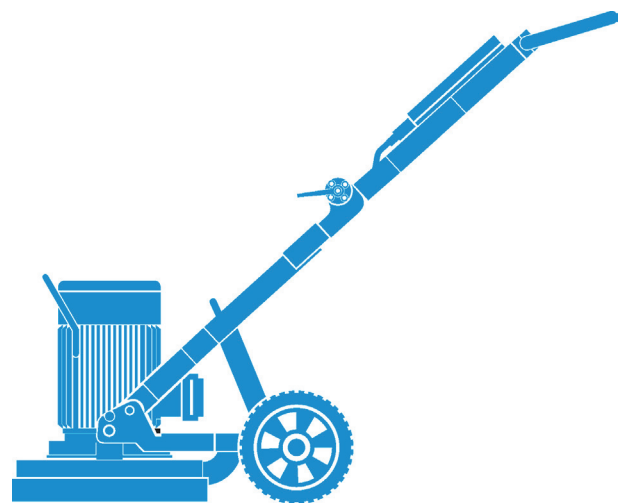




OPERATING INSTRUCTIONS

FGE450B | FGE450VB

Index 000



Congratulations!

You have chosen tried and tested TYROLIT equipment that sets technological standards for the industry. Only genuine TYROLIT spare parts guarantee quality and problem-free replacement. If maintenance work is neglected or not performed correctly, we cannot cover our warranty obligations. All repairs must only be performed by trained specialist personnel.

Our Customer Service is at your disposal to help keep your TYROLIT equipment in perfect condition.

We wish you smooth, trouble-free working.

TYROLIT

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1 About these instructions



This instruction booklet is just part of the documentation for the FGE450B/FGE450VB floor grinder.

This booklet is only complete together with the “Floor grinding safety manual”.

This booklet together with the “Floor grinding safety manual” is part of the equipment. It describes safe and correct use in all operating phases.

- Carefully read the instructions, especially the safety information, before use.
- Keep the instructions throughout the lifetime of the equipment.
- Keep the instructions accessible to the operator and service technician at all times.
- Always pass on instructions to all future owners or users of the equipment.
- Update the instructions whenever you receive an update from the manufacturer.

1.1 Symbols in these instructions



DANGER

Warning of dangers which, if not avoided, can lead to severe or fatal injury.



WARNING

Warning of dangers which, if not avoided, can lead to injury or material damages.



WARNING

Warning of dangerous electrical voltage.

Before working in an area with this warning, completely disconnect the system or equipment from the power supply (voltage) and secure so it cannot be inadvertently switched back on.



INFORMATION

Information for optimum use of the equipment. If this information is not heeded, the specifications in the technical data cannot be guaranteed.



RECYCLING

Recycle waste materials.



DISPOSAL

For disposal, pay attention to the usual regional and domestic laws and regulations in your country.

2. Safety



INFORMATION

Grinding machines may only be used by authorised personnel. You can find information on authorised personal in the “Floor grinding safety manual”.

2.1 Protection devices and signs on the equipment

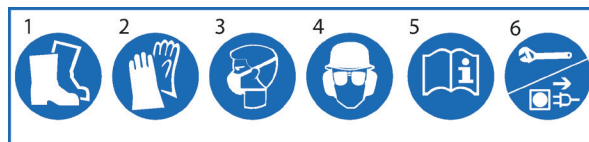
2.1.1 Protection devices

Protection devices may only be removed when the equipment is switched off, has been disconnected from the mains supply and is stationary. Safety components, in particular, may only be removed and re-installed by authorised persons.

Safety elements must be checked to ensure they are in perfect working order before the equipment is brought back into operation.

2.1.2 Signs on the equipment

Safety sign



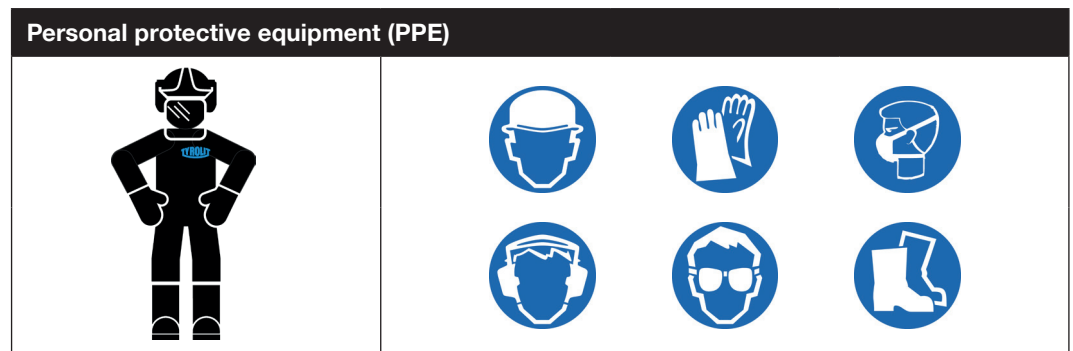
- | | | |
|-------------------------|---|---|
| 1 Wear protective boots | 3 Wear a respirator mask | 5 Read the instructions |
| 2 Wear gloves | 4 Wear a helmet, goggles and ear protection | 6 Disconnect the mains plug before working on the equipment |

Type plate



2.1.3 Personal protective equipment (PPE)

The wearing of PPE is essential for all work with and on floor grinders.



Personal protective equipment (PPE)

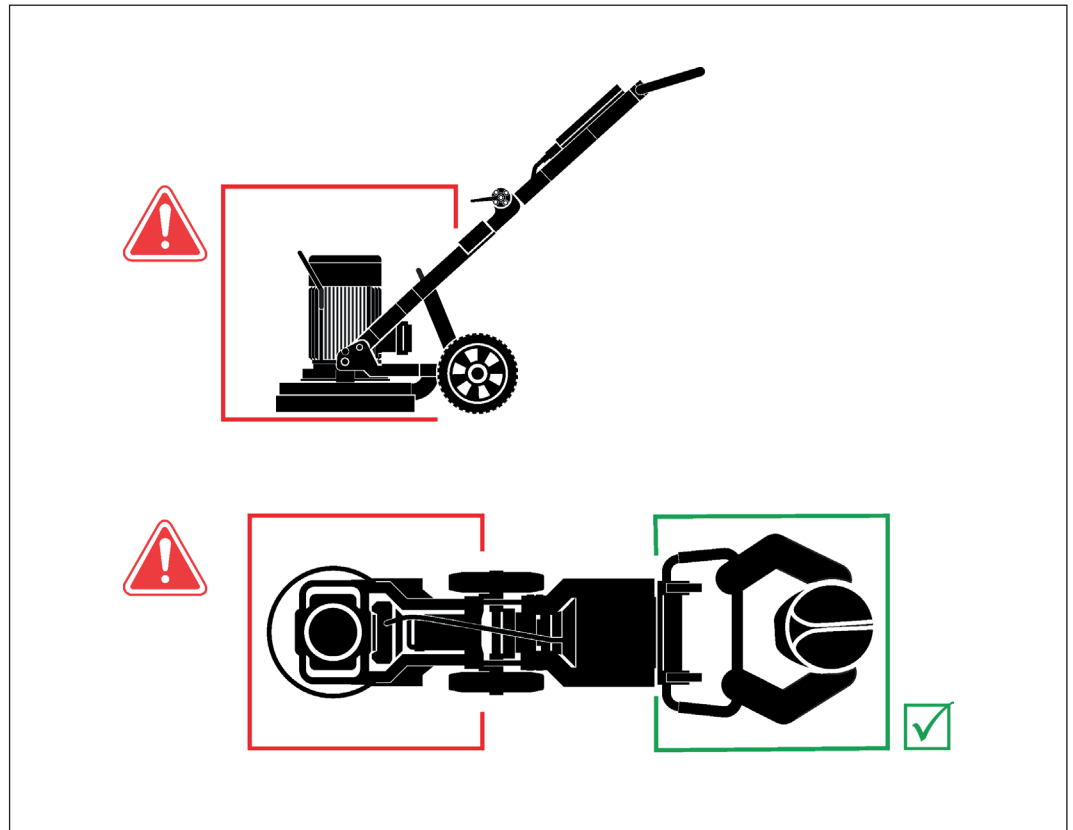
2.2 Spare parts and modifications

Only use genuine spare parts from TYROLIT. Otherwise, personal injury, damage to the equipment and other material damages can occur. Do not install attachments on or convert the equipment without TYROLIT's written consent.

2.3 Danger zone and work area

2.3.1 Floor grinder danger zone

The area marked in the drawing shows the danger zone around the floor grinder. No part of the body may be inside this area while the floor grinder is running.



Floor grinder danger zone

2.3.2 Workstation danger zone



INFORMATION

You can find information on the workstation danger zone in the "Floor grinding safety manual".

2.4 Residual risks

There is a risk of severe injury resulting from the residual risks described below.

2.4.1 Grinding tools flying away

- Only start grinding when there are no other persons in the danger zone.
- Make sure that a safety distance is complied with.
- If grinding tools are damaged, change them.
- Grinding without a protection cover is prohibited.

2.4.2 Uncontrolled movements and vibrations

- Do not connect or disconnect cables when the floor grinder is running.

2.4.3 Getting trapped and caught

Items of clothing or long hair could be caught by the rotating cutting tool.

- Do not wear loose clothing when working.
- Secure long hair in a hair net.

2.4.4 Harmful dust

Inhaling dust can lead to respiratory problems.

Inhaling dust emanating from the machine is hazardous to health.

- Wear a respirator mask.
- Make sure that closed rooms have adequate ventilation.
- Use a dust extractor during work.

2.4.5 Poor physical condition

- Do not work under the influence of alcohol, drugs or medication.
- Do not work when overtired.

2.4.6 Tool quality

- Do not use damaged grinding tools.
- Check grinding tools for damage before assembly.

2.4.7 Danger from a grinding tool continuing to run in an accident

- Make sure that the floor grinder can be stopped quickly.



DANGER

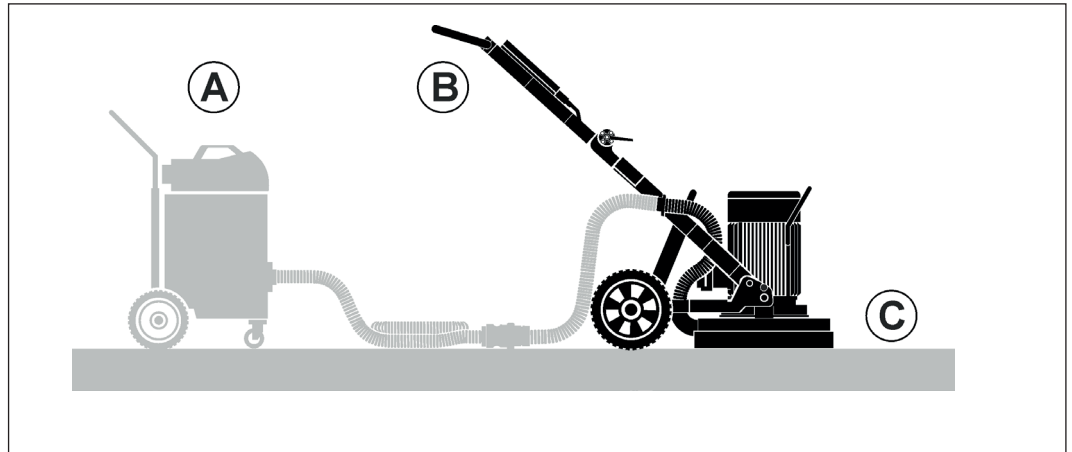
Death or severe injury can result if the safety information in the “Floor grinding safety manual” is not observed.

- ▶ Make sure that the “Floor grinding safety manual” is read completely and has been understood.

3. Product description

3.1 Grinding system

The FGE450B/FGE450VB floor grinder is used with matching TYROLIT components to form a grinding system.



Grinding system

- A Dust extractor
- B Floor grinder
- C Grinding tool

3.2 Intended use

The floor grinder has been designed and built for the following use:

- Only use the floor grinder for grinding, rough grinding and renovating floor coverings and other materials stated in this booklet or recommended by TYROLIT.
- Use the floor grinder solely with genuine tools and spare parts from TYROLIT. Otherwise, the CE marking and the warranty will lose their validity. Only use the floor grinder for dry work.

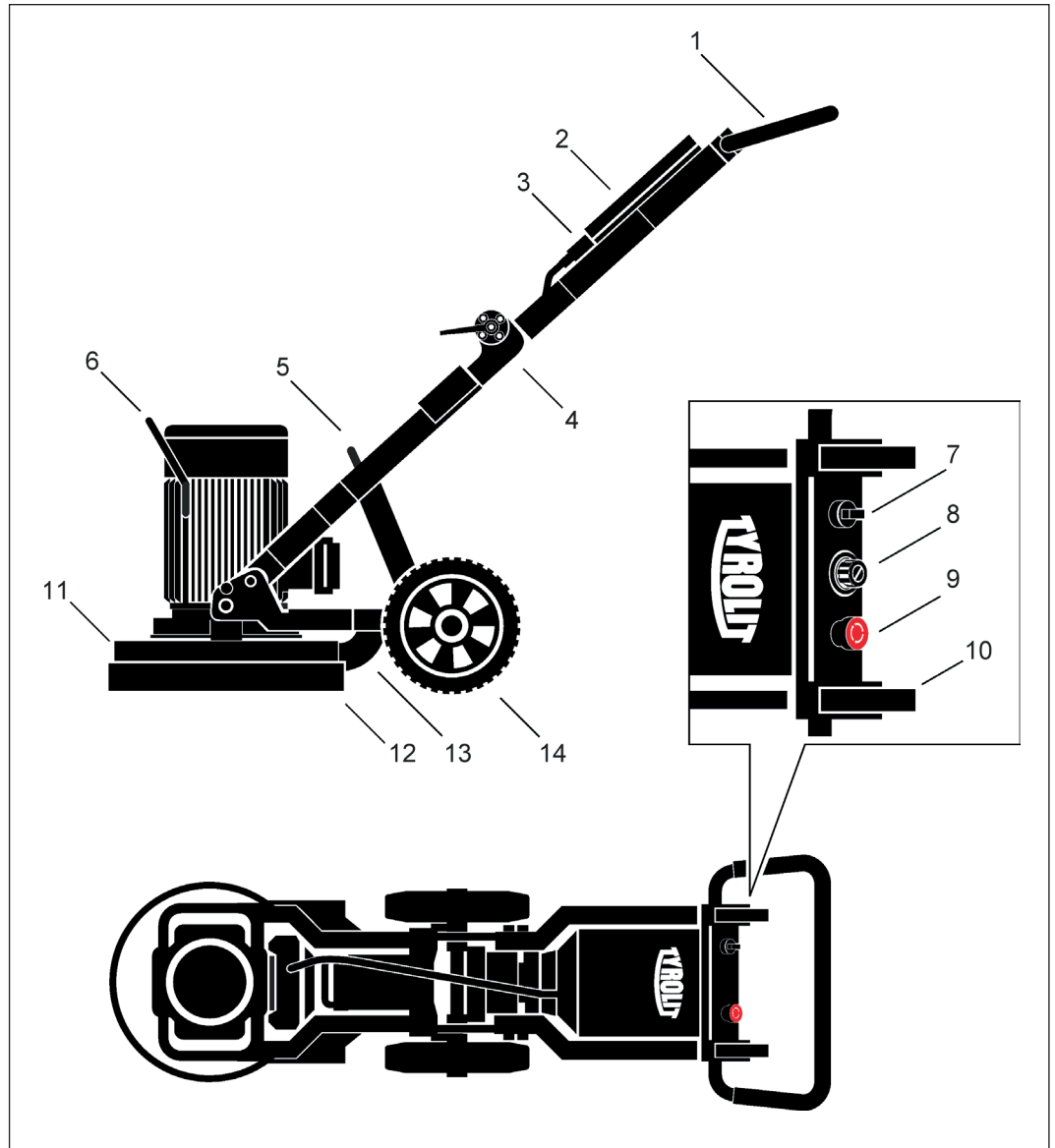
Binding operating limits and characteristic data can be found in the “Technical data” section.

3.3 Scope of delivery

- Wrench A/F 19
- Allen key 6 mm
- Operating instructions

4 Design and function

4.1 Design

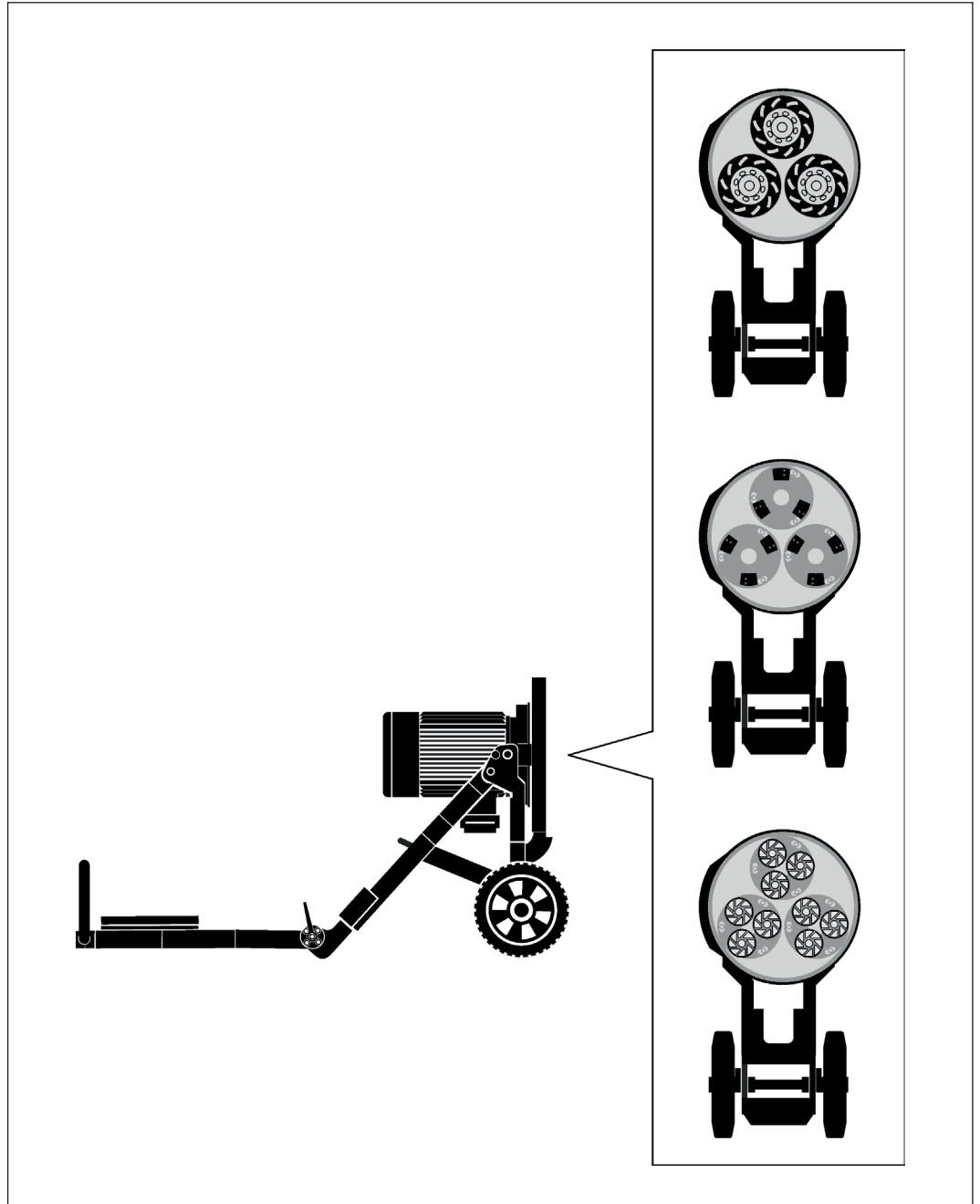


Design

- | | |
|--|---------------------------|
| 1 Handle | 9 EMERGENCY STOP |
| 2 Control unit | 10 Handle lock |
| 3 Motor cable connection | 11 Grinding head |
| 4 Angle adjustment unit | 12 Dust protection cover |
| 5 Chassis handle | 13 Vacuum hose connection |
| 6 Electric motor | 14 Wheel |
| 7 On/Off switch | |
| 8 Potentiometer motor speed
(only FGE450VB) | |

4.1.1 Grinding head

The grinding head can be equipped with different grinding wheels. The dust protection cover together with the connected dust extractor ensure a good work environment. The housing ensures that the operator does not touch any rotating machine parts and minimises dust generation. Make sure that the housing is always in contact with the backing, so that no dust particles can be released.



Grinding head

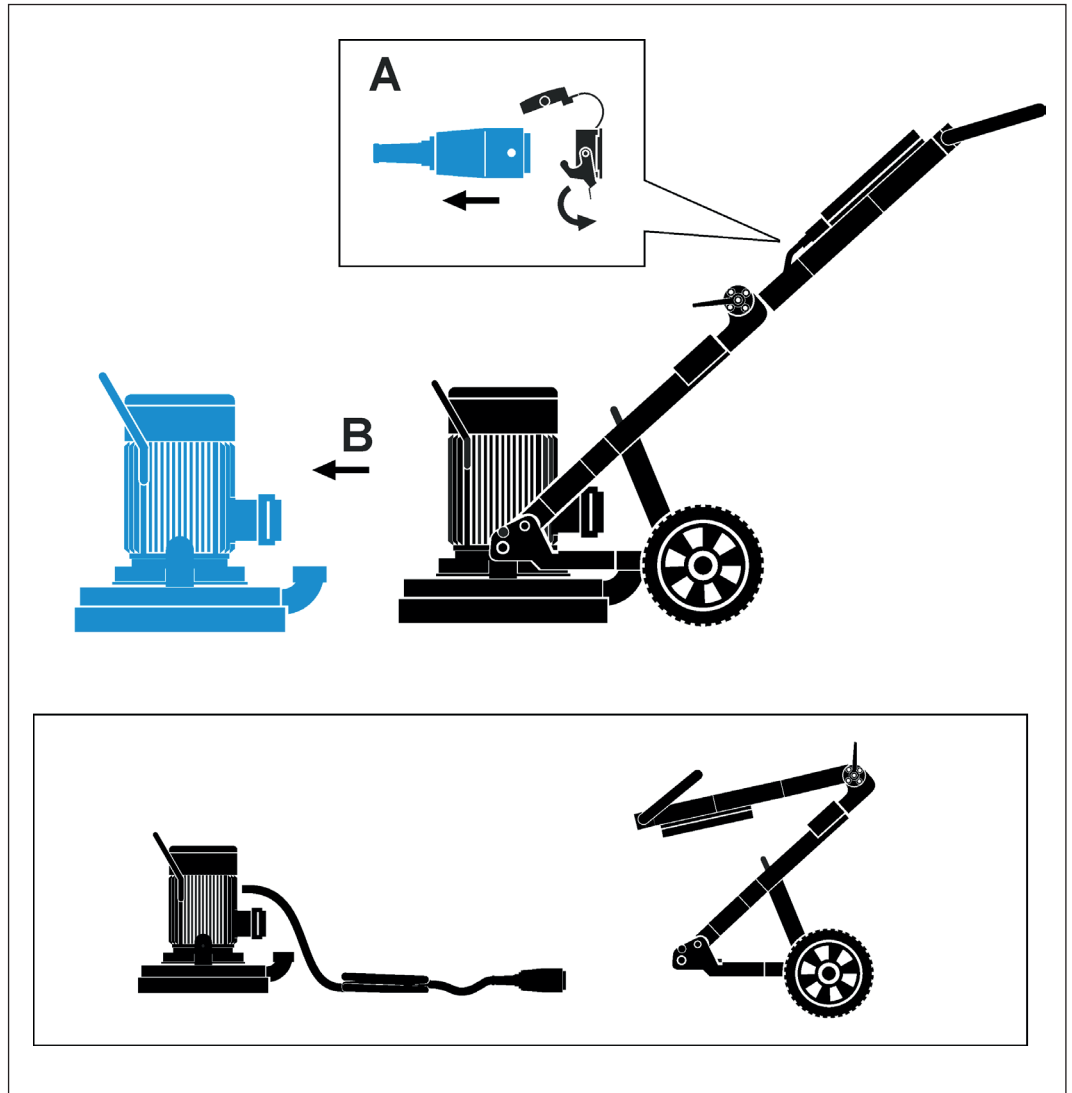
4.2 Function

4.2.1 Functional description

The grinding disc with fitted grinding tools is driven by an electric motor. The electric motor is air-cooled. The floor grinder can be dismantled into two parts.

4.2.2 Two-piece floor grinder

The floor grinder can be dismantled into two parts for transport.



Two-piece floor grinder

5 Assembly/Dismantling

5.1 Grinding tool



DANGER

Risk of severe injury due to the floor grinder starting up unexpectedly.

- ▶ Switch off the floor grinder before working on the grinding disc.
- ▶ Disconnect the floor grinder from the mains supply.



INFORMATION

TYROLIT offers tools for specific surfaces and different types of work. You can find information on grinding tools on the TYROLIT website.

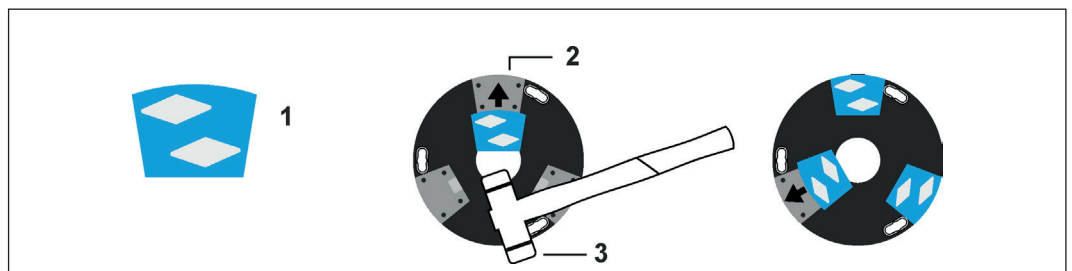


INFORMATION

Always use a plastic mallet for mounting grinding tools. Metal hammers can damage the grinding tool and grinding disc.

- ✓ Tool

Plastic mallet



Grinding tool

- 1 Grinding tool
- 2 Grinding disc
- 3 Plastic mallet

5.1.1 Assembly

- ✓ The tool and tool holder are clean.
Push the grinding tool into the tool holder.
- ▶ Secure the grinding tool in the tool holder with a few light taps of the plastic mallet.

5.1.2 Dismantling

- ▶ To change the tool, detach the grinding tool with a few light taps of the rubber mallet. Then pull the grinding tool out of the holder.

5.2 Mounting the grinding disc

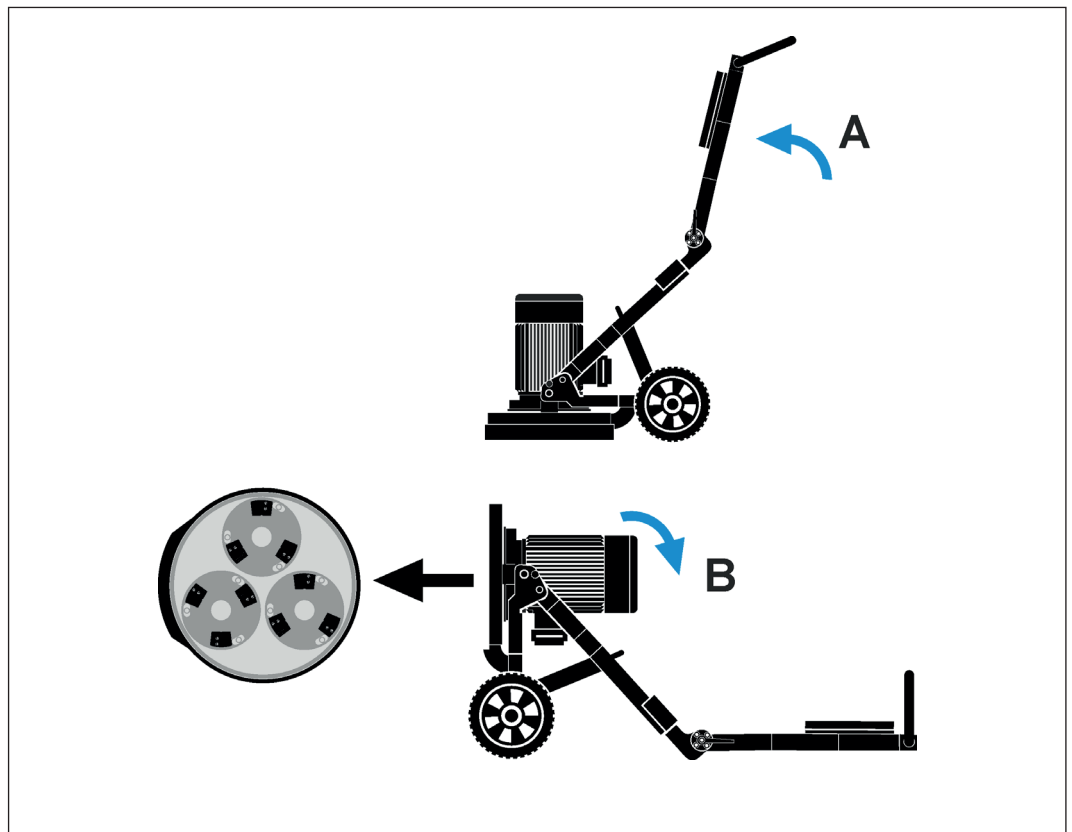


DANGER

Risk of severe injury due to a floor grinder suddenly starting up or falling over.

- ▶ Switch off the floor grinder before working on the grinding disc.
- ▶ Disconnect the floor grinder from the mains supply.
- ▶ Make sure that nothing can get trapped or squashed when tilting the floor grinder.

5.2.1 Position of floor grinder

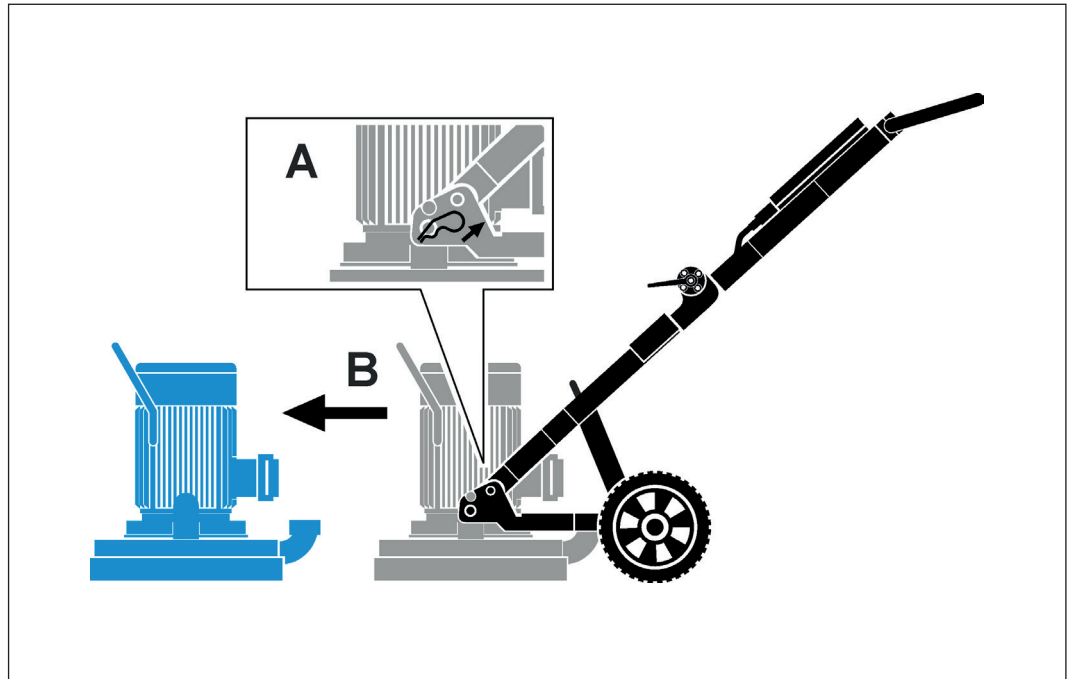


Machine position when mounting the grinding disc

Proceed as follows:

- ✓ Make sure the floor grinder is on a solid, horizontal, non-slip surface.
- ▶ Make sure that the connecting cable and dust extractor tube cannot be trapped.
- ▶ Move the handle unit (A) up to open.
- ▶ Tilt the floor grinder (B) backwards until you can access the grinding disc holders.

5.3 Motor



Motor assembly

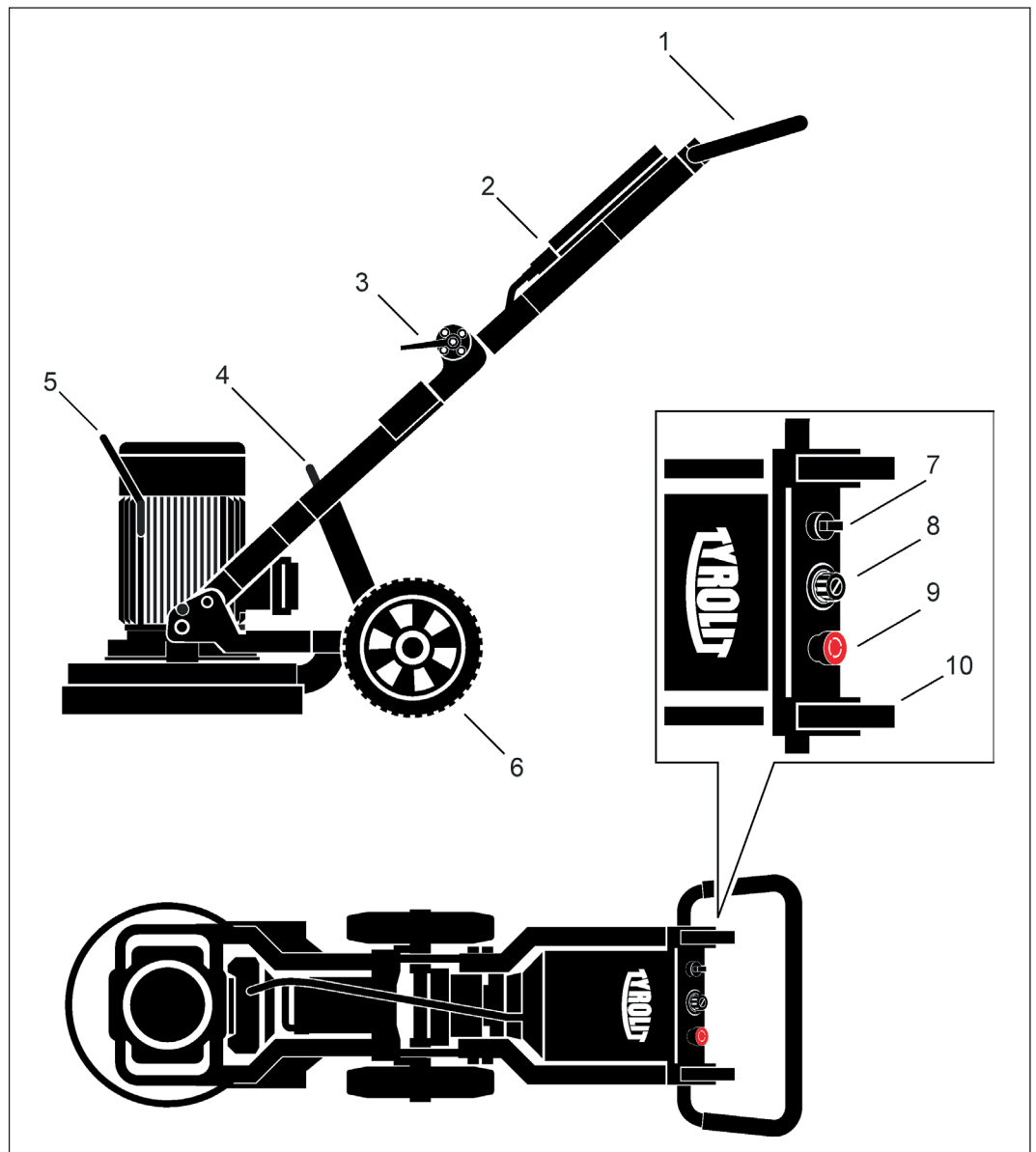
6 Operation

6.1 Controls



This section describes tool changes and operating the grinding machine. It does not deal with the technical aspects of grinding, such as the choice of grinding tools, machine guidance, etc.

You can find further information in the TYROLIT "Floor grinding safety manual".



Controls

- | | |
|--------------------------|---|
| 1 Adjustable handle | 6 Adjustable wheel/axle |
| 2 Motor cable connection | 7 On/Off switch |
| 3 Angle adjustment unit | 8 Potentiometer motor speed (only FGE450VB) |
| 4 Chassis handle | 9 EMERGENCY STOP |
| 5 Carry handle (motor) | 10 Handle lock |

6.2 Adjusting the handle

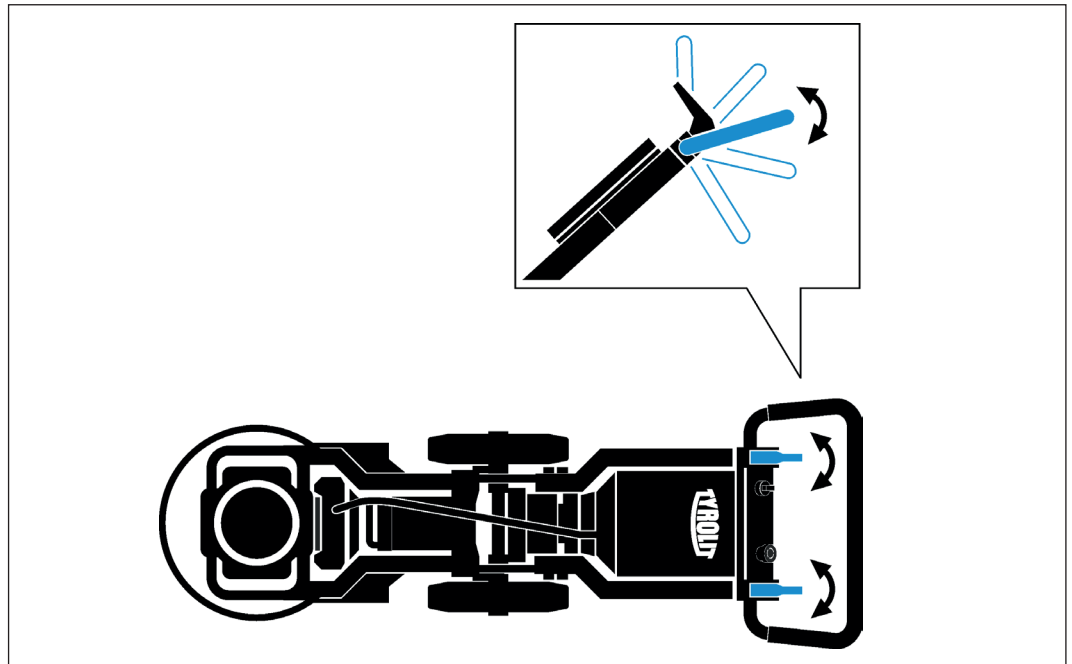


DANGER

Danger of crushing.

► Use both hands to adjust the handle.

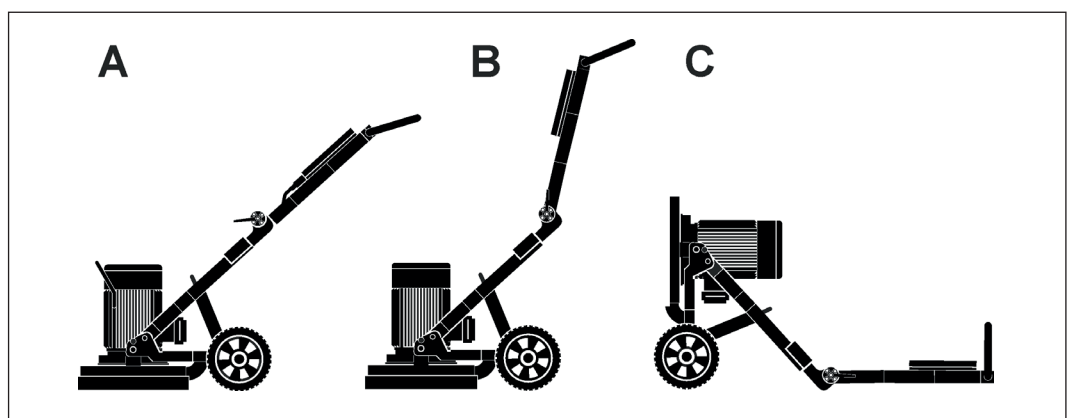
The height of the handle can be adjusted without tools, enabling the floor grinder to be adapted for the individual user. When adjusting the handle, make sure that the handle lock engages correctly in the desired position.



Adjusting the handle

6.3 Adjusting the angle

Using the angle adjustment unit, the floor grinder can be set to different work positions.

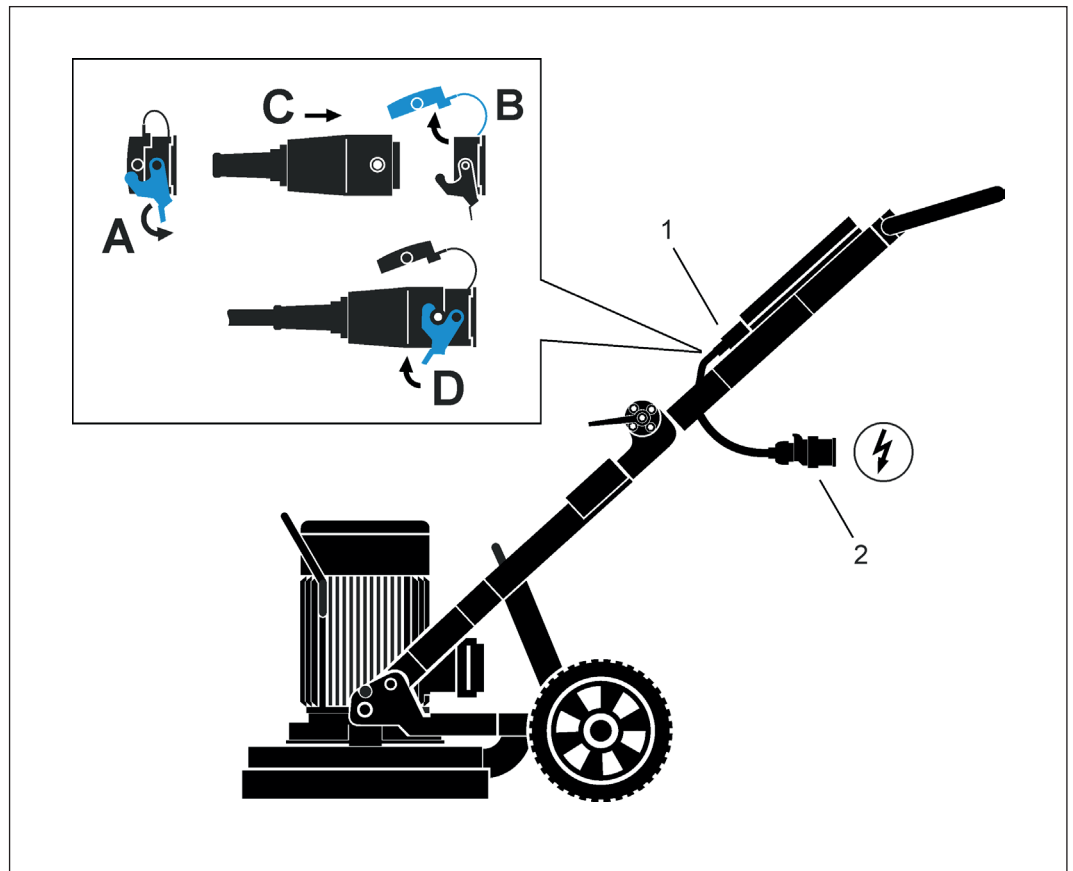


Work positions

- A Operating position
- B Transport position
- C Tool change position

6.4 Connections

6.4.1 Power supply



Power supply

- 1 Motor connection
- 2 Mains connection



INFORMATION

- The mains voltage must match the specifications on the type plate.
- Protect the connecting cables against heat, oil and sharp edges.
- Only use the connecting cables for their intended purpose.
- Do not use the connecting cable to pull the plug out of the socket.
- In the event of power failures: Switch off the floor grinder and pull out the plug.

6.4.2 Extension cables



INFORMATION

- Only use approved and appropriately marked extension cables outdoors.
- Avoid the use of extension cables with multiple sockets and the simultaneous operation of several devices.

Only use extension cables that are approved for the field of application and with an adequate cable cross-section.



INFORMATION

Recommended minimum cross-sections and max. cable lengths				
Conductor cross-section mm ²	1.5	2.5	4.0	6.0
220 V - 240 V	30 m	50 m	80 m	120 m

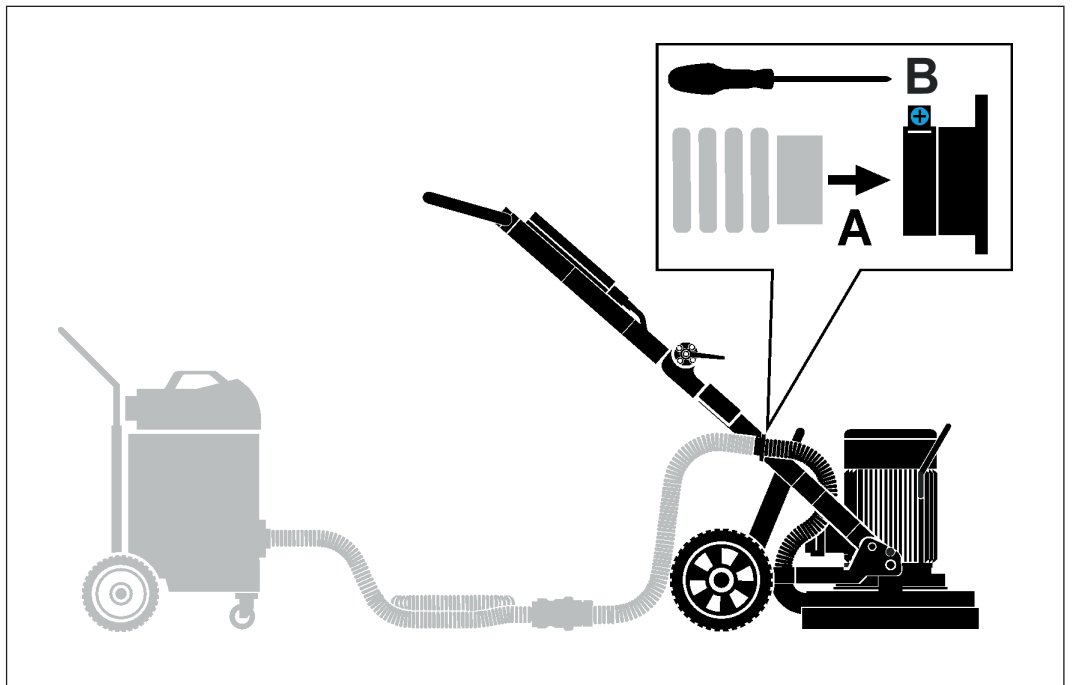
6.5 Extraction

Connect the dust extractor to the grinding machine. You can find information on connections in the documentation of the different TYROLIT dust extractor models.



DANGER

Released dust particles can damage your health.
 ► Always use a dust extractor during work.



Extraction

6.6 Starting/switching off the floor grinder



INFORMATION

Always determine the grinding area when starting work.



INFORMATION

You can find information on machine guidance, grinding techniques, etc. in the TYROLIT "Floor grinding safety manual".



DANGER

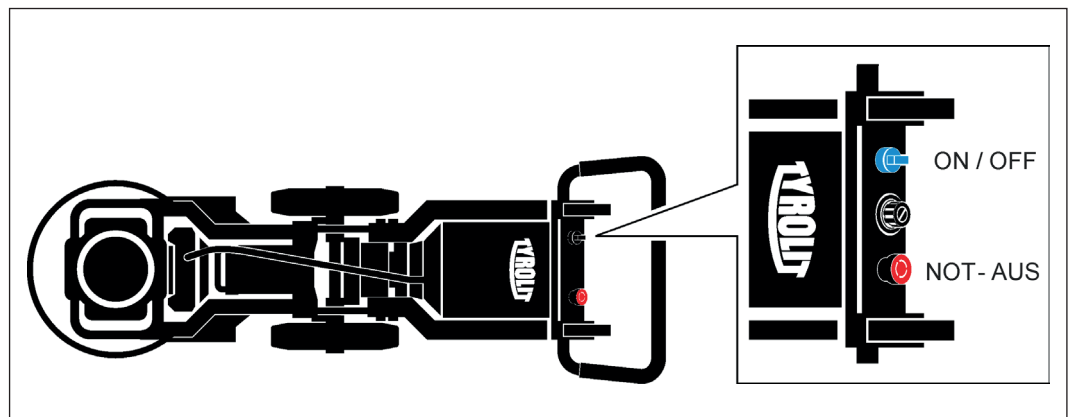
Non-compliance carries a risk of death or severe injury.

- Never work without suitable PPE.
- Always wear ear protection during work.
- Remove adjustment and assembly tools before switching on the floor grinder.
- Keep children away from the floor grinder and the work area.
- Avoid working in an unnatural posture.

The inclination of the handle can be adjusted. When using the floor grinder manually, you can adjust it to achieve an optimum position.

- Ensure that you have a secure footing and keep your balance at all times.
- Avoid physical contact with earthed surfaces such as pipes, heaters, stoves and refrigerators. There is an increased risk of electric shock if your body is earthed.

- ✓ The work environment is dry.
- ✓ The dust extractor is correctly connected to the floor grinder.
- ✓ The floor grinder and dust extractor are correctly connected to the power supply.
- ✓ The EMERGENCY STOP is deactivated
- ✓ Turn the speed potentiometer back to approx. 20% (FGE450VB only)



Starting/switching off the floor grinder

- ▶ Start the floor grinder using the ON/OFF switch
- ▶ Set the speed using the potentiometer (FGE450VB only)

6.7 What to do in an emergency

- ▶ Press the EMERGENCY STOP button on the control unit.

7 Servicing and maintenance

7.1 Maintenance table



INFORMATION

Always pull out the mains plug before starting maintenance or repair work.

Servicing and maintenance table							
		Each time before putting into operation	After the end of work	Weekly	Yearly	If problems occur	If damage occurs
Drive motor	▶ Retighten loose screws	X				X	X
	▶ Check for damage ▶ Check cleanliness		X			X	X
Cables, plugs and connectors	▶ Check for damage ▶ Check cleanliness	X	X			X	X
EMERGENCY STOP	▶ Check emergency cut-out function	X	X			X	X
Grinding tools	▶ Check for damage ▶ Check cleanliness		X			X	X

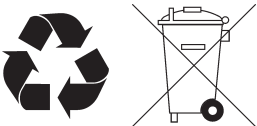
7.2 High-pressure cleaning



Caution

Cleaning with high-pressure cleaning systems can damage the floor grinder. Products containing solvents can damage the floor grinder and cable.

7.3 Recycling waste materials



TYROLIT floor grinders are manufactured using a high proportion of recyclable materials. A prerequisite for recycling is proper material separation. In many countries, TYROLIT has already set up arrangements for taking back your old devices for recycling. Ask TYROLIT Customer Service or your sales advisor.

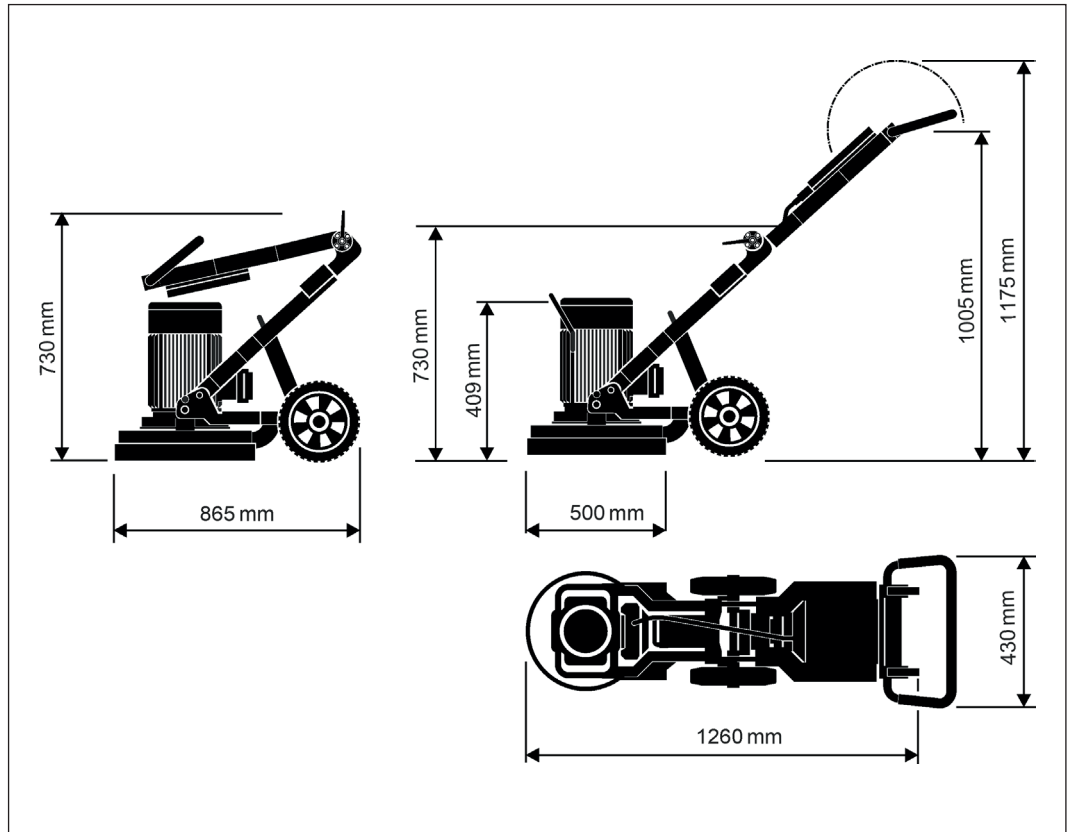
8 Troubleshooting

8.1 Troubleshooting table

Troubleshooting		
Problem	Possible cause	Remedy
The floor grinder does not run even though the mains cable is connected	The floor grinder is switched off	▶ Switch on the floor grinder
	EMERGENCY STOP is active	▶ Deactivate EMERGENCY STOP
	Mains cable is faulty	▶ Replace the mains cable
	Connector is faulty	▶ Check the connector
	No voltage at the power supply (construction site)	▶ Check the power supply
	Power supply phases are incorrectly connected	▶ Check the power supply
The floor grinder starts up then switches off again	Speed is too high	▶ Reduce the speed
	Mains cable is faulty	▶ Replace the mains cable
	A fuse blows on the construction site power supply	▶ Check the fuse and adapt if necessary ▶ Change the power supply if necessary
No power even though the control is running	Incorrect voltage	▶ Check the power supply
	Main motor is faulty	▶ Inform TYROLIT Customer Service
The floor grinder switches off abruptly	Overvoltage or undervoltage	▶ Check the power supply
	Connector is faulty	▶ Check the connector ▶ Check the power supply
The floor grinder does not run smoothly	A tool holder is loose	▶ Check tool holders
	Tool is worn	▶ Check tools for wear
	Loose screws in the chassis	▶ Tighten the screws
Tools wear unevenly (more than 3 mm difference)	A tool holder is loose or faulty	▶ Tool holders must be inspected
The floor grinder comes to a stop Excessive load	Excessive grinding pressure	▶ Reduce the grinding pressure ▶ Floor covering is too tough
	Wrong tool	▶ Check the tools

9 Technical data

Dimensions



Dimensions in mm

Weights:

Floor grinder	FGE450B	FGE450VB
Weight	120 kg	122 kg
Weight of chassis	47 kg	47 kg
Weight of motor/grinding head	73 kg	73 kg

Machine data:

Floor grinder	FGE450B	FGE450VB
Motor power	2.2 kW	
Frequency	50/60 Hz	
Voltage	220V - 240V, single-phase	
Nominal current	13 A	
Grinding disc speed	865 rpm	0-1800 rpm
Grinding width	450 mm	
Motor cooling	Air	
Grinding wheel	3 disc Ø130 mm, 9 tools	
Use	Dry	
Electronic overload cut-out	No	
Mechanical overload cut-out	No	
Power display	No	
Service indicator	No	
Protection class	IP44	
Operating temperature	-10 to +40°C	
Storage temperature	-20 to +60°C	
Vacuum connection	50 mm (2»)	

Noise emissions:

Noise data acc. to ISO 3744	
Parameter	Value
Sound power level L_{WA}	96.0 dB (A)*
Uncertainty K_{WA}	2.5 dB (A)

Test conditions:

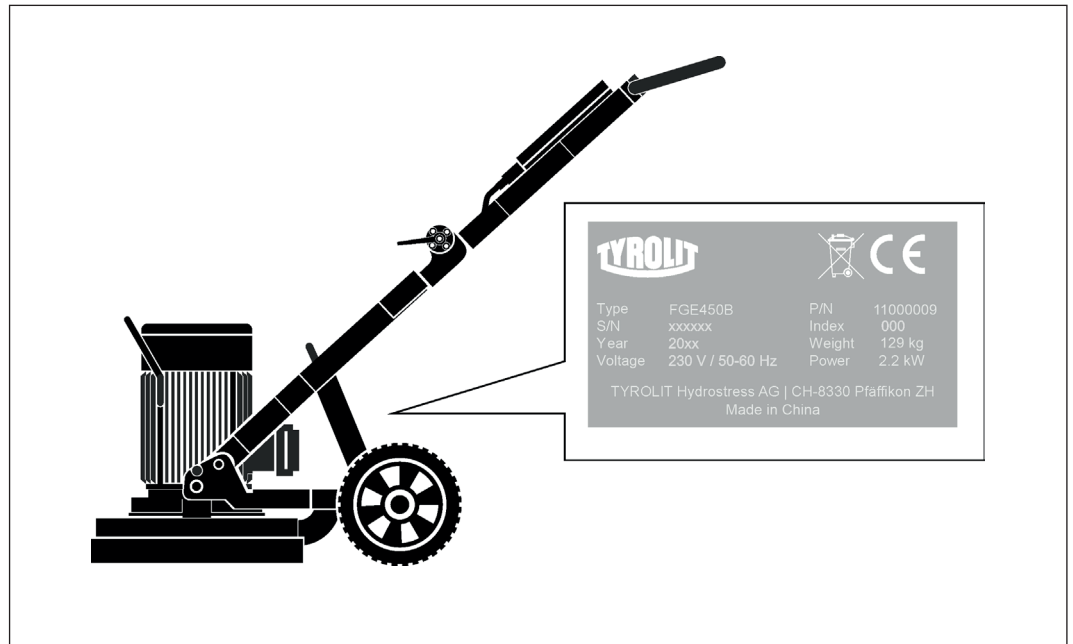
* 6 grinding shoes for medium-hard concrete, grinding at full load

Vibrations

Vibrations (EN ISO 5349)		
Parameter	Handle, left	Handle, right
Whole-body vibration a_{hv}	3.5 m/s ²	
Uncertainty K	1.5 m/s ²	

9.1 Type plate

The type designation and serial number are marked on the type plate of your floor grinder.



Type plate

10 EC Declaration of Conformity

Description	Floor grinder
Type designation	FGE450B/ FGE450BVB

We declare under our sole responsibility that this product complies with the following directives and standards:

Applicable directives

2006/42/EC from 17 May 2006
2014/30/EC from 26 February 2014

Applicable standards

EN ISO 12100:2010
EN 60204 - 1 :2018
EN IEC 61000-6-2:2019
EN IEC 61000-6-4:2019

Pfäffikon, 14.10.2024

Reto Schaffner
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