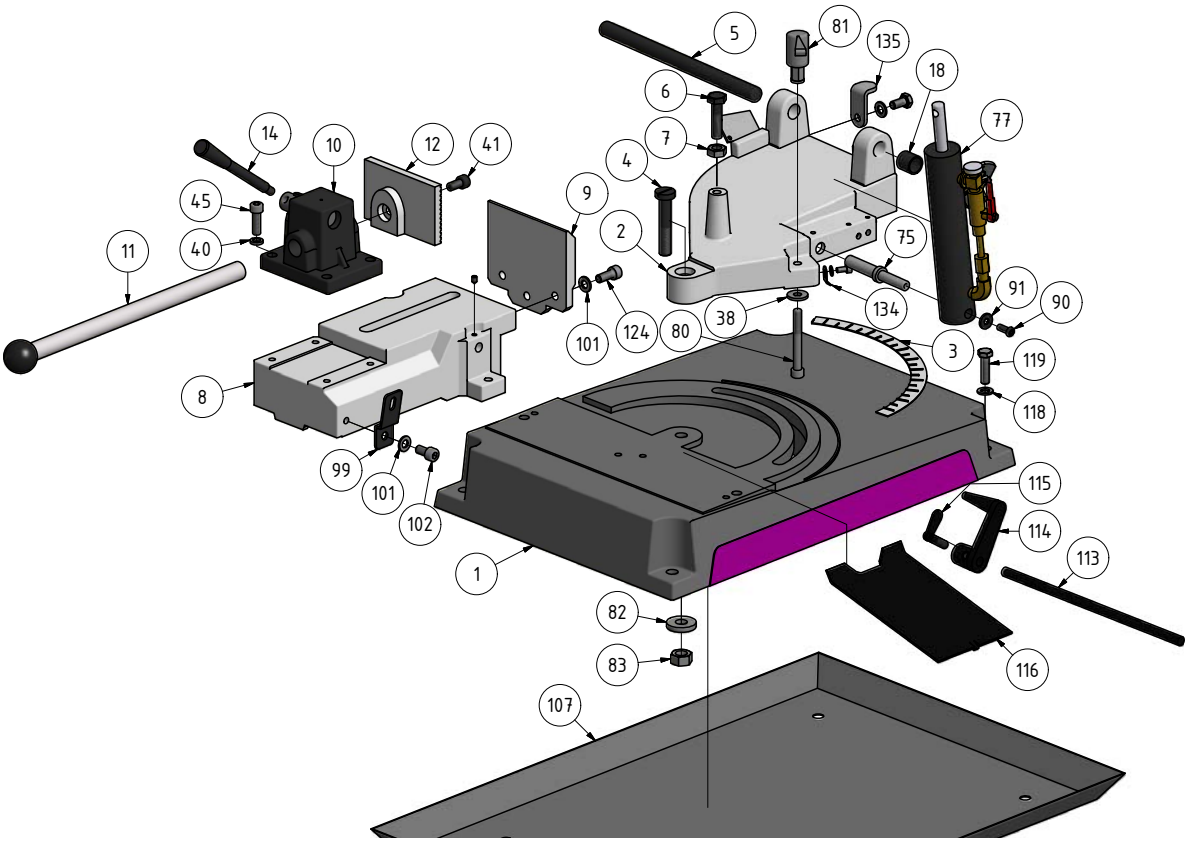


Abb. 7-3: Ersatzteilzeichnung 3 von 4 - Parts drawing 3 of 4

D Ersatzteilzeichnung 4 von 4 - Parts drawing 4 of 4

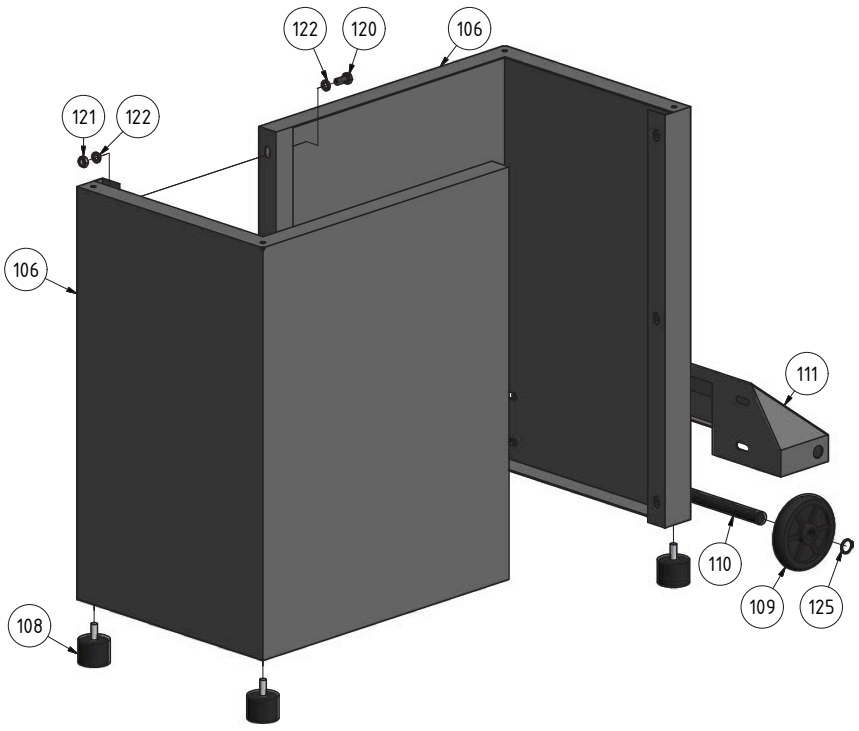
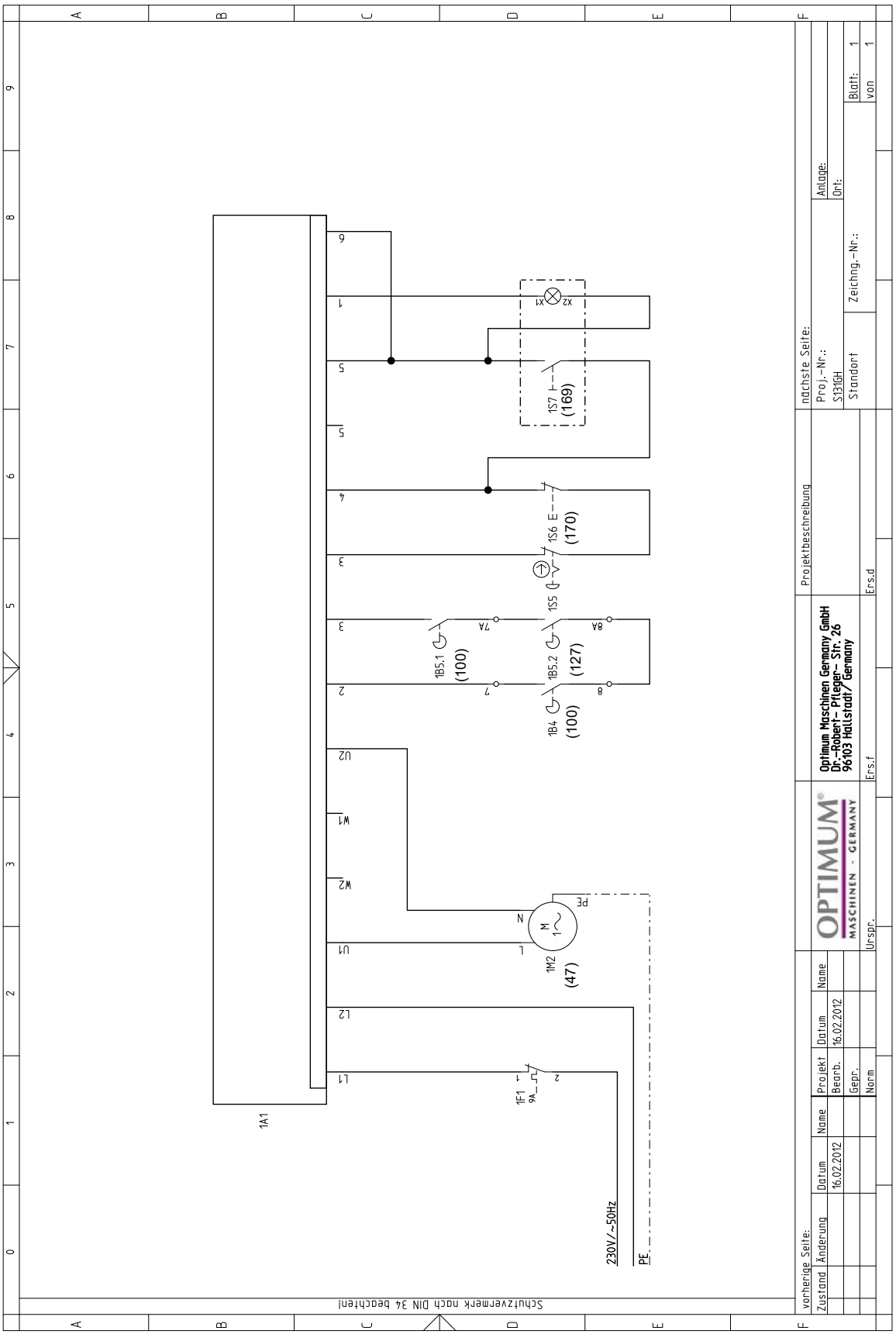


Abb. 7-4: Ersatzteilzeichnung 4 von 4 - Parts drawing 4 of 4

S131GH_parts.fm

7.5 Schaltplan - Wiring diagram - Einkanalig - Single channel

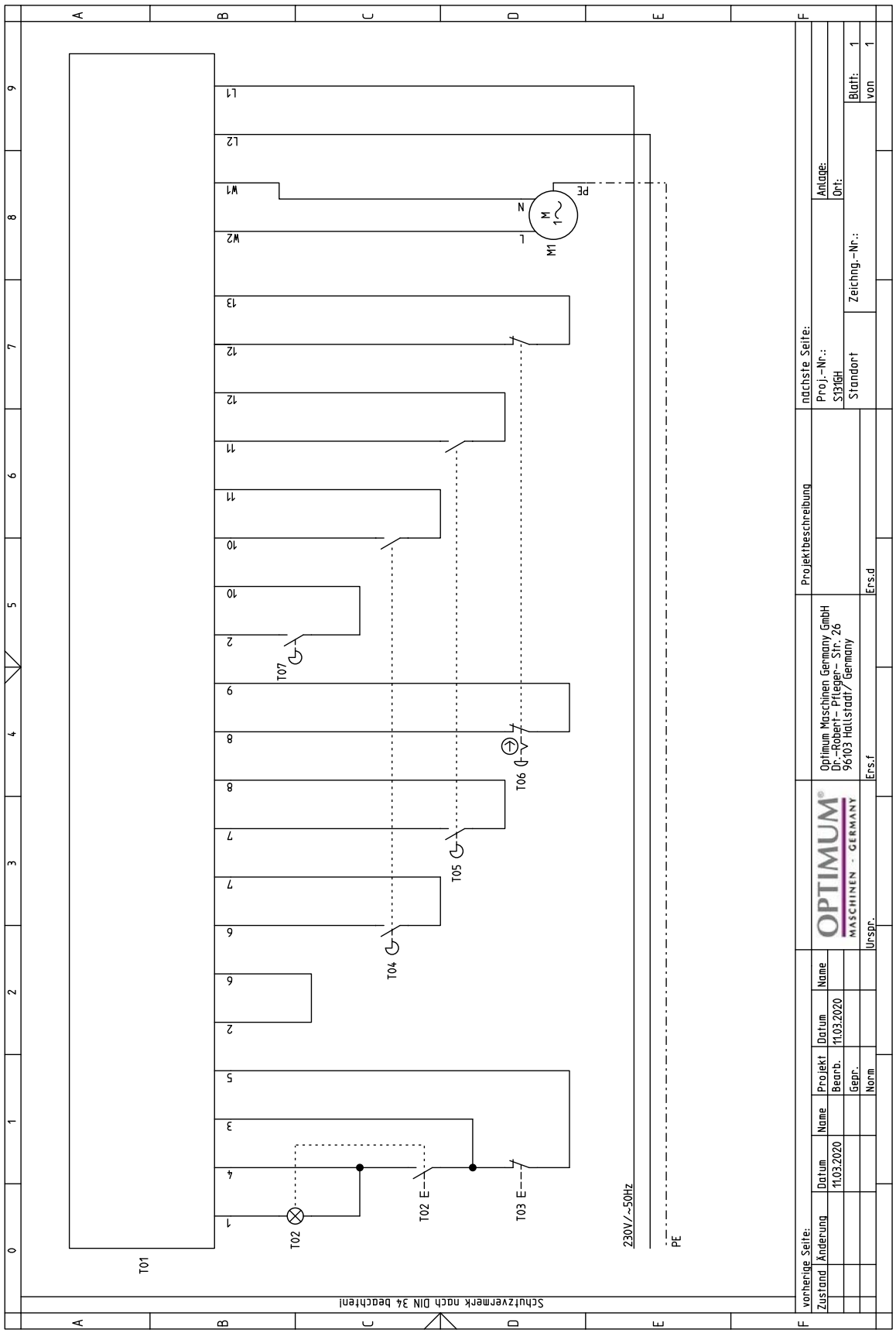
E



S131GH_parts.fm

7.6 Schaltplan - Wiring diagram - Zweikanalig - Double channel

F



S131GH_parts.fm

7.7 Ersatzteilliste - Spare parts list

Pos	Beschreibung	Designation	Menge	Größe	Artikelnummer
			Qty.	Size	Item no.
1	Fussplatte	Base plate	1		0330013101
2	Lagerbock	Bearing block	1		0330013102
3	Skala	Scale	1		0330013103
4	Schraube	Screw	1		0330013104
5	Welle	Shaft	1		0330013105
6	Sechskantschraube	Hexagon screw	1	M10-40	
7	Sechskantmutter	Hexagon nut	5	M10	
8	Aufnahme	Collet	1		0330013108
8CPL	Schraubstock komplett	Vice complete	1		0330013108CPL
9	Feste Backe	Pillar jaw	1		0330013109
10	Lagerbock	Bearing block	1	incl. Pos. 11 & 14	0330013110
11	Stange	Rod	1		0330013111
12	Bewegliche Backe	Follow jaw	1		0330013112
14	Hebel	Lever	1		0330013114
15	Feder	Spring	1		0330013115
16	Aufnahme	Collet	1		0330013116
18	Hülse	Sleeve	1		0330013118
19	Zahnrad	Gear	1		0330013119
19CPL	Getriebewelle komplett	Gear shaft complete	1		0330013119CPL
20	Radialwellendichtring	Radial shaft seal	2	15x35x7	04115357
21	Kugellager	Ball bearing	4	6202-2Z	0406202ZZ
23	Abstandring	Spacer	1		0330013123
24	Schneckenwelle	Worm shaft	1		0330013124
25	Dichtung	Seal	1		0330013125
26	Abdeckung	Cover	1		0330013126
27	Sechskantschraube	Hexagon screw	9	M6-12	
28	Flansch	Flange	2		0330013128
29	Schraube	Screw	4	M5-6	
30	Ring	Ring	1		0330013130
31	Laufrad	Wheel	1		0330013131
32	Passfeder	Fitting key	1		0330013132
33	Halter	Holder	1		0330013133
34	Aufnahme	Collet	1		0330013134
35	Hülse	Sleeve	1		0330013135
36	Laufrad	Wheel	1		0330013136
37	Schraube	Screw	1	M8-12	0330013137
38	Scheibe	Washer	6		0330013138
39	Sechskantschraube	Hexagon screw	6	M8-16	
40	Scheibe	Washer	16		
41	Innensechskantschraube	Hexagon socket screw	2	M8-16	0330013141
42	Handrad	Handle	1		0330013142
43	Feder	Spring	1		0330013143
44	Platte	Plate	2		0330013144
45	Innensechskantschraube	Hexagon socket screw	6	M8-25	
46	Riemenscheibe	Pulley	1		0330013146
47	Motor	Motor	1		0330013147
48	Abdeckung	Cover	1		0330013148
49	Kondensator	Capacitor	1		0330013149
50	Platte	Plate	1		0330013150
51	Sechskantmutter	Hexagon nut	4	M8	
52	Riemenscheibe	Pulley	1		0330013152
53	Keilriemen	V-belt	1		039A22
54	Abdeckung	Cover	1		0330013154
55	Lagerbock	Bearing block	2		0330013155
56	Zylinderstift	Cylindrical pin	2		
57	Welle	Shaft	2		0330013157

S131GH_parts.fm

58	Sägebügel	Saw bow	1		0330013158
59	Platte	Plate	1		0330013159
59CPL	Sägebandführung kpl.	Band Guide cpl.	1		0330013159CPL
60	Sechskantschraube	Hexagon screw	2	M8-25	
61	Kugellager	Ball bearing	4	6000-2Z	0406000ZZ
62	Sicherungsring	Retaining ring	4	DIN 471 - 10x1	042SR10W
63	Kugellager	Ball bearing	2	608-2Z	040608ZZ
64	Platte	Plate	1		0330013164
64CPL	Sägebandführung kpl.	Band Guide cpl.	1		0330013164CPL
65	Steuekasten	Control box	1		0330013165
65CPL	Schaltkasten kpl.	Control box cpl.	1	200 mm	0330013165CPL
65CPLA	Schaltkasten kpl.	Control box cpl.	1	160 mm	0330013165CPLA
66	Halter	Holder	1		0330013166
66A	Halter	Holder	1		0330013166A
67	Motorschutzschalter	Motor safety switch	1		0330013167
68	Abdeckung	Cover	1		0330013168
68A	Abdeckung	Cover	1		0330013168A
69	Taster Ein	Button On	1		0330013169
70	Not-Halt-Schalter	Emergency Stop Button	1		0460049
71	Taster Aus	Button Off	1		0460001
72	Scheibe	Washer	2		
73	Handrad	Handle	1		0330013173
74	Sechskantschraube	Hexagon screw	1	M10-30	
75	Welle	Shaft	1		0330013175
76	Bolzen	Bolt	1		0330013176
77	Zylinder	Cylinder	1		0330013177
79	Abdeckung	Cover	1		0330013179
80	Innensechskantschraube	Hexagon socket screw	1	M8-55	
81	Hebel	Lever	1		0330013181
82	Scheibe	Washer	1	12	
83	Sechskantmutter	Hexagon nut	1	M12	
84	Sechskantschraube	Hexagon screw	1	M6-20	
86	Schraube	Screw	2	M5-8	
89	Handrad	Handle	1		0330013189
90	Innensechskantschraube	Hexagon socket screw	1	M6-16	
91	Scheibe	Washer	1	6	
92	Schraube	Screw	1	M8-35	
93	Sechskantschraube	Hexagon screw	2	M12-40	
94	Schraube	Screw	5	M6x10	
95	Halter	Halter	1		0330013195
96	Bürste	Brush	1		0330013196
98	Führung	Guide	1		0330013198
99	Winkel	Angle	1		0330013199
100	Endschalter Abdeckung	Cover end switch	2		0329035017
101	Scheibe	Washer	4	DIN 125 - A 8,4	
102	Innensechskantschraube	Hexagon socket screw	1	ISO 4762 - M8 x 16	
103	Gewindestift	Grub srew	1	DIN 914 - M5 x 8	
105	Sägeblatt	Saw blade	1		
106	Seitenwand	Side panel	2		03300131106
107	Spänewanne	Tray chip	1		03300131107
108	Gummifuss	Rubber foot	4		03300131108
109	Rad	Wheel	2		03300131109
110	Stange	Rod	1		03300131110
111	Halter	Holder	1		03300131111
113	Stange	Rod	1		03300131113
114	Endsnschlag	Limit stop	1		03300131114
115	Hebel	Lever	1		03300131115
116	Blech	Sheet	1		03300131116
117	Rändelschraube	Knurled screw	1		03300131117
118	Scheibe	Washer	4	12	
119	Sechskantschraube	Hexagon screw	4	ISO 4017 - M12 x 30	

120	Sechskantschraube	Hexagon screw	10	M8x20	
121	Sechskantmutter	Hexagon nut	10	M8	
122	Scheibe	Washer	20	8	
123	Sicherungsring	Retaining ring	1	DIN 471 - 15x1	
124	Innensechskantschraube	Hexagon socket screw	3	ISO 4762 - M8 x 20	
125	Sicherungsring	Retaining ring	2	DIN 471 - 16x1	
126	Halter	Holder	1		03300131126
127	Endschalter	End switch	1		0329029070
128	Endanschlag	Limit stop	1		03300131128
129	Fliehkraftkupplung Kpl.	Centrifugal clutch cpl.	1		03300131129
130	Lüfter	Fan	1		03300131130
131	Lüfterdeckel	Fan cover	1		03300131131
132	Abdeckung	Cover	1		03300131132
133	Abdeckung	Cover	1		03300131133
134	Zeiger	Indicator	1		03300131134
135	Endanschlag	Limit stop	1		03300131135
136	Klemmkasten	Terminal block	1		03300131136
137	Winkel	Angle	1		03300131137
138	Platte	Plate	1		03300131138
139	Betätiger	Actuator	2		0460054
140	Welle	Shaft	1		03300131140
141	Welle	Shaft	2		03300131141
142	Sechskantschraube	Hexagon screw	1	M8x30	
143	Federscheibe	Spring ring	1	8	
144	Platte	Plate	1		03300131144
145	Buchse	Bushing	1		03300131145
146	Federstift	Spring pin	1	4x16	
147	Block	Block	1	incl. Pos. 148	03300131147
148	Welle	Shaft	1		
149	Scheibe	Washer	1	16	03300131149
151	Scheibe	Washer	1		
1A1	Steuerplatine	Control board	1	SUT-19136 single channel	033001311A1
1F1	Motorschutzschalter	Motor safety switch	1	250V/9A	
T01	Steuerplatine	Control board	1	double channel	033001311T01
T05	Schalter Abdeckung Sägeband	Sawb band cover switch	1		033001311T05

S131GH_parts.fm

8 Malfunctions

8.1 Malfunctions on the metal band saw

Malfunction	Cause/ possible effects	Solution
Saw motor overloaded	• Suction of motor cooling air hindered • Motor not correctly fixed • Drive of saw belt not been properly fixed	• Check an clean • Requires technical service! Have the machine repaired in the workshop.
Short life of saw belt (Teeth blunt)	• Quality of saw belt not suitable for this material • An incorrect tooth spacing causes breakage of teeth (the broken tooth in the workpiece blunts the other teeth) • Missing cooling • Cutting speed too high • Feed too high	• Saw belt of higher quality (bimetallic blade) • Select correct tooth pitch • Use coolant equipment • Reduce cutting speed • Reduce feed
Breakage of tooth	• The chip space in the saw belt is overcharged, tooth pitch incorrect	• Use saw belt with a different tooth pitch or reduce feed
Breakage of the saw band	• Tension in the saw belt too high or too low • Saw blade defective • Saw blade guide adjusted incorrectly	• Check tension of saw band • Replace • Adjust blade guide correctly
Twisted cut (saw belt deviating)	• Distance between guide and workpiece too high • Saw belt blunt • Too low saw belt tension • Feed too high • Cutting pressure too high • Saw belt defective (irregular set) • Saw belt guide adjusted incorrectly	• Bring the guide as close to the workpiece as possible • Replace • Tighten correctly • Reduce • Reduce • Replace • Readjust
Cut not rectangular but parallel	• Material does not rest on both vice jaws • Saw arch not adjusted to 90^0	• Insert material properly • Adjust saw arch correctly

9 Appendix

9.1 Copyright

9.2 Terminology/Glossary

Term	Explanation
Workpiece	• Material to be cut
Blade guide pulley	• Pulley through which the saw band passes in the saw arch
Saw arch	• Housing with protective cover for the saw band
Material stop	• Position for multiple cuts • Sawing stop
hydraulic cylinder	• Hydraulic lowering cylinder • Hydraulic feed
Feed regulation valve	• Valve on the hydraulic cylinder
Protective cover of the V-belts	• Covering cap of the pulley
Protective cover saw arch	• Cover on the rear of the saw arch
Blade guide bearings	• Rollers between which the saw band passes • Guide bearing
Saw belt guide	• Blade guide bearings
Saw belt brush	• Dirt wiper • Cleaning brush of the saw belt
Clamping jaw	• Strip terminal on the machine vice
Machine vice	• Clamping device for the workpiece
Drive motor	• Engine

S131GH_GB_9.fm

9.3 Change information manual

Chapter	Short note	new version no.
Technical data	Total connected load	1.0.2
CE declaration	changed standard	1.0.2
1 + 2 + CE	Rating plate + Cutting area + CE Declaration	1.0.3
CE	new Type C standard	1.0.4
2.7 + 6.2	Operating material + maintenance interval worm gear	1.0.5
parts	double channel wiring	1.1.0
3	Interdepartmental transport	1.1.1
CE	Update	1.1.2

9.4 Liability claims for defects / warranty

Beside the legal liability claims for defects of the customer towards the seller, the manufacturer of the product, OPTIMUM GmbH, Robert-Pfleger-Straße 26, D-96103 Hallstadt, does not grant any further warranties unless they are listed below or were promised in the framework of a single contractual provision.

- The processing of the liability claims or of the warranty is performed as chosen by OPTIMUM GmbH either directly or through one of its dealers.
  Any defective products or components of such products will either be repaired or replaced by components which are free from defects. Ownership of replaced products or components is transferred to OPTIMUM Maschinen Germany GmbH.
- The automatically generated original proof of purchase which shows the date of purchase, the type of machine and the serial number, if applicable, is the precondition in order to assert liability or warranty claims. If the original proof of purchase is not presented, we are not able to perform any services.
- Defects resulting from the following circumstances are excluded from liability and warranty claims:
  - Using the product beyond the technical options and proper use, in particular due to over-straining of the machine.
  - Any defects arising by one's own fault due to faulty operations or if the operating manual is disregarded.
  - Inattentive or incorrect handling and use of improper equipment
  - Unauthorized modifications and repairs
  - Insufficient installation and safeguarding of the machine
  - Disregarding the installation requirements and conditions of use
  - atmospheric discharges, overvoltage and lightning strokes as well as chemical influences
- The following items are also not subject to liability or warranty claims:
  - Wearing parts and components which are subject to a standard wear as intended such as e.g. V-belts, ball bearings, illuminants, filters, sealings, etc.
  - Non reproducible software errors
- Any services, which OPTIMUM GmbH or one of its agents performs in order to fulfil any additional warranty are neither an acceptance of the defects nor an acceptance of its obligation to compensate. Such services neither delay nor interrupt the warranty period.
- Place of jurisdiction for legal disputes between businessmen is Bamberg.
- If one of the aforementioned agreements is totally or partially inoperative and/or invalid, a provision closest to the intent of the warrantor is considered agreed upon, which remains within the framework of the limits of liability and warranty which are specified by this contract.

9.5 Advice for disposal / Options of reuse

Please dispose of your machine in an environmentally friendly way, not by disposing of the waste not in the environment, but by acting in a professional way.

Please neither throw away the packaging nor the used machine later on, but dispose of them according to the guidelines established by your city council/municipality or by the corresponding waste management enterprise.

9.5.1 Decommissioning

CAUTION!

Used devices need to be decommissioned in a professional way in order to avoid later misuses and endangerment of the environment or persons.

- **Pull off the main plug.**
- **Cut the connection cable.**
- **Remove all environmentally hazardous operating fluids from the used device.**
- **If applicable remove batteries and accumulators.**
- **Disassemble the machine if required into easy-to-handle and reusable assemblies and component parts.**
- **Dispose of machine components and operating fluids using the intended disposal methods.**

9.5.2 Disposal of new device packaging

All used packaging materials and packaging aids from the machine are recyclable and generally need to be supplied to the material reuse.

The packaging wood can be supplied to the disposal or the reuse.

Any packaging components made of cardboard box can be chopped up and supplied to the waste paper collection.

The films are made of polyethylene (PE) and the cushion parts are made of polystyrene (PS). These materials can be reused after reconditioning if they are passed to a collection station or to the appropriate waste management enterprise.

Only forward the packaging materials correctly sorted to allow direct reuse.

9.5.3 Disposing of the old device

INFORMATION

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

Please note that the electrical devices comprise a variety of reusable materials as well as environmentally hazardous components. Please ensure that these components are disposed of separately and professionally. In case of doubt, please contact your municipal waste management. If appropriate, call on the help of a specialist waste disposal company for the treatment of the material.

9.5.4 Disposal of electrical and electronic components

Please make sure that the electrical components are disposed of professionally and according to the statutory provisions.

The machine is composed of electrical and electronic components and must not be disposed of as household waste. According to the European Directive regarding electrical and electronic used devices and the implementation of national legislation, used power tools and electrical machines need to be collected separately and supplied to an environmentally friendly recycling centre.

As the machine operator, you should obtain information regarding the authorised collection or disposal system which applies for your company.

Please make sure that the electrical components are disposed of professionally and according to the legal regulations. Please only throw depleted batteries in the collection boxes in shops or at municipal waste management companies.

9.5.5 Disposal of lubricants and coolants

ATTENTION!

Please imperatively make sure to dispose of the used coolant and lubricants in an environmentally compatible manner. Observe the disposal instructions of your municipal waste management companies.

INFORMATION

Used coolant emulsions and oils should not be mixed since it is only possible to reuse oils without pre-treatment when they have not been mixed.

The disposal instructions for used lubricants are made available by the manufacturer of the lubricants. If necessary, request the product-specific data sheets.

9.6 Disposal via municipal collection facilities

Disposal of used electrical and electronic components
(Applicable in the countries of the European Union and other European countries with a separate collecting system for those devices).

The sign on the product or on its packing indicates that the product must not be handled as common household waste, but that is needs to be disposed of at a central collection point for recycling. Your contribution to the correct disposal of this product will protect the environment and the public health. Incorrect disposal constitutes a risk to the environment and public health. Recycling of material will help reduce the consumption of raw materials. For further information about the recycling of this product, please consult your District Office, the municipal waste collection station or the shop where you have bought the product.

9.7 Product follow-up

We are required to perform a follow-up service for our products which extends beyond shipment.

We would be grateful if you could send us the following information:

- Modified settings
- Any experiences with the metal band saw which might be important for other users.
- Recurring failures

Optimum Maschinen Germany GmbH
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D-96103 Hallstadt

Fax +49 (0) 951 - 96 555 - 888
email: info@optimum-maschinen.de

OPTIMUM®
MASCHINEN - GERMANY

EC Declaration of Conformity

in accordance with the Machinery Directive 2006/42/EC Annex II 1.A

The manufacturer / distributor Optimum Maschinen Germany GmbH
Dr.-Robert-Pfleger-Str. 26
D - 96103 Hallstadt

hereby declares that the following product

Product designation: Metal band saw

Type designation: S131GH

fulfills all the relevant provisions of the directive specified above and the additionally applied directives (in the following) - including the changes which applied at the time of the declaration.

Description:

Hand operated horizontal bandsaw machine - swivel arm version

The following other EU Directives have been applied:

EMC Directive 2014/30/EC ; For individual devices on the machine: 2014/35/EU

The following harmonized standards were applied:

EN ISO 16093 Machine tools - Safety - Sawing machines for cold metal

EN 60204-1 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

EN 13849-1 Safety of machinery - Safety related parts of controls - Part 1: General design principles

EN 13849-2 Safety of machinery - Safety related parts of controls - Part 2: Validation

EN ISO 12100 Safety of machinery - General principles for design - Risk assessment and risk reduction

EN 61000-6-4 Electromagnetic compatibility (EMC)- Part 6-4: Generic standards – Emission standard for industrial environments

EN IEC 61000-6-2 Electromagnetic compatibility (EMC)- Part 6-2: Generic standards – Immunity for industrial environments: Electrostatic Discharge, Radio-frequency electromagnetic field

Name and address of the person authorized to compile the technical file:

Kilian Stürmer, phone: +49 (0) 951 96555 - 800

Kilian Stürmer (CEO, General Manager)
Hallstadt, 2022-02-24

S131GH_CE_en.fm

Index

S131GH_GBSIX.fm