



Operating manual

Version 1.0.2

Metal band saw

OPTIsaw[®]
SQ-V13

Part no. 3194013

Safety

Technical specification

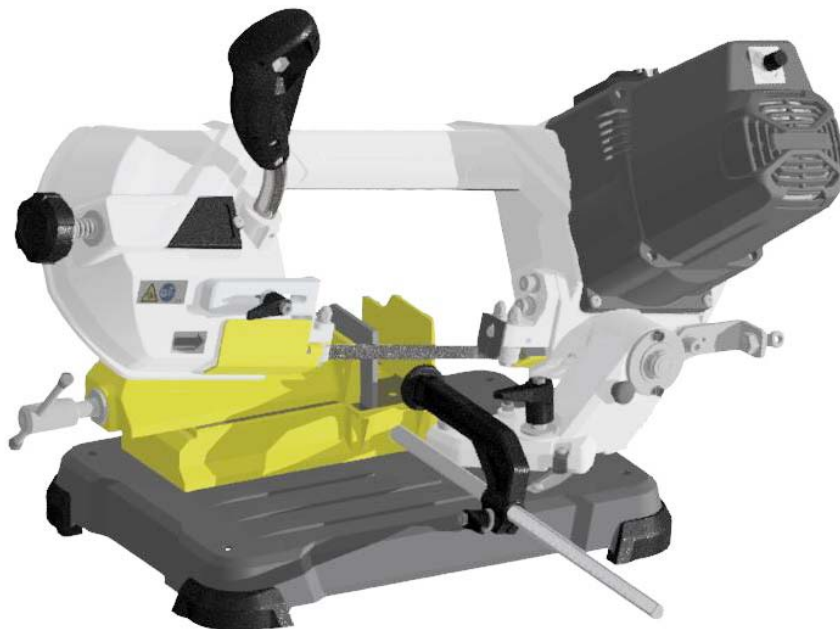
**Delivery, interdepartmental
transport and unpacking**

Operation

Maintenance

Appendix

Ersatzteile - Spare parts





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.

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 metal band saw may differ in some details from the illustrations in this manual, but this does not affect the operability of the metal band saw.

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.

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1 Safety

Glossary of symbols

	provides further instructions
	calls on you to act
	listings

This part of the operating instructions

- explains the meaning and use of the warning notes included in these operating instructions,



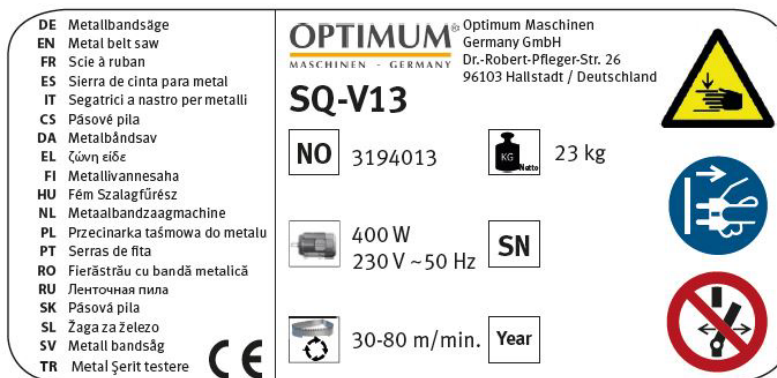
- defines the intended use of the metal band saw,
- points out the dangers that might arise for you or others if these instructions are not observed and
- informs you about how to avoid dangers.

In addition to these operating 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.

Always keep this documentation close to the metal band saw.

1.1 Rating plate



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 metal band saw and product and other types of damage. No risk of injury to persons.
	INFORMATION	Practical tips and other important or useful information and notes. No dangerous or harmful consequences for people or objects.



1.2.2 Other pictograms



Activation forbidden!



Warning: flammable substances!



Warning: suspended loads!



Warning: risk of stumbling!



Warning: tilting danger!



Warning: automatic start-up!



Warning: biological hazard!



Warning: injuries to hands!



Read the operating instruction before commissioning!



Pull out the mains plug!



Wear protective glasses!



Wear protective gloves!



Wear safety shoes!



Wear a protective suit!



Use ear protection!



Protect the environment!

1.3 Intended use

WARNING!

In the event of improper use, the metal belt saw

- will endanger personnel,
- the metal band saw and other material assets of the operator may be endangered,
- the correct function of the metal belt saw may be affected.



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

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

If the metal belt saw is used in any way other than described above, modified without authorization of Optimum Maschinen Germany GmbH, then the metal belt 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 will expire, if any constructive, technical or procedural changes are not performed by the company Optimum Maschinen Germany GmbH.

It is also part of the intended use that you

- observe the limits of the metal belt saw,



- obey the operating instructions,
- the inspection and maintenance instructions are observed.

The right choice of saw band, cutting pressure, cutting speed and coolant is essential to achieve the required cutting performance and angle tolerance.

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 belt saw.

ATTENTION!

If the metal band saw is not used as intended or if the safety directives or the operating instructions are ignored the liability of the manufacturer for any damages to personnel or objects resulting hereof is excluded and the claim under guarantee is becoming null and void!



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 must be discussed with the manufacturer.

In order to avoid misuse, it is necessary to read and understand the operating instructions before first commissioning.

Operators must be duly qualified.

1.5 Possible dangers caused by the metal band saw

The metal band saw was built using state-of-the-art technology. Nevertheless, there is a residual risk as the metal band saw operates with

- high speeds,
- rotating parts,
- electrical voltage and currents,

We have minimized the risk to people's health from these hazards through design and safety technology.

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.

Always disconnect the metal band saw from the electrical power supply before performing cleaning or maintenance tasks.



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 as the operator!





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 attending a training course in the use of drills. Your specialist dealer can offer you an appropriate training course. These courses are also offered at 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 drilling machine.

1.6.3 Additional requirements regarding the qualification

The following additional requirements apply for work on electrical components or equipment:

- They 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, the following actions must be taken in the order given:

- ➔ disconnect all poles,
- ➔ secure against restarting,
- ➔ check that there is no voltage.

1.7 Safety measures during operation

CAUTION!

Danger due to inhaling dust and mist that are hazardous to health.

Depending on the materials to be machined and the agents used, dusts and mists can arise that are detrimental to health.

Ensure that the harmful dust and mist generated are safely sucked off at the point of origin and routed away from the working area or filtered.



1.8 Safety devices

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

Stop the metal band saw immediately if there is a failure on the safety device or if it is not functioning for any reason.

It is your responsibility!

After a safety device has been triggered or is defective, you must not use the metal band saw again until you

- have eliminated the cause of the malfunction,
- have satisfied yourself that it does not pose any danger to persons or property.

WARNING!

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



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- injuries due to components or workpieces flying off at high speed,
- contact with rotating parts,
- fatal electrocution.

The metal belt saw features the following safety devices:

- Protective cover on the saw bow.
- Protective cover on the saw band guide.

The saw band of the metal band saw is provided with a protective cover. The protective cover covers the circulating saw band on the rear side.

WARNING!

Danger of injury! The teeth of the saw band are sharp. Be especially careful when removing the protective cover and changing the saw band.

Wear protective gloves.



1.9 Safety check

Check the metal band saw regularly. Check all safety devices

- before starting work,
- once a week (with the machine in operation) and
- after all maintenance and repair work.

1.10 Personal protective equipment

For certain work personal protective equipment is required.

- 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.
- Use safety shoes when you assemble, disassemble or transport heavy components, or transport the metal band saw.
- Use ear protection if the noise level (emission) in the workplace exceeds 80 dB (A).
- Before starting work make sure that the required personal protective equipment is available at the work place.



CAUTION!

Dirty or contaminated personnel protective equipment can cause illness. They must be cleaned after each use and at least once a week.



1.11 For your own safety during operation

WARNING!

Before switching on the metal band saw, make sure that no persons are endangered and no objects are damaged.

Avoid any unsafe work methods:

- The instructions mentioned in these operating instructions have to be strictly observed during assembly, operation, maintenance and repair.
- Use protective glasses!
- Do not work on the metal band saw, if your concentration is reduced, for example, because you are taking medication.
- Use the specified personal protective equipment. Ensure you wear close-fitting clothing and, if necessary, a hairnet.
- Make sure that your operation does not create a safety hazard.
- Do not wear protective gloves when switching on the metal band saw at the handle.





1.12 Disconnecting and securing the metal band saw

Disconnect the mains plug before starting maintenance and repairs.



2 Technical specification

Motor power	400 W
Operating mode, duty cycle	S6 - 60%
Electrical connection	230V / ~50Hz
Cutting range 0° round material	125 mm
Cutting range 45° round material	85 mm
Cutting range 60° round material	50 mm
Cutting range 0° square material	125 mm
Cutting range 45° square material	85 mm
Cutting range 60° square material	50 mm
Cutting range 0° rectangular material	125 x 125 mm
Cutting range 45° rectangular material	85 x 85 mm
Cutting range 60° rectangular material	50 x 50 mm
infinitely variable saw band speed	30 m/min to 80 m/min
Saw band dimensions	1440 x 0.63 x 12.5 mm
Floor space approx.	382 x 613 mm
Net weight	23.3 kg
Packaging dimensions	400 x 470 x 750 mm
Ambient conditions temperature	- 10°C to + 50°C -
Environmental conditions, Air humidity	max. 90%

Emissions

The noise (emission) of the metal band saw is 75 dB(A) when idling. If several machines are operated at the location of the metal band saw, the noise exposure (immission) to the operator of the metal band saw at the workplace 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 precau-





tion 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 operator of the machine to more easily evaluate the hazards and risks.

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 and ear protectors.



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, 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.

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

Compare the delivery volume with the delivery note.

Check the status of the machine immediately upon receipt and claim possible damages at the last carrier also if the packing is not being damaged. In order to ensure claims towards the freight carrier we recommend you to leave the machines, devices and packing material for the



time being in the status at which you have determined the damage or to take photos of this status. Please inform us about any other claims within six days after receipt of delivery.

Check if all parts are firmly seated.

3.3 Storage

ATTENTION!

Incorrect and improper storage might result in damage or destruction of electrical and mechanical machine components.

Store packed and unpacked parts only under the intended environmental conditions. Follow the instructions and information on the transport box.

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



3.4 Set-up and assembly

3.4.1 Installation site requirements

Organize the working area around the metal band saw according to the local safety regulations.

INFORMATION

In order to achieve high levels of functionality and machining accuracy, as well as a long service life of the machine, the set-up location should meet certain criteria.

The following points should be noted:

- The device must only be installed and operated in a dry and well-ventilated place.
- Avoid places close to machines which cause chips or dust.
- The installation site must be vibration-free, i.e. located away from presses, planing machines, etc.
- The substructure must be suitable for metal band saws.
- Any parts sticking out such as stops, handles, etc. have to be secured by measures taken by the customer if necessary in order to avoid endangering persons.
- Provide enough space for set-up and operating personnel and material transport.
- Also bear in mind accessibility for installation and maintenance works.
- Ensure adequate lighting is available (minimum value: 500 Lux, measured at the tool tip). In the event of a lower level of lighting, additional illumination must be provided, e.g. by means of a separate workplace light.
- The mains plug of the metal belt saw must be freely accessible.



CAUTION!

Position the power lead for the machine in such a manner that people cannot trip over it.



3.5 First commissioning

ATTENTION!

Before commissioning the machine, all bolts, fastenings and protections must be checked and retightened as necessary!



WARNING!

Danger from the use of unsuitable saw bands. Only use saw bands that can withstand the speed requirements and loads that occur.





WARNING!

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



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

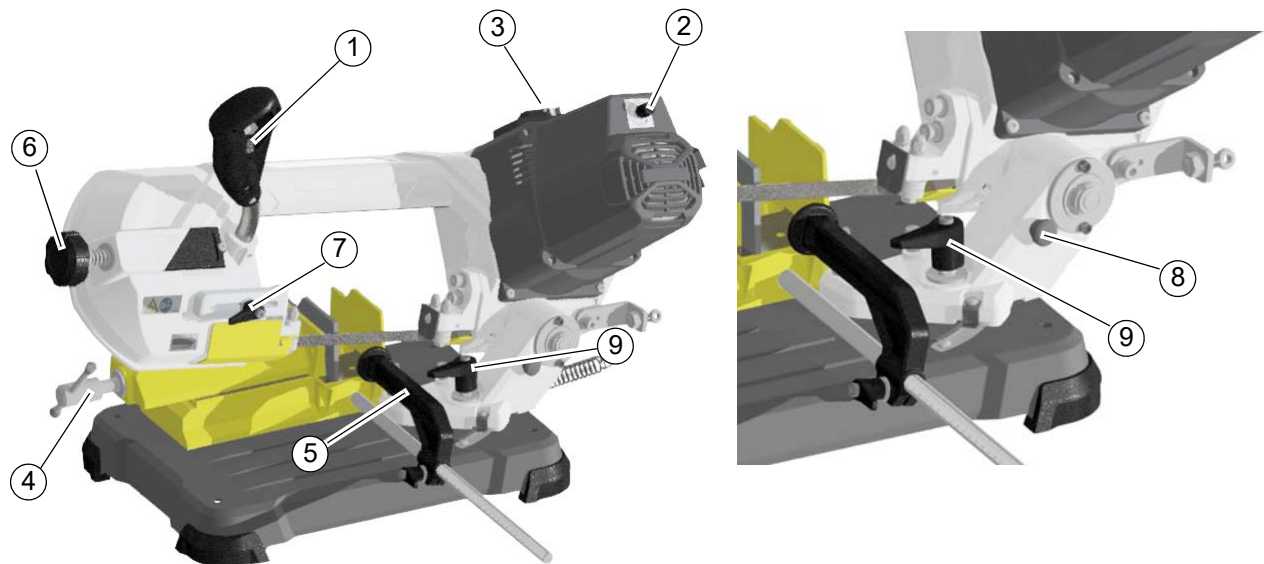
☞ Qualification on page 6

3.5.1 Power supply

- ➔ Connect the electrical supply cable.
- ➔ Check the fuse (fuse 10 - 16A) of your electrical supply according to the technical specifications of the drive power of the metal band saw.

4 Operation

4.1 Overview



Pos.	Designation:	Pos.	Designation:
1	Lever arm with push button	2	Speed of saw band
3	ON/OFF switch	4	Vice clamping lever
5	Material stop	6	Saw band tension
7	Clamping lever of the saw band guide	8	Locking pin
9	Saw bow locking lever		

4.2 Inserting the workpiece

The machine vice serves as a clamping device for the workpiece.

The machine vice consists of

- the work table,



- the clamping jaws,
- the clamping lever.

Place the workpiece to be sawn in the machine vice.

Turn the clamping lever (4) to the right until the workpiece is firmly clamped.

ATTENTION!

Make sure that the workpiece is really clamped.



4.3 Speed of saw band

Set the required saw band speed (2).

4.4 Selection of tooth pitch and tooth form

When sawing with the metal band saw, make sure that the saw band is selected correctly resp. that the saw band is correctly divided.

ATTENTION!

If the tooth pitch is too small and the cutting length too large, the cut material cannot be absorbed by the tooth gap.

If the tooth pitch is too large, the saw tooth starts to chop; this can cause teeth to break out.



Example:

Profile material wall thickness 3 mm = tooth pitch 6 - 10 tpi (teeth per inch)

Profile material wall thickness 40 mm = tooth pitch 10 - 14 tpi (teeth per inch)

4.5 Angular cuts

The metal band saw can be turned up to 60° to allow angular saw cuts.

Release the locking lever (9) to set the desired angle.

ATTENTION!

Make sure that the saw is clean and free from chips in the slewing range before readjusting it!



- Release the locking lever (9).
- Turn the saw bow to the desired cutting position using the angle scale.
- Retighten the locking lever.

4.6 Switching on the machine

- Connect the mains plug to the power supply.
- Pull out the locking pin (8).
- Switch on the metal band saw (3).
- Actuate the push button on the handle of the lever arm (1).
- Pull the lever arm down towards the workpiece (1).

4.7 Switching the machine off


- Push the lever arm upwards.
- Release the push button on the handle of the lever arm.
- Lower the saw bow again and insert the locking pin (8).



4.8 Saw band tension

ATTENTION!

Excessive tensioning of the saw blade can lead to a loss of power and to the destruction of components in the saw. Take care not to over-tension the saw band. Observe information on saw band tension.

 Changing the saw band on page 14



4.9 Use of coolant

WARNING!

Discharge and overflow of cooling lubricants and lubricants When using cooling lubricants, make sure that they do not get on the floor. Any cooling lubricants that run onto the floor must be removed immediately.

Use a suitable trough when using cooling lubricant.



ATTENTION!

Damage to electrical and electronic components if coolant penetrates through the fan area of the motor.

Use cutting oils or cooling lubricants when sawing. Depending on the material of the work-piece, however, dry machining can also take place, whereby the cleaning methods must be adapted with regard to chip disposal.



5 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.



5.1 Safety

WARNING!

The consequences of incorrect maintenance and repair work may include:

- extremely serious injuries to those working on the metal band saw and
- damage to the metal band saw.

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





5.1.1 Preparation

WARNING!

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



5.2 Inspection and maintenance

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 only,
- original parts or parts from series expressly authorised by Optimum Maschinen Germany GmbH.



5.3 Changing the saw band

Disconnect the metal belt saw from the electrical supply.

CAUTION!

Danger of cuts, be careful when performing the operations described below. Use the prescribed protective equipment.

- Unplug the power cord.
- Remove the shell of the guard on the saw band.
- Remove the rear cover on the saw bow.
- Release the saw band tension (6).
- Lift the saw band from the band rolls.
- Place a new saw band on the band rolls. Pay attention to the correct saw band direction.



- Turn the hand wheel (6) clockwise to increase the saw band tension. The correct saw band tension is achieved when the saw band can be deflected by 2 mm in the middle with a force of approx. 40 N.

INFORMATION

The gear inside the drive motor is permanently lubricated. It is not necessary to lubricate it again.



5.4 Daily maintenance work

- Remove the chips and clean the machine.
- Check the protective covers for tightness.



5.5 Malfunctions on the metal band saw

Malfunction	Cause/ possible effects	Solution
Saw motor overloading	<ul style="list-style-type: none"> Engine cooling air intake obstructed Motor not correctly fixed Power unit for saw blade not properly fixed 	<ul style="list-style-type: none"> Check and clean Requires technical service! Have the machine repaired in the workshop
Motor does not start.	<ul style="list-style-type: none"> Engine protective switch released Magnetic coil undervoltage release or motor defective 	<ul style="list-style-type: none"> Reset the motor protection switch on the push button. Call an electrician for help.
Short saw band life (Teeth blunt)	<ul style="list-style-type: none"> Quality of saw band 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 	<ul style="list-style-type: none"> Saw band with higher quality Select correct tooth pitch Use cooling agent Reduce cutting speed
Breakage of tooth	<ul style="list-style-type: none"> The chip space in the saw band is overcharged, tooth pitch incorrect 	<ul style="list-style-type: none"> Use saw band with other tooth pitch
Oblique saw cut (Saw band runs incorrectly)	<ul style="list-style-type: none"> Saw band blunt Cutting pressure too high Saw blade defective (irregular set) 	<ul style="list-style-type: none"> Replacing Reduce Replace
Saw hits excessively or breaks	<ul style="list-style-type: none"> Cutting speed too high Teeth too blunt, gaps between teeth too small Saw hits because chips remain in the saw gap Saw blade installed incorrectly to the direction of rotation 	<ul style="list-style-type: none">
Cut not rectangular but parallel	<ul style="list-style-type: none"> Material does not rest on both vice jaws Metal band saw not set to⁰ 	<ul style="list-style-type: none"> Insert material properly Set the metal band saw correctly

6 Appendix

6.1 Copyright

This document is protected by copyright. All derived rights are reserved, especially those of translation, re-printing, use of figures, broadcast, reproduction by photo-mechanical or similar means and recording in data processing systems, either partial or total.

Subject to technical changes without notice.

6.2 Liability claims/warranty

Besides 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 as part 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. Replaced products or components become our property.
- 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 overstraining 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
- Neither are the following items covered by liability or warranty claims:
 - Wearing parts and components which are subject to normal and intended wear, such as V-belts, ball bearings, lighting, filters, seals, 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. These services neither delay nor interrupt the warranty period.
- The court of jurisdiction for legal disputes between businessmen is Bamberg.
- If any of the aforementioned agreements is totally or partially inoperative and/or invalid, a provision which nearest approaches the intent of the guarantor and remains within the framework of the limits of liability and warranty which are specified by this contract is deemed agreed.

6.3 Advice for disposal / Options of reuse:

Please dispose of your equipment in an environmentally friendly manner, by not placing waste in the environment but in a professional manner.

Please do not simply throw away the packaging and later the disused machine, but dispose of both in accordance with the guidelines laid down by your city council/local authority or by an authorised disposal company.

6.3.1 Decommissioning

CAUTION!

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



- **Unplug the power cord.**
- **Cut the connection cable.**
- **Remove all operating materials from the used device which are harmful to the environment.**
- **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.**



6.3.2 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.

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.

6.3.3 Disposal of electrical and electronic components

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

The device 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.

6.4 Disposal through 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 it 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, municipal waste collection station or the shop where you have purchased the product.



6.5 Change information operating manual

Chapter	Short summary	new version number
1.4.1 ; 1.6.1 ; CE	1.4.1 removed ; 1.6.1 target group ; EC declaration update	1.0.1
	Circuit diagram inserted	1.0.2

6.6 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 of the metal band saw.

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

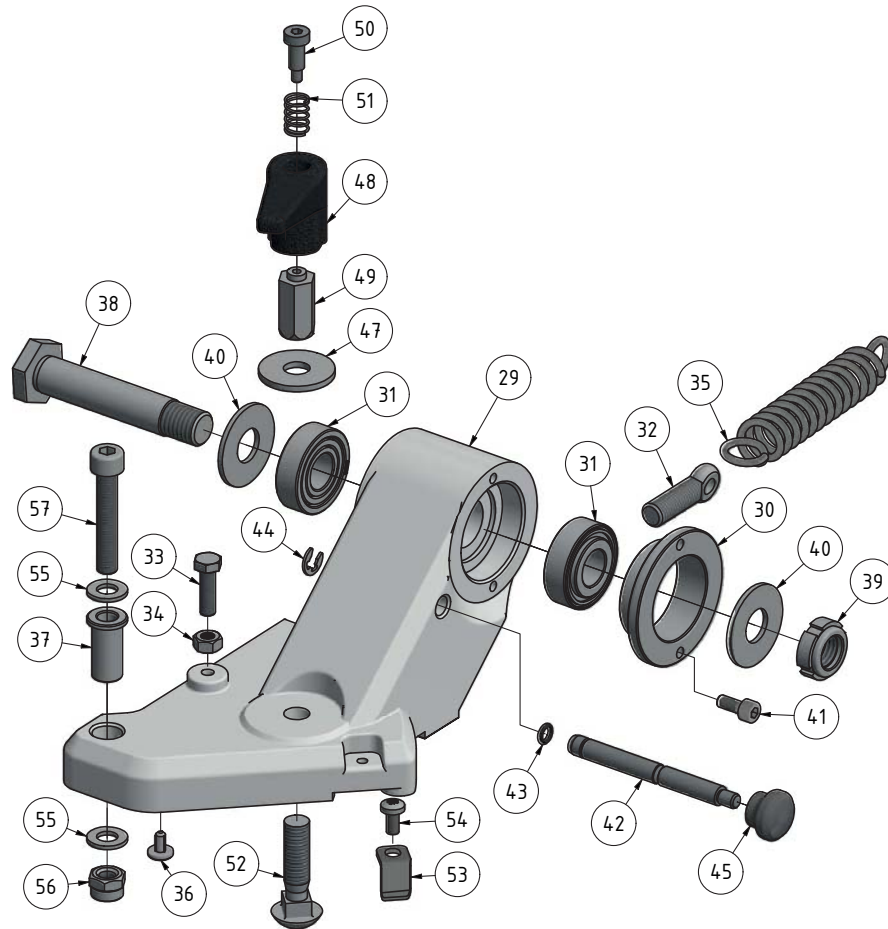


7.4 Ersatzteilzeichnungen - Spare part drawings

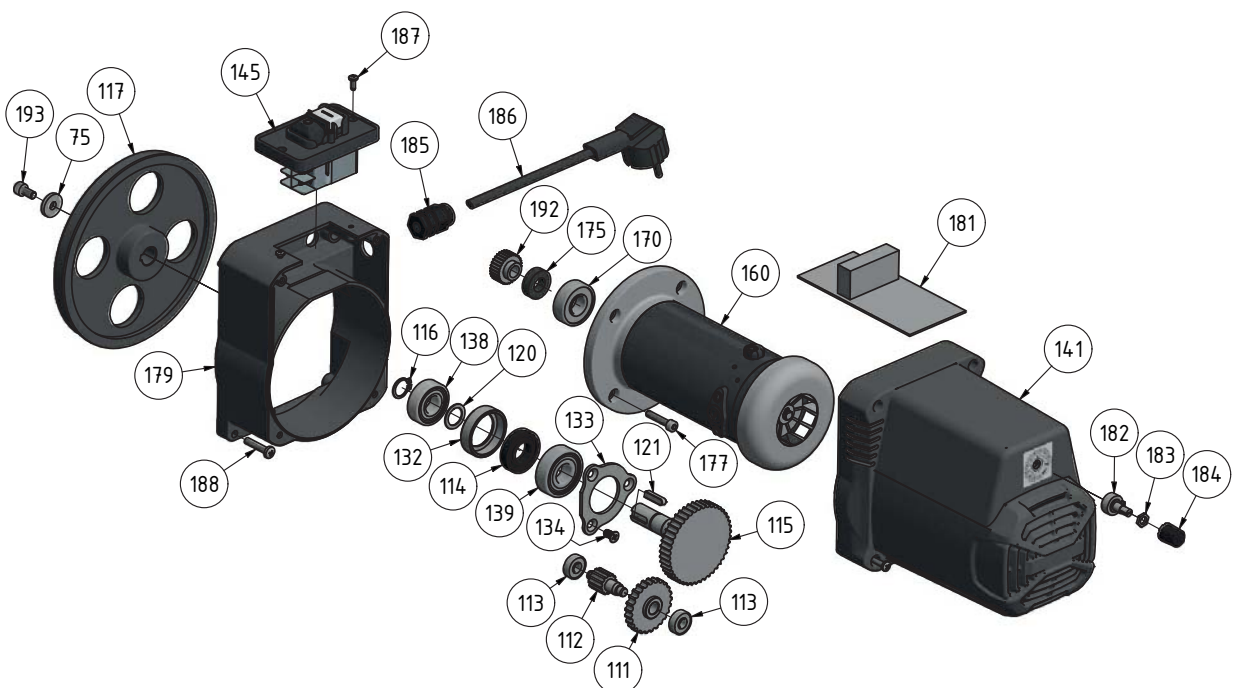
A SQ-V13 - Sägebügel - Saw bow



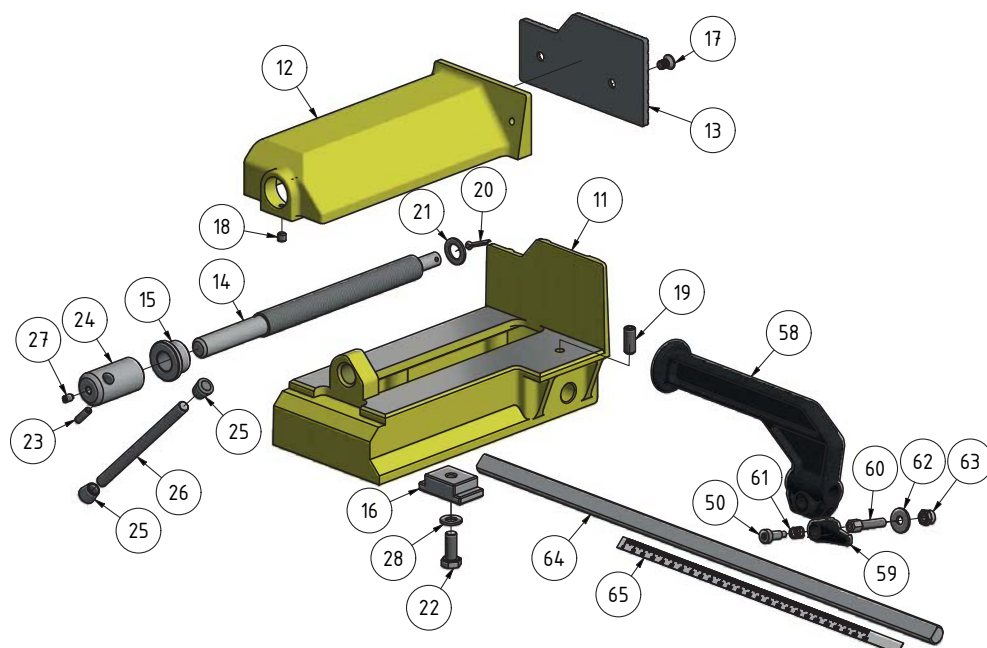
B SQ-V13 - Gelenk - Joint



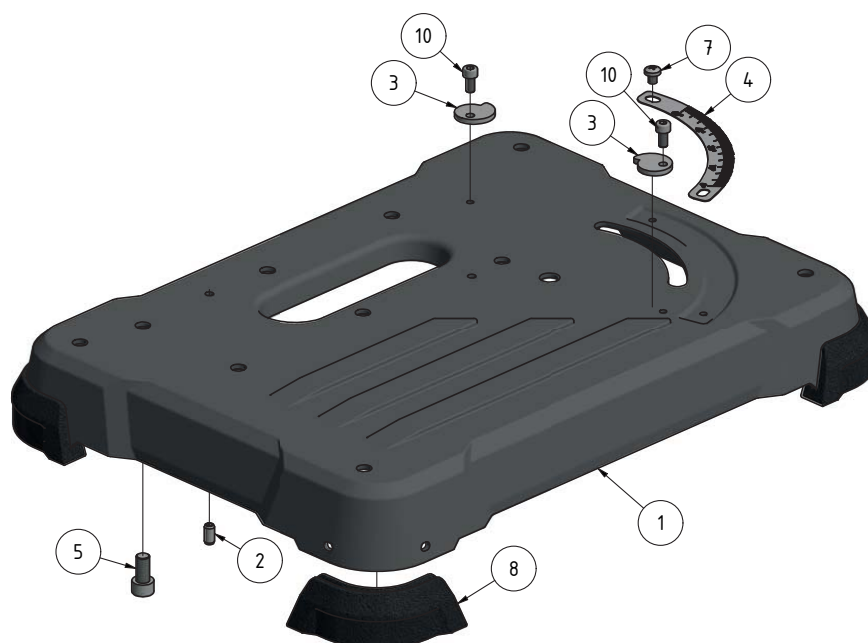
C SQ-V13 - Antrieb - Drive



D SQ-V13 - Schraubstock - Vice



E SQ-V13 - Maschinenunterbau - Machine base

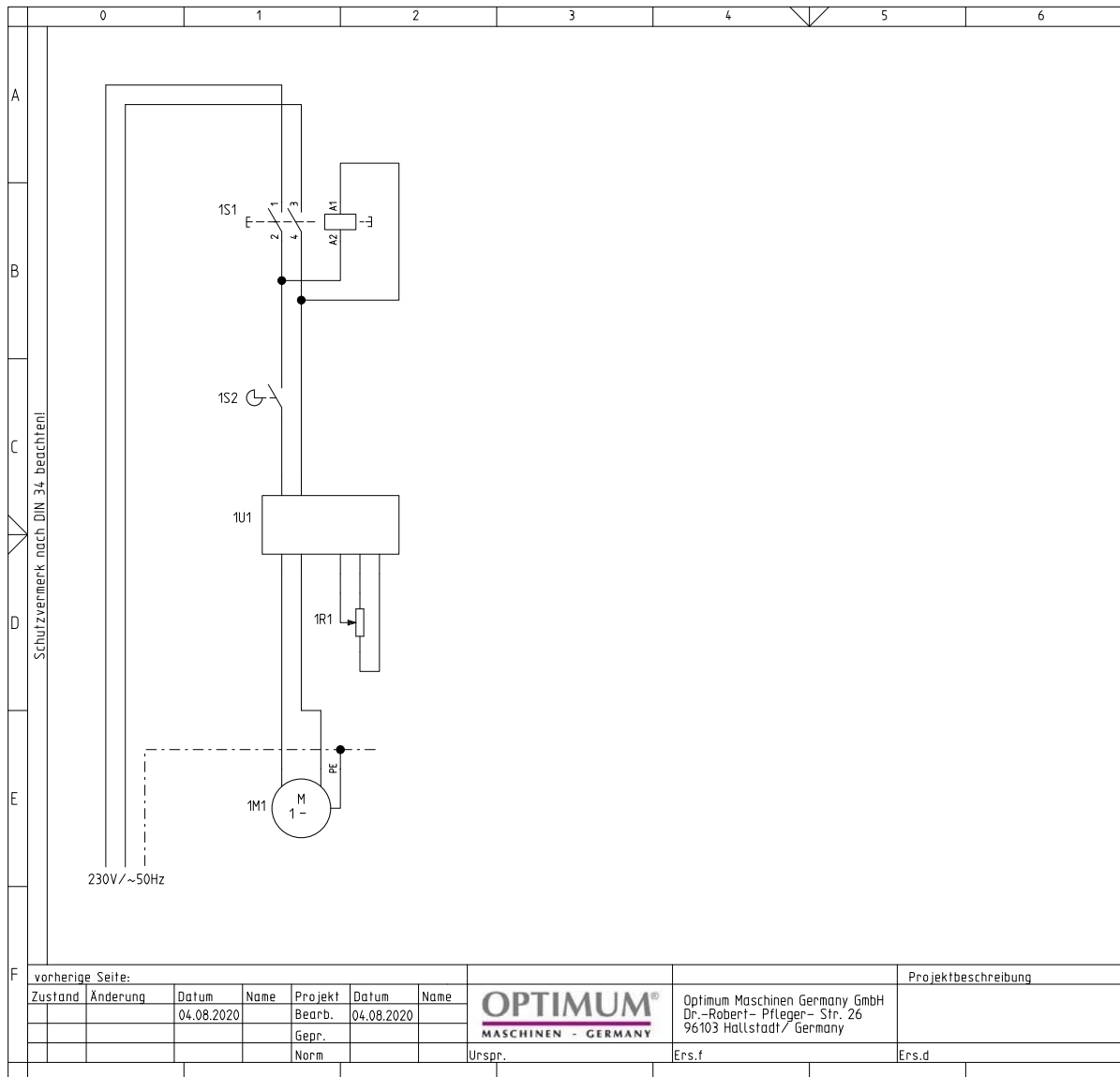


Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
Pos. 2	Zylinderstift SQ-V13	Cylindrical pin SQ-V13	2	5x14	
Pos. 3	Platte SQ-V13	Plate SQ-V13	2		0319401303
Pos. 4	Skala SQ-V13	Scale SQ-V13	1		0319401304
Pos. 5	Innensechskantschraube SQ-V13	Hexagon socket screw SQ-V13	6	M8x16	
Pos. 6	Federscheibe SQ-V13	Spring washer SQ-V13	12	8	
Pos. 7	Schraube SQ-V13	Screw SQ-V13	2	M5x10	
Pos. 8	Fuss SQ-V13	Foot SQ-V13	4		0319401308
Pos. 10	Schraube SQ-V13	Screw SQ-V13	8	M5x10	
Pos. 11	Gehäuse SQ-V13	Housing SQ-V13	1		0319401311
Pos. 12	Gehäuse SQ-V13	Housing SQ-V13	1		0319401312
Pos. 13	Klemmbacke SQ-V13	Clamping jaw SQ-V13	1		0319401313
Pos. 14	Spindel SQ-V13	Spindle SQ-V13	1		0319401314
Pos. 15	Buchse SQ-V13	Socket SQ-V13	1		0319401315
Pos. 16	Klemmplatte SQ-V13	Clamping plate SQ-V13	1		0319401316
Pos. 17	Schraube SQ-V13	Screw SQ-V13	2	M6x10	
Pos. 18	Gewindestift SQ-V13	Grub screw SQ-V13	1	M6x10	
Pos. 19	Gewindestift SQ-V13	Grub screw SQ-V13	1	M8x20	
Pos. 20	Splint SQ-V13	Split pin SQ-V13	1		0319401320
Pos. 21	Scheibe SQ-V13	Washer SQ-V13	1		0319401321
Pos. 22	Sechskantschraube SQ-V13	Hexagon head screw SQ-V13	1	M8x20	
Pos. 23	Zylinderstift SQ-V13	Cylindrical pin SQ-V13	1	5x16	
Pos. 24	Hülse SQ-V13	Sleeve SQ-V13	1		0319401324
Pos. 25	Knopf SQ-V13	Button SQ-V13	2		0319401325
Pos. 26	Klemmhebel SQ-V13	Clamping lever SQ-V13	1		0319401326
Pos. 27	Gewindestift SQ-V13	Grub screw SQ-V13	1	M5x10	
Pos. 28	Scheibe SQ-V13	Washer SQ-V13	1	8	
Pos. 29	Führung SQ-V13	guided tour SQ-V13	1		0319401329
Pos. 30	Flansch SQ-V13	Flange SQ-V13	1		0319401330
Pos. 31	Kugellager SQ-V13	Ball bearing SQ-V13	2		0319401331
Pos. 32	Bolzen SQ-V13	Bolt SQ-V13	2		0319401332
Pos. 33	Sechskantschraube SQ-V13	Hexagon head screw SQ-V13	1	M6x20	
Pos. 34	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	1	M6	
Pos. 35	Feder SQ-V13	Spring SQ-V13	1		0319401335
Pos. 36	Bolzen SQ-V13	Bolt SQ-V13	4		0319401336
Pos. 37	Buchse SQ-V13	Socket SQ-V13	2		0319401337
Pos. 38	Sechskantschraube SQ-V13	Hexagon head screw SQ-V13	1		0319401338
Pos. 39	Nutmutter SQ-V13	Slotted nut SQ-V13	1	M14	
Pos. 40	Scheibe SQ-V13	Washer SQ-V13	2		0319401340
Pos. 41	Innensechskantschraube SQ-V13	Hexagon socket screw SQ-V13	3	M5 x 12	
Pos. 42	Welle SQ-V13	Shaft SQ-V13	1		0319401342
Pos. 43	O-Ring SQ-V13	O-ring SQ-V13	1		0319401343
Pos. 44	Sicherungsring SQ-V13	Retaining ring SQ-V13	1	6	
Pos. 47	Scheibe SQ-V13	Washer SQ-V13	1	10	
Pos. 48	Klemmhebel SQ-V13	Clamping lever SQ-V13	1		0319401348
Pos. 49	Hülse SQ-V13	Sleeve SQ-V13	1		0319401349
Pos. 50	Bolzen SQ-V13	Bolt SQ-V13	3		0319401350
Pos. 51	Feder SQ-V13	Spring SQ-V13	1		0319401351
Pos. 52	Bolzen SQ-V13	Bolt SQ-V13	1		0319401352
Pos. 53	Platte SQ-V13	Plate SQ-V13	1		0319401353
Pos. 54	Schraube SQ-V13	Screw SQ-V13	8	M5x10	
Pos. 55	Scheibe SQ-V13	Washer SQ-V13	7	8	
Pos. 56	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	1	M8	
Pos. 57	Innensechskantschraube SQ-V13	Hexagon socket screw SQ-V13	1	M8x45	
Pos. 58	Endanschlag SQ-V13	End stop SQ-V13	1		0319401358
Pos. 59	Klemmhebel SQ-V13	Clamping lever SQ-V13	2		0319401359
Pos. 60	Schraube SQ-V13	Screw SQ-V13	2		0319401360
Pos. 61	Feder SQ-V13	Spring SQ-V13	2		0319401361
Pos. 62	Scheibe SQ-V13	Washer SQ-V13	2	6	
Pos. 63	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	1	M6	
Pos. 64	Stange SQ-V13	Rod SQ-V13	1		0319401364
Pos. 65	Skala SQ-V13	Scale SQ-V13	1		0319401365
Pos. 66	Sägebügel SQ-V13	Saw bow SQ-V13	1		0319401366
Pos. 67	Welle SQ-V13	Shaft SQ-V13	1		0319401367
Pos. 68	Platte SQ-V13	Plate SQ-V13	1		0319401368
Pos. 69	Führung SQ-V13	guiding SQ-V13	1		0319401369
Pos. 70	Innensechskantschraube SQ-V13	Hexagon socket screw SQ-V13	6	M8x25	
Pos. 71	Gewindestift SQ-V13	Grub screw SQ-V13	1	M8x16	
Pos. 72	Laufgrad SQ-V13	Wheel SQ-V13	1		0319401372
Pos. 73	Kugellager SQ-V13	Ball bearing SQ-V13	2	6201	0406201R
Pos. 74	Sicherungsring SQ-V13	Retaining ring SQ-V13	1	32	
Pos. 75	Scheibe SQ-V13	Washer SQ-V13	2		0319401375
Pos. 76	Platte SQ-V13	Plate SQ-V13	2		0319401376

SQ-V13_parts.fm

Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
Pos. 77	Halter SQ-V13	Holder SQ-V13	1		0319401377
Pos. 78	Platte SQ-V13	Plate SQ-V13	1		0319401378
Pos. 79	Zylinderstift SQ-V13	Cylindrical pin SQ-V13	1		0319401379
Pos. 80	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	4	M6	
Pos. 81	Scheibe SQ-V13	Disc SQ-V13	4	6	
Pos. 82	Scheibe SQ-V13	Disc SQ-V13	7	6	
Pos. 83	Schraube SQ-V13	Screw SQ-V13	2		0319401383
Pos. 84	Schraube SQ-V13	Screw SQ-V13	2		0319401384
Pos. 85	Kugellager SQ-V13	Ball bearing SQ-V13	2	625	040625R
Pos. 86	Scheibe SQ-V13	Washer SQ-V13	4		0319401386
Pos. 87	Schraube SQ-V13	Screw SQ-V13	1	M5x12	
Pos. 88	Kugellager SQ-V13	Ball bearing SQ-V13	8	607	
Pos. 89	Führung SQ-V13	guided tour SQ-V13	1		0319401389
Pos. 90	Abdeckung SQ-V13	Cover SQ-V13	1		0319401390
Pos. 91	Zylinderstift SQ-V13	Cylindrical pin SQ-V13	1	4x20	
Pos. 93	Winkel SQ-V13	Angle SQ-V13	1		0319401393
Pos. 94	Schraube SQ-V13	Screw SQ-V13	4	M5x12	
Pos. 95	Federring SQ-V13	Spring washer SQ-V13	9	5	
Pos. 96	Platte SQ-V13	Plate SQ-V13	6		0319401396
Pos. 97	Abdeckung SQ-V13	Cover SQ-V13	1		0319401397
Pos. 98	Abdeckung SQ-V13	Cover SQ-V13	1		0319401398
Pos. 99	Sägeblatt SQ-V13	Saw blade SQ-V13	1	6 - 10 TPI	3351546
				10 - 14 ZpZ	3351547
					03194013100
Pos. 100	Abdeckung SQ-V13	Cover SQ-V13	1		
Pos. 101	Gewindestift SQ-V13	Grub screw SQ-V13	1	M6x10	
Pos. 108	Spannschraube SQ-V13	Clamping screw SQ-V13	1	M10x120	
Pos. 109	Platte SQ-V13	Plate SQ-V13	1		03194013109
Pos. 110	Scheibe SQ-V13	Washer SQ-V13	1	5	
Pos. 111	Zahnrad SQ-V13	Gear wheel SQ-V13	1		03194013111
Pos. 112	Zahnwelle SQ-V13	Toothed shaft SQ-V13	1		03194013112
Pos. 113	Kugellager SQ-V13	Ball bearing SQ-V13	2	607	040607R
Pos. 114	Dichtung SQ-V13	Seal SQ-V13	1		03194013114
Pos. 115	Zahnrad SQ-V13	Gear wheel SQ-V13	1		03194013115
Pos. 116	Sicherungsring SQ-V13	Retaining ring SQ-V13	1	15	
Pos. 117	LaufRad SQ-V13	Wheel SQ-V13	1		03194013117
Pos. 118	Schraube SQ-V13	Screw SQ-V13	1	M5x12	
Pos. 119	Scheibe SQ-V13	Disc SQ-V13	2	10	
Pos. 120	Scheibe SQ-V13	Disc SQ-V13	1		03194013120
Pos. 121	Passfeder SQ-V13	Feather key SQ-V13	1	5x20	
Pos. 123	Abdeckung SQ-V13	Cover SQ-V13	1		03194013123
Pos. 124	Taster SQ-V13	Push button SQ-V13	1		03194013124
Pos. 125	Mikroschalter SQ-V13	Microswitch SQ-V13	1	HY50-17 (Kedu)	03194013125
Pos. 129	Hebel SQ-V13	Lever SQ-V13	1		03194013129
Pos. 130	Feder SQ-V13	Spring SQ-V13	1		03194013130
Pos. 131	Abdeckung SQ-V13	Cover SQ-V13	1		03194013131
Pos. 132	Ring SQ-V13	Ring SQ-V13	1		03194013132
Pos. 133	Flansch SQ-V13	Flange SQ-V13	1		03194013133
Pos. 134	Schraube SQ-V13	Screw SQ-V13	3	M5x10	
Pos. 135	Scheibe SQ-V13	Washer SQ-V13	4	5	
Pos. 136	Nocken SQ-V13	Cams SQ-V13	1		03194013136
Pos. 137	Feder SQ-V13	Spring SQ-V13	1		03194013137
Pos. 138	Kugellager SQ-V13	Ball bearing SQ-V13	1		03194013138
Pos. 139	Kugellager SQ-V13	Ball bearing SQ-V13	1		03194013139
Pos. 140	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	1	M10	
Pos. 141	Gehäuse SQ-V13	Housing SQ-V13	1		03194013141
Pos. 145	Ein-Aus-Schalter SQ-V13	On-Off switch SQ-V13	1	MB-KJD12-14	03194013145
Pos. 160	Motor SQ-V13	Motor SQ-V13	1		03194013160
Pos. 170	Kugellager SQ-V13	Ball bearing SQ-V13	1	6202	0406202R
Pos. 175	Dichtung SQ-V13	Seal SQ-V13	1	12-24-7	03194013175
Pos. 177	Schraube SQ-V13	Screw SQ-V13	4	M5x25	
Pos. 179	Gehäuse SQ-V13	Housing SQ-V13	1		03194013179
Pos. 181	Steuerplatine SQ-V13	Control board SQ-V13	1		03194013181
Pos. 182	Potentiometer SQ-V13	Potentiometer SQ-V13	1		03194013182
Pos. 183	Sechskantmutter SQ-V13	Hexagon nut SQ-V13	1		03194013183
Pos. 184	Knopf SQ-V13	Button SQ-V13	1		03194013184
Pos. 185	Zugentlastung SQ-V13	strain relief SQ-V13	1	M16	
Pos. 186	Anschlussstecker SQ-V13	Connection plug SQ-V13	1		03194013186
Pos. 187	Schraube SQ-V13	Screw SQ-V13	2		03194013187
Pos. 188	Schraube SQ-V13	Screw SQ-V13	2	M5x25	
Pos. 192	Zahnrad SQ-V13	Gear wheel SQ-V13	1		03194013192
Pos. 193	Innensechskantschraube SQ-V13	Hexagon socket screw SQ-V13	1	M6 x 12	

7.5 Schaltplan - Wiring diagram



Elektrische Bauteile - Electric components					
Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
1M1	Motor	Motor	1		03194013160
1S1	Ein-Aus Schalter	On-Off switch	1	MB-KJD12-14	03194013145
1S2	Mikroschalter Griff	Microswitch handle	1	HY50-17 (Kedu)	03194013125
1U1	Steuerplatine	Control board	1		03194013181
1R1	Potentiometer	Potentiometer	1		03194013182



EC - Declaration of Conformity

according to Machinery directive 2006/42/EC, Annex II 1.A

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

hereby declares that the following product

Product designation: Metal band saw

Type designation: SQ-V13

Metal band saw with frequency converter for speed adjustment of the saw band, which complies with all relevant provisions of the above mentioned Directive 2006/42/EC as well as the other Directives applied (hereafter referred to as "the Directive"), including their amendments in force at the date of this declaration. The following additional EU Directives have been applied:

EMC Directive 2014/30/EU

Restriction of the use of certain hazardous substances in electrical and electronic equipment 2015/863/EU

The safety objective meet the requirement of EC Directive 2006/42/EC.

The following harmonized standards were applied:

EN ISO 16093:2017-10 - Safety - Sawing machines for cold metal (ISO 16093:2017)

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

EN ISO 12100:2010 - Safety of machinery - General principles for design - Risk assessment and risk reduction

EN 50370-2 - Electromagnetic compatibility (EMC) - Product family standard for machine tools - Part 2: Immunity

EN 55011 (CISPR 11) - Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement - class B

EN 61000-3-2 - Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

EN 61000-3-3 - Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

EN ISO 13849 - Safety of machinery - Safety-related parts of control systems

EN 50581:2012 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

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

Address: Dr.-Robert-Pfleger-Str. 26, D - 96103 Hallstadt

Kilian Stürmer
(CEO, General Manager)
Hallstadt, 2020-09-30