EN

SCARIFIER / MILLING SHAVER

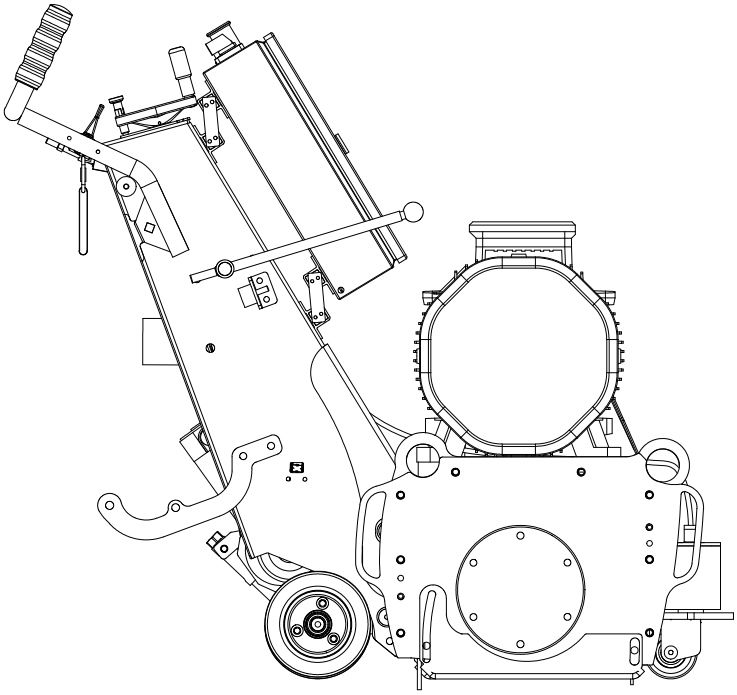
CT 320

FPE320

CONTEC
TYROLIT GROUP

TYROLIT

OPERATING INSTRUCTIONS



Original Edition 07.01.2025

CE

Manufactured by CONTEC - a company of the TYROLIT Group

Manufactured by

CONTEC
TYROLIT GROUP

a company of the Group

TYROLIT

Congratulations!

You have chosen a tried and tested machine and therefore a technologically leading standard. Only original spare parts guarantee quality and interchangeability. If maintenance work is neglected or carried out improperly, we cannot fulfill our warranty obligation.
All repairs may only be carried out by trained specialists.
Our customer service is at your disposal to keep your machine in perfect condition.
We wish you trouble-free work.

CONTEC MASCHINENBAU & ENTWICKLUNGSTECHNIK GMBH

Hauptstrasse 146,

DE-57518 Alsdorf / Sieg

Telefon +49 (0) 2741 93440 |

Telefax +49 (0) 2741 934429

info@contecgmbh.com | www.contecgmbh.com

TYROLIT
Swarovskistrasse 33,
AT-6130 Schwaz
Telefon +41 (0) 44 952 18 18
Telefax +41 (0) 44 952 18 00

www.tyrolit.com

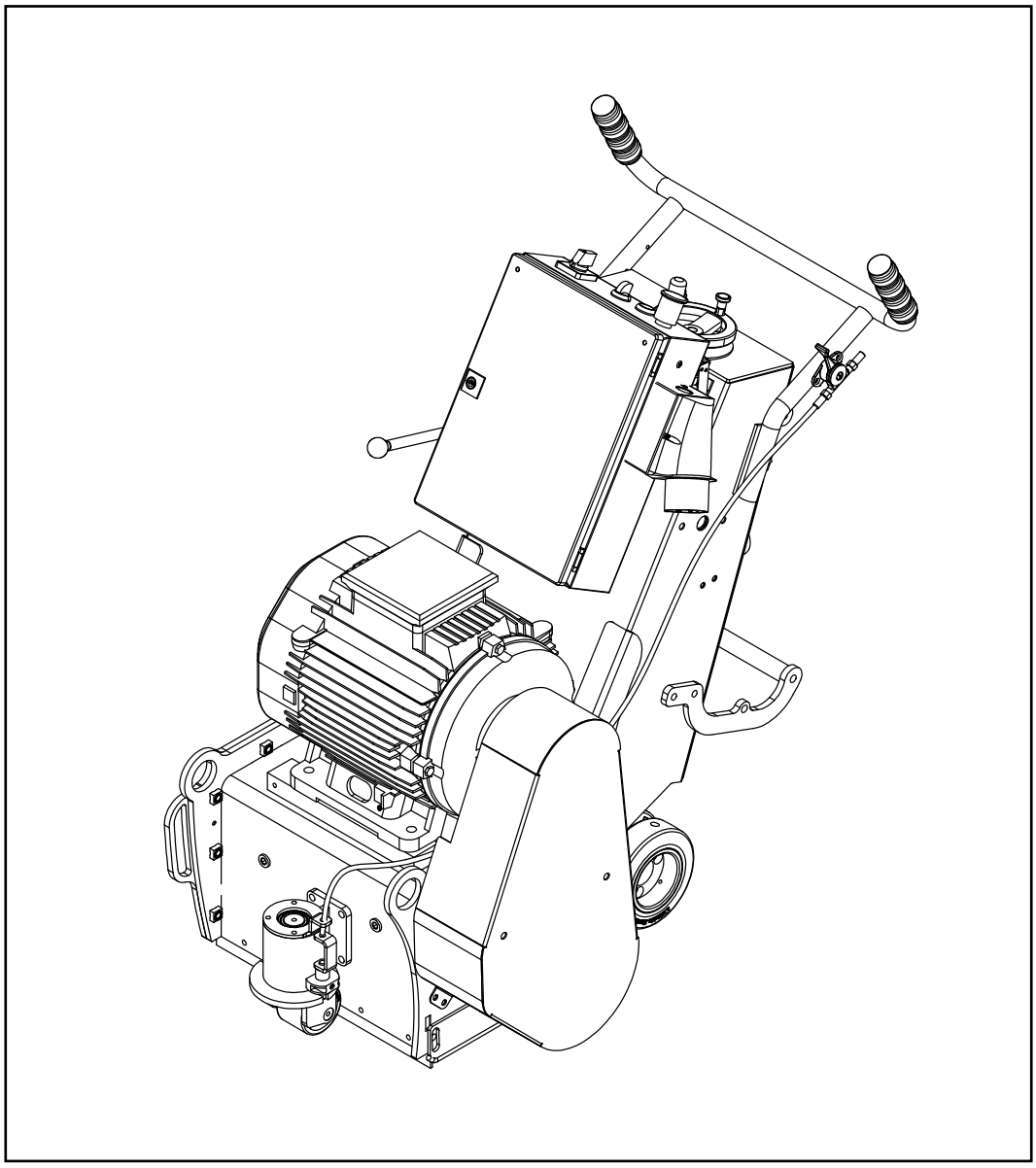
EN

Contents

Product Overview

(CONTEC) CT 320

(TYROLIT) FPE320



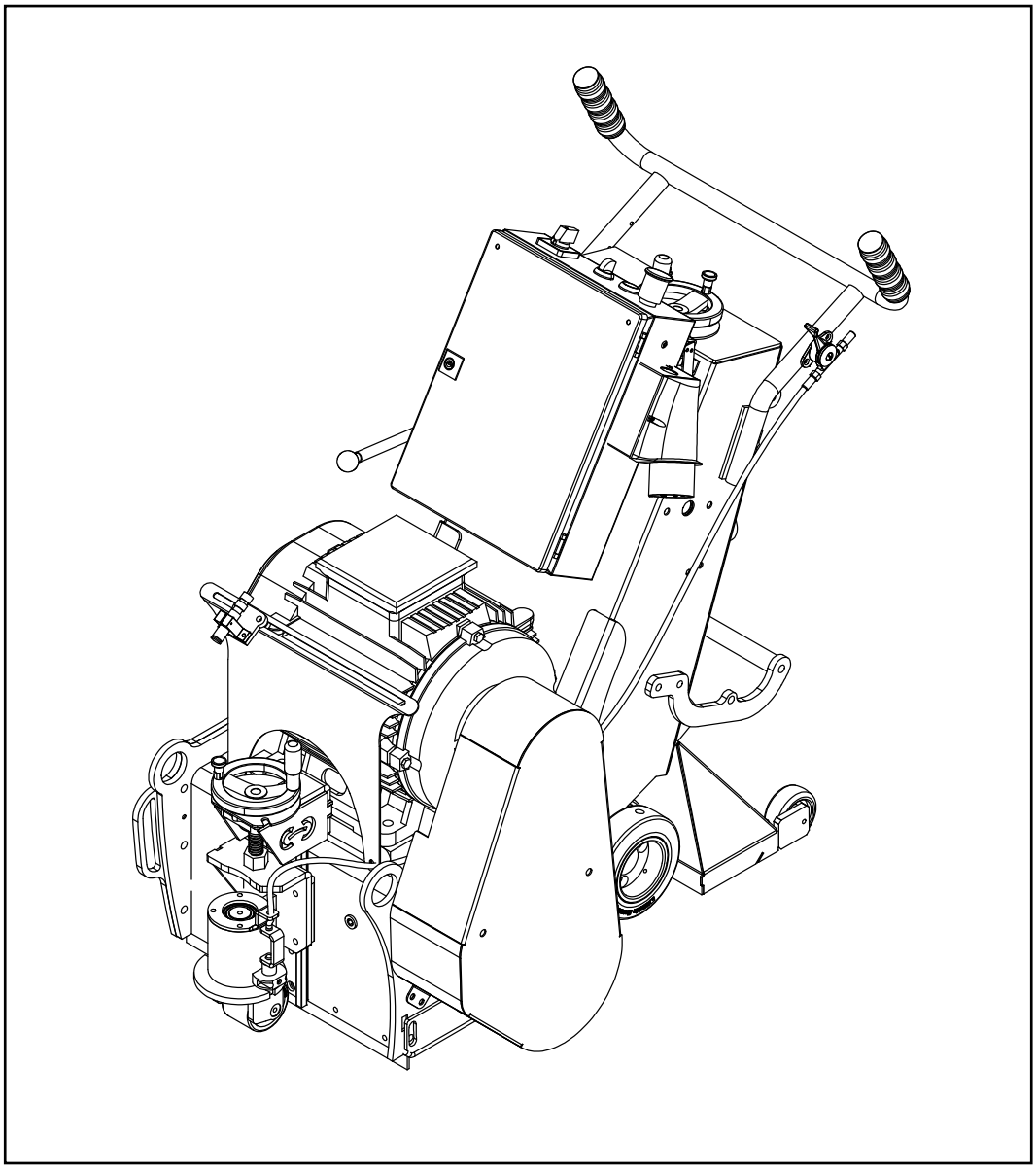
All individual parts and explosions diagrams can be found listed in our separate Floor milling /scarifier machine Spare Parts List.

Product overview LC (Low Chassis)

Option with adjustable hand lever

(CONTEC) CT 320 LC

(TYROLIT) FPE320 LC



All individual parts and explosions diagrams can be found listed in our separate Floor milling /scarifier machine Spare Parts List.

1. General Safety Precautions

1.1 Safety rules for the operation of the Scarifiers/Planers

Information
The CT 320® fl oor planers are constructed according to existing safety rules and regulations. These technical precautions should not be removed or changed under any circumstances. While operating the machines the following points should also be kept in mind:

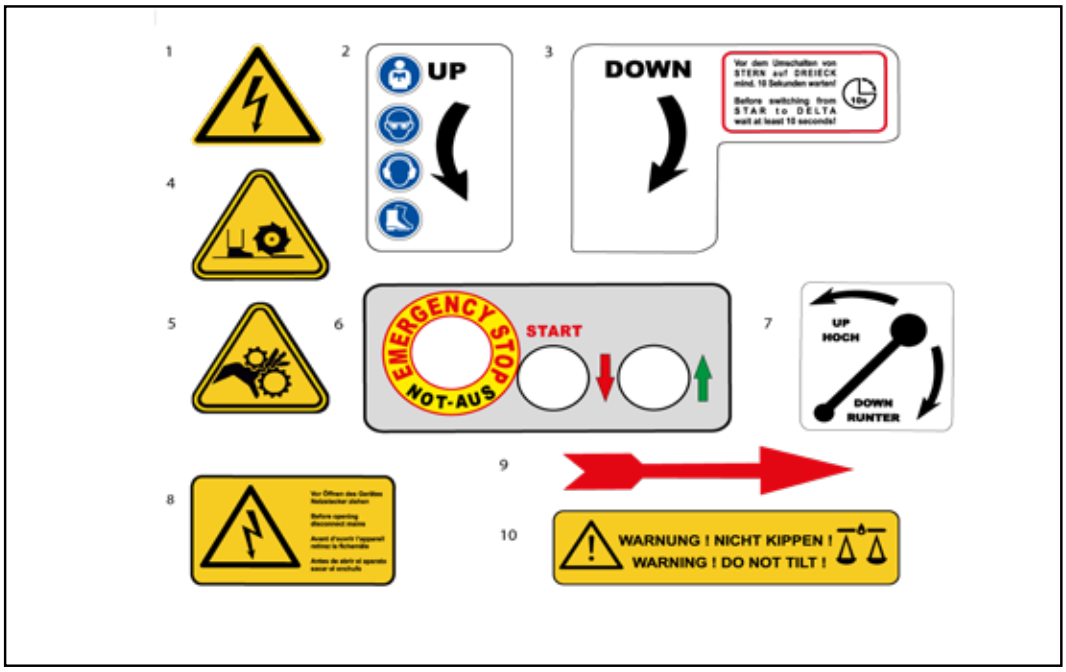
Danger!

- The floor planer / scarifier may only be operated with all protective safety covers and technical precautions.
- The power must be disconnected when transporting, cleaning, repairing or maintaining the machine. This also applies to tool changes.
- The operator should never leave the machine during operation.
- The tools /drums must be removed before the machine is transport.
- Before leaving the machine all rotary parts should be brought to a stand still. The electric models must be disconnected from the mains. Make sure that the machine cannot roll or move by itself.
- After maintenance and adjustment all safety covers must be reattached.
- If unusual running noises or increased vibrations are registered during operation of the CT 320®, the machine must be switched off immediately and the cause of the problem must be explored.
- After maintenance and repair work, the protective devices must be properly reinstalled.
- Noise protection equipment must be worn by the machinist - especially if the noise level exceeds 90 dB(A).
- The machine operator must wear eye protection.
- The machinist must wear safety shoes with steel toecaps.
- If there is a lot of dust in closed rooms, the floor planer machine must be operated with an extraction system.

Vorsicht!
Depending on the type of floor and coating, gases / dust can be released during milling. It is the responsibility of the user whether these generated gases / dust may contain dangerous substances and whether protective measures have to be taken.

Floors containing asbestos is especially dangerous and can cause health problems. Special masks must be worn which keep breathing air clean. A dust collector must be used and should be equipped with filters suitable for asbestos dust.

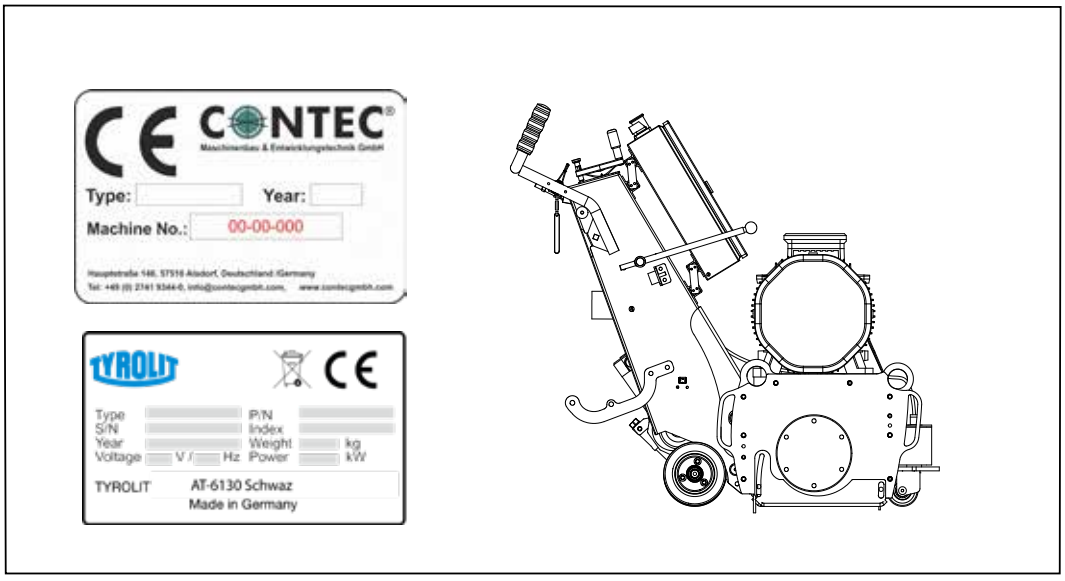
1.2 Labels on the floor scarifier



Labels on the scarifier

1 Warning - electrical voltage.
2 **UP** - turn wheel in arrow direction for lifting the tools from the ground.
Read all information carefully. Safety goggles, earmuff s & shoes must be worn.
3 **DOWN** - direction of lowering the tools to the ground.
Wait! Before switching from STAR to DELTA - wait at least 10 seconds.
4 Warning! Rotating sharp objects to feet - risk of cutting!
5 Warning! Risk of hands trapped in rotating mechanismus!
6 EMERGENCY STOP switch! Arrows indicate the direction of travel. Green forwards, red backwards
7 Lever direction for raising or lowering the tool drum
8 Electric! Before opening the device, disconnect plug.
9 Arrow showing the direction of rotation of the drum.
10 Warning! Do not tilt - especially with the petrol version

1.3 Machine type identification label



Machine type identification label

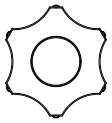
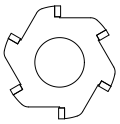
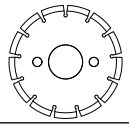
2. Operating the Machine

2.1 Range of applications of the floor scarifier

Information
The floor scarifier / shaver has been developed for the milling or scarifying of horizontal, dry floors such as concrete and steel surfaces with and without coatings and for asphalt using the milling tools offered exclusively by CONTEC /TYROLIT.
The use of the machine outside is only possible in dry weather. The operation must only be carried out in conjunction with a recommended dust collector from CONTEC/TYROLIT

The machine produces aggressiveness when removing concrete, asphalt, coatings and road markings. Cutting tools ensure trouble-free removal of flexible plastic coatings, epoxy resins and road markings

2.2 Application of the tools

Tools	Application
TCT Cutters 	Heavy duty, long life cutters for all concrete texturing, scabbling, planing and grooving applications. Also used for removal of road markings, roof chippings and brittle coatings..
Milling cutters 	Vorwiegend zum Entfernen von Thermoplast-Straßen-markierungen auf Asphalt und Beton, Entfernen von Bodenbeschichtungen auf Thermoplastbasis.
Diamond discs 	Diamond tools for slatted floors and walkways to increase slip resistance. Joint renovations and distance milling (Shaving).

2.3 Operating and scarifying

Danger! The milling machine motor must never be switched on when the tools are still touching the ground. Always lift it off the ground using the quick height adjustment lever (97), then switch it on, put it down and use the handwheel to set it to the desired depth.

After mounting the appropriate tools the operation of the scarifier / planer can begin.

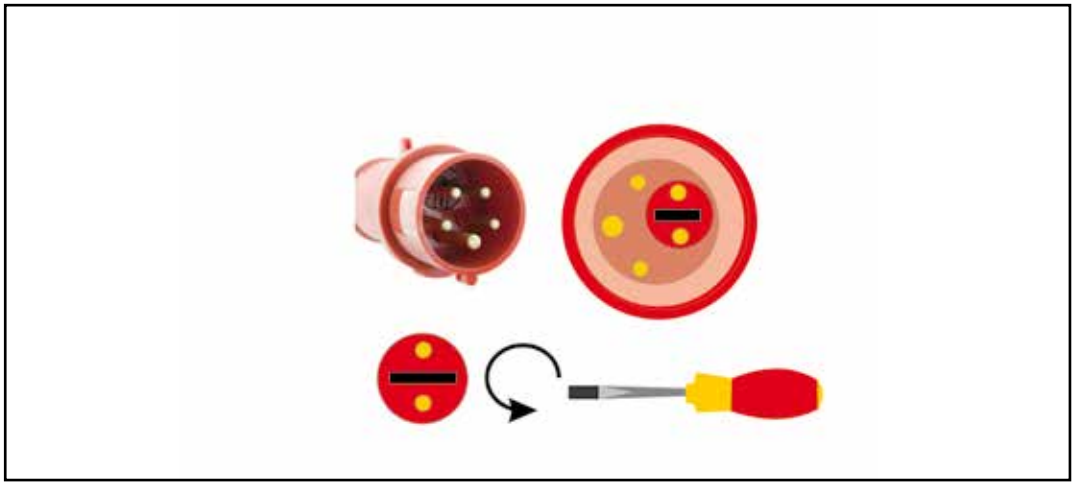
- ▶ The quick height adjustment lever (97 / 99) must be in the upper position before the motor is switched on.
- ▶ In addition, the machine›s handwheel must be turned anti-clockwise until it stops.
- ▶ Switch on the motor using the START button.
- ▶ If the control lamp lights up when the START button is pressed and goes out again when the load is released, the direction of rotation of the drum is incorrect.

2.4 The correct turning direction of the drum

Three-phase motors can basically start in two directions. For the milling machine, the direction of rotation is checked by a sensor.

Danger! If the direction of rotation is incorrect, the machine cannot be activated using the START button.

2.5 Changing the direction of rotation

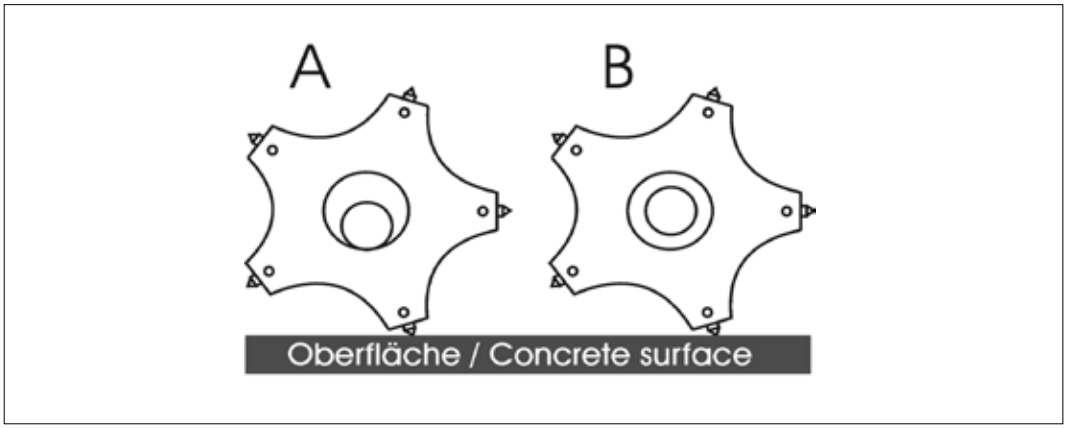


Phase reverse plug

- ▶ Turn the star-delta switch to the star position.
- ▶ Wait until the turbine motor is running at maximum speed and then turn the switch to the delta position.
- ▶ Lower the milling machine by pushing the quick height adjustment lever down.
- ▶ Adjust the working depth with the height adjustment handwheel until the tools grip the ground and the desired effect is achieved.
- ▶ Heavy dust development can be avoided by connecting an extraction system.
- ▶ The damping of the operator handle enables almost vibration-free work.

2.6 Correct position of the cutters in the drum

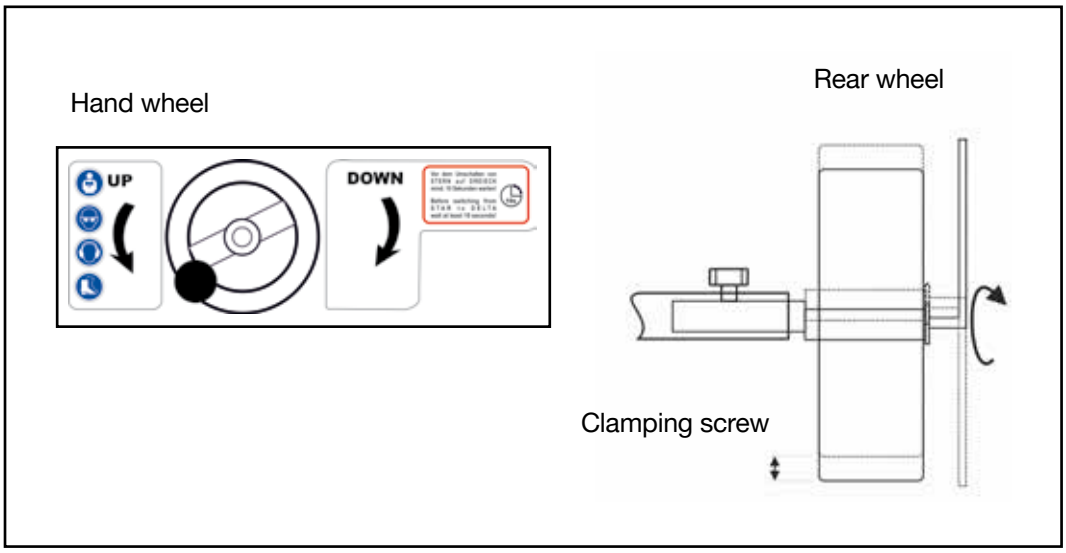
Danger!
Excessive depth settings by lowering the tools too much decreases the performance of the machine. The shafts in the drum and the bearings of the machine may also be destroyed.



Cutters Position A und B.

Danger!
Excessive depth adjustment will jam the cutters between the drum shaft and the surface (A). The consequence is the destruction of the cutters, drum shafts and the drum. If the machine has to be lowered, always make sure that the tools can still turn freely on the drum shafts at all times (B).

2.7 Adjusting the tool drum



Adjusting the tool drum

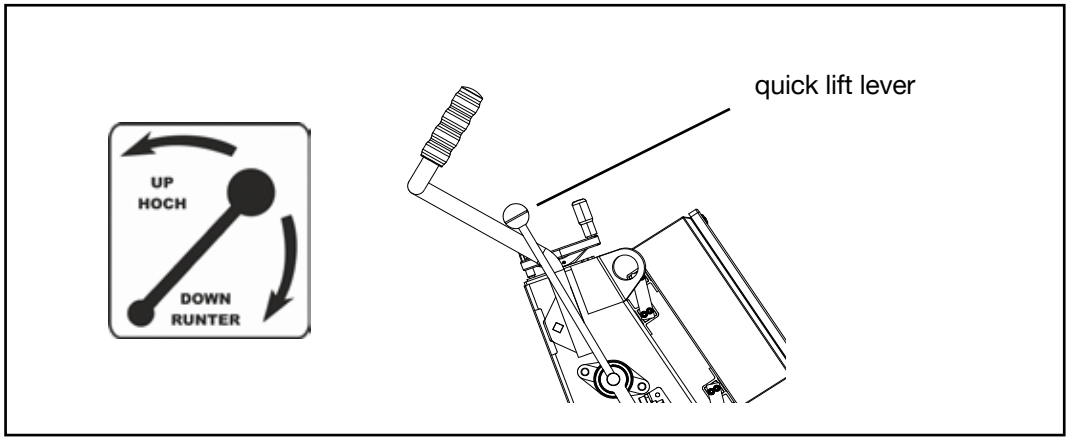
During the operation of the floor planer or after a drum has been changed or replaced, the drum shaft and the rear wheel axis can fall out of alignment. This is noticeable through an uneven milling pattern on the floor. The milling machine touches down earlier on one side than on the other and thus removes more material on one side.

The rear wheels of the milling machine are mounted on an eccentric shaft (see picture above). If the milling pattern needs to be set, proceed as follows:

- ▶ Place the planer on an even floor.
- ▶ Lift the machine with the height adjustment hand wheel, until all the tools are well clear of the floor.
- ▶ Loosen the clamping screw of the eccentric shaft.
- ▶ On the other side of the rear wheel is a screw which keeps the wheel on the shaft.
- ▶ Turning the screw will also turn the eccentric shaft.
- ▶ The floor planer moves up and down on one side.
- ▶ Always turn the screw clockwise. Anti clockwise will loosen the screw.
- ▶ Keep turning until all the tools on the drum are the same distance to the floor.
- ▶ Tighten the clamping screws again.

2.8 Height adjustment of the tool drum

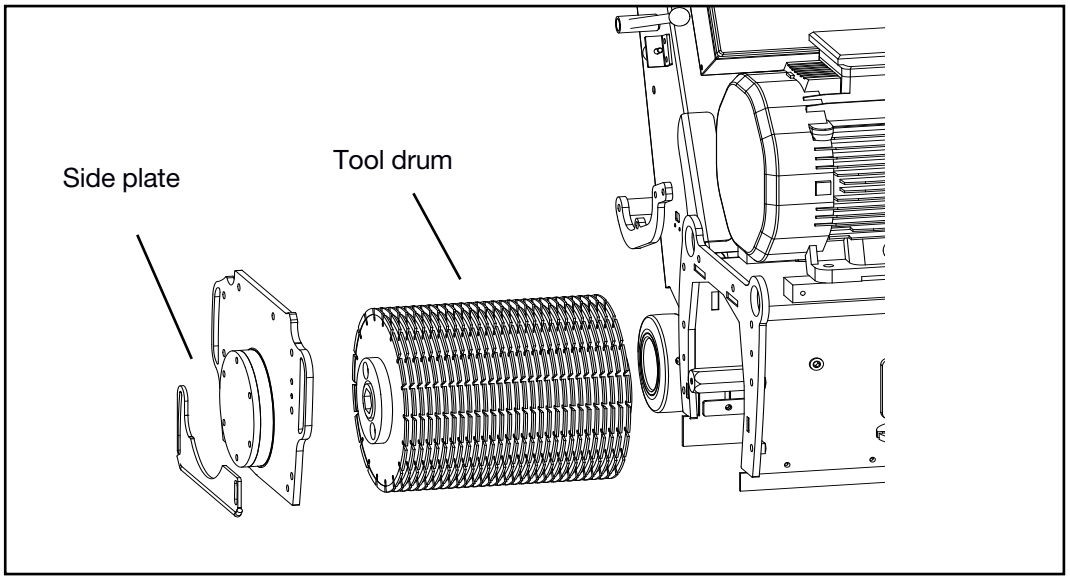
Danger! The milling machine motor must never be switched on when the tools are still touching the ground. Always lift it off the ground using the quick lift lever (97), then switch it on, put it down and adjust it to the desired depth using the hand-wheel.



2.9 Changing the tool drum

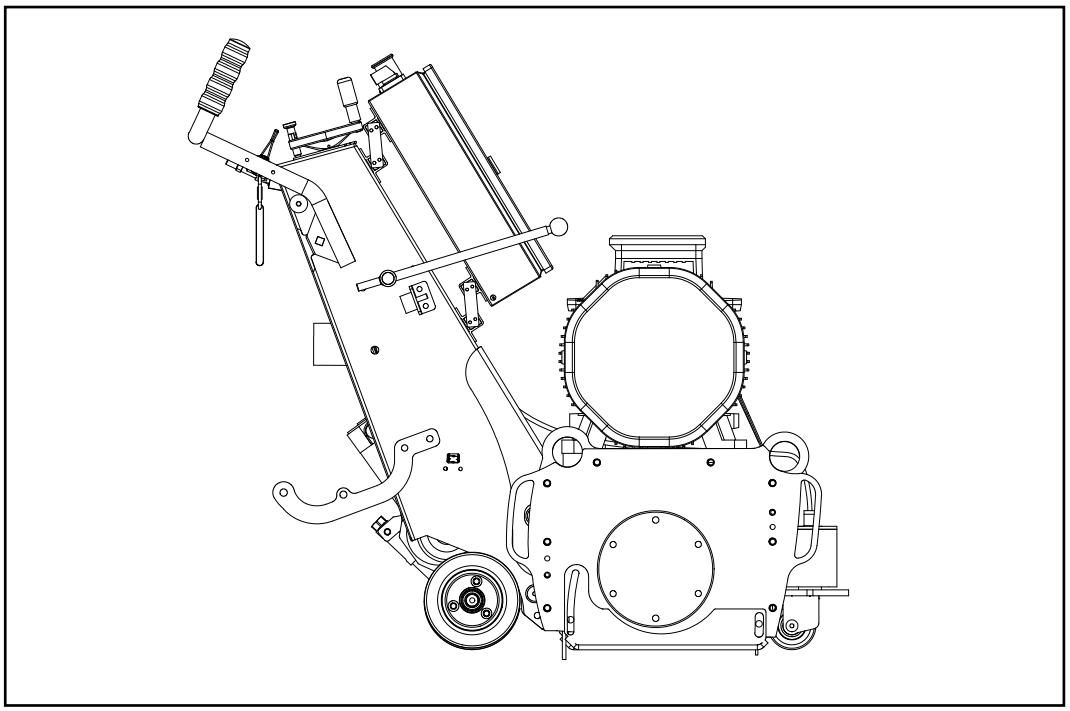
ATTENTION! Before any maintenance, the machine must be brought to a complete stand still. Always disconnect the machine if it is an electric model.

- ▶ Lift the machine with the lever so that the tools are well clear of the floor.
- ▶ Unscrew the screws on the right side plate (M10, Key width 17 mm)
- ▶ Carefully remove the side plate.
- ▶ Take out the drum. Remove worn out tools.
- ▶ Check shafts and drums for wear and tear. If necessary replace new tools on the drum.
- ▶ Push drum on freshly greased shaft.
- ▶ Reconnect side plate.



Changing the tool drum

3. Technical Data



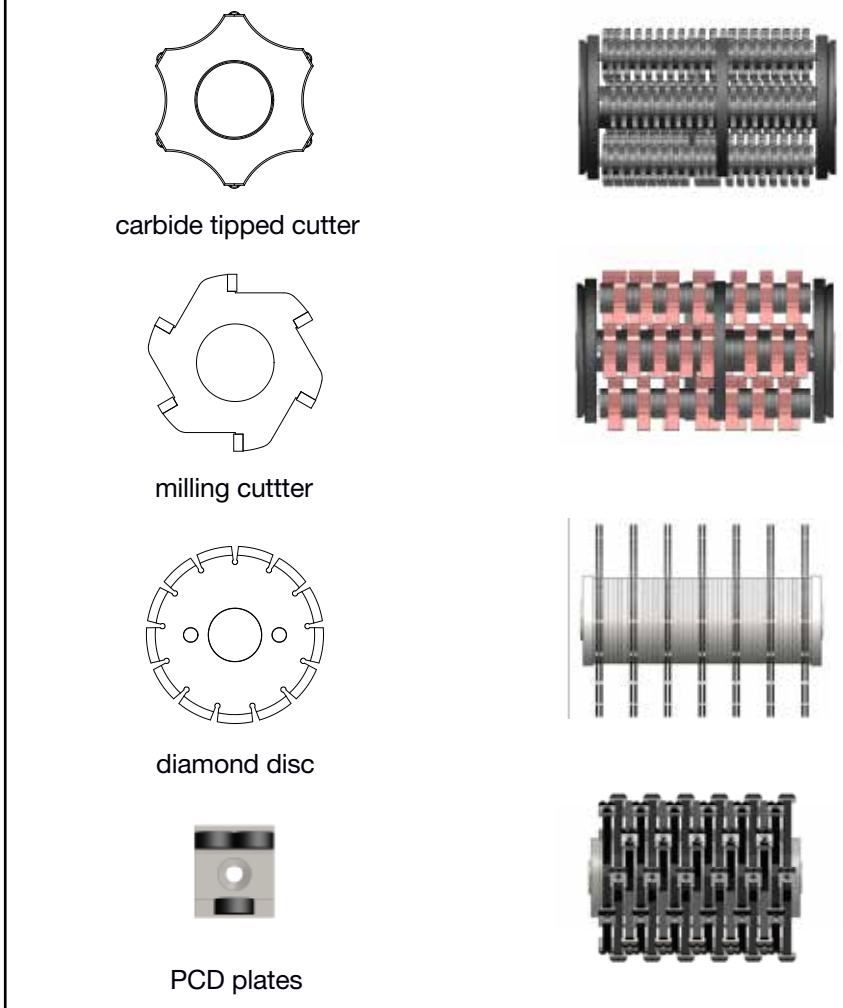
Techncal Data *	
Parameter	**Value**
Working width	320 / 340 mm (Diamond drum)
Machine width	63 cm (24 in)
Machine height	118 cm (47 in)
Machine length	98 cm
Weight	270 / 300 kg
Height adjustment	Hand wheel and lever
Vibration dampening	Rubber block on handle bracket
Electric motor	Europa: 400 V, 15-18.5 kW USA: 460 V,17.3 kW, (23.5 hp) 60 Hz
Motor rotation speed	2935 U/min / Antrieb 3000 U/min
Tool rotation speed	1644 U/min
Current consumption	26.9/32.6 A 3 Phasen
Average value of acceleration ahv *	8.6 m/s2
Noise level Lwa*	109 dB(A)
Noise level Leq*	96 dB(A)
Dust port	70 mm (2.75 in)
Recommended dust collector	CONTEC TORNADO / R2D2

* Measured values / data: VÜA Verein zur Überwachung technischer Anlagen e.V.
* All specifications are approximate and subject to confirmation.
They should only be used as a guide - Changes may be possible

3.1 Tools

Tools for the drum	
Value	**Wert**
Drum diameter	225 mm (10 in)
Cutter shaft diameter	20 mm (0.82 in)
Number of shafts per drum	6
TCT cutter	80/8
Milling cutter	80/20
Cutter diameter	80 mm
Max No. of TCT cutters	128
Max. No. of milling cutters	36

3.2 Example of tools



Example of tools

4. Trouble Shooting

Trouble Shooting		
Problem	**Possible cause**	**Solution**
Machine does not run	– Power supply interrupted – Defective fuse cable or plug defective – Star-delta switch not at zero position – Wrong direction of rotation	– Check the network supply – Eliminate the fault by a specialist or replace parts – Turn switch to zero – Turn the Phase in the plug
High dust development during operation	– Connection to the dust collection system interrupted – Extraction system not switched on – Milling area sealing defective	– Check dust port connection – Turn on or restart dust collector – Replace sealings
High vibration	– Wear & tear parts are worn out	– Check all tools and the correct assembly of drum and replace if required

5. Maintenance and Cleaning

Maintenance and Cleaning	
Bearings	– All bearings are greased for their life time.
Height adjustment and joints	– All joints have to be greased periodically with a standard – machine grease.
Belt drive	– Check the belts after approximately every 30 hours of operation. The belt is tensioned automatically by a tensioner wheel underneath the belt cover
Cleaning	– Regular cleaning of the machine increases the life of all components and tools of the planer. – **NEVER USE A HIGH PRESSURE CLEANER !**

6 Spare Parts list

All individual parts and explosions diagrams can be found listed in our separate Floor milling /scarifier machine Spare Parts List.

7. EU-Declaration of Conformity

In accordance with the EU Machine Directive 2006/42/EG of 17 May 2006, Appendix II A

We hereby certify that the following described machine in its conception, construction and form put by us into circulation is in accordance with all the relevant essential health and safety requirements of the EU Machinery Directive 2006/42/EEC as amended and the national laws and regulations adopting this directive. This declaration is no longer valid if the machine is modified without our consent.

Manufacturer: Contec Maschinenbau & Entwicklungstechnik GmbH,
Hauptstraße 146, 57518 Alsdorf, Germany

Description of the machine:

Description	Scarifier / Shaver / Milling mahine
Typenbezeichnung	(CONTEC) CT 320
	(TYROLIT) FPE320
Serial number	
Year	

The agreement with further valid guidelines/regulations for the products is explained in the following:

EMV-Directive (2014/30/EU) of 26th February 2014

Other applied harmonized standards and specifications in particular:

DIN EN 12100 Safety of machinery – basic concepts, general design principles, basic terminology, methodology, risk assessment

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

Authorized person for the technical documentation:
Johannes Greb, Technical Manager

Alsdorf 15.07.2024

Director

CONTEC MASCHINENBAU & ENTWICKLUNGSTECHNIK GMBH
Hauptstrasse 146, DE-57518 Alsdorf / Sieg Deutschland

Tel: +49 (0) 2741 9344-0 Fax: +49 (0) 2741 9344-29

CONTEC MASCHINENBAU & ENTWICKLUNGSTECHNIK GMBH
Hauptstrasse 146,
DE-57518 Alsdorf / Sieg
Telefon +49 (0) 2741 93440 |
Telefax +49 (0) 2741 934429

info@contecgmbh.com | www.contecgmbh.com

TYROLIT
Swarovskistrasse 33,
AT-6130 Schwaz
Telefon +41 (0) 44 952 18 18
Telefax +41 (0) 44 952 18 00

www.tyrolit.com