



**CORE PREP  
OPERATOR'S MANUAL**

**CPS1300  
SCARIFIER**

**NOVEMBER, 2024**

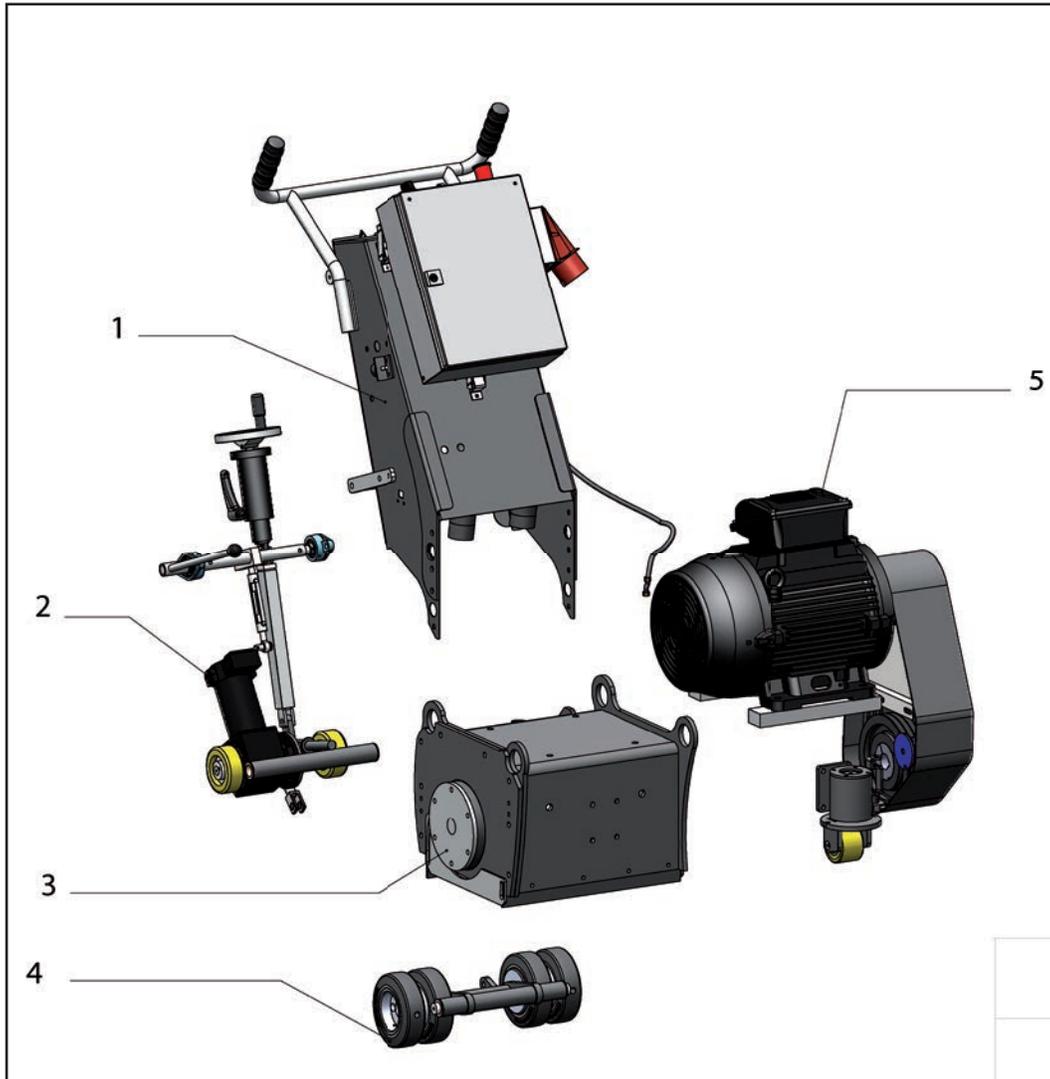


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# Product Overview

CPS1320E3

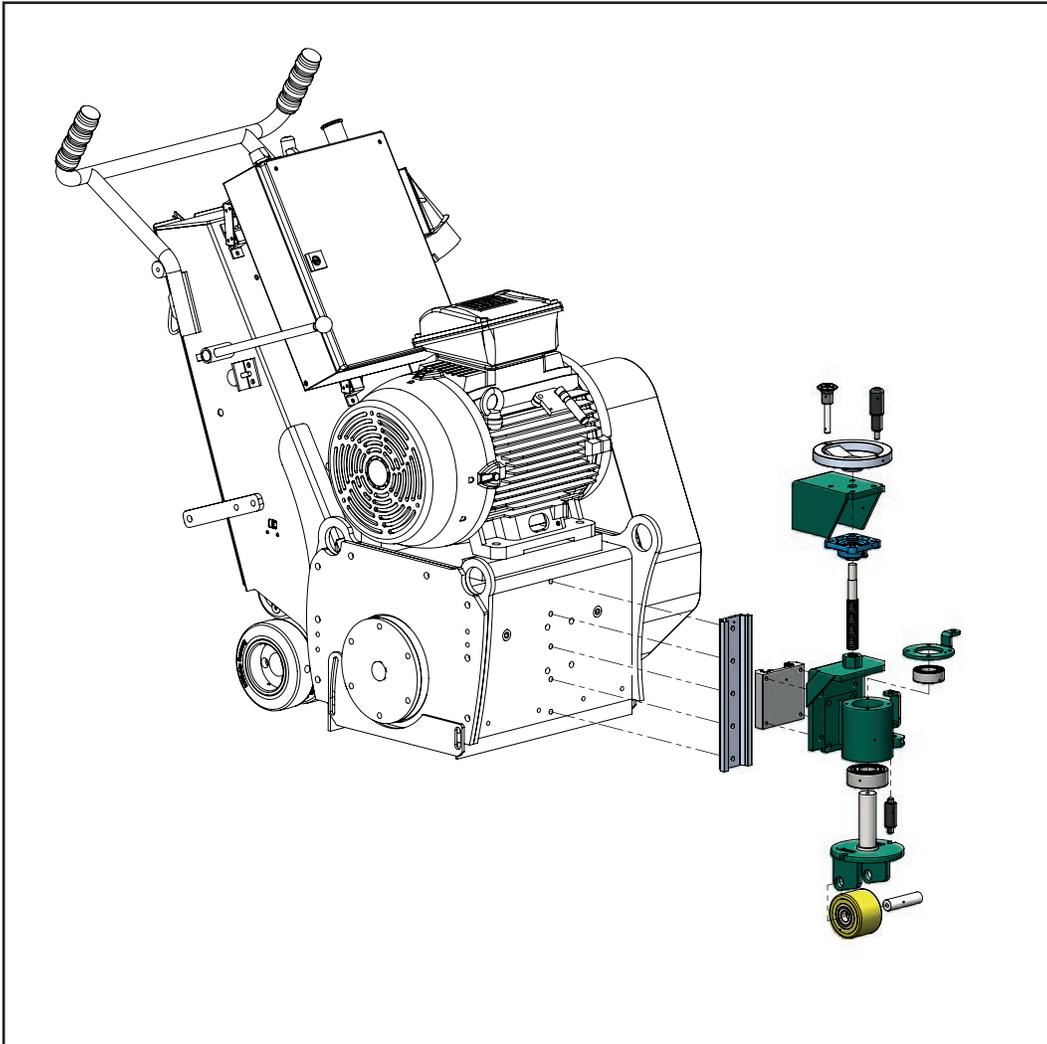


## Product Overview

- 1 Handle complete with control panel
- 2 Drive
- 3 Milling housing
- 4 Swing
- 5 Motor-Drive Belt for front wheel

## Product Overview

CPS1325LCE3 (Low Chassis) Option with adjustable Hand wheel



Product Overview CPS1325LCE3 (low chassis option) with adjustable hand wheel

**All individual parts and explosions diagrams can be found listed in our separate CPS1320E3 AND CPS1325LCE3 Spare Parts List.**

# General Safety Precautions

## 1.1 Safety rules for the operation of the Scarifiers/Planers



### Information

The CPS1320E3 floor 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 CPS1320E3 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 CPS1320E3, 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.

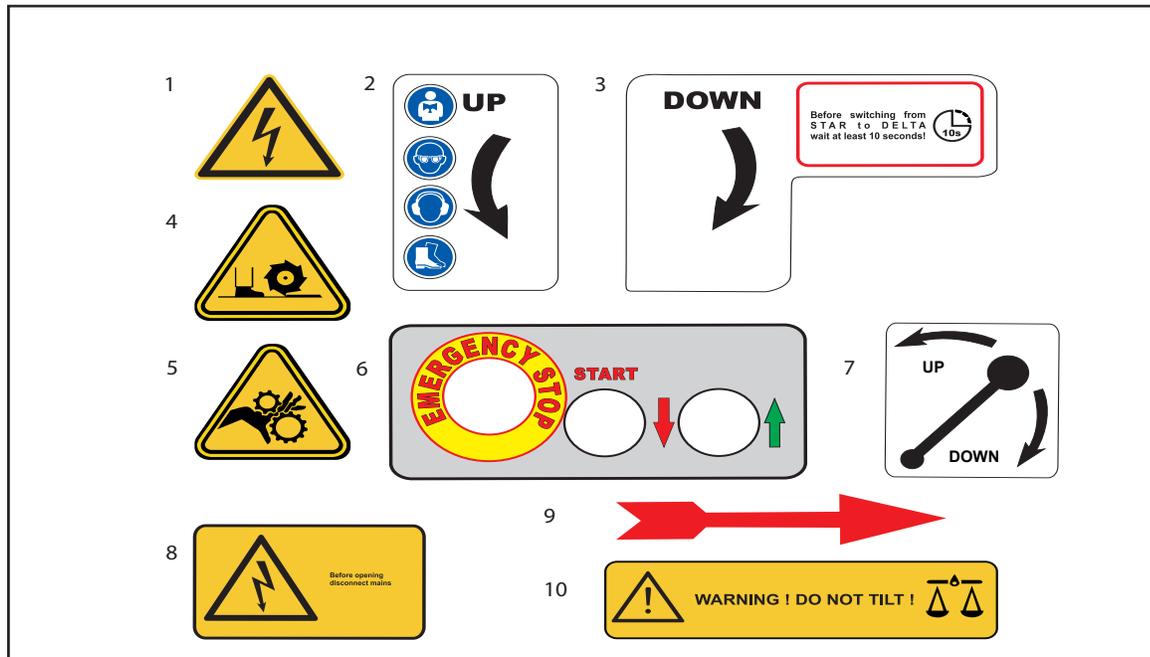


### Attention!

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 CPS1320E3 & CPS1325LCE3 floor scarifier



Labels on the CPS1320E3 floor scarifier

1. Warning - electrical voltage.
2. Read all information carefully. Safety goggles, earmuffs & shoes must be worn.  
**UP** - turn wheel in arrow direction for lifting the tools from the ground.
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 mechanism!
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 Serial Number for CPS1320E3



Machine type ID label CPS1320E3

## 2. Operating the Machine

### 2.1 Range of applications of the CPS1320E3

#### Information



The CPS1320E3 is the largest and most aggressive milling machining from Diamond Products. It 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 Diamond Products.

The use of the machining outside is only possible in dry weather. The operation must only be carried out in conjunction with a recommended dust collector from Diamond Products.

### 2.2 Application of the tools

| Tools                     |   | Application   |
|---------------------------|---|---|
| <b>TCT Cutters</b>        |    | 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.      |
| <b>Milling cutters</b>    |    | Primarily for the removal of thermoplastic road / runway markings. Tipped with tungsten carbide they are cost effective and highly efficient. A range of cutter dimensions are available. |
| <b>Beam flails</b>        |  | Heat treated cutters for the removal of paint coatings and laitance from new concrete. Also for removing grease, dirt and ice deposits.   |
| <b>Diamond saw blades</b> |  | Diamond tools for slatted floors and walkways to increase slip resistance. Joint renovations and distance milling (Shaving).  |

### 2.3 Operating and scarifying

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

- The height adjustment lever (parts 97 and 99) must be in the upper position before the motor is switched on.
- In addition, the hand wheel of the machine must be turned anti-clockwise as far as possible.
- Switch on the motor.
- Lower the planer with the lever to the operating position.
- Turn the hand wheel of the height adjustment until the tools are lowered to the floor and until the required finish is achieved.
- Heavy dust formation can be avoided by connecting an extraction system.
- The damping of the operators grip enables almost vibration-free work.

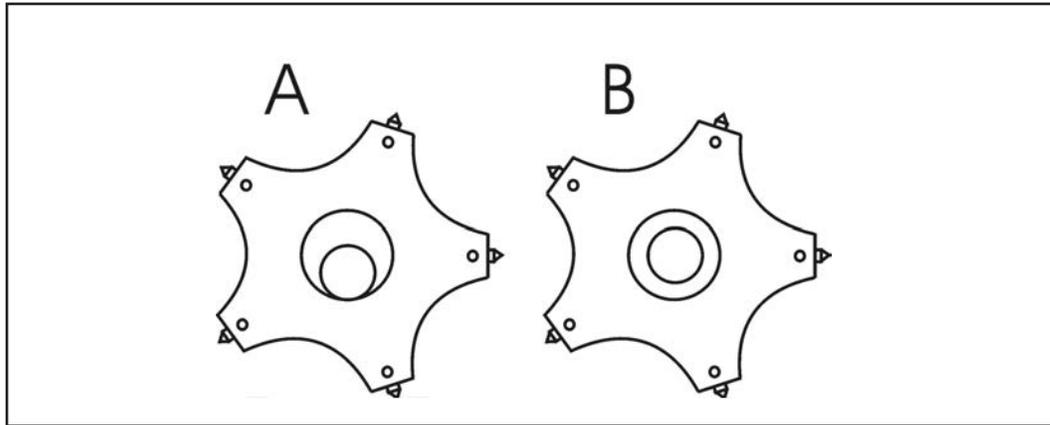
### 2.4 Correct position of the cutters in the drum

#### 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).**

See diagram on next page.



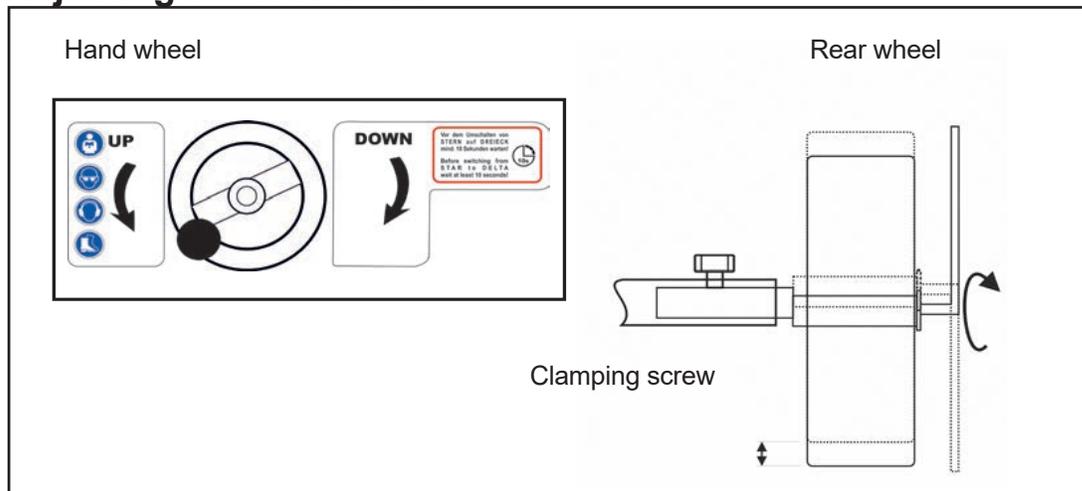
Cutters Position A and B.



**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.**

## 2.5 Adjusting the tool drum



Adjusting the tool drum

During the operation of the CPS1320E3 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 - adjusting the tool drum). If the milling pattern needs to be set, proceed as follows:

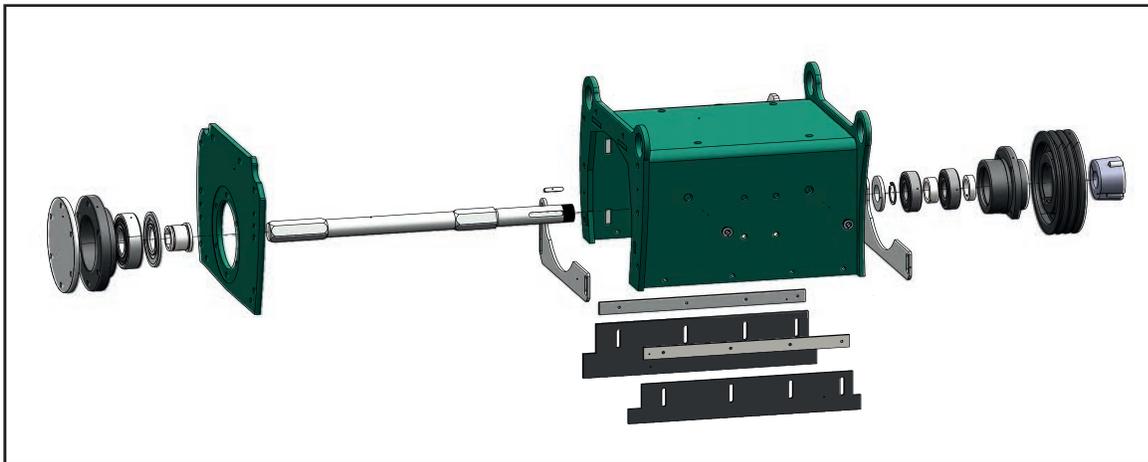
- Place the planer on an even floor.
- Lift the machine with the height adjustment hand wheel, until all the tools are well clear of the floor
- Loosen the clamping screw of the eccentric shaft.
- On the other side of the rear wheel is a screw which keeps the wheel on the shaft.
- Turning the screw will 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 screw again.

## 2.6 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.

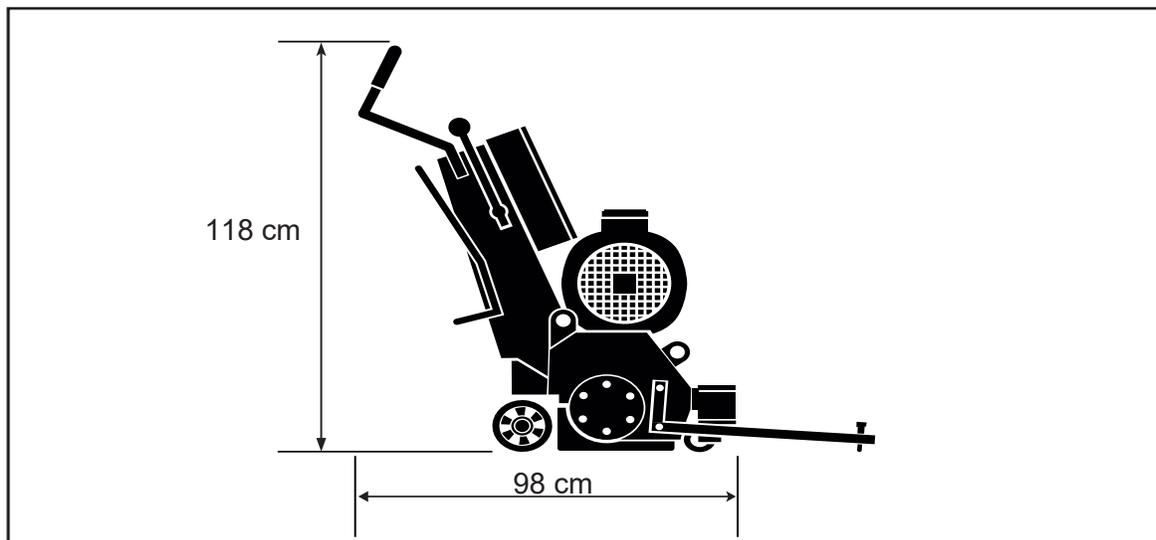
- Lift the machine with the lever so that the tools are well clear of the floor.
- Unscrew the screws on the right side plate (M10, Key width 17 mm)
- Carefully remove the side plate.
- Take out the drum. Remove worn out tools.
- Check shafts and drums for wear and tear. If necessary replace new tools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



CPS1320E3 Drum Housing

**All individual parts and explosions diagrams can be found listed in our separate CPS1320E3 and CPS1325LCE3 Spare Parts List.**

### 3 Technical Data



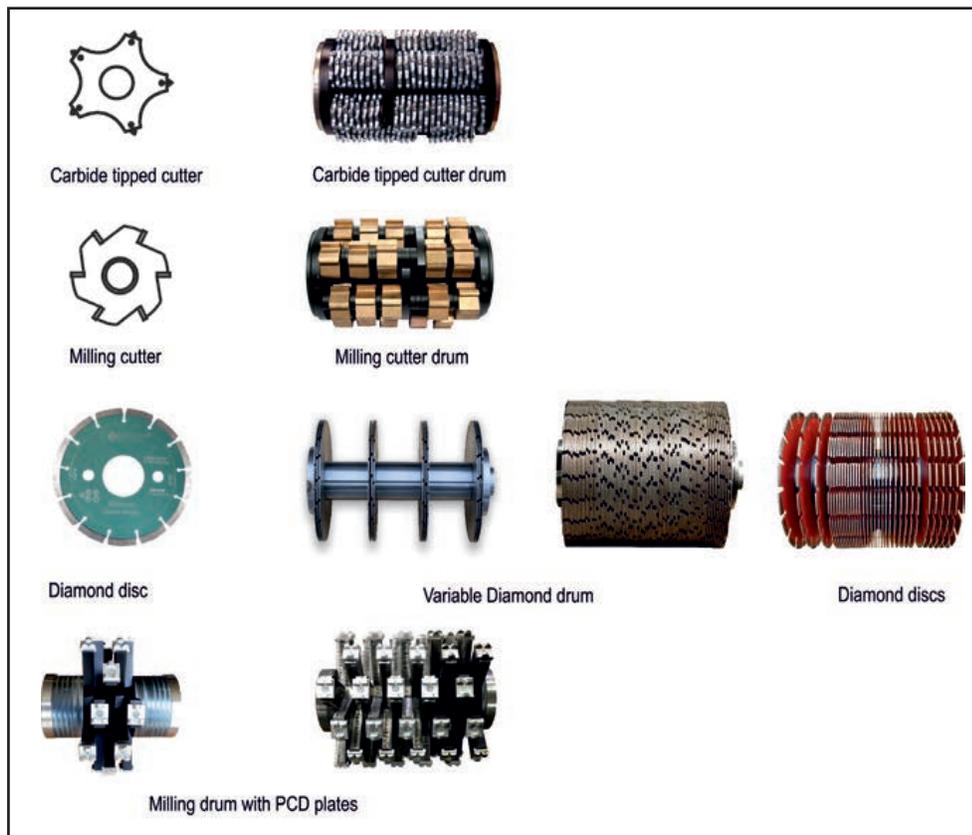
| Technical Data for the CPS1320E3 & CPS1325LCE3 |                                      |
|--|--------------------------------------|
| Parameter                                      | Value                                |
| Working width                                  | 32 cm (12.5 in)                      |
| Machine width                                  | 61 cm (24 in)                        |
| Machine height                                 | 118 cm (47 in)                       |
| Machine length                                 | 98 cm (39 in)                        |
| Weight with drum                               | 270 / 300 kg (595 / 661 lbs)         |
| Motor rotation speed                           | 2935/2935 rpm / Drive Unit 3000 rpm  |
| Tool rotation speed                            | 1644 rpm                             |
| Vibration damped handle                        | Rubber block on handle bracket       |
| Current consumption                            | 26.9 A                               |
| Electric motor                                 | USA: 460 V, 17.3 kW, (23.5 hp) 60 Hz |
| Average value of acceleration $a_{hv}$ *       | 8,6 m/s <sup>2</sup>                 |
| Noise level $L_{wa}$ *                         | 109 dB(A)                            |
| Noise level $L_{eq}$ *                         | 96 dB(A)                             |
| Dust Port                                      | 7 cm (2.75 in)                       |
| Recommended dust collector                     | CV353B                               |

\* Measured values / data

### 3.1 Tools for the drum

| Tools for the CPS1320E3     |                |
|-----------------------------|----------------|
| Parameter                   | Value          |
| Drum diameter               | 225 mm (10 in) |
| Cutter shaft diameter       | 2 cm (0.82 in) |
| Number of shafts            | 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                   | <ul style="list-style-type: none"> <li>– Power supply interrupted</li> <li>– Defective fuse cable or plug defective</li> <li>– Star-delta switch not at zero position</li> <li>– Wrong direction of rotation</li> </ul> | <ul style="list-style-type: none"> <li>– Check the network supply</li> <li>– Eliminate the fault by a specialist or replace parts</li> <li>– Turn switch to zero</li> <li>– Turn the Phase in the plug</li> </ul> |
| High dust development during operation | <ul style="list-style-type: none"> <li>– Connection to the dust collection system interrupted</li> <li>– Extraction system not switched on</li> <li>– Milling area sealing defective</li> </ul>                         | <ul style="list-style-type: none"> <li>– Check dust port connection</li> <li>– Turn on or restart dust collector</li> <li>– Replace sealings</li> </ul>   |
| High vibration                         | <ul style="list-style-type: none"> <li>– Wear &amp; tear parts are worn out</li> </ul>  | <ul style="list-style-type: none"> <li>– Check all tools and the correct assembly of drum and replace if required.</li> </ul>   |

## 5 Maintenance and Cleaning

| Maintenance and Cleaning            |  |
|-------------------------------------|--|
| <b>Bearings</b>                     | <ul style="list-style-type: none"> <li>– All bearings are greased for their life time.</li> </ul>  |
| <b>Height adjustment and joints</b> | <ul style="list-style-type: none"> <li>– All joints have to be greased periodically with a standard machine grease.</li> </ul>   |
| <b>Belt drive</b>                   | <ul style="list-style-type: none"> <li>– Check the belts after approximately every 30 hours of operation. The belt is tensioned automatically by a tensioner wheel underneath the belt cover.</li> </ul> |
| <b>Cleaning</b>                     | <ul style="list-style-type: none"> <li>– Regular cleaning of the machine increases the life of all components and tools of the planer.</li> <li>– <b>NEVER USE A HIGH PRESSURE CLEANER !</b></li> </ul>  |





## **EQUIPMENT AND PARTS WARRANTY**

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.**



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