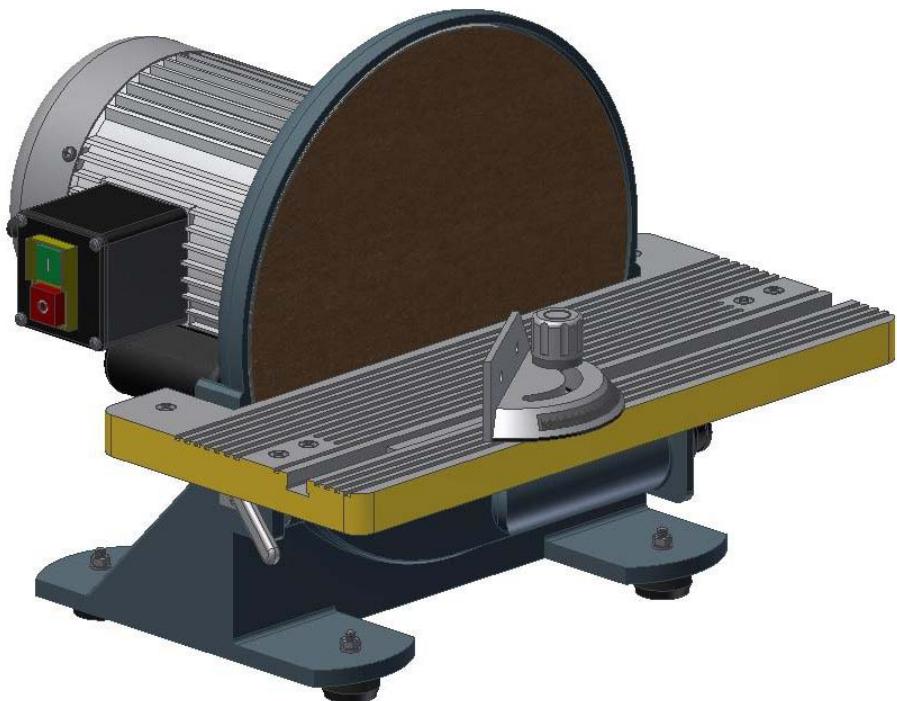


# Operating manual

Version 1.2

Disc sander

**TS 305**



**Keep for future reference!**

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## Preface

We thank you very much that you have decided for the disc sander made by Optimum Maschinen Germany GmbH.

## Changes

The illustrations of the disc sander might in some details deviate from the illustrations of this operating manual but this will have no influence on the operation of the disc sander. Any changes in the construction, equipment and accessories are reserved for reasons of enhancement. Therefore, no claims may be derived from the indications and descriptions. Errors excepted!

## 1

## Safety

### Glossary of symbols

 gives additional indications

 calls on you to get in action

 enumerations

This part of the operating manual

- explains the meaning and use of the warning references contained in the operating manual,
- explains how to use the disc sander properly,
- highlights the dangers that might arise for you and others if these instructions are not followed,
- tells you how to avoid dangers.

In addition to this operating manual please observe

- applicable laws and regulations,
- legal regulations for accident prevention,
- the prohibition, warning and mandatory labels as well as the warning notes on the disc sander.

### ALWAYS KEEP THIS DOCUMENT CLOSE TO THE DISC SANDER:

#### INFORMATION



If you are unable to solve a problem using this manual, please contact us for advice:

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

D- 96103 Hallstadt

Telefon: +49 (0) 900 - 19 68 220 (0,49 €/min.)

E-Mail: [info@optimum-maschinen.de](mailto:info@optimum-maschinen.de)

## 1.1 Safety warnings (warning notes)

### 1.1.1 Classification of hazards

We classify the safety warnings into various levels. The table below gives an overview of the classification on symbols (pictograms) and warning labels for the specific danger and its (possible) consequences.

Pictogram	Alarm expression	Definition/Consequences
	<b>DANGER!</b>	Imminent danger that will cause serious injury or death to personnel.
	<b>WARNING!</b>	Risk: a danger that might cause serious injury or death to personnel.
	<b>CAUTION!</b>	Danger or unsafe procedure that might cause injury to personnel or damage to property.
	<b>ATTENTION!</b>	Situation that could cause damage to the disc sander or products and other types of damage. No risk of injury to personnel.
	<b>INFORMATION</b>	Application tips and other important or useful information and notes. No dangerous or harmful consequences for personal or objects.

In case of specific dangers, we replace the pictogram by



General danger



with a warning of

injuries to hands,



hazardous electrical voltage

or



rotating parts

## 1.1.2 Further pictograms



Warning of extinguitive materials!



Put the mains plug!



Cleaning of clothes with compressed air forbidden!



Use the protective goggles!



Activation forbidden!



Use ear protection!



Use protective boots!



Use protective gloves!



Wear a safety suit!



Protect the environment!



Contact address

## 1.2 Proper use

The disc sander is designed and constructed to grind different materials. The disc sander should only be used for this purpose.

If the disc sander is used to grind health hazardous or dusty materials an appropriate suction plant needs to be installed.

**Improper use!** If the disc sander is used in any way other than described above, modified without the authorisation of Optimum Maschinen Germany GmbH or operated with different process data, then it is being used improperly.

We do not take any liability for damages caused by improper use.

We would like to stress that any modifications to the construction, or technical or technological modifications that have not been authorised by Optimum Maschinen Germany GmbH will also render the guarantee null and void.

It is also part of proper use that

- the maximum values for the disc sander are complied with,
- the operating manual is observed,
- inspection and maintenance instructions are observed.

**WARNING!****Very serious injury.****It is forbidden to make any modifications or alterations to the operating values of the disc sander. They could endanger personnel and cause damage to the machine.****1.3****Possible dangers caused by the disc sander**

The disc sander was built using the latest technological advances.

Nonetheless, there remains a residual risk, since the machine operate with

- high revolutions,
- rotating parts and tools,
- an abrasive grinding disc,
- electrical voltage and currents.

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

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

**INFORMATION**

All personnel involved in assembly, commissioning, operation and maintenance must

- be duly qualified,
- follow this operating manual.

In the event of improper use

- there may be a risk to personnel,
- there may be a risk to the disc sander and other material property,
- the proper operation of the disc sander may be affected.

Disconnect the disc sander whenever cleaning or maintenance work is being carried out.

**WARNING!****The disc sander may only be used with the safety devices activated.****Disconnect the disc sander immediately whenever you detect a failure in the safety devices or when they are not fitted!****All additional installations, exhaust systems must incorporate the prescribed safety devices.****As the machine operator, this will be your responsibility!****1.4****Qualification of personnel****1.4.1****Target group**

This manual is addressed to

- the operators,
- users,
- maintenance staff.

The warning notes therefore refer to both operation and maintenance of the disc sander.

Determine clearly and irrevocably who will be responsible for the different activities on the disc sander (operation, maintenance and repair).



Vague or unclear assignment of responsibilities constitute a safety hazard!

Disconnect the mains plug of the disc sander. In this way you will prevent unauthorized operation.

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

### Operator

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

### Electrical specialist

Due to his professional training, knowledge and experience as well as his knowledge of respective standards and regulations the electrical specialist is able to perform works on the electrical system and to recognise and avoid any possible dangers himself.

The electrical specialist is specially trained for the working environment in which he is working and knows the relevant standards and regulations.

### Specialist staff

Due to his professional training, knowledge and experience as well as his knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers himself.

### Instructed persons

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

## 1.4.2 Authorized persons



### WARNING!

**Incorrect use and maintenance of the disc sander constitute a danger for personnel, objects and the environment.**

**Only authorized persons may operate the disc sander!**

The technical staff is authorized to operate and to maintain the disc sander. They are trained and instructed by employees, who work for the operator and the manufacturer.

### The operator must

- train the staff,
- instruct the staff in regular intervals (at least once a year) on
  - monitoring all safety standards that apply to the machine,
  - maintaining the operation,
  - obtaining accredited technical guidelines,
- check the knowledge of the staff,
- document training / instructions,
- require the staff to confirm participation in training / instruction by means of a signature,
- check that the staff is aware of safety and dangers in the workplace and that they observe the operating manual.

**The user must**

- have followed a training on the operation of the disc sander,
- know the function and mechanical operation,
- before operation
  - have read and understand the operating manual,
  - be familiar with all safety devices and regulations.

There are additional requirements for work on electrical components or equipment. This task shall only be carried out by a qualified electrician or a person working under the instructions and supervision of a qualified electrician.

**INFORMATION**

The mains plug of the disc sander must be freely accessible.

**1.5****User's position**

The user must stand in front of the disc sander.

**1.6****Safety measures during operation****CAUTION!**

**Risk due to inhaling of health hazardous dusts and mist.**

**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. Use an appropriate suction unit.**

**CAUTION!**

**Risk of fire and explosion by using flammable materials or cooling lubricants.**

**Take additional preventive measures in order to safely avoid health hazards before processing flammable materials (e.g. aluminum, magnesium) or before using flammable additives (e.g. spirit).**

**1.7****Safety devices**

Operate the disc sander only with properly functioning safety devices.

Stop the disc sander immediately if there is a failure in the safety device or if it is not functioning for any reason:

It is your responsibility!

If the safety device has been activated, the disc sander must only be operated again when

- the cause of the failure has been removed,
- you have made sure that there is no existing danger for persons or objects.

**CAUTION!**

**Dirty or eventually contaminated personal protective equipment might cause disease.**

**Clean your personal protective equipment**

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



## Personal protective equipment for special work

Protect your face and your eyes: Wear a safety helmet with a face guard for every work, especially for any kind of work where your face and eyes are exposed to hazards.

Use protective gloves when lifting or handling pieces with sharp edges.

Wear safety shoes when fitting, dismanteling or transporting heavy components.

### 1.8

## Safety during operation

In the description of work with and on the disc sander we highlight the dangers specific for that work.

### **WARNING!**



**Before activating the disc sander, double check that this will not**

- **endanger other people,**
- **cause damage to equipment.**

Avoid unsafe working practise:

- Make sure that your work does not endanger anyone.
- The instructions of this manual must be observed strictly during assembly, operation, maintenance and repair.
- Do not work on the disc sander, if your concentration is reduced, for example, if you are taking some kind of medication.
- Observe the regulations for the prevention of accidents issued by your association for the prevention of accidents and safety in the workplace or other inspection authorities.
- Inform the inspector of any danger or failure.
- Use the protective goggles!

### **WARNING!**



**Fire- or explosion hazard by flying sparks.**

**Do not operate the disc sander nearby combustible or explosive material.**

### 1.9

## Safety during maintenance

Inform operators timely on maintenance and repair work.

Report and document any changes Report all safety relevant changes or performance details of the disc sander. Document all changes, have the operation changed accordingly and train the machine operators.

#### 1.9.1

### Disconnecting the disc sander and making it safe



Unplug the machine from the mains before beginning any maintenance or repair work.

Check that all machine components and hazardous voltages have been disconnected.

Place a warning sign on the machine.

#### 1.9.2

### Mechanical maintenance work

Remove all protection and safety devices before beginning maintenance work and re-install them once the work has been completed. These includes:

- Covers
- Safety indications and warning signs
- Earth (ground) connection

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

Check that they are working properly!

## **1.10 Accident report**

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

"Near misses" may have many possible causes.

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

## **1.11 Electrical system**

 „Maintenance“ on page 23

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

Eliminate immediately 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 case of an emergency.

Disconnect the disc sander immediately if there is a malfunction in the power supply!

## 2

## Technical Data

The following data which give dimensions and weight are the manufacturer's authorised machine data.

2.1 Power connection	
Motor output	0,9 kW; 230V ~50Hz
Rotation [ min <sup>-1</sup> ]	1420
2.2 Grinding wheel	
Grinding wheel diameter Ø [ mm ]	305
2.3 Dimensions	
☞ „Dimensions“ on page 13	
Weight [ kg ]	30
Adjustment of the angle of stopper	± 60°
Grinding table (inclinable)	± 45°
2.4 Environmental conditions	
Temperature	5 - 35 °C
rel. humidity	25 - 80 %

## 2.5

## Emissions

The emission of the disc sander is below 76 dB(A). If the disc sander is installed in an area where various machines are in operation, the acoustic influence (immission) on the operator of the disc sander may exceed 80 dB(A).

**INFORMATION**


This numeric value had been measured on a new machine under conventional operating conditions. Depending on the age or wear of the machine, the noise behavior of the machine might change.

Furthermore, the extent of the noise emission is also depending on manufacturing influence factors, such as speed, material and clamping conditions.

**INFORMATION**


The mentioned numerical value is an emission level and not necessarily a safe working level.

Unless the degree of noise emission and the degree of noise disturbance are depending on one another it is not possible to use it in order to reliably determine if it is necessary to take further preventive measures or not.

The following factors influence the actual degree of the noise disturbance of the operator:

- Characteristics of the working chamber, e.g. size or damping behavior,
- Other noise sources, e.g. the number of machines,
- Other processes proceeding nearby and the period during which the operator is exposed to the noise.

Furthermore, the admissible pollution level may be different from one country to another due to the national regulations.

This information regarding the noise emission should allow the operator of the machine to perform a better evaluation of the endangerments and risks.

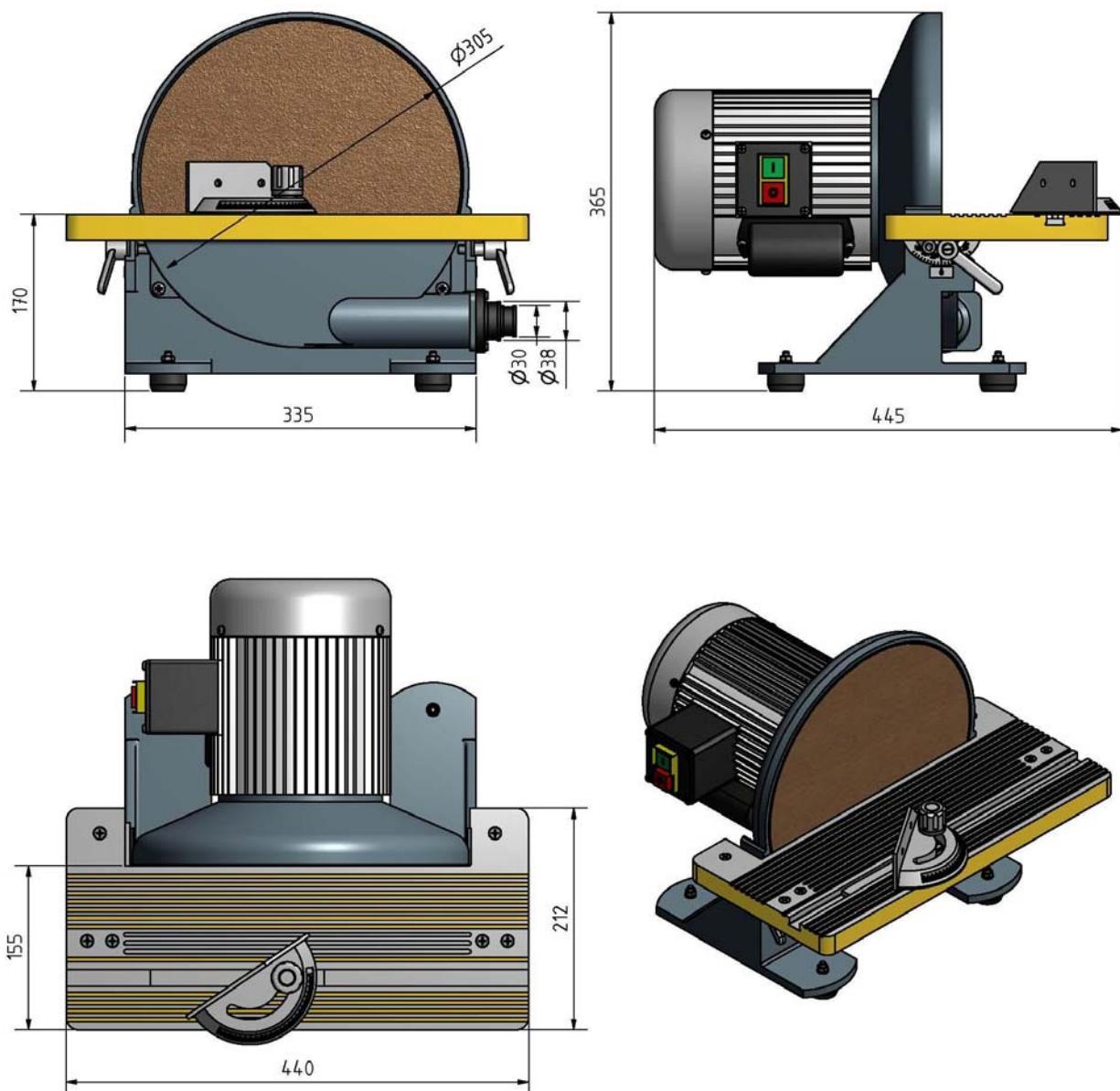
**CAUTION!**

The machine operator has to wear an appropriate ear protection depending on the overall stress caused by noise and on the basic limit values.

We generally recommend using a sound and ear protection.



2.6

**Dimensions**

Img.2-1: Dimensions

## 3 Assembly

### 3.1 Delivery volume

Please check immediately that nothing had been damaged during transportation and that all components are complete. Compare the delivery volume to the attached packing list.

- Disc sander with worktable
- Angular fence
- Hexagon socket wrench
- Manual instruction (English)

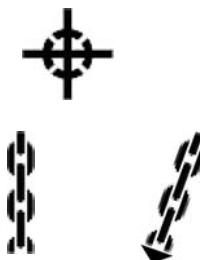
#### 3.1.1 Special accessories

We recommend you to use just high-quality original quantum-accessories. A perfect operation and optimal result is just guaranteed with original accessory.

Description	Article number
Velcro pad	335 7801
Sand disc TS 305, velcro fastener	
Ø 305mm	335 7854 (Grain 40)
	335 7856 (Grain 60)
	335 7858 (Grain80)
	335 7860 (Grain 100)
	335 7862 (Grain120)
	335 7865 (Grain 150)

### 3.2 Transport

- Center of gravity
- Attachment positions (marking the positions for the attachment position gear)
- Prescribed transport position (marking the top side)
- Means of transportation to be used
- Weights



#### WARNING!

**Machine parts which fall off forklift trucks or other transport vehicles could cause very serious or even fatal injuries. Follow the instructions and information on the box.**

**WARNING!**

**Use of unstable lifting and load suspension gear that breaks under load can cause very serious injuries or even death.**

**Check that the lifting and load suspension gear has sufficient load capacity and is in perfect condition. Observe the rules for preventing accidents issued by your association for the prevention of occupational accidents and safety in the workplace or other inspection authorities.**

**Hold the loads properly. Never walk under suspended loads!**

**3.3****Storage****ATTENTION!**

**Improper storage may cause important parts to be damaged or destroyed.**

**Store packed or unpacked parts only under the following ambient conditions.**

**Please follow the instructions and indications on the transportation box:**

- Fragile goods (goods require careful handling)



- Protect against humidity and humid environments

☞ „Environmental conditions“ on page 12.



- Prescribed position of the packaging box (marking the top side – arrows pointing upward)



- Maximum stacking height

Example: non-stackable – do not pile any further packaging boxes on top of the first packaging box



Consult Optimum Maschinen Germany GmbH if the disc sander and accessories have to be stored for a period of over three months or under different external conditions than those given here ☞ „Information“ on page 4.

## 3.4 Unpacking and putting up

### 3.4.1 Unpacking

The machine will be dispatched ready for plug. Check the machine after receipt, if there are damages in transit. In case of this, inform the relevant haulier and your seller.

### 3.4.2 Requirements of installation site

Organise the work area so that the disc sander can function in accordance with the safety precautions.

The operating area for operation, maintenance and repair must not be obstructed.

#### INFORMATION

In order to provide for good functionality and high machining accuracy as well as long durability of the machine the site should fulfill certain criteria.

#### Observe the following items:

- The device must only be installed and operated in dry ventilated places.
- Avoid places nearby machines generating chips or dust.
- The site has to be vibration-free, i.e. at a distance from presses, planing machines, etc.
- The substructure has to be prepared in a way that possibly used coolant cannot penetrate into the ground.
- Protruding parts such as stops, handles, etc. need to be secured by measures provided by the customer if necessary in order to avoid dangers for persons.
- Provide sufficient space for assembly and operating staff as well as for material transport.
- Also allow for accessibility for setting and maintenance works.

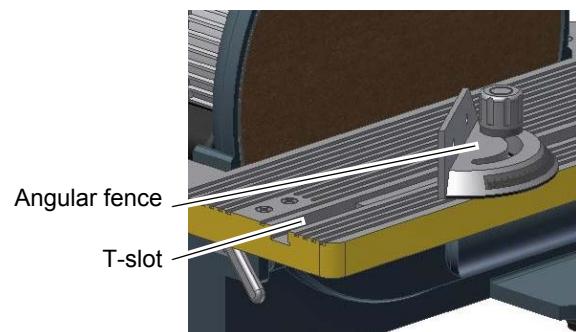
Provide for sufficient illumination (minimum value: 500 lux, measured at the tool tip). In case of little intensity of illumination provide for additional illumination i.e. by a separate workplace illuminator.

#### INFORMATION

The mains plug of the disc sander must be freely accessible.

### 3.4.3 Mounting of disc sander

- The disc sander is already pre-assembled.
- Push the angular fence into the T-slot of the working table.
- Remove the protective film from the motor cover, that the motor will be cooled enough and do not overheat.



Img.3-1: Mounting of disc sander

## 3.5

**Cleaning of machine**

For protection against corrosion, all bright parts of this machine are strong lubricated with protection greases and protection wax on work side. Before starting machine for the first time, clean it with right, ecofriendly cleansing agent. (We recommend paraffin for cleaning!). Do not use solvents, cellulose thinner or other cleansing agents, which can attack the lacquer. Pay attention to the instructions and comments from the manufacturer of cleansing agent. Make sure that the room is good ventilated during the cleaning, to avoid damage of health through poisonous vapour.

After carefully cleaning of the machine, coat all bright machineparts with a light lubrication.

**WARNING!**

**A lot of cleansing agents are combustible and easy flammable. Its not allowed to smoke during the use of cleansing agents. Fire and open lights are forbidden!**

**INFORMATION**

Oil, grease and cleansing agents are harmful to the environment, it isn't allowed to give them into sewage or the normal garbage. Remove this preparations suitable for environment. The clothes, which are soaked with oil, grease or cleansing agent, are easy flammable. Collect clothes and steel wool in a matching, closed container and give it to a waste disposal, suitable to environment – not into the garbage!

## 3.6

**First use**

## 3.6.1

**Electric power supply**

- Connect the mains plug of the disc sander to your power supply.
- Control the fuse protection (fuse) of the power supply according to the technical details for the power consumption of the disc sander.

**WARNING!**

**Personnel and equipment may be endangered if the disc sander is first used by an untrained employee. We do not take any liability for damages caused by incorrect commissioning.**

- Make sure that the sand disc can be turned easily and that the disc not brush against the working table.
- Check cables and all electrical parts of external errors. Just when all parts are already, the disc sander can be used.
- Consult your expert by obvious mistakes!

**ATTENTION!**

**Just the specialist staff is permitted to repair, maintain and arm the unplugged machine (disconnect machine)!**

- The push button On-Off must be in position „OFF“.
- Insert plug in a fitting socket.
- Switch the push button On-Off in position „ON“ and let the disc sander run for a minute.

## 4 Operation

Operate the disc sander only under the following conditions:

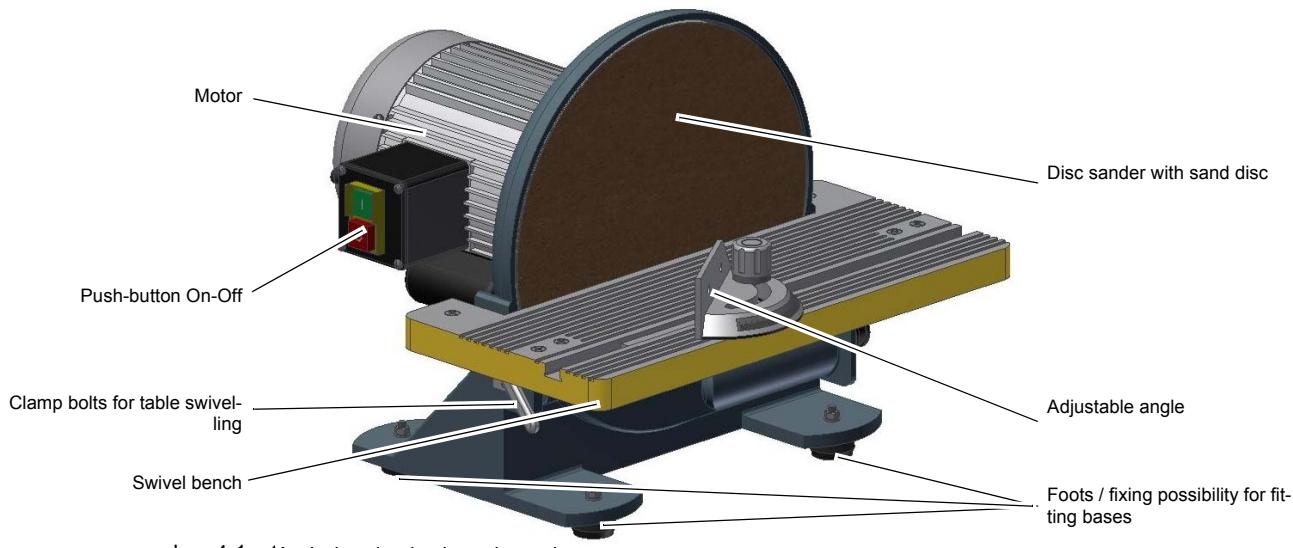
- The disc sander is in proper working condition.
- The disc sander is used as prescribed.
- The operating manual is followed.
- All safety devices are installed and activated.



Any malfunctions should be eliminated immediately. Stop the disc sander immediately in the event of any malfunction in operation and make sure it cannot be started up by accident or without authorization.

Notify the person responsible immediately of any malfunction.

### 4.1 Control and indicating elements



Img. 4-1: Control and indicating elements

### 4.2 Before starting to work

Before starting to grind always check that the work piece is free from oil, grease and remains of paint. This will ensure that the abrasive disc does not become smeared over or dirty. Check the state of the abrasive disc. If it is dirty or defective it is to be replaced „Special accessories“ on page 14.

#### Before starting with work, make following checks:

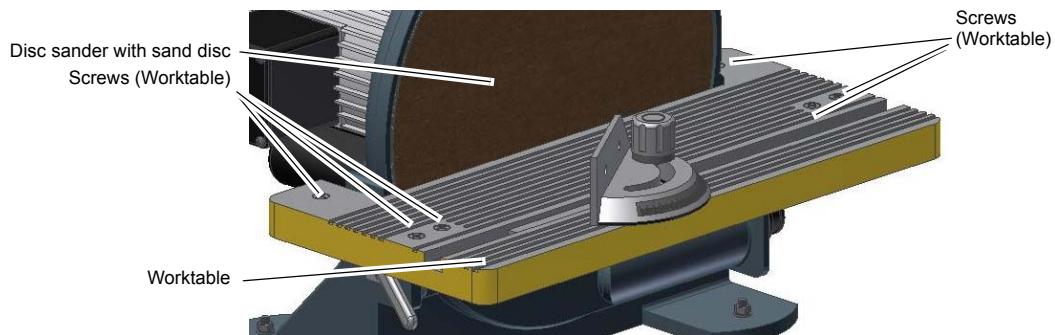
- Check all cables and plugs.
- Check the direction of sand disc.
- Make sure, that the bench is tighten well.
- Notice that there are different sand disc grain sizes for different operations.
- Make sure that the sand disc can be turned freely and will not be braked or blocked by exposed workpieces.
- Consider the possible (shaded) operating range of the disc sander. A machining of workpiece in the not shaded range can lead to dangerous situations „Grinding with the grinding disk“ on page 21.

**WARNING !**

RRotating parts! Tackle work with good sense. Be careful what you do. Pay especially attention to rotating parts. Wear tight-fitting clothes. Be careful, that you don't get caught in rotating parts with hair or clothes! Wear a hair-net. Don't wear jewellery during the work with the machine.



Flying chips and hurled away parts! Wear protective goggles! Protect your eyes against chips, flying around, and other splinters.

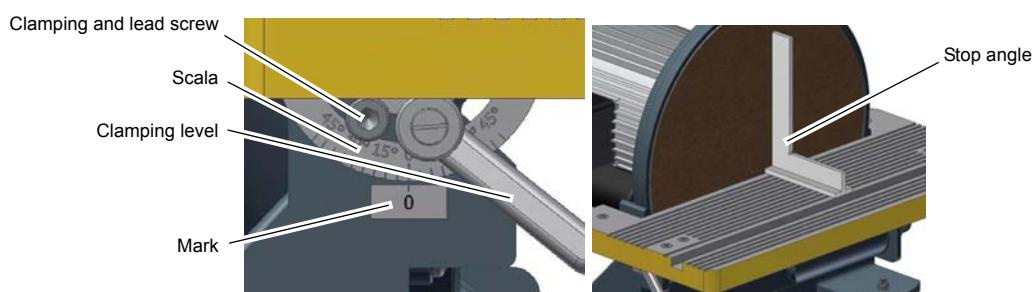
**4.2.1****Adjusting the distance between sand disc and working table**

Img.4-2: Adjusting the distance

- Disconnect disc sander from power supply
- Loosen the 6 screws at the worktable.
- Post the worktable parallel and as near as possible to the sand disc. The sand disc must be turning freely and without brushing against the table. The equal distance size on both sides should not be bigger than 2mm.
- After finishing the adjustment, the worktable will be tightened with the screws and the disc sander can be connected to the power supply again.

**ATTENTION!**

The gab between worktable and disc sander may come to max. 2 mm, that the material won't be dragged into the gab.

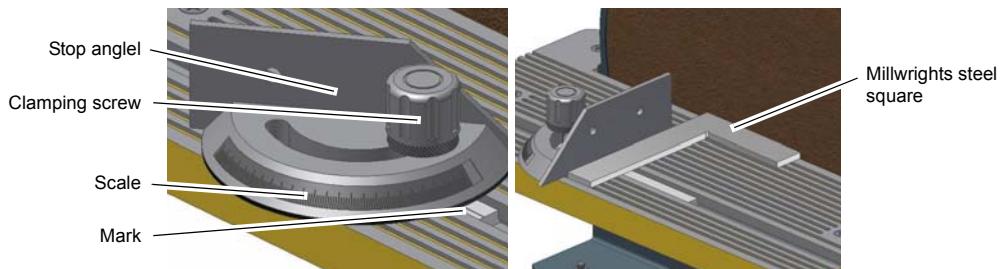
**4.2.2****Adjusting the squares of worktable to sand disc**

Img.4-3: Angle adjustment

- Disconnect disc sander from power supply (pull out plug).
- With help of the both clamping levers on the left and on the right, the worktable can be loosened.
- Likewise on both sides, there is a scale. Additional there is a marking on the left side. With help of the 0-marking you can adjust the wanted square value.
- Check the free-wheeling of the sand disc, after square adjustment.

- Tighten the clamp screw and lead screws in addition to any angular displacement of the table.
- Connect the disc sander with the power supply.
- For special square adjustments e.g. 90° could you use a back square too and align the sand disc against the worktable..
- This adjustments could only count as a rough sight adjustment.

### 4.2.3 Adjusting the squares at the fence



Img.4-4: Angle adjustment

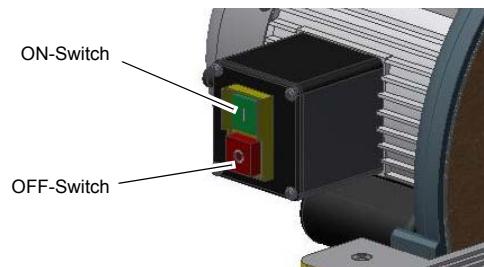
- The back square at the worktable could be loosened about the clamp bolt.
- With the scale (3), the wanted angular degrees will be adjusted at the marking on the taper gib.
- After adjustment the clamp bolt will be tightened again and the back square will be clamped in the guide.
- For special square adjustments e.g. 90° could be used a millwrights steel square and align the back square against the sand disc.
- This adjustments could only count as a rough sight adjustment.

### 4.3 Switch on machine

#### WARNING!



The machine runs on even after pressing the OFF-switch up to 30 seconds.



Img.4-5: ON/ OFF- Switch

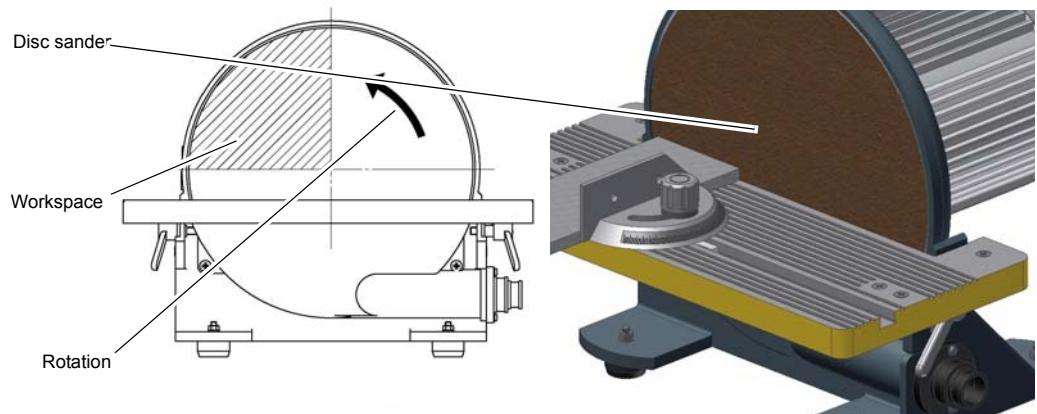
#### Advice for the grinding process

- Pay attention to the safety instructions and use the protective devices on the machine and your personal protective equipment (goggles, ear protection, safety shoes, etc.).
- Do not press the material too tightly against the grinding plate during the grinding process.
- Do not press the material too tightly against the grinding plate during the grinding process.
- Make sure that the gap between the work table and grinding wheel is not too large. Especially for thin workpieces (eg plates, chisels, ...) there is a risk that the workpiece moves into the gap!
- Since the machine does not have to tension it is important that your work piece rests are possible over the whole area and detained on the work table can!

- Maintain a healthy state of the exchange of used grinding wheels and grinding wheels made in time. Only with proper tools to achieve a good quality sanding!

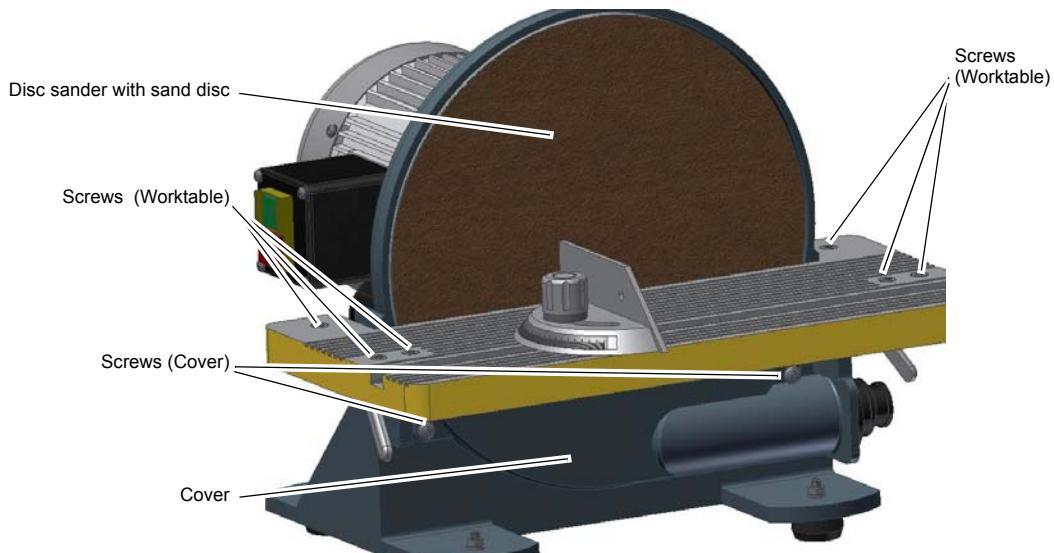
#### 4.4 Grinding with the grinding disk

Consider the possible (shaded) operating range of the disc sander. A machining of workpiece in the not shaded range can lead to dangerous situations.



Img.4-6: Workspace

#### 4.5 Change of grinding wheel



Img.4-7: Change of grinding wheel

- Disconnect the disc sander from the power supply (pull plug).
- Loosen the 6 screws and remove the worktable.
- Now remove the 2 screws and take off the front cover.
- Remove the spent grinding wheel from the sand disc.
- Clean the sanding pad from the adhesive residues and other soilings. Use a suitable solvent to remove. We recommend Nitro-Dilution. For particularly stubborn areas it is possible to use nail polish remover.
- Always follow the instructions of the cleaning or solvent manufacturer.

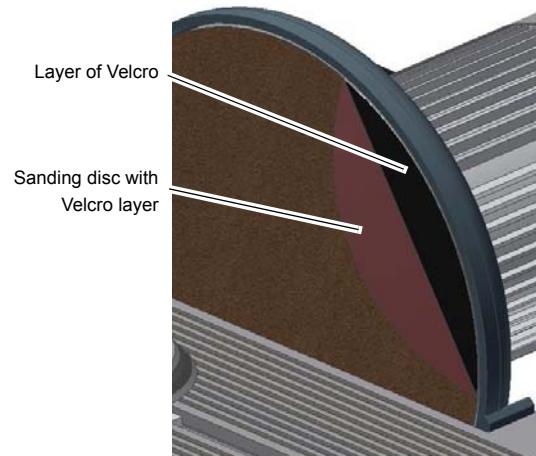


**WARNING!**



**A lot of cleansing agents are combustible and easy flammable. It's not allowed to smoke during the use of cleansing agents. Fire and open lights are forbidden!**

- Now you can on the new layer of Velcro. Make sure you glue the Velcro pad on an oil-and grease-free surface.
- Mount the grinding wheel (with Velcro) on the Velcro layer.
- Then mount the wheel cover or the bench again. Take care that the grinding plate is free-wheeling to work table (if necessary, adjust the distance).
- Connect the disc sander again.

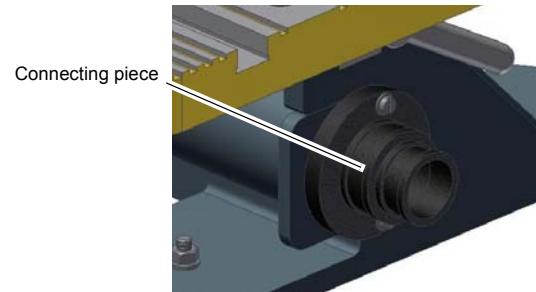


Img. 4-8: Mounting of Velcro pad and sanding disc

## 4.6

### Connecting pieces for the connection of suction system

There is a connecting piece on the right side under the worktable for the connection on a suction system. The nominal width amounts to 30 (38) mm.



Img. 4-9: Connecting piece

## 5 Maintenance

In this chapter you will find important information about

- Inspection
- Maintenance
- Repairs

of the disc sander.



### ATTENTION!

Properly performed regular maintenance is an essential prerequisite for

- **safe operation,**
- **fault-free operation,**
- **long service life of the bench grinder and**
- **the quality of the products you manufacture.**

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

### 5.1 Safety



#### WARNING!

The consequences of incorrect maintenance and repair work may include:

- **Very serious injury to personnel working on the bench grinder**
- **Damage to the bench grinder**

Only qualified personnel should carry out maintenance and repair work on the disc sander.

#### 5.1.1 Preparation



#### WARNING!

Only carry out work on the disc sander if it has been unplugged from the mains power supply

 „Disconnecting the disc sander and making it safe“ on page 10

Position a warning sign.

#### 5.1.2 Restarting

Before restarting run a safety check.



#### WARNING!

Before connecting the disc sander you must check that

- **there is no danger for personnel,**
- **the disc sander is undamaged.**

## 5.2 Inspection and maintenance

The type and extent of wear depends to a large scale on individual usage and service conditions. The disc sander is largely maintenance-free. The bedding of the disc reel in front and the bedding of the engine are prelubricated.

- Clean the disc sander in regular intervals according to the use. Remove the dust and deposits in the housing and in the suction connections.
- Control the abrasive band regularly on wear and tear / fractions.

## 5.3 Repair

For any repair work, request the assistance of an employee of Optimum Maschinen Germany GmbH's technical service or send us the disc sander.

If the repairs are carried out by qualified technical staff, they must follow the indications given in this manual.

Optimum Maschinen Germany GmbH does not take responsibility nor does it guarantee against damage and operating malfunctions resulting from failure to observe this operating manual.

For repair only use

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

## 5.4 Sanding disc

We recommend you to only use high quality genuine accessories from Optimum Maschinen Germany Gmb. Only with original accessories we guarantee an correct operation and optimum results.

☞ „Special accessories“ on page 14



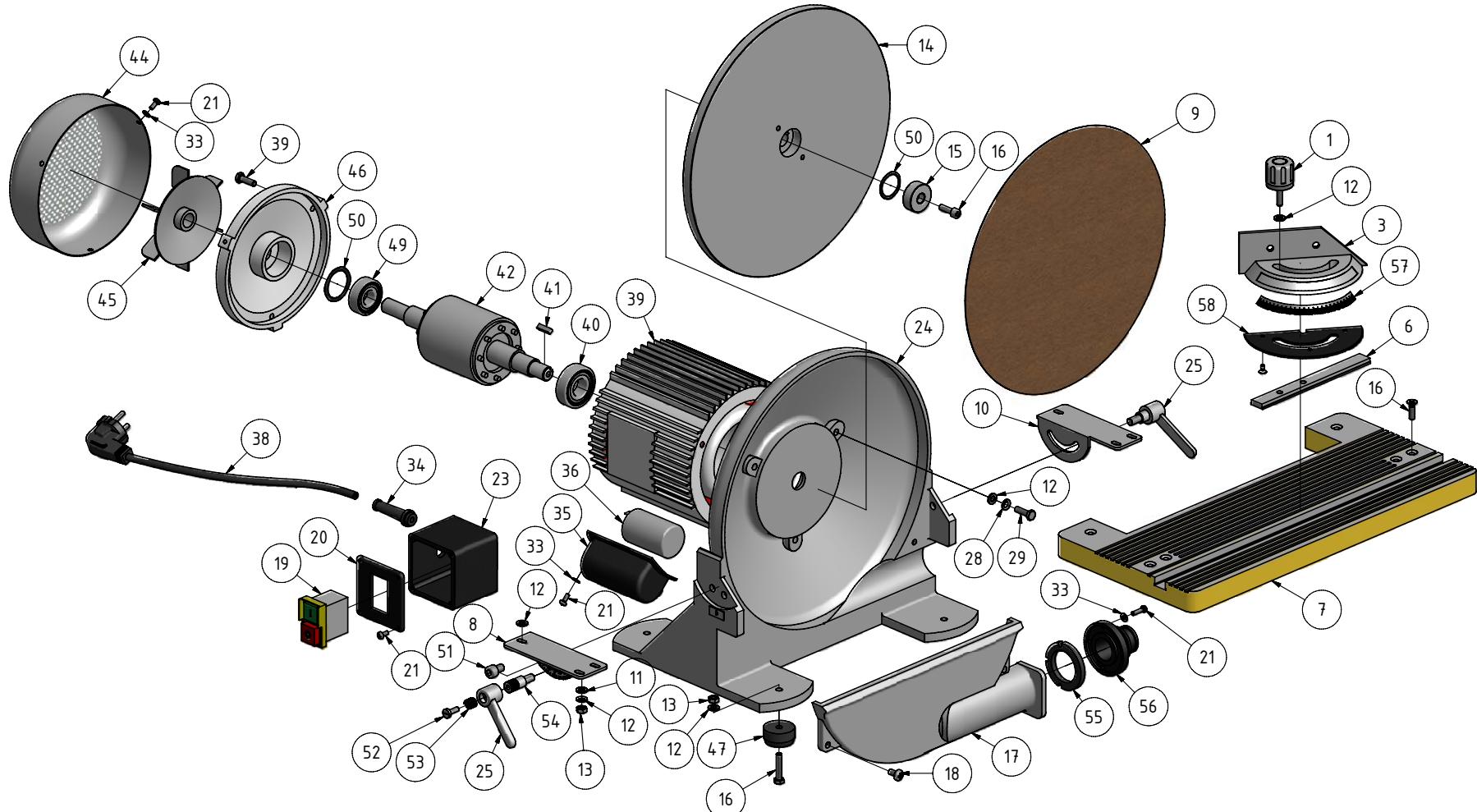
### INFORMATION

The sandpaper consists of Binders made of aluminum oxide abrasive grains or glued silicon carbide. The grain size indicates whether the sandpaper is medium, fine or very fine . 100-180 grit for example, is a fine grit. The numbers (40, 60, 80, 120) indicate the number of stitches per length of 25.4 mm wire side of a vibrating screen. The mixture of abrasive grain is separated by vibrating screens by particle size.

The higher the grit number, the finer the sandpaper

## 6 Ersatzteile - Spare parts

### 6.1 Ersatzteilzeichnung - Drawing spare parts



**Ersatzteilliste - Spare parts list**

<b>Pos.</b>	<b>Bezeichnung</b>	<b>Designation</b>	<b>Menge</b>	<b>Grösse</b>	<b>Artikel- nummer</b>
			<b>Qty.</b>	<b>Size</b>	<b>Item no.</b>
1	Handdrehknopf	Washer	1		0320520
3	Winkelanschlag	Angular fence	1		0320519
6	Führungsschiene	Guide plate	1		0320523
7	Arbeitstisch	Worktable	1		0320503
8	Einstellwinkel links	Plan angle left	1		0320510
9	Schleifscheibe	Grinding wheel	1		033103059
9-1	Klettauflage	Velcro pad	1		3357801
9-2	Schleifteller TS 305, Klettverschluß	Sand disc TS 305, velcro fastener	1	Ø 305mm, K 40	3357854
			1	Ø 305mm, K 60	3357856
			1	Ø 305mm, K 80	3357858
			1	Ø 305mm, K 100	3357860
			1	Ø 305mm, K 120	3357862
			1	Ø 305mm, K 150	3357865
10	Einstellwinkel rechts	Plan angle right	1		0320511
11	Unterlegscheibe	Washer	12	DIN 125/6	0331030511
12	Federring	Spring washer	12	DIN 128/6	0331030512
13	Sechskantmutter	Hexagon head screw	10	ISO4032/M6	0331030513
14	Schleifteller	Sand disc	1		0320504
15	Scheibe	Washer	1		0331030516
16	Schraube	Screw	7	ISO 4017/M6x20	0320521
17	Staubschutz	Dust protection	1		0320502
18	Schraube	Screw	2	ISO 7045/M6x12	0331030518
19	Schalter	Switch	1		0320505
20	Schalterabdeckung	Switch cover	1		0320508
21	Schraube	Screw	2	ISO 7045/M4x10	0331030521
23	Schaltergehäuse	Terminal box	1		0320515
24	Grundgestell	Base	1		0320501
25	Tischarrestierung	Table arrest	2		0320512
28	Federscheibe	Elastic washer	6	DIN 128/6	0331030528
29	Schraube	Screw	6	ISO 4017/ M6x20	0331030529
33	Unterlegscheibe	Washer	5	DIN 125/ 6	0331030533
34	Kabelschutz	Cable protection	1		0331030534
35	Kondensatorgehäuse	Capacitor box	1		0320507
36	Kondensator	Capacitor	1		0320506
38	Kabel mit Stecker	Cable with plug	1		0331030538
39	Stator	Stator	1		0331030539
40	Lager	Bearing	1	6204-2Z	0406204.2R
41	Paßfeder	Feather key	1		0331030541
42	Rotor	Rotor	1		0320516
44	Lüftergehäuse	Fan housing	1		0320522
45	Lüfterrad	Fan	1		0320517
46	Motordeckel	Motor lid	1		0320518
47	Gummifuß	Rubber pad	4		0320509
49	Lager	Bearing	1	6203-2Z	0406203.2R
50	Federscheibe	Spring washer	1		0331030550
51	Innensechskantschraube	Socket head screw	2	ISO 4762-M8x10	
52	Schraube	Screw	2		0331030552
53	Feder	Spring	2		0331030553
54	Bolzen	Bolt	2		0331030554
55	Gummiring	Rubber ring	1		0331030555
56	Absaugstutzen	Connecting piece	1		0331030556
57	Skala	Scale	1		0331030557
58	Platte	Plate	1		0331030558
59	Federscheibe	Spring washer	1		0331030559

## 5.5

## Schaltplan - Wiring diagram

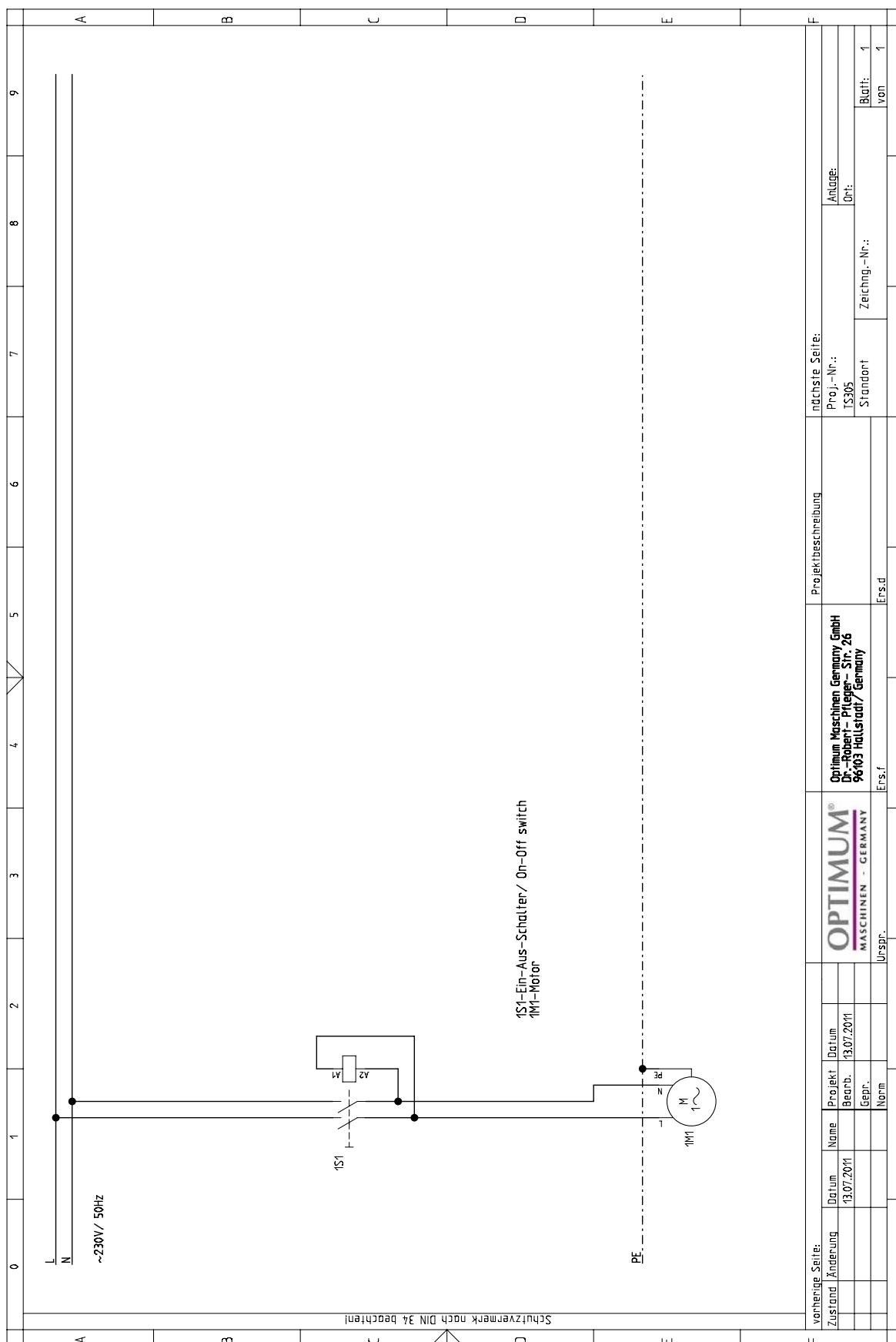


Abb.5-1: Schaltplan - Wiring diagram

## 7 Trouble shooting

Fehler	Mögliche Ursache	Beseitigung
Motor overloaded	<ul style="list-style-type: none"> <li>• Cooling air sucking of motor is hindered</li> <li>• Contact pressure to high</li> </ul>	<ul style="list-style-type: none"> <li>• Checking and Cleaning</li> <li>• Work with lower contact pressure</li> </ul>
Workpiece will be threaded in	<ul style="list-style-type: none"> <li>• Too big distance between grinding wheel and worktable</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce distance between grinding wheel and worktable</li> </ul>
Low life of grinding wheel	<ul style="list-style-type: none"> <li>• Grinding wheel with too fine grain size</li> </ul>	<ul style="list-style-type: none"> <li>• Use grinding wheel with coarser grain size</li> </ul>
Bad quality of grinding	<ul style="list-style-type: none"> <li>• Grinding wheel with too coarse grain size</li> </ul>	<ul style="list-style-type: none"> <li>• Use grinding disc with too finer grain size</li> </ul>
Grinding square doesn't fit	<ul style="list-style-type: none"> <li>• Adjusted squares at worktable or at back square do not fit</li> </ul>	<ul style="list-style-type: none"> <li>• Check square and adjust it new if needed</li> <li>☞ „Adjusting the squares of worktable to sand disc“ on page 19</li> <li>☞ „Adjusting the squares at the fence“ on page 20</li> </ul>
Grinding wheel doesn't run optical round	<ul style="list-style-type: none"> <li>• Grinding wheel eccentric applied</li> </ul>	<ul style="list-style-type: none"> <li>• Apply grinding wheel centric</li> </ul>

## 8 Appendix

### 8.1 Copyright

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

The company reserves the right to make technical alterations without prior notice.

### 8.2 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 had been promised in the frame of a single contractual agreement.

- 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. The property of replaced products or components passes on to OPTIMUM 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 of the following circumstances are excluded from liability and warranty claims:
  - Using the product beyond the technical options and proper use, in particular due to over-straining of the machine
  - Any defects arising by one's own fault due to faulty operations or if the operating manual is disregarded
  - Inattentive or incorrect handling and use of improper equipment
  - Non-authorized 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 as well not subject to the 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 fulfill in the frame of an additional guarantee are neither an acceptance of the defects nor an acceptance of its obligation to compensate. Such services do neither delay nor interrupt the warranty period.
- Place of jurisdiction among traders is Bamberg.
- If one of the above mentioned agreements is totally or partially inefficient and/or null, it is considered as agreed what is closest to the will of the warrantor and which remains in the framework of the limits of liability and warranty which are predefined by this contract.

## 8.3 Note regarding disposal / options to reuse:

Please dispose of your device environmentally friendly by disposing of scrap 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.

### 8.3.1 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 mains plug.
- Disconnect 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.
- Supply the machine components and operating fluids to the provided disposal routes.

### 8.3.2 Disposal of the packaging of new devices

All used packaging materials and packaging aids of 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 forwarded to a collection station or to the appropriate waste management enterprise.

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

### 8.3.3 Disposing of the old device



#### INFORMATION

Please make sure in your own interest and in the interest of the environment that all component parts of the machine will be disposed of in the provided and admitted ways.

Please note that the electrical devices include lots of reusable materials as well as environmentally hazardous components. Account for separate and professional disposal of the component parts. 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.

### 8.3.4

#### Disposal of electrical and electronic components

Please make sure that electrical components are disposed of in a professional way according to the legal requirements.

The device includes electric and electronic components and must not be disposed of with the rubbish. According to the European directive 2002/96/EG regarding electrical and electronic used devices and the execution of national rights used electrical tools and electrical machines need to be collected separately and be supplied to an environmentally compatible reuse.

Being the machine operator you should obtain information regarding the authorized collection or disposal system which applies for your company.

Please make sure that the batteries and/or accumulators are disposed of in a professional way according to the legal regulations. Please only throw discharged batteries in the collection boxes in shops or at municipal waste management companies.

### 8.4

#### Disposal of lubricants and coolants

##### ATTENTION



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

##### INFORMATION



Used coolant emulsions and oils should not be mixed up since it is only possible to reuse used oils which had not been mixed up without pre-treatment.

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

### 8.5

#### Disposal



Disposal of used electric and electronic machines

(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 delivered to a central collection point for recycling. Your contribution to the correct disposal of this product will protect the environment and the health of your fellow men. The environment and the health are endangered by incorrect disposal. Recycling of material will help to reduce the consumption of raw materials. Your District Office, the municipal waste collection station or the shop where you have bought the product will inform you about the recycling of this product.

### 8.6

#### RoHS , 2002/95/CE



The sign on the product or on its packing indicates that this product complies with the European guideline 2002/95/EC .

## 8.7 Product follow-up

We have a follow-up service for our products which extends even beyond shipment.

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

- Modified settings
- Experiences with the geared drill, which could be important to other users
- Recurring failures

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D-96103 Hallstadt  
Fax +49 (0) 951 - 96 822 - 22  
E-Mail: [info@optimum-maschinen.de](mailto:info@optimum-maschinen.de)

## 8.8

## EC - declaration of conformity

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

**hereby declares that the following product,**

**Type of machine:** TS 305

**Designation of the machine:** Disc sander

**Serial number:** \_\_\_\_

**Year of manufacture:** 20\_\_

all relevant provisions of the **Machinery Directive (2006/42/EC)** corresponds.

The machine continues to comply with all provisions of the **Directives Electrical equipment (2006/95/EC) and electromagnetic compatibility (2004/108/EC)**.

**The following harmonized standards were applied:**

**DIN EN 12100-1:2003/ A1:2009** Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology

**DIN EN 12100-2:2003/ A1:2009** Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles

**DIN EN 60204-1** Safety of machinery - Electrical equipment of machines - General requirements

Responsible for documentation: Kilian Stürmer, Tel.: +49 (0) 951 96822-0

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



Kilian Stürmer  
(Manager)

Hallstadt, 14.7.11

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