OPTIMUM®
MASCHINEN - GERMANY

Operating manual

Version 1.0.1

Metal belt saw

OPTI saw® SD 285E

Part no. 3300287

SD285E_GBIVZ.fm

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
O	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 belt 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 belt 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 belt saw.

Always keep this documentation close to the metal belt saw.

INFORMATION

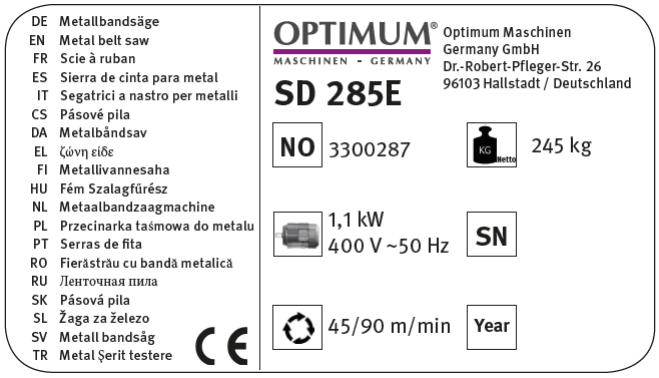
If you are unable to rectify an issue using these operating instructions, please contact us for advice:

Optimum Maschinen Germany GmbH
Dr. Robert-Pfleger-Str. 26

D- 96103 Hallstadt

Email: info@optimum-maschinen.de

1.1 Rating plate



SD285E_GB_1.fm

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	Warning alert	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 — with a warning of — injury to hands, — hazardous electrical voltage, — or — rotating parts.

1.2.2 Other pictograms

Warning: danger of slipping!

Warning: risk of stumbling!

Warning: hot surface!

Warning: biological hazard!

Warning: automatic start-up!

Warning: tilting danger!

Warning: suspended loads!

Caution, danger of explosive substances!

SD285E_GB_1.fm


Activation forbidden!


Read the operating instructions before commissioning!


Pull the main plug!


Wear protective glasses!


Wear protective gloves!


Wear safety shoes!


Wear a protective suit!


Use ear protection!


Protect the environment!


Contact address

1.3 Intended use

WARNING!

In the event of improper use, the metal belt saw

- **o will endanger personnel,**
- **o will endanger the machine and other material property of the operating company,**
- **o the correct function of the machine 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 belt 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 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

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

► Technical data on page 16

The decisive factor for achieving efficient cutting and the necessary angular tolerance is the correct choice of parameters such as the saw blade, 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 belt saw! They could endanger people and cause damage to the metal belt 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. Operators must be qualified.

1.4.1 Avoiding misuse

- Use the correct metal band saw blades, 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 belt saw

The metal belt saw has been tested for operational safety. The construction and type are state of the art.

Nevertheless, there is a residual risk as the metal belt 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 belt 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 belt 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 belt saw and further property might be endangered,
- the correct function of the metal belt saw may be affected.

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

WARNING!

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

Disconnect the metal belt 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 10**

SD285E_GB_1.fm

1.6 Qualification of personnel

1.6.1 Target group

This manual is addressed to

- O the operating companies,
- O the operators,
- O the maintenance personnel.

Therefore, the warning notes refer to both operation and maintenance of the metal belt saw.

Determine clearly and explicitly who will be responsible for the different activities on the machine (operation, maintenance and repair).

Unclear responsibilities constitute a safety risk!

Always disconnect the main plug of the metal belt saw and secure the main switch using a pad lock. This will prevent it from being used by unauthorized persons.

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

Operator

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

Qualified electrician

With professional training, knowledge and experience as well as knowledge of respective standards and regulations, qualified electricians are able to perform work on the electrical system and recognise and avoid any possible dangers.

Qualified electricians have been specially trained for the working environment, in which they are working and know the relevant standards and regulations.

Qualified personnel

Thanks to professional training, knowledge and experience as well as knowledge of relevant regulations the qualified personnel is able to perform the assigned tasks and to independently recognise and avoid any possible dangers themselves.

Instructed person

Instructed persons were instructed by the operating company regarding the assigned tasks and any possible risks of improper behaviour.

1.6.2 Authorized personnel

WARNING!

Inappropriate operation and maintenance of the metal belt saw constitutes a danger for the personnel, objects and the environment.

Only authorized staff may operate the metal belt saw!

Persons authorized to operate and maintain should be trained technical personnel and instructed by the ones who are working for the operating company and for the manufacturer.

The operating company must

- O train the personnel,

Obligations of the operating company

SD285E_GB_1.fm

- O instruct the personnel in regular intervals (at least once a year) on
  - all safety standards that apply to the machine,
  - the operation,
  - generally accepted engineering standards.
- O check the personnel‘s knowledge level,
- O document the training/instruction,
- O require personnel to confirm participation in training/instructions by means of a signature,
- O check whether the personnel is working safety and risk-conscious and observes the operating instructions.

The operator must

Obligations of the operator

- O have obtained a training regarding the handling of the metal belt saw,
- O know the function and mode of action,
- O before taking the machine in operation
  - have read and understood the operating manual,
  - be familiar with all safety devices and instructions.

Additional requirements regarding the qualification

Additional requirements apply for work on the following machine components:

- O Electric components or operating materials: Must only be worked on 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
- check that there is no voltage

1.7 Safety measures during operation

CAUTION!

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

Dependent on the material which need to be processed and the used auxiliaries dusts and mist may be caused which might impair you health.

Make sure that the generated health hazardous dusts and mist are safely sucked off at the point of origin and is dissipated or filtered from the working area. To do so, use a suitable extraction unit.

INFORMATION

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

1.8 Safety devices

Use the metal belt 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 belt saw must only be used if you

- O the cause of the fault has been eliminated,
- O you have verified that there is no danger to personnel or objects.

SD285E_GB_1.fm

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 belt 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 belt saw includes the following safety devices:

- an emergency-stop button
- a saw blade casing with protective cover and position switch,
- protective covers of the saw belt guide.

1.8.1 Emergency-stop button

The emergency-stop button switches the metal belt saw off.

INFORMATION

After actuation, turn the emergency-stop button clockwise in order to switch the metal belt saw on again.

1.8.2 Saw arch

The arch of the metal belt saw is provided with a protective cover. The protective cover protects the belt guide pulleys and the rotating saw belt.

INFORMATION

The metal belt saw only switches on when the protective cover is being closed.

WARNING!

Danger of injury! The teeth of the saw belt are sharp. Take great care when opening the protective cover to change the saw blade.

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

1.8.3 Saw belt guide

Refit the protective covers after each exchange of the saw blade.

1.8.4 Prohibition, warning and mandatory signs

INFORMATION

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

1.9 Safety check

Check the metal belt 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 belt 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 button is activated, the metal belt saw must switch off.	
Positions switch Protective cover saw arch	The metal belt saw only switches on when the protective cover is being closed.	
Date:	**checked by (signature):**	

1.10 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 your personal protective equipment

- **after each use,**
- **regularly once a week.**

SD285E_GB_1.fm

Personal protective equipment for special works

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.

1.11 Safety during operation

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

WARNING!

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

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

Avoid any unsafe work methods:

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

1.12 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 belt saw. Any changes must be documented, the operating instructions updated and machine operators instructed accordingly.

1.12.1 Disconnecting and securing the metal belt saw

Pull out the mains plug. When the mains plug is pulled out, the power supply is interrupted.

The only exceptions are the points marked with the pictogram opposite. Voltage may be present at these points even when the mains plug is pulled out.

1.12.2 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 has

- **o sufficient load capacity**
- **o 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!

1.12.3 Mechanical maintenance work

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

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

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

Check if they are working properly!

1.13 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 belt saw in these work descriptions.

1.14 Electrical system

Have the machine and/or the electric equipment checked regularly. 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 belt saw immediately if there is a malfunction in the power supply !

Comply with the required inspection intervals in accordance with the factory safety directive, operating equipment inspection.

The operator of the machine must ensure that the electrical systems and operating equipment are inspected with regards to their proper condition, namely,

- O by a qualified electrician or under the supervision and direction of a qualified electrician, prior to initial commissioning and after modifications or repairs, prior to recommissioning
- O and at certain intervals.

The deadlines must be set so that arising, foreseeable defects can be detected in a timely manner.

The relevant electro-technical rules must be followed during the inspection.

The inspection prior to initial commissioning is not required if the operator receives confirmation from the manufacturer or installer that the electrical systems and operating equipment comply with the accident prevention regulations.

Permanently installed electrical systems and operating equipment are considered constantly monitored if they are continually serviced by qualified electricians and inspected by means of measurements in the scope of operation (e.g. monitoring the insulation resistance).

1.15 Inspection deadlines

Define and document the inspection deadlines for the machine in accordance with your Factory Safety Act and perform an operational risk analysis in accordance with your Work Safety Act. Also use the inspection intervals in the maintenance section as reference values.

2 Technical data

2.1 Rating plate

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

Electrical connection	
Connection	400 V; ~50 Hz; 1.1 KW
Cutting area	
	► Possible cutting areas on page 25
General	
Cutting angle adjustment	using the rotating saw arch 0° - 60°
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
Machine vice infeed height	985mm
Dimensions	
Weight of the metal belt saw [kg]	245
Dimensions of saw blade [mm]	2480 x 27 x 0.9 mm
	► Dimensions on page 18
Speed of saw belt	
[m/min]	45 | 90 (two speed steps)
Coolant pump	
Power	100 W
Tank capacity [liter]	10
Operating material	
Hydraulic cylinder	Hydraulic oil, viscosity 32 - 46 as per DIN 51519, HLP Quality
Helical gear	Mobilgear 636, viscosity 680 mm^2/s (about 0,33 litres)
Spindle of the machine vice	Commercial lubricating grease
Slide bearing	Commercial lubricating grease
Coolant equipment	Commercial lubricating and cooling agent
Environmental conditions	
Temperature	5-35 °C
Humidity	25 - 80 %

SD285E_GB_2.fm

2.2 Emissions

The generation of noise emitted by the metal belt saw is 73 to 80 dB(A) at idle.
If the metal belt saw is installed in an area where various machines are in operation, the noise exposure (immission) on the operator of the metal belt 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 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:

- O Characteristics of the working area, e.g. size or damping behaviour,
- o other noise sources, e.g. the number of machines,
- o 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.

SD285E_GB_2.fm

3 Assembly

3.1 Unpacking the machine

Transport the metal belt saw in its packing crate to a place near its final installation location with a forklift before unpacking it.
If the packaging shows signs of possible transport damage, take the necessary precautions not to damage the machine when unpacking. If any damage is discovered, the carrier and/or shipper must immediately be notified of this fact to establish any claim which might arise.

Inspect the machine completely and carefully, making sure that all materials, such as shipping documents, manuals and accessories supplied with the machine have been received.

Compare the delivery volume with the delivery note.

3.2 Transport

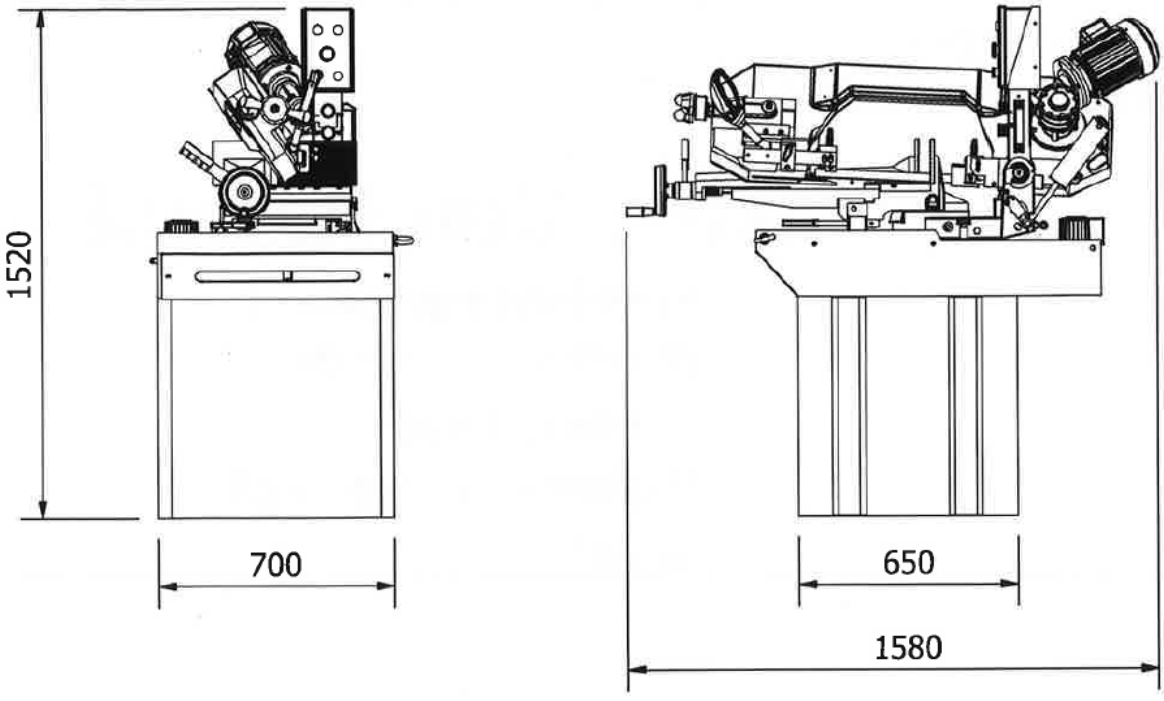
WARNING!

Severe or fatal injuries may occur if parts of the machine tumble or fall down from the forklift truck or from the transport vehicle. Follow the instructions and information on the transport box. Note the total weight of the metal belt saw. Use only transport and load suspension devices that can hold the total weight of the metal belt saw.

WARNING!

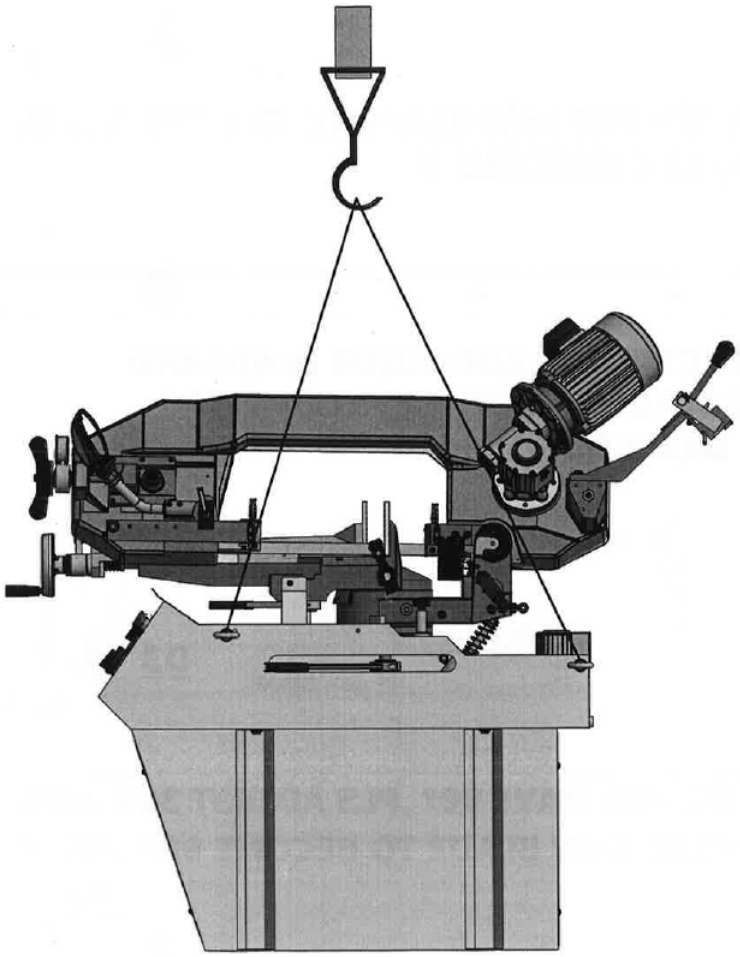
The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension gear has sufficient load capacity and that it is in perfect condition. Fasten the loads properly. Never walk under suspended loads!

3.3 Dimensions

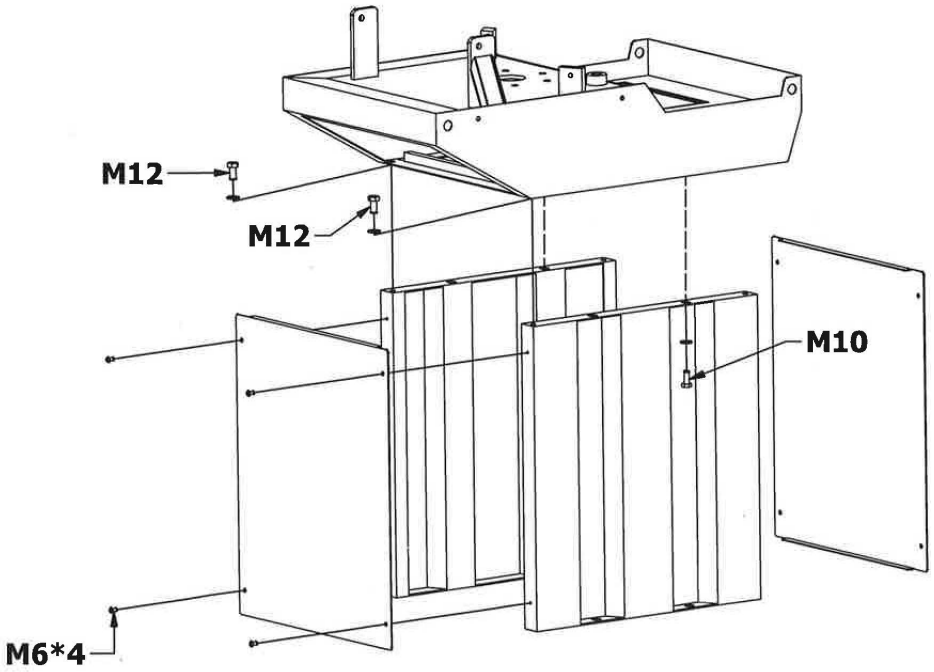


SD285E_GB_3.fm

3.3.1 Load suspension point



3.3.2 Assembling the machine stand



→ Assemble the side parts of the machine stand.
→ Place the machine stand on a suitable surface.
→ Check that the base of the metal band saw is level using a spirit level. Even out any unevenness.
→ Secure the machine stand to the floor.
→ Place the metal band saw on the machine stand.

3.4 Requirements regarding the installation site

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

INFORMATION

In order to attain good functionality and a high processing accuracy as well as a long service life of the machine, the place of installation should fulfil certain criteria.

Please observe the following points:

- O The device must only be installed and operated in a dry and well-ventilated place.
- O Avoid places nearby machines generating chips or dust.
- O The installation site must be free from vibrations also at a distance of presses, planing machines, etc.
- O The substructure must be suitable for the metal belt saw. Also make sure that the floor has sufficient load bearing capacity and is level.
- O The ground must be prepared in a way that potential coolants cannot penetrate the floor.
- O 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.
- O Provide sufficient space for the personnel preparing and operating the machine and transporting the material.
- O Also make sure the machine is accessible for setting and maintenance works.
- O Provide for sufficient backlight (Minimum value: 500 lux, measured at the tool tip). At lower illumination intensities, additional illumination has to be ensured e.g. by means of a separate workplace lamp.

3.5 Electrical connection

WARNING!

The three-phase electrical connection may only be performed by an electrician or under the guidance and supervision of an electrician.

→ Check the fusing (fuse) of your electrical supply according to the technical instructions regarding the total connected power of the machine.

→ Firmly connect the machine.

CAUTION!

Install the connection cable of the machine in such a way that people will not stumble over it.

3.6 First commissioning

WARNING!

The machine may only be commissioned after proper installation.

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.

CAUTION!

Danger of cutting, perform the works described hereunder with care. Use the prescribed protective equipment.

Inspecting the belt guide pulleys

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

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

→ Check the tension of the saw belt. Proper blade tension is reached when the saw band has been stretched to the green mark on the gauge.

Direction of the saw teeth

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

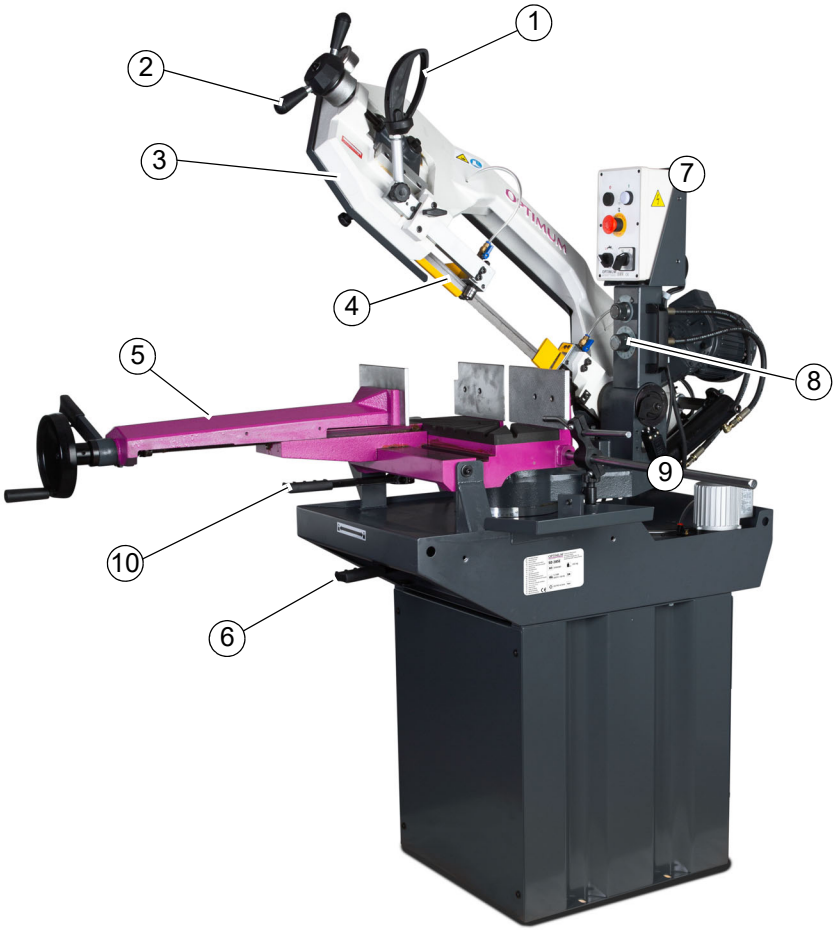
Running direction of the saw belt

→ The running direction of the saw blade is counter-clockwise.

SD285E_GB_3.fm

4 Operation

4.1 Control and indicating elements



Pos.	Designation	Pos.	Designation
1	Handle	2	Saw belt tension
3	Saw arch	4	Adjustable saw belt and coolant hose guide
5	Quick-action vice	6	Clamping lever angular adjustment saw arch
7	Control panel	8	Feed regulation valve
9	Sawing stop	10	Vise position clamping lever

4.2 Safety

Use the metal belt saw only under the following conditions:

- O The metal belt saw is in proper working order.
- O The metal belt saw is used as prescribed.
- O The operating manual is followed.
- O 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 modification.

► Safety during operation on page 13

4.3 Inserting the workpiece

→ Raise the saw arch.

→ Close the stop cock to secure the arch in a given position.

→ Place the piece to be cut in the workholder vice.

CAUTION!

Danger of tilting. Support long work pieces before pushing the piece to be cut into the work-holder vice.

The saw arch can be regulated with continuous advance for angular cuts.

→ Position the clamp approximately 4 mm in front of the piece by turning the hand wheel.

→ Secure the piece using the tightening lever.

4.4 Setting of angle cut

→ To adjust angular cuts, place the locking bar of the saw arch in the left-hand position.

→ Turn the saw arch to the required cutting position.

→ The scale which you need to adjust the angle is on the bearing support.

→ Lock the adjustment by moving the locking lever to the right.

→ If necessary, slide the vice to the desired clamping position.

4.5 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 clamping screw.

→ Adjust the saw belt guidance close to the workpiece without influencing or hindering the sawing procedure.

→ Retighten the clamping 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.

4.6 Switching on the machine

→ Check that the emergency-stop switch is not pressed or unlocked. Turn the emergency-stop switch to the right in order to unlock it.

→ Actuate the push button „ON“.

4.7 Switching off the machine

→ Actuate the push button "OFF".

→ Disconnect the mains plug in case of a longer standstill.

CAUTION!

The emergency stop switch may only be activated in an emergency. A normal shut-down of the machine must not be executed using the emergency stop switch.

4.8 Resetting an emergency stop condition

→ Unlock the emergency stop switch again.

4.9 Adjusting the speed of the saw belt

The speed is set in two stages. 400V motor star connection and 400V motor delta connection.

4.9.1 Saw belt speeds

Guidelines values for cutting speeds [m / min] :

Material	[m / min]	Feed motion per tooth [mm]	Material	[m / min]	Feed motion per tooth [mm]
C10, C15, St34, St37, Steels up to 500 N/mm^2	30 - 50	0.03 - 0.06	Aluminium and alloy aluminium (solid material)	600 - 900	0.04 - 0.09
C20, C40, 15Cr3, 16MnC35, Steels up to 800 N/mm^2	20 - 40	0.03 - 0.04	Aluminium and alloy aluminium (profiles)	800 - 1200	0.03 - 0.07
38NCD4, 50CrV4, Steels up to 1200 N/ mm^2	15 - 25	0.02 - 0.03	Bronze and Copper	200 - 300	0.04 - 0.06
Stainless steels	10 - 30	0.01 - 0.03	Brass	400 - 600	0.04 - 0.08
Cast iron	30 - 50	0.04 - 0.05	Synthetic materials	60 - 150	0.04 - 0.08

4.10 Coolant equipment

WARNING!

Ejection of coolants and drainage of coolant over long workpieces on the floor. Make sure you do not get the cooling lubricants on the floor. Spilled on the floor cooling agents must be removed immediately.

ATTENTION!

Destruction of the pump due dry running. The pump is lubricated by the coolant. Do not operate the pump without coolant.

INFORMATION

Use as cooling agents a water soluble, ecologically harmless sawing emulsion, which they can refer in the specialized trade.

Make sure that the cooling agent is properly retrieved.

Respect the environment when disposing of lubricants and coolants.

Follow the manufacturer's disposal instructions.

→ Switch on the coolant device at the switch.

SD285E_GB_4.fm

4.11 Starting the metal belt saw

→ Switch on the metal band saw with the push button.

4.12 Hydraulic feed

The weight force during lowering can be adjusted slightly at the counter bearing of the spring.

→ Adjust the down speed of the saw arch with the feed regulation valve (1).

→ Open the shut-off valve (2).

The belt saw automatically switch off when you reach your end position.

Follow the same steps in reverse order to remove the work piece from the vice.

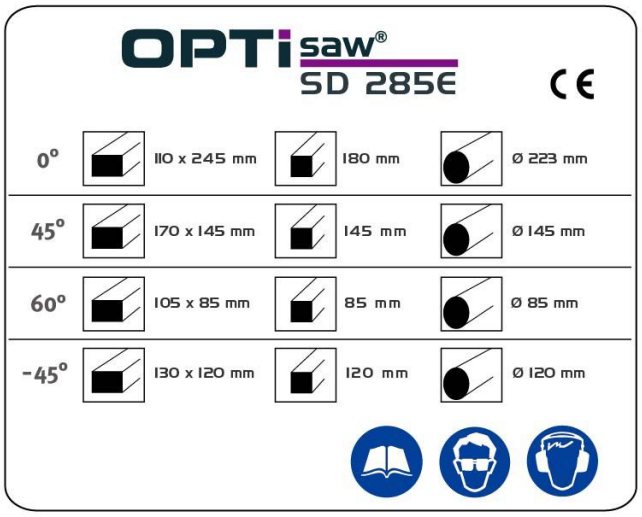
Img.4-1:

EMPIRICAL RULE !

The finer the tooth spacing and/or the thinner or smaller the work piece, the lower the feed should be.

4.13 Cutting area

Possible cutting areas



5 Maintenance

ATTENTION!

Properly performed regular maintenance is an essential prerequisite for
- operational safety,
- failure-free operation,
- long service life of the metal belt saw and
- the quality of your manufactured products.

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

5.1 Safety

WARNING!

Consequences of incorrect maintenance and repair work may include:
- very serious injury to personnel working on the metal belt saw,
- damage to the metal belt saw.

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

Electrical systems and operating materials may only be installed, modified and repaired by a trained electrician or supervised and under the control of a trained electrician and must comply with electrotechnical regulations.

WARNING!

Do not climb onto or into the machine while working.

5.1.1 Preparation

WARNING!

Only work on the metal band saw when the mains plug is disconnected.

Attach a warning sign.

5.1.2 Restarting

Before restarting, run a safety check.

► Safety check on page 12

WARNING!

Before starting the machine, you must check that there is no danger for persons and that the machine is not damaged.

5.1.3 Cleaning

CAUTION!

Use a hand broom to remove chips and wear suitable protective gloves.

SD285E_GB_5.fm

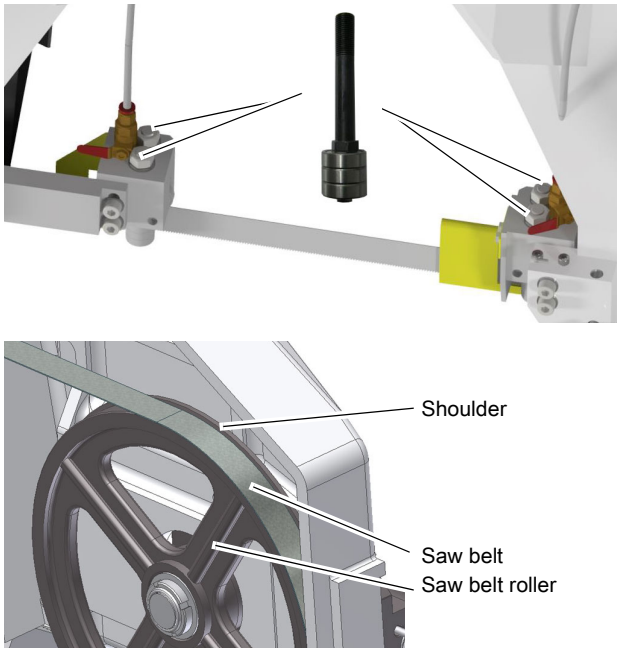
5.2 Checkup, inspection and maintenance

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.

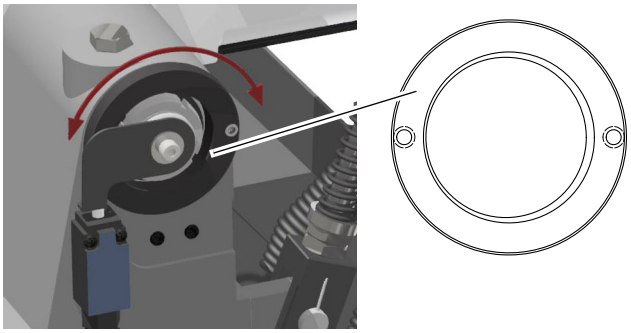
Interval	Where?	What?	How?
As required and after changing the saw belt	Saw arch	Adjusting the Tension of the saw belt Adjusting the position of the saw belt on the saw belt rollers	The saw belt is being tensed with the handwheel. → Turn the handwheel clockwise to increase the tension in the saw belt. → The correct saw band tension is reached when the scale in the pressure gauge is in the green area. **INFORMATION** **Do not strain the saw belt more than necessary. The saw belt could be overstretched and become warped.**
At the beginning of the shift after every maintenance or repair work	Metal belt saw	► Safety check on page 12	
every week	Drive shaft	Bearings	→ Oil
every month	Worm gear	Inspection	**INFORMATION** **During the first few days in service, the helical gear may become quite hot. If the temperature does not exceed 70ºC, no further measures need be taken.** **This running-in process can improve considerably if a little Molykote G gear paste is added to the oil in the helical gear before the machine is first used. This reduces wear in the flanks of the teeth and increases the useful service life of the gear.**
As required	Machine vice	Spindle	→ Lubricate the spindle of the work-holder vice

Interval	Where?	What?	How?
Depending on wear	Saw arch	Changing the saw belt	**ATTENTION!** **The metal belt saws are to be used with the following saw blades.** **o 2480 x 27 x 0.9 mm** **When using saw blades with other dimensions the metal belt saw might be damaged.** → Place the saw arch in the upper position and close the stop cock on the hydraulic cylinder. → Remove the saw belt brush by unscrewing the lockscrew. → 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. → Carefully remove the old saw belt. → Fit the new saw blade by inserting it first into the saw belt guide. → Check the running direction and toothing. ► Direction of the saw teeth on page 21 → 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. → Perform the checks as described under ► First commissioning on page 21. → For fitting the components, proceed in reverse order. → Proceed a trial run. → Re-fit the protective covers.
As required	Coolant equipment	Coolant pump	→ The coolant pump is almost completely maintenance free. Change the coolant fluid at regular intervals according to use and clean the inside of the pump of chips. Not all chips can be held back by the chip filter in the chip tray, and can thus be sucked back in by the pump, which can lead to the destruction of the pump.

SD285E_GB_5.fm

Interval	Where?	What?	How?
As required and after changing the saw belt	Saw arch	Adjusting the Tension of the saw belt Adjusting the position of the saw belt on the saw belt rollers	Ü The saw belt must fit on the shoulder of the two saw belt rollers when running. Ü If necessary, use the eccentric bolts on which the guide bearings are located to adjust the saw band run. Adjusting the front and rear guide bearings in opposite directions allows you to make an adjustment. If the counter-rotating adjustment is unsuccessful, an offset can also be achieved with additional sheet metal strips at the fastening points. Adjustments should only be made with a new saw band. Crooked sawn-off parts are usually caused by a worn saw blade, unsuitable tooth pitch and/or unsuitable tooth set depending on the material to be sawn, or an unsuitable feed.  Img.5-1: Saw belt roller

SD285E_GB_5.fm

Interval	Where?	What?	How?
If there are unusually crooked saw cuts.	Saw bow joint	Check Test Readjust	The joint on the saw bow is set at the factory and it should not be necessary to readjust it. If crooked sections occur that cannot be eliminated by adjusting the saw band guide as described under ► Adjusting the position of the saw belt on the saw belt rollers on page 27, the joint can be readjusted to the required angle.  Img. 5-2: Saw bow joint

5.3 Repair

5.3.1 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 repairs are performed by other qualified technical personnel, they must follow the instructions in this operation manual.

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.

5.4 Cooling lubricants and tanks

CAUTION!

The cooling lubricant can cause diseases. Avoid direct contact with cooling lubricant or parts covered in cooling lubricant.

Cooling lubricant circuits and tanks for water-cooling lubricant mixtures must be completely emptied, cleaned and disinfected as needed, but at least once per year or every time the cooling lubricant is replaced.

If fine chips and other foreign matters are accumulated in the coolant tank, the machine can no longer be correctly supplied with coolant. Furthermore, the lifetime of the coolant pump is reduced.

When processing cast iron or similar materials generating fine chips, cleaning the coolant tank more often is recommended.

Limit values

The cooling lubricant must be replaced, the cooling lubricant circuit and tank emptied, cleaned and disinfected if

- the pH value drops by more than 1 based on the value during initial filling. The maximum permissible pH value during initial filing is 9.3
- there is a perceivable change in the appearance, odour, floating oil or increase of the bacteria to more than 10/6/ml
- there is an increase in nitrite content to more than 20 ppm (mg/1) or nitrate content to more than 50 ppm (mg/1)
- there is an increase in the N-nitrosodiethanolamine (NDELA) to more than 5 ppm (mg/a)

CAUTION!

Comply with the manufacturer's specifications for mixture ratios, hazardous substances, e.g. system cleaners, including their permissible minimum use times.

CAUTION!

Since the cooling lubricant escapes under high pressure, pumping out the coolant by using the existing cooling lubricant pump via a pressure hose into a suitable tank is not recommended.

ENVIRONMENTAL PROTECTION

During work on the cooling lubricant equipment please make sure that

- **collector tanks are used with sufficient capacity for the amount of liquid to be collected.**
- **liquids and oils should not be spilled on the ground.**

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

Collect leakages

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

Disposal

Never dump oil or other substances which are harmful to the environment into water inlets, rivers or channels. Used oils must be delivered to a collection centre. Consult your supervisor if you do not know where the collection centre is.

5.4.1 Inspection plan for water-mixed cooling lubricants

Company: No.: Date: used cooling lubricant			
size to be checked	Inspection methods	Inspection intervals	Procedure and comment
noticeable changes	Appearance, odour	daily	Find and rectify causes, e.g. skim off oil, check filter, ventilate cooling lubricant system
pH value	Laboratory techniques electrometric with pH meter (DIN 51369) Local measurement method: with pH paper (Special indicators with suitable measuring range)	weekly [1)]	if pH value decreases > 0.5 based on initial filing: Measures in accordance manufacturer's recommendations > 1.0 based on initial filing: Replace cooling lubricant, clean cooling lubricant circulation system
Usage concentration	Manual refractometer	weekly [1)]	Method results in incorrect values with tramp oil content
Base reserve	Acid titration in accordance with Manufacturer's recommendation	as required	Method is independent of tramp oil content
Nitrite content	Test sticks method or laboratory method	weekly [1)]	> 20 mg/L nitrite: Replace cooling lubricant or part or inhibiting additives; otherwise NDELA (N-nitrosodiethanolamine) in the cooling lubricant system and in the air must be determined > 5 mg/L NDELA in the cooling lubricant system: Replacement, clean and disinfect cooling lubricant circulation system, find nitrite source and, if possible, rectify.
Nitrate/nitrite content of the preparation water, if this is not removed from the public grid	Test sticks method or laboratory method	as required	Use water from the public grid if there is water from the pubic grid has > 50 mg/l nitrate: Inform the waterworks

[1)] The specified inspection intervals (frequency) are based on continuous operation. Other operational conditions can result in other inspection intervals; exceptions are possible in accordance with Sections 4.4 and 4.10 of the TGS 611.

Editor:

Signature:

coolant_GB.fm

6 Malfunctions

6.1 Malfunctions on the metal belt saw

Malfunction	Cause/ possible effects	Solution
Saw motor overloading Saw motor overheating	o Suction of motor cooling air hindered o Motor not correctly fixed o Power unit for saw blade not properly fixed o Wrong electrical connection	o Check and clean o Requires technical service! Have the machine repaired in the workshop o ► Assembling the machine stand on page 20
Cooling agent feed not working	o Cooling agent tank empty o Cooling agent tap locked o Cooling agent tap blocked o Cooling agent duct bent or blocked o Air in the system, e.g. after refilling o Pump doesn't work	o Fill o Open o Cleaning o Check and clean o Bleed by briefly withdrawing the pressure hose o Check pump
Short life of saw belt (Teeth blunt)	o Quality of saw belt not suitable for this material o An incorrect tooth spacing causes breakage of teeth (the broken tooth in the workpiece blunts the other teeth) o Missing cooling o Cutting speed too high o Feed too high	o Saw belt of higher quality (bimetallic blade) o Select correct tooth pitch o Use coolant equipment o Reduce cutting speed o Reduce feed
Breakage of tooth	o The chip space in the saw belt is overcharged, tooth pitch incorrect	o Use saw belt with a different tooth pitch or reduce feed
Breakage of the saw blade	o Tension in the saw belt too high or too low o Saw blade defective o Saw blade guide adjusted incorrectly	o Check tension of saw blade o Replace o Adjust blade guide correctly
Twisted cut (saw blade deviating)	o Distance between guide and workpiece too high o Saw belt blunt o Too low saw blade tension o Feed too high o Cutting pressure too high o Saw blade defective (irregular set) o Wrong saw blade guidance	o Bring the guide as close to the workpiece as possible o Replace o Tighten correctly o Reduce o Reduce o Replace o Readjust
Cut not rectangular but parallel	o Material does not rest on both vice jaws o Saw arch not adjusted to 90^0	o Insert material properly o Adjust saw arch correctly

SD285E_GB_7.fm

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

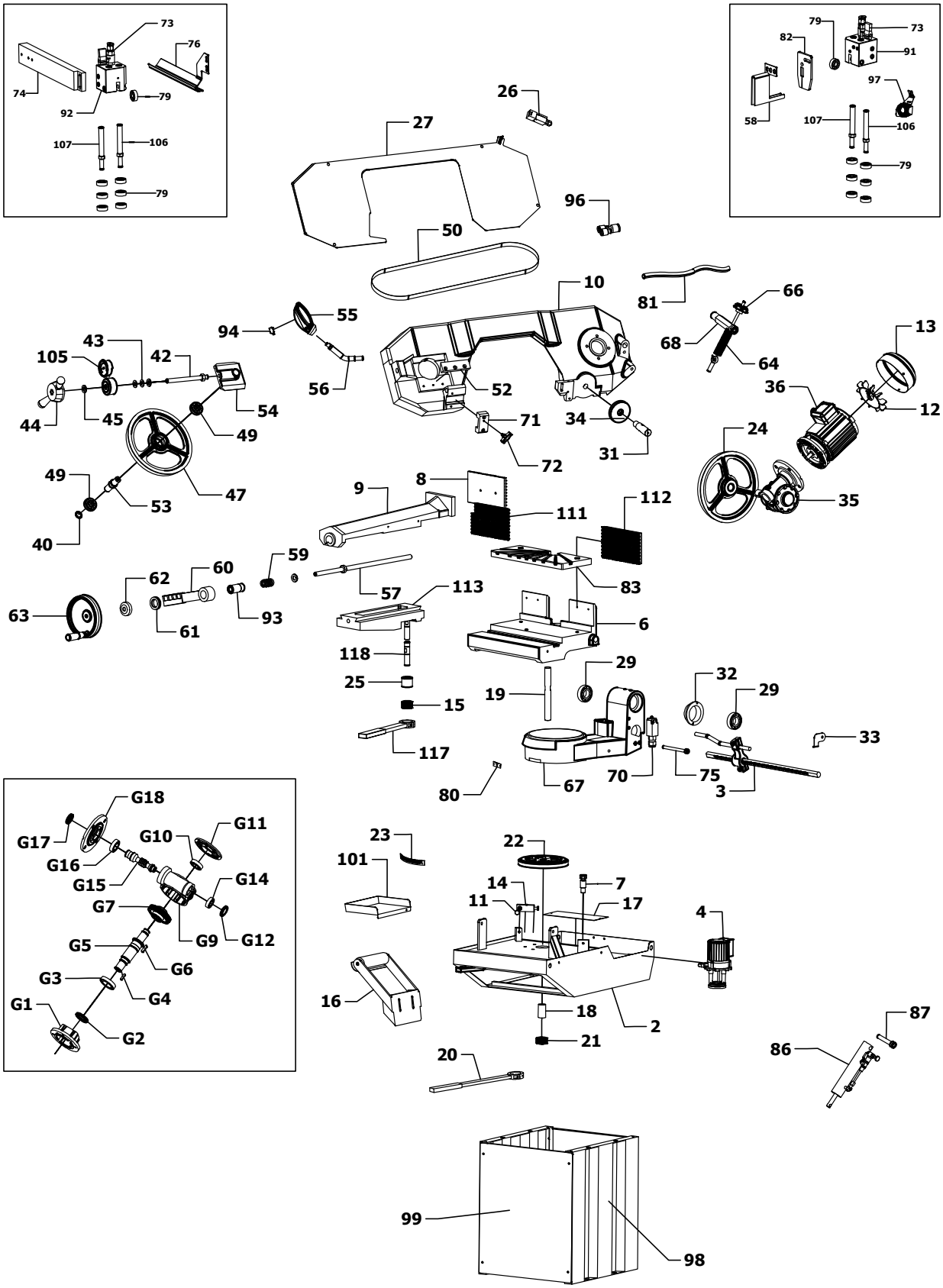
7.3 Service Hotline

+49 (0) 951-96555 -100

service@stuermer-maschinen.de

7.4 Ersatzteilzeichnungen - Spare part drawings

A



SD285E_parts.fm

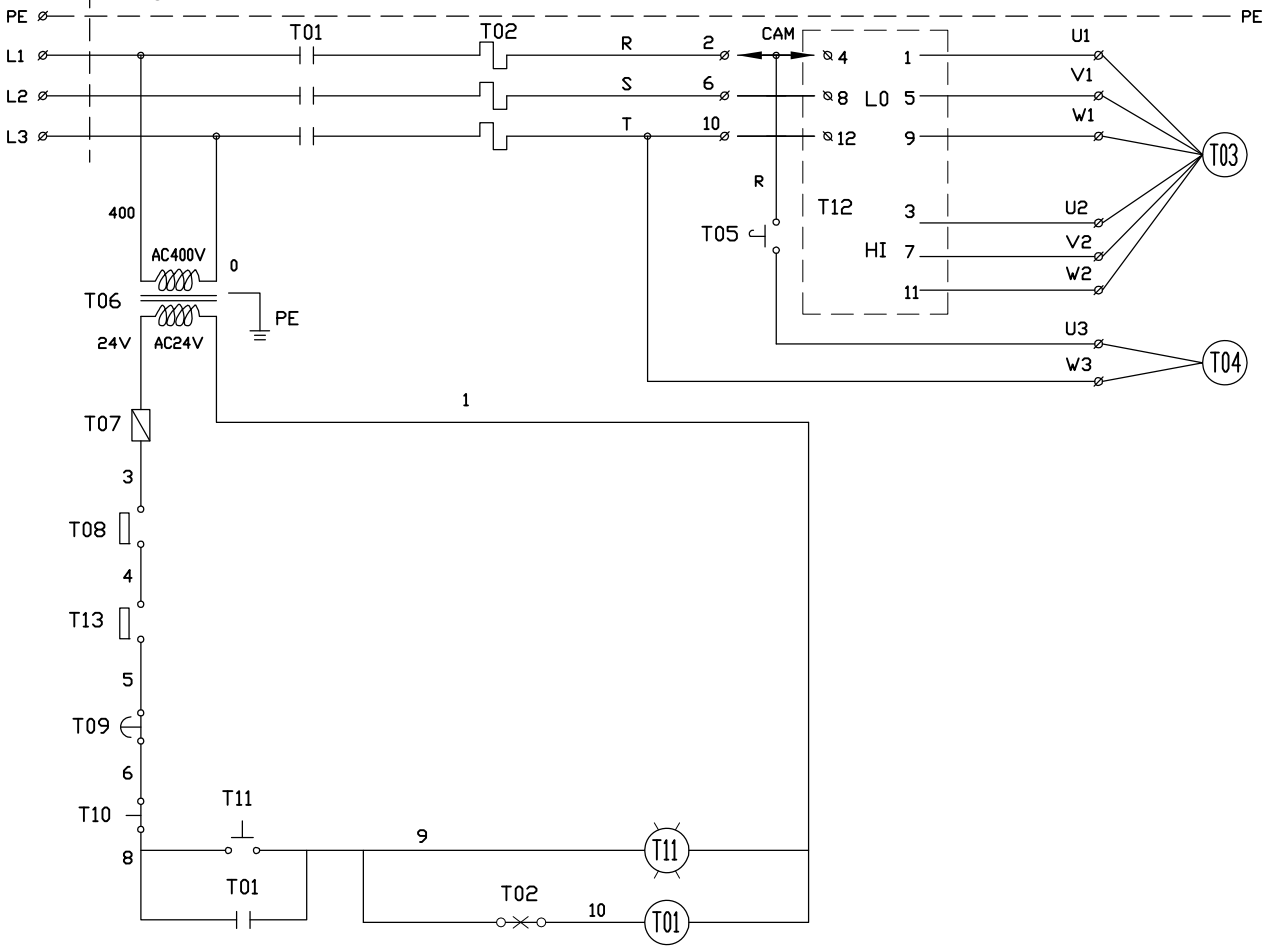
SD285E					
Pos.	**Bezeichnung**	**Description**	**Menge Qty.**	**Grösse Size**	**Artikelnummer Item no.**
2	Grundkörper	Base	1		0330028702
3	Anschlagstange	Bar stop rod	1		0330028703
4	Kühlmittelpumpe	Cool pump	1		0330028704
6	Gegenschraubstock	Countervice	1		0330028706
8	Schraubstock Spannbacke	Vice jaw	1		0330028708
9	Schraubstock Spannbacke	Vice jaw	1		0330028709
10	Gehäuserahmen	Body frame	1		0330028710
11	Schraube	Screw	1	M12	0330028711
12	Motorlüfter	Motor fan	1		0330028712
13	Motorabdeckung	Motor cover	1		0330028713
14	45 / 60 Block	45 / 60 block	1		0330028714
15	Mutter	Nut	1	M20	0330028715
16	Rollbahn	Rollerway	1		0330028716
17	Filter	Fiter	1		0330028717
18	Buchse	Bush	1		0330028718
19	Stift	Pin	1		0330028719
20	Hebel	Lever	1		0330028720
21	Mutter	Nut	1	M24	0330028721
22	Gehäuserahmen	Body frame	1		0330028722
23	Skala	Scale	1		0330028723
24	angetriebene Sägebandrolle	driven saw band roller	1		0330028724
25	Buchse	Bush	1		0330028725
26	Schalter	Switch	1		0330028726
27	Sägebandabdeckung	Blade cover	1		0330028727
29	Lager	Bearing	2	32007	0330028729
30	Ringmutter	Ring nut	1	M35	0330028730
31	Gelenk	Pivot	1		0330028731
32	Lagerdeckel	Bearing cover	1		0330028732
33	Platte	Plate	1		0330028733
34	Platte	Plate	1		0330028734
35	Getriebekasten	Gear box	1		0330028735
36	Motor	Motor	1		0330028736
40	Sicherungsring	C-ring	1		0330028740
42	Schraube	Screw	1	M16	0330028742
43	Federscheibe	Spring washer	4		0330028743
44	Griff	Handle	1		0330028744
45	Lager	Bearing	1	Ø 16	0330028745
47	Sägebandrolle vorne	Saw band roller front	1		0330028747
49	Lager	Bearing	1	6205	0330028749
50	Sägeband	Saw band	1	Catalog goods	
52	45 Block	45 Block	1		0330028752
53	Sägebandschaft	Blade sheel shaft	1		0330028753
54	Bandspanner	Block blade tension	1		0330028754
55	Griff	Handle	1		0330028755
56	Hebel	Lever	1		0330028756
57	Schraubstock Spindel	Vice screw	1		0330028757
58	R-Sägebandschutz	R-Bladeguard	1		0330028758
59	Schraubstockfeder	Vice spring	1		0330028759
60	Schraubstockhebel	Vice lever	1		0330028760
61	Lager	Bearing	1	51106	0330028761
62	Lagerdeckel	Bearing cover	1		0330028762
63	Schraubstock Handrad	Vice handwheel	1		0330028763
64	Feder	Spring	1		0330028764
66	Griffmutter	Nut wheel	1		0330028766
67	Drehbarer Arm	Revolving arm	1		0330028767
68	Stange	Rod	1		0330028768
69	Schraube	Screw	1		0330028769
70	Mikroschalter	Micro switch	1		0330028770
71	Block	Block	1		0330028771
72	Schraube	Screw	1		0330028772
73	Ventil	Valve	2		0330028773
74	Arm	Arm	1		0330028774
75	Schraube	Screw M10 x 120	1	M10 x 120	0330028775
76	Sägebandschutz	Blade guard	1		0330028776
79	Lager	Bearing 608	4	608	0330028779
80	Skala	Scale	1		0330028780
81	Wasserleitung	Water pipe	1		0330028781
82	Platte	Rust plate	1		0330028782
83	Schraubstock Unterlage	Vice pad	1		0330028783
84	Bürste	Brush	1		0330028784
86	Zylinder	Cylinder	1		0330028786
87	Schraube	Screw	1	M14 x 75	0330028787

SD285E_parts.fm

SD285E					
Pos.	**Bezeichnung**	**Description**	**Menge Qty.**	**Grösse Size**	**Artikelnummer Item no.**
91	R. Bandführungsplatte	R.Bladeguide plate	1		0330028791
92	L. Bandführungsplatte	L.Bladeguide plate	1		0330028792
93	Buchse	Bush	1		0330028793
94	Mikroschalter	Micro switch	1		0330028794
96	Kühlmittelverteiler	Coolant distributor	1		0330028796
98	Tropfschale	Stand (L / R)	2		0330028798
99	Blattführungseinheit quadratisch	Stand (Front / Rear)	2		0330028799
101	Tropfschale	Water Plate	1		03300287101
105	Manometer Sägebandspannung	Blade tension gauge	1		03300287105
106	Führungszapfen S	Guide pivot S	2		03300287106
107	Führungszapfen L	Guide pivot L	2		03300287107
111	Schraubstock Spannbacke (L)	Vice jaw (L)	1		03300287111
112	Schraubstock Spannbacke (R)	Vice jaw (R)	1		03300287112
113	Schraubstock-Schiebesitz	Vice sliding seat	1		03300287113
114	Schaltkastenablage	Switch shelf	1		03300287114
115	Elektro Box	Electrical box	1		03300287115
116	Griff	Handle	1		03300287116
117	Griff	Handle	1		03300287117
118	Bolzen	Bolt	1		03300287118
119	Gehäusekasten	Box	1		03300287119
G1	Getriebedeckel	Gear base	1		03300287G1
G2	Öldichtung	Oil seal	1	35 x 50 x 8	03300287G2
G3	Lager	Bearing	1	6207	03300287G3
G4	Passfeder	Key	1	7 x 7 x 35	03300287G4
G5	Zahnradwelle	Gear shaft	1		03300287G5
G6	Passfeder	Key	1	8 x 7 x 25	03300287G6
G7	Getriebe	Transmission gear	1		03300287G7
G8	Papierdichtung	Paper seal	2		03300287G8
G9	Getriebekasten	Gear box	1		03300287G9
G10	Lager	Bearing	1	6205	03300287G10
G11	Abdeckung	Cover	1		03300287G11
G12	Öldichtung	Oil seal	1	40 x 8	03300287G12
G13	Sicherungsring	C-ring	1		03300287G13
G14	Lager	Bearing	1	6203	03300287G14
G15	Schneckenrad	Worm gear	1		03300287G15
G16	Lager	Bearing	1	6005	03300287G16
G17	Öldichtung	Oil seal	1	25 x 40 x 7	03300287G17
G18	Flansch	Flange	1		03300287G18

7.5 Schaltplan - Wiring diagram

Sicherungsempfehlung - *Recomended fuse* - 16A
Stromversorgung - *Power supply* - 3 Ph ~50Hz / 400V
Liefergrenze - *Limit of equipment*



SD285E - Ersatzteilliste elektrische Bauteile - Spare electrical components					
Pos.	**Bezeichnung**	**Description**	**Menge Qty.**	**Grösse Size**	**Artikelnummer Item no.**
T01	MS	MS	1	SHIHLIN	03300286ELT01
T02	Überlastschutz	Overload protection	1	SHIHLIN	03300286ELT02
T03	Sägemotor	Saw motor	1	GEORGE	0330028736
T04	Pumpen Motor	Pump motor	1	GEORGE	033002864
T05	Kühlmittelschalter	Coolant switch	1	TEND	03300286ELT05
T06	Leistungstransformator	Power transformer	1	GEORGE	03300286ELT06
T07	Sicherung	Fuse	1	DEMEX	03300286ELT07
T08	Mikroschalter 1	Micro switch 1	1	HAILY	0330028626
T09	Not-Halt Schalter	Emergency stop	1	DEMEX	03300286ELT09
T10	Drucktaster Aus	Push button Off	1	TEND	03300286ELT10
T11	Drucktaster Ein	Push button On	1	TEND	03300286ELT11
T12	Nockenschalter Drehzahlstufe	Speed cam switch	1	GEORGE	03300286ELT12
T13	Mikroschalter 2	Micro switch 2	1	HAILY	0330028670

SD285E_wiring-diagram.fm

Schmierstoffe Lubricant Lubrifiant	Viskosität Viskosity Viscosité ISO VG DIN 51519 mm²/s (cSt)	Kennzeichnung nach DIN 51502	ARAL	BP	Esso	KLÜBER LUBRICATION	Mobil	Shell	TEXACO
Getriebeöl Gear oil Huile de réducteur	VG 680	CLP 680	Aral Degol BG 680	BP Energol GR-XP 680	SPARTAN EP 680	Klüberoil GEM 1-680	Mobilgear 636	Shell Omala S2 GX 680	Meropa 680
	VG 460	CLP 460	Aral Degol BG 460	BP Energol GR-XP 460	SPARTAN EP 460	Klüberoil GEM 1-460	Mobilgear 634	Shell Omala S2 GX 460	Meropa 460
	VG 320	CLP 320	Aral Degol BG 320	BP Energol GR-XP 320	SPARTAN EP 320	Klüberoil GEM 1-320	Mobilgear 632	Shell Omala S2 GX 320	Meropa 320
	VG 220	CLP 220	Aral Degol BG 220	BP Energol GR-XP 220	SPARTAN EP 220	Klüberoil GEM 1-220	Mobilgear 630	Shell Omala S2 GX 220	Meropa 220
	VG 150	CLP 150	Aral Degol BG 150	BP Energol GR-XP 150	SPARTAN EP 150	Klüberoil GEM 1-150	Mobilgear 629	Shell Omala S2 GX 150	Meropa 150
	VG 100	CLP 100	Aral Degol BG 100	BP Energol GR-XP 100	SPARTAN EP 100	Klüberoil GEM 1-100	Mobilgear 627	Shell Omala S2 GX100	Meropa 100
	VG 68	CLP 68	Aral Degol BG 68	BP Energol GR-XP 68	SPARTAN EP 68	Klüberoil GEM 1-68	Mobilgear 626	Shell Omala S2 GX 68	Meropa 68
	VG 46	CLP 46	Aral Degol BG 46	BP Bartran 46	NUTO H 46 (HLP 46)	Klüberoil GEM 1-46	Mobil DTE 25	Shell Tellus S2 MX 46	Anubia EP 46
	VG 32	CLP 32	Aral Degol BG 32	BP Bartran 32	NUTO H 32 (HLP 32)	Klübersynth GEM 4- 32 N	Mobil DTE 24	Shell Tellus S2 MX 32	Anubia EP 32
Hydrauliköl Hydraulic oil Huile hydraulique	VG 32	CLP 32	Aral Vitam GF 32	BP Energol HLP HM 32	NUTO H 32 (HLP 32)	LAMORA HLP 32	Mobil Nuto HLP 32	Shell Tellus S2 M 32	Rando HD HLP 32
	VG 46	CLP 46	Aral Vitam GF 46	BP Energol HLP HM 46	NUTO H 46 (HLP 46)	LAMORA HLP 46	Mobil Nuto HLP 46	Shell Tellus S2 M 46	Rando HD HLP 46
Getriebefett Gear grease Graisse de réducteur		G 00 H-20	Aral FDP 00 (Na-verseift) Aralub MFL 00 (Li-verseift)	BP Energrease PR-EP 00	FIBRAX EP 370 (Na-verseift)	MICROLUB E GB 00	Mobilux EP 004	Shell Alvania GL 00 (Li-verseift)	Marfak 00

Spezialfette, wasserabweisend Special greases, water resistant Graisses spéciales, déperlant			Aral Aralub	Energrease PR 9143		ALTEMP Q NB 50 Klüberpaste ME 31-52	Mobilux EP 0 Mobil Greaserex 47		
Wälzlagerfett Bearing grease Graisse de roulement		K 3 K-20 (Li-verseift)	Aralub HL 3	BP Energrease LS 3	BEACON 3	CENTOPLE X 3	Mobilux 3	Shell Alvania R 3 Alvania G 3	Multifak Premium 3
Öle für Gleitbahnen Oils for slideways Huiles pour glissières	VG 68	CGLP 68	Aral Deganit BWX 68	BP Maccurat D68	ESSO Febis K68	LAMORA D 68	Mobil Vactra Oil No.2	Shell Tonna S2 M 68	Way lubricant X 68
Öle für Hochfrequenzspindeln Oils for Built-in spindles Huiles pour broches à haute vitesse	VG 68		Deol BG 68	Emergol HLP-D68	Spartan EP 68		Drucköl KLP 68-C	Shell Omala 68	
Fett für spezielle Schmierungen an CNC Werkzeugmaschinen (Fließfett) Grease for special lubrication on CNC machine tools Graisse pour lubrification spéciale sur machines-outils CNC	NLGI Klasse 000 NLGI class 000		ARALUB BAB 000	Grease EP 000	Shell Gadus S4 V45AC	CENTOPLE X GLP 500	Mobilux EP 023		Multifak 264 EP 000
Fett für Hochfrequenzspindeln Grease for Built-in spindles Graisse pour broches à haute vitesse	METAFLUX-Fett-Paste (Grease paste) Nr. 70-8508 METAFLUX-Moly-Spray Nr. 70-82 Techno Service GmbH ; Detmolder Strasse 515 ; D-33605 Bielefeld ; (++49) 0521- 924440 ; www.metaflux-ts.de								
Kühlschmiermittel Cooling lubricants Lubrifiants de refroidissement			Aral Emusol	BP Sevora	Esso Kutwell		Mobilcut	Shell Adrana	Chevron Soluble Oil B

8 Appendix

8.1 Copyright

8.2 Terminology/Glossary

Term	Explanation
Workpiece	o Material to be cut
Blade guide pulley	o Pulley through which the saw blade passes in the saw arch
Saw arch	o Housing with protective cover for the saw blade
Material stop	o Position for multiple cuts o Sawing stop
Hydraulic cylinder	o Hydraulic lowering cylinder o Hydraulic feed
Feed regulation valve	o Valve on the hydraulic cylinder
Protective cover saw arch	o Cover on the rear of the saw arch
Blade guide bearings	o Rollers between which the saw blade passes o Guide bearing
Saw belt guide	o Blade guide bearings
Saw blade brush	o Device for scraping off impurities o Saw blade cleaning brush
Clamping jaw	o Strip terminal on the machine vice
Machine vice	o Clamping device for the workpiece
Worm gear	o Reduction gear from drive motor to the belt guidance rollers
Drive motor	o Engine
Emergency stop	Stops the operation of a machine.
Emergency switching off	Interrupts the power supply of the machine.

8.3 Change information manual

Chapter	Short note	new version no.
4.13	Cutting range	1.0.1

SD285E_GB_8.fm

8.4 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 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
- 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.

8.5 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.

- Fragile goods
  (Goods require careful handling)

- Protect against moisture and humid environment.

- Prescribed position of the packing case
  (Marking the top surface - arrows pointing up)

- Maximum stacking height

  Example: not stackable - do not stack further packing cases on top of the first one.

- 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 .

8.6 Advice for disposal / Options of re-use

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.

8.6.1 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.**

8.6.2 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.

8.6.3 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.

8.6.4 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 2011/65/EU 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.

8.6.5 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.

8.7 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.

8.8 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 belt saw which might be important for other users.
- Recurring failures

Optimum Maschinen Germany GmbH
Dr.-Robert-Pfleger-Str. 26

D-96103 Hallstadt

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

OPTIMUM®
MASCHINEN - GERMANY

EC Declaration of Conformity

according to Machinery Regulation 2023/1230 Annex V Part 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 belt saw

Type designation: SD285E

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

Description:

Hand controlled metal belt saw

The following other EU Directives have been applied:

EMC Directive 2014/30/EC ; Restriction of the use of certain hazardous substances in electrical and electronic equipment 2015/863/EU

The following harmonized standards were applied:

EN ISO 16093: 2017-10 Machine tools - Safety - Sawing machines for cold metal

EN 60204-1: 2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

EN 13849-1: 2016-06 Safety of machinery - Safety related parts of controls - Part 1: General design principles

EN 13849-2: 2013-02 Safety of machinery - Safety related parts of controls - Part 2: Validation

EN ISO 12100: 2011-03 Safety of machinery - General principles for design - Risk assessment and risk reduction

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, 2023-11-10

Index

SD285E_GBSIX.fm