CEREC Primemill

Operating Instructions (not valid for USA)
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Dear Customer,

Thank you for your purchase of this CEREC Primemill® unit from Dentsply Sirona.

This device enables you to produce dental restorations, e.g. from ceramic material with a natural appearance (CEramic REConstruction).

Improper use and handling can create hazards and cause damage. Please therefore read and follow these operating instructions carefully. Always keep them within easy reach.

Also pay attention to the safety instructions to prevent personal injury and material damage.

Your CEREC Primemill team,

1.1 Contact data

Customer Service Center

In the event of technical queries, please use our online contact form at the following address:

http://srvcontact.sirona.com

Manufacturer's address

Sirona Dental Systems GmbH
Fabrikstrasse 31
64625 Bensheim
Germany

Tel.: +49 (0) 6251/16-0
Fax: +49 (0) 6251/16-2591
e-Mail: contact@dentsplysirona.com

www.dentsplysirona.com
2 General data

Please read this document completely and follow the instructions exactly. You should always keep it within reach.

Original language of the present document: German.

2.1 Identification of the danger levels

To prevent personal injury and material damage, please observe the warning and safety information provided in these instructions for use. Such information is highlighted as follows:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>! DANGER</td>
<td>An imminent danger that could result in serious bodily injury or death.</td>
</tr>
<tr>
<td>! WARNING</td>
<td>A possibly dangerous situation that could result in serious bodily injury or death.</td>
</tr>
<tr>
<td>! CAUTION</td>
<td>A possibly dangerous situation that could result in slight bodily injury.</td>
</tr>
<tr>
<td>NOTE</td>
<td>A possibly harmful situation which could lead to damage of the product or an object in its environment.</td>
</tr>
<tr>
<td>IMPORTANT</td>
<td>Application instructions and other important information.</td>
</tr>
</tbody>
</table>

Tip: Information for simplifying work.
2.2 Formats and symbols used

The formats and symbols used in this document have the following meaning:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>Prerequisite</td>
</tr>
<tr>
<td>1.</td>
<td>First action step</td>
</tr>
<tr>
<td>2.</td>
<td>Second action step</td>
</tr>
<tr>
<td>or</td>
<td>Alternative action</td>
</tr>
<tr>
<td>➢</td>
<td>Result</td>
</tr>
<tr>
<td>➢</td>
<td>Individual action step</td>
</tr>
<tr>
<td>See “Formats and symbols used [→ 7]”</td>
<td>Requests you to do something.</td>
</tr>
<tr>
<td>• List</td>
<td>Identifies a reference to another text passage and specifies its page number.</td>
</tr>
<tr>
<td>&quot;Command / menu item&quot;</td>
<td>Designates a list.</td>
</tr>
<tr>
<td>&quot;Command / menu item&quot;</td>
<td>Indicates commands / menu items or quotations.</td>
</tr>
</tbody>
</table>

2.3 Note PC / Acquisition Unit

When a PC is described in this document, this refers to a PC for the acquisition unit (if present). The PC is represented symbolically.
3 General description

3.1 Certification

CE mark

Sirona Dental Systems GmbH hereby declares that the CEREC Primemill radio system type complies with Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at Dentsply Sirona Internet homepage.


CAUTION

CE mark for connected products

Further products which are connected to this unit must also bear the CE mark. These products must be tested according to the applicable standards.

Examples of CE mark for connected products:

- EN 60601-1:2006 based on IEC 60601-1:2005
- EN 60950-1:2006 based on IEC 60950-1:2005
- UL 60950 second edition 2010

RoHS compliance

This symbol indicates that this product does not contain any toxic or hazardous substances or components above the maximum concentration value set out in the Chinese standard SJ / T 11364-2014, and can be recycled following disposal and should not be carelessly discarded.

IC declaration (For Canada only)

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
3.2 **Intended use**

This device is used for computed-aided production of dental restorations, abutments, parts of abutments and drilling templates for implant placement.

This unit must not be used for any other purpose. If the unit is used for any purpose other than the one mentioned above, it may be damaged.

Intended use also includes compliance with these Operating Instructions and the relevant maintenance instructions.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Follow the instructions</strong></td>
</tr>
<tr>
<td>If the instructions for operating the unit described in this document are not observed, the intended protection of the user may be impaired.</td>
</tr>
</tbody>
</table>

**USA: Rx only**

**CAUTION:** According to US Federal Law, this product may be sold only to or by instruction of physicians, dentists, or licensed professionals.

**Dry processing**

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In the event of dry processing without a suction device, dust can be created from the materials being processed. Breathing in this dust can have associated health risks. As such, observe the information and requirements of the suction device.</strong></td>
</tr>
</tbody>
</table>

Dry processing is only permitted in conjunction with CEREC Suction device 230 V or 120 V.

- CEREC Suction Device 230 V/120 V, ordered together with the unit: REF 6569730.
- CEREC Suction Device 230 V/120 V, if ordered separately: REF 6580786.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before using dry processing, verify the functioning, correct connection and the tightness of the connections. All available suction openings must be free.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before dry processing check that the CEREC suction device contains a functioning HEPA fine-dust filter.</strong></td>
</tr>
</tbody>
</table>
3.3 Legend

This symbol can be found on the rating plate on the unit.
Meaning: See warning notice in section "Replacing the main fuses [→ 55]".

This symbol can be found on the door of the unit.
Meaning: See warning in section "Opening the processing chamber door during the machining process [→ 13]".

This symbol can be found on the rating plate on the unit.
Meaning: ESD warning sign, see section "Electrostatic charge [→ 13]".

This symbol can be found on the drawer of the unit.
Meaning: Meaning: No heavy loads.
See notice in section "Installation site [→ 18]".

This symbol can be found on the rating plate on the unit.
Meaning: The accompanying documents are available on the Dentsply Sirona homepage.

Product disposal symbol (see "Disposal [→ 61]").

Follow the operating instructions.
To ensure safe operation of the unit, the user must follow the operating instructions.
Symbols on the packaging

Take note of the following symbols on the packaging:

Top

Protect from moisture

Fragile; handle with care

Stack limit

Temperature during storage and transport

Relative humidity during storage and transport

Air pressure during storage and transport
4 Safety

4.1 Basic safety information

4.1.1 Prerequisites

**NOTE**

Important information on building installation
In order to prevent the risk of an electric shock, this unit must only be connected to a supply mains with a ground wire.
The building installation must be performed by a qualified expert in compliance with the national regulations.

**NOTE**

Restrictions regarding installation site
The system is not intended for operation in areas subject to explosion hazards.

**NOTE**

Do not damage the unit!
The unit can be damaged if opened improperly.
It is expressly prohibited to open the unit with tools!

4.1.2 Maintenance and repair

As manufacturers of dental instruments and laboratory equipment, we can assume responsibility for the safety properties of the unit only if the following points are observed:

- The maintenance and repair of this unit may be performed only by Dentsply Sirona or by agencies authorized by Dentsply Sirona.
- Components which have failed and influence the safety of the unit must be replaced with original (OEM) spare parts.
- Only original cables may be used, so that EMC requirements are met.

Please request a certificate whenever you have such work performed. It should include:

- The type and scope of work.
- Any changes made in the rated parameters or working range.
- Date, name of company and signature.

4.1.3 Modifications to the product

Modifications to this product which may affect the safety of the operator, patients or third parties are prohibited by law!
4.1.4 **Accessories and consumables**

In order to ensure reliable, high-quality results, product safety, and durability, our range of CEREC Primemill production units must only be operated with original accessories and consumables from Dentsply Sirona or approved accessories and consumables from third-party suppliers.

In particular, only the power cable also supplied or the corresponding original spare part may be used with the unit. The user is responsible for any damage resulting from the use of nonapproved accessories and consumables.

Approved accessories and consumables include grinding/milling tools, blocks and coolants. The current selection of approved blocks and corresponding grinding/milling tools can be found in the latest software as well as in "Bur tables for the CEREC milling and grinding units" in the download area at:

https://my.cerec.com

These lists are updated from time to time.

4.2 **Opening the processing chamber door during the machining process**

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coasting tools</strong></td>
</tr>
<tr>
<td>When the processing chamber door is opened during the machining process, it may take a short time (approximately 2-3 seconds) for the tools to coast to a stop.</td>
</tr>
<tr>
<td>➢ Be careful not to touch the tools with your hand or any other object during this time.</td>
</tr>
<tr>
<td>➢ Avoid opening the processing chamber door while the production unit is in operation.</td>
</tr>
<tr>
<td>➢ Before you open the processing chamber door, end any actions that are running by pressing the &quot;Stop&quot; button on the touch interface of the production unit or in the application software.</td>
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4.3 **Electrostatic charge**

4.3.1 **ESD warning labels**

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<th>CAUTION</th>
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<tr>
<td><strong>Risk of injury or damage to components from electrostatic discharge</strong></td>
</tr>
<tr>
<td>For electrical components labeled with an ESD warning label, observe the following instructions.</td>
</tr>
<tr>
<td>➢ Apply the ESD protective measures.</td>
</tr>
<tr>
<td>➢ Do not touch connector pins or sockets without applying ESD protective measures first.</td>
</tr>
<tr>
<td>➢ Do not establish any connections between these connectors without applying ESD protective measures first.</td>
</tr>
</tbody>
</table>
4.3.2 ESD protective measures

ESD protective measures

ESD stands for ElectroStatic Discharge.

ESD protective measures include:

- Procedures for preventing electrostatic charge build-up (e.g. air conditioning, air moistening, conductive floor coverings and non-synthetic clothing)
- Discharging the electrostatic charges of your own body on the frame of the UNIT, the protective ground wire or large metallic objects
- Connecting yourself to ground using a wrist band.

Training

We therefore recommend that all persons working with this system be instructed on the significance of this warning label. Furthermore, they also should receive training in the physics of electrostatic discharges which can occur in the practice and the destruction of electronic components which may result if such components are touched by electrostatically charged USERS.

The content of this training is explained in the Chapter "About the physics of electrostatic charges" [→ 14].

4.3.3 About the physics of electrostatic charges

What is an electrostatic charge?

An electrostatic charge is a voltage field on and in an object (e.g. a human body) which is protected against conductance to ground potential by a nonconductive layer (e.g. a shoe sole).

Formation of an electrostatic charge

Electrostatic charges generally build up whenever two bodies are rubbed against each other, e.g. when walking (shoe soles against the floor) or driving a vehicle (tires against the street pavement).

Amount of charge

The amount of charge depends on several factors:

Thus the charge is higher in an environment with low air humidity than in one with high air humidity; it is also higher with synthetic materials than with natural materials (clothing, floor coverings).

Electrostatic discharge must be preceded by electrostatic charging.

The following rule of thumb can be applied to assess the transient voltages resulting from an electrostatic discharge.

An electrostatic discharge is:

- perceptible at 3,000 V or higher
- audible at 5,000 V or higher (cracking, crackling)
- visible at 10,000 V or higher (arc-over)

The transient currents resulting from these discharges have a magnitude of 10 amperes. They are not hazardous for humans because they last for only several nanoseconds.
Background

Integrated circuits (logical circuits and microprocessors) are used to implement a wide variety of functions in dental/X-ray/CAD/CAM systems.

The circuits must be miniaturized to a very high degree in order to include as many functions as possible on these chips. This leads to structure thicknesses as low as a few ten thousandths of a millimeter.

It is obvious that integrated circuits which are connected to plugs leading outside of the unit via cables are sensitive to electrostatic discharge.

Even voltages which are imperceptible to the user can cause breakdown of the structures, thus leading to a discharge current which melts the chip in the affected areas. Damage to individual integrated circuits may cause malfunction or failure of the system.

To prevent this from happening, the ESD warning label next to the plug warns of this hazard. ESD stands for ElectroStatic Discharge. Connector pins or sockets bearing ESD warning labels must not be touched or interconnected without ESD protective measures.

4.4 Wireless phone interference with equipment

The use of mobile wireless phones in practice or hospital environments must be prohibited to ensure safe operation of the unit.
4.5 Disturbance of data transmission

**Note on wireless communication**

Data communication between the acquisition unit and the CEREC Primemill production unit should preferably be wireless data communication via WLAN.

As for all wireless connections (e.g. cell phones), heavy utilization of the available radio channels or shielding caused by building installations (e.g. metal-shielded X-ray enclosures) may impair the quality of the connection. This may become noticeable through a reduction in range and/or a slower data transmission rate. In extreme cases, it will be impossible to establish a wireless connection at all.

Dentsply Sirona has selected the best possible configuration for data communication via WLAN, which generally provides perfect functioning of this connection. However, in individual cases unrestricted wireless data communication may be impossible for the reasons mentioned above and/or due to local circumstances. In such cases, a cable LAN connection should be selected to ensure uninterrupted operation. If the only LAN interface on the rear of the acquisition unit is occupied by another plug, remove this wireless interface connection and instead connect the LAN cable with the CEREC Primemill production unit.

4.6 Ventilation slots

Under no circumstances may the ventilation slots on the unit be covered, since otherwise the air circulation will be obstructed. This can cause the unit to overheat.

Do not spray liquids such as disinfectants into the ventilation slots. This may lead to malfunctions. Use wipe disinfection only in the vicinity of the ventilation slots.
5 Installation and startup

5.1 Transport and unpacking

All products from Dentsply Sirona are carefully checked prior to shipment. Please perform an incoming inspection immediately after delivery.

1. Check the delivery note to ensure that the consignment is complete.
2. Check whether the product shows any visible signs of damage.

**NOTE**

**Damage during transport**
If the product was damaged during transport, please contact your carrying agent.

If return shipment is required, please use the original packaging for shipment.

The unit must be drained before it is ever transported if it has been in operation (see "Removing water from the unit [→ 57]").

**Transport without packaging**

**CAUTION**

**Damage to the unit or risk of injury during transport without packaging**
There is a danger of the unit falling down if it is grasped by its plastic housing.

➢ The unit should always be carried by two persons.
➢ Do not grasp the unit by its plastic housing.
➢ Always grasp the unit by its chassis next to its feet.

5.2 Disposal of packaging materials

The packaging must be disposed of in compliance with the relevant national regulations. Please observe the regulations applicable in your country.
5.3 Installation site

CAUTION

Install out of the reach of patients!

Do not install or operate the production unit in the vicinity of the patient (place it at least 1.5 m away from the patient).

The production unit requires a level base of approx. 729 mm x 465 mm (W x D). The height of the production unit is:

- with the processing chamber door closed: 454 mm
- with the processing chamber door, open: 675 mm

Install the production unit in such a way that access to the mains connector plug is guaranteed at all times.

Make sure that the ventilation slots underneath and at the back of the unit remain unobstructed. The distance between the back of the unit and the wall must at least be 10 cm.

Note the weight of 46 kg!

The unit must not be installed at sites with a high level of humidity or dust!
NOTE

**Installation in a cabinet**
If the unit is installed in a cabinet, you must provide for adequate heat exchange.
The ambient temperature surrounding the unit must be between 5 °C (41 °F) and 40 °C (104 °F).

---

⚠️ **CAUTION**

**Risk of injury and damage to the unit**
The unit can be tilted when the drawer is extended.
➢ Install the unit so that the front does not project beyond the base.

---

⚠️ **CAUTION**

**Risk of injury and damage to the unit**
Avoid tilting the unit. Do not lean against the pulled-out drawer and do not apply a vertical load of more than 5 kg onto the pulled-out drawer.
5.4 Commissioning

NOTE
Important information on initial startup
Observe the software installation instructions!

5.4.1 Functional elements

Unit overview

<p>| | | |</p>
<table>
<thead>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Processing chamber</td>
<td>E</td>
</tr>
<tr>
<td>B</td>
<td>Touch interface</td>
<td>F</td>
</tr>
<tr>
<td>C</td>
<td>ON/OFF switch</td>
<td>G</td>
</tr>
<tr>
<td>D</td>
<td>RFID reader</td>
<td>H</td>
</tr>
</tbody>
</table>

Production unit overview
Ports on the back side

Connections

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main switch</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>I = ON, 0 = OFF</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Fuse cover</td>
<td>F</td>
</tr>
<tr>
<td>C</td>
<td>Power connection</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Communications interface for suction</td>
<td>H</td>
</tr>
</tbody>
</table>
Processing chamber

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Tool set 1</td>
<td>E</td>
</tr>
<tr>
<td>B</td>
<td>Tool set 2</td>
<td>F</td>
</tr>
<tr>
<td>C</td>
<td>Block</td>
<td>G</td>
</tr>
<tr>
<td>D</td>
<td>Workpiece spindle</td>
<td></td>
</tr>
</tbody>
</table>
5.4.2 Supplied tools

5.4.2.1 Tools
The following tools are available for grinding and milling. When changing tools, ensure that permitted tool combinations are used (see "Permitted tool combinations [→ 40]").

5.4.2.2 Calibration pins
The calibration pins are used when calibrating the tool sets (see "Calibrating the unit [→ 37]").

5.4.2.3 Torque wrench
Use the proper torque wrench for inserting and changing tools and calibration pins. When doing so, pay attention to the connection geometry of the torque wrench.

<table>
<thead>
<tr>
<th>Tool</th>
<th>REF</th>
<th>Usage</th>
<th>Color</th>
<th>Connection geometry of the force transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bur 2.5 ZrO2 CS</td>
<td>6713940</td>
<td>Milling of zirconium oxide (wet and dry)</td>
<td>Yellow</td>
<td>Square</td>
</tr>
<tr>
<td>Bur 1.0 CS</td>
<td>6713932</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td>Triangular</td>
</tr>
<tr>
<td>Bur 0.5 CS</td>
<td>6713924</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>Diamond 1.4 CS</td>
<td>6714088</td>
<td>Grinding</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Diamond 1.2 CS</td>
<td>6714070</td>
<td>Grinding</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Calibration pin</td>
<td></td>
<td>Calibration</td>
<td>Light blue</td>
<td></td>
</tr>
</tbody>
</table>
5.4.3 **Description of the touch interface**

These operating instructions describe operations in such a way as to enable you to use your PC or the touch interface to execute and confirm commands, such as "Start", "Stop", "Cancel" or "Okay". Other possible commands are then available in the buttons on the touch interface.

5.4.4 **Illumination of the processing chamber, LED light strip, and On/Off button**

The following function elements are illuminated differently depending on the machining process and sub-process.

<table>
<thead>
<tr>
<th>Machining operation</th>
<th>Sub-process</th>
<th>Processing chamber</th>
<th>LED light strip</th>
<th>ON/OFF button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit off – Main switch on</td>
<td>-</td>
<td>Off</td>
<td>Off</td>
<td>Blue, constant</td>
</tr>
<tr>
<td>Switch the unit on – Booting process</td>
<td>Self-test</td>
<td>Off</td>
<td>White, pulsating</td>
<td>Yellow, constant</td>
</tr>
<tr>
<td></td>
<td>Referencing run</td>
<td>White, pulsating</td>
<td>White, pulsating</td>
<td>Yellow, constant</td>
</tr>
<tr>
<td></td>
<td>Complete</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
<td>Red, constant</td>
<td>Red, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td>The unit is ready to receive processing operations</td>
<td>Status OK</td>
<td>Status OK</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Warning – Operation is continued; information at the end of the operation can be ignored – e.g. water pressure or water level critical; tool at end of service life</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td>Unit is in operation</td>
<td>Status OK</td>
<td>White, constant</td>
<td>Progress bars displayed in blue and white, fully in green</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Problem – Process pauses and can be restarted; e.g. tool broken, water pressure inadequate</td>
<td>White, constant</td>
<td>Yellow, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Serious error – Process stopped; e.g. broken block</td>
<td>Red, constant</td>
<td>Red, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td>Processing concluded successfully</td>
<td>Door closed</td>
<td>White, constant</td>
<td>Green, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Door open</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Door closed again</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
</tbody>
</table>
## 5.4.5 Using the processing chamber screen

### NOTE

**Risk of blockage in the cooling circuit**

If chips enter into the cooling circuit of the machine, there is a risk that the cooling circuit will become blocked.

➢ The processing chamber screen is suitable for all restoration and material types. It is absolutely essential that no chips enter into the cooling circuit.

The screen enables simpler cleaning of processing chambers.

Place the screen at the bottom of the processing chamber. If needed, you can easily remove and clean the screen.

<table>
<thead>
<tr>
<th>Machining operation</th>
<th>Sub-process</th>
<th>Processing chamber</th>
<th>LED light strip</th>
<th>ON/OFF button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>Action required – Close door, change tool</td>
<td>White, constant</td>
<td>Yellow, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Longer actions; e.g. calibration</td>
<td>White, constant</td>
<td>Progress bars displayed in blue and white, fully in green</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Shorter actions; e.g. machine moves to starting position</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td></td>
<td>Action completed successfully</td>
<td>White, constant</td>
<td>Yellow, constant</td>
<td>Green, constant</td>
</tr>
<tr>
<td>Unit shuts down</td>
<td>Machine moves to starting position</td>
<td>White, constant</td>
<td>White, constant</td>
<td>Yellow, constant</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Off</td>
<td>Off</td>
<td>Blue, constant</td>
</tr>
</tbody>
</table>
5.4.6 Installation

5.4.6.1 Connecting to the PC via LAN
An Ethernet port is located on the rear of the unit, which can be used to connect the PC to the production unit. Use a network cable to do this (LAN connection).

Using a network cable

Connect the PC to the LAN connection of the unit.

5.4.6.2 Connecting the unit to the power supply

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grounded power outlet</td>
</tr>
<tr>
<td>The unit must be connected to a grounded power outlet.</td>
</tr>
</tbody>
</table>

> Connect the unit to the power supply using the supplied power cable.

5.4.6.3 Installing the unit
The following steps must be performed before putting the unit into operation.

5.4.6.3.1 Process steps that have to be taken on the unit.

- The unit is connected to a power supply source and the main switch on the rear of the unit is switched on.
  1. Switch the unit on by pressing the On/Off button at the front. A start screen will shortly appear on the touch interface.
  2. Select the user language.
  3. Check the preset data and adjust it if necessary.
  4. Check on the touch interface whether or not a suction unit is connected.
5.4.6.3.2 **Process steps that have to be performed on the acquisition unit or the PC**

**Automatic unit search**

- The unit is connected to the PC via a LAN cable or via WLAN.
- 1. Click the "Configuration" button in the system menu.
- 2. Click the "Devices" button.
- 3. Click the "Scan for New Devices" button.
  - All units connected to the PC are recognized. In the case of new units, you will be prompted to enter a name.

**Manual unit search**

- The unit is connected to the PC via a LAN cable or via WLAN.
- 1. Click the "Configuration" button in the system menu.
- 2. Click the "Devices" button.
- 3. Click the "Add Device (Manual)" button.
- 4. Enter the network address that appears on the touch interface after switching on the production unit: "Settings"/"Network Settings".
- 5. Click the "Ok" button.
  - The software attempts to contact the device.

If the connection fails, check the connection. If necessary, ask a qualified technician.

**Remove the unit**

- If you no longer require a unit (e.g. a unit is replaced), you can remove it.
  - The unit is not in operation.
- 1. Click the "Configuration" button in the system menu.
- 2. Click the "Devices" button.
- 3. Click on the unit that you wish to uninstall.
- 4. Click the "Delete Device" button.
  - You will be asked if you would like to remove the unit.
- 5. Click the "YES" button.
  - The device is removed.
5.4.6.4 Connecting the suction device (optional)

5.4.6.4.1 Connecting the suction tube

**CAUTION**

Trip/fall hazard

If the suction tube is routed poorly, there may be a risk of tripping.
➢ To prevent injuries caused by tripping, route the suction tube so that there is no risk of tripping.

1. Connect one end of the suction tube to the available connection point on the suction device (A).
2. Connect the other end of the tube to the rear side of the production unit (B).

**Notes on the suction tube:**

The suction tube is supplied at a length of approx. 2.0 m. When connecting the suction device to the unit, please ensure that no sharp bends occur over the full length of the suction tube.

Reduce the length of the tube according to your requirements and your installation location. Note that suction power drops along the length of the tube. You obtain decent suction power if the suction device is placed immediately below the machine and you have a tube length of 1.2 m or less.
5.4.6.4.2 Connecting the power cord

**NOTE**

**Grounded power outlet**
The unit must be connected to a grounded power outlet.

1. Insert the power cable into the relevant socket on the suction system.
2. Plug the other end into an appropriate power socket with a protective ground terminal.

**Note on the power cable:**
The suction system must only be operated with a power cable with a plug system designed for the relevant country.

Check the voltage specification on the rating plate. The system must conform to the country-specific supply voltage.

5.4.6.4.3 Connecting the interface cable (for automatic mode)

1. Plug the 15-pole connector into the socket (A) on the rear of the production unit.

2. Plug the 9-pole connector into the socket (B) of the suction device.
5.4.6.4.4 **Automatic mode**

- The interface cable is connected.
- Set the on/off switch to the position Auto.

**Note on the automatic mode:**

The production unit monitors the correct connection (interface cable and suction tube) and the operation of the suction system during the running processes.

5.4.6.4.5 **Setting the suction power**

Use the control dial (A) to set the suction power.

- **Recommendation:** Set the suction power to the minimum (min).

**NOTE**

We recommended replacing the filter bag for the CEREC suction after approx. 120 restoration units. After 120 dry-milled restorations, a notice appears on the home screen of the touch interface. This number may differ depending on the amount of zirconium oxide material milled and suctioned.
5.4.6.5 Connecting to the PC via WLAN (option)

Making the connection

Connect access point

➢ Connect the LAN port A of the production unit to an access point using the network cable.

Positioning the access point

➢ Position the access point and satellites, if any, in such a way that you have adequate reception with the acquisition unit from every relevant point in your practice.

NOTE

LAN connection
Operation via a LAN cable connection is possible at any time.
5.4.6.6 Operating several production units at one access point

For operation of several production units on one access point, you also need a switch to which you connect the production units.
5.4.7 Filling the water tank

**NOTE**

**Using the tank cap opener**
If you find the tank cap, tank drain or filter insert hard to open by hand, use the tank cap opener (see "Using the tank cap opener").

**NOTE**

**Coolant**
Use distilled or demineralized water.

---

**Water tank**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Tank</td>
<td>D</td>
<td>Tank drain</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Tank cap</td>
<td>E</td>
<td>RFID chip</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Filter insert</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The water tank is drained, see "Removing water from the unit [→ 57]".
- 1. Open the drawer of the unit.
- 2. Pull the water tank out of the unit’s housing with the handle on the bottom front side of the tank.
- 3. Turn the tank cap counter-clockwise and take it off.
NOTE

Damage to surfaces!
In the undiluted state, the coolant additive DENTATEC disintegrates plastic surfaces and can cause discoloration.
➢ Do not place DENTATEC on the unit.
➢ Do not spill DENTATEC.

4. Add approx. 75 ml of DENTATEC to the tank.
5. Fill the tank with water until the filter insert is completely immersed (up to the bottom edge of the cover thread, approx. 3.5 liters).
6. Wait for a short time until the filter insert is completely soaked; then add an appropriate amount of water.
7. Close the water tank by tightening the tank cap clockwise by hand.
   Do not use the tank cap opener for this.
8. Push the water tank back into the housing.
9. Close the drawer of the unit.
10. Select the symbol shown on the left on the touch interface.
11. Activate the water pump in order to fill the water circuit.
12. Leave the water pump running until a constant jet of water strikes the tools (approximately 10 seconds).
13. Deactivate the water pump.
14. Fill the water tank up again until the filter insert is completely immersed (up to the bottom edge of the cap thread).
15. Select the symbol shown on the left on the touch interface.
16. To reset the water tank counter, press the "Replace" button next to the "Water Tank" category.

5.4.8 Switching the unit ON and OFF

NOTE

Do not put the unit into operation at low temperatures!
If you move the unit to the operating site from a cold environment, condensation may form and result in a short circuit.
Within the machine, grease depots are included for lubricating components that can cause error messages at low temperatures.
✓ Install the unit at room temperature.
➢ Wait until the unit has reached room temperature and is absolutely dry (for at least one hour)
☢ The unit is dry and can be put into operation.

Switching on the unit
✓ The unit is connected to the power supply.
1. The main switch on the rear side of the unit is set to position I (ON). The On/Off button lights up blue.
2. Press the On/Off button on the front.
   ☢ The unit switches on and the On/Off button changes from blue to orange.
3. Select the appropriate language and region.
4. Confirm the date and time.
5. Activate the suction settings if necessary.

**Switching off the unit**

➢ Press the On/Off button on the front.
➢ The unit then switches off. The On/Off button changes from green to blue.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not switch off the unit at the main switch.</td>
</tr>
</tbody>
</table>

### 5.5 Repacking

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repack only drained units!</td>
</tr>
<tr>
<td>Drain the unit!</td>
</tr>
</tbody>
</table>

✓ The water tank is empty.
✓ The main switch on the back side of the unit is set to the 0 (OFF) position.

1. Disconnect the power cable and the connecting cable from the back side of the unit and stow them away.
2. Stow away the calibration tools in the drawer.
3. Check the unit for completeness according to the scope of supply!
4. Pack the unit securely.

### 5.6 Scope of supply

The detailed scope of supply is specified in the document "Checklist CEREC Primemill".

### 5.7 Storage

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repack only drained units!</td>
</tr>
<tr>
<td>Drain the unit! See &quot;Removing water from the unit [→ 57]&quot;.</td>
</tr>
</tbody>
</table>

Store the unit in a closed and dry room at a temperature of -40 °C (-40 °F) to 70 °C (158 °F).
6 Operation

6.1 Configure

When you switch on the machine for the first time, you can make the following settings in the initial setup:

- Language
- Region
- Date
- Time
- Suction Unit

You can make the following settings via the menu item "Settings" (symbol on left-hand side):

- Machine Name
- Firmware
- Theme
- Language
- Region
- Date And Time
- Network Settings
- Manage Water Tanks
- Suction Unit
- Camera
- Calibration
- Service

**CAUTION**

Risk of injury from calibration pins/tools

If you reach into the processing chamber, for example, to insert/remove a ceramic block, change tools or insert/remove a calibration phantom, you may injure yourself on the calibration pins/tools.

Be careful not to brush against the calibration pins/tools with your hand.

Always insert your hand into the processing chamber below the calibration pins/tools.

In the event of cleaning or maintenance work in the processing chamber, we recommend removing the Bur 1.0 and/or Bur 0.5 tools beforehand.

We also recommend that you select the "Cleaning Position" option on the touch interface to position the motors together so that the floor of the production chamber is easier to access and clean.
6.2 Calibrating the unit

| NOTE |
| Use only the supplied calibration tools |
| Use only the supplied calibration pins and the corresponding calibration phantom when calibrating the unit. |

Unit calibrated ex works
The unit is calibrated at the factory. No additional calibration is required during initial startup. Proceed as described below when performing a subsequent calibration.

| NOTE |
| Incorrect machining result |
| If a unit is not calibrated, the machining result may be incorrect. |

| NOTE |
| Calibrating the machine at room temperature |
| The machine must be at room temperature for the calibration and be switched on for at least 15 minutes. |
Calibration procedure

1. Select the symbol shown on the left on the touch interface.
2. Select "Calibration" and then "Start".
3. Register the calibration phantom on the machine (scanning the code) and insert it in the machine.
4. Close the door.
5. Register the calibration pins (set 1) on the machine (RFID reader) and insert them in the machine.
6. Close the door.
   - The calibration for set 1 is performed. The automatic calibration starts and lasts approximately 5 minutes. Wait until the calibration has been completed.
7. Remove the calibration pins from the machine.
8. Close the door.
9. Register the calibration pins (set 2) on the machine (RFID reader) and insert them in the machine.
10. Close the door.
    - The calibration for set 2 is performed. The automatic calibration starts and lasts approximately 5 minutes. Wait until the calibration has been completed.
11. Remove the calibration pins from the machine.
12. Close the door.
13. Remove the calibration phantom.
14. Close the door.
    - The calibration is completed.
6.3 Machining process

**IMPORTANT**
Note the processing instructions of the respective material manufacturer for all manufacturing processes.

**NOTE**
Check the processed restorations after completion of the process and finishing (e.g. sintering, stain & glaze, polishing) for any defects. Note the requirements and instructions of the respective material manufacturer for this.

6.3.1 Process types

**CAUTION**
Risk of injury through sharp-edged restorations and material residues
There is risk of injury through sharp-edged restorations as well as sharp-edged material residues.
➢ Remove the restored objects and material residues carefully after the processing.
➢ Pay attention to the sharp-edged material residues while cleaning the processing chamber.

Different process types are available for machining. These differ in the type of the materials to be processed, the tools to be used and the corresponding fixture in the unit.

**CAUTION**
Risk of injury by machining tools
There is a risk of cut injuries caused by sharp edges of accessible parts and the use of rotating milling and grinding tools that are sharp and/or pointed.

6.3.1.1 Grinding
For grinding, use the following tools as well as the appropriate torque wrench: When doing so, pay attention to the connection geometry of the torque wrench.

<table>
<thead>
<tr>
<th>Tool</th>
<th>REF</th>
<th>Usage</th>
<th>Color</th>
<th>Connection geometry of the force transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond 1.4 CS</td>
<td>6714088</td>
<td>Grinding</td>
<td>White</td>
<td>Triangular</td>
</tr>
<tr>
<td>Diamond 1.2 CS</td>
<td>6714070</td>
<td>Grinding</td>
<td>White</td>
<td></td>
</tr>
</tbody>
</table>
6.3.1.2 **Milling**

For milling, use the following tools as well as the appropriate torque wrench: When doing so, pay attention to the connection geometry of the torque wrench.

<table>
<thead>
<tr>
<th>Tool</th>
<th>REF</th>
<th>Usage</th>
<th>Color</th>
<th>Connection geometry of the force transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bur 2.5 ZrO2 CS</td>
<td>6713940</td>
<td>Milling of zirconium oxide (wet and dry)</td>
<td>Yellow</td>
<td>Square</td>
</tr>
<tr>
<td>Bur 1.0 CS</td>
<td>6713932</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td>Triangular</td>
</tr>
<tr>
<td>Bur 0.5 CS</td>
<td>6713924</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td></td>
</tr>
</tbody>
</table>

6.3.1.3 **Permitted tool combinations**

Depending on the materials to be processed and the process type used, various tool combinations are permitted. These are permanently defined.

6.3.2 **Preparations**

- Load or design a restoration (see Operator's Manual).
- You are in the "MANUFACTURE" phase and have selected the production unit, tested the settings, and positioned the restoration in the block.
- Click the "Start" step.
- The production unit moves to the application position.
6.3.3 Starting the machining processes

✓ The touch interface of the production unit shows the home screen and the unit door is closed.

1. The production unit positions the tools as soon as the door is closed.

2. If a DataMatrix code is present:
   The DataMatrix code scanner is activated and you can scan in the DataMatrix code of the block (see "Scanning in the DataMatrix code [→ 42]").
   
or
   ➢ If no DataMatrix code is present:
   You can manually enter manufacturer, type of material, size, color, and enlargement factor of the block.

3. Open the door.

4. Place the selected block in the block fixing.

5. Clamp the block with the ball pressure screw. Use the block clamp tool for this purpose (see also "Block clamping [→ 43]").

6. Close the processing chamber door.
   The expected duration of the machining process is displayed on the touch interface.

NOTE
Error message during touch process!
Always be sure to insert the block that you selected for the restoration. Otherwise an error message will be displayed during the touch process.

NOTE
Terminating the machining process
You can terminate the machining process at any time by clicking the "Stop" button on the PC or touch interface.
6.3.4 Ending the machining processes

1. When the machining process has been completed, open the processing chamber door.
2. Remove the restoration.

**WARNING**

Risk of injury on the remainder of the ceramic block

The remaining portion of the ceramic block may have sharp edges (e.g. A) that could injure you if it is not removed carefully.

Always grasp the remainder of the ceramic block by its metal holder.

3. Loosen the ball pressure screw.
4. Remove the remainder of the ceramic block. When removing the remaining block from blocks with 6 mm diameter block holders, make sure that the adapter sleeve remains in the machine.
5. Close the processing chamber door.

**CAUTION**

Do not use defective milling and grinding results!

Machining results must be judged by the user (dentist or dental technician) and must not be used if defects are detected!

**NOTE**

If you have not used the production unit for an extended period, we recommend switching it off and then opening the processing chamber door so that the processing chamber can dry out.

6.4 Scanning in the DataMatrix code

If the block to be processed has a compatible DataMatrix code, the built-in DataMatrix code scanner can be used to query the block information.

When prompted to do so by the touch interface, hold the side of the block with the DataMatrix code 1.5 mm in front of the webcam until the successful scan is confirmed on the touch interface.

If the scan attempt fails or if the selected block has no DataMatrix code, you can manually enter the block information on the touch interface or PC.
6.5 Block clamping

**NOTE**

Wear of the ball pressure screw
The high clamping forces cause wear of the ball pressure screw.
➢ Replace the ball pressure screw every 500 clamping operations.

Blocks with 6 mm diameter block holders

1. Insert the adapter sleeve (A) into the block fixing.

**NOTE**

Insert the adapter sleeve
The slot at the bottom end of the adapter sleeve must lie above the radial pin of the block fastener in order to be inserted fully.
The hole for the ball pressure screw is then automatically in the correct position, i.e. coincides with the threaded hole in the block fixing.

2. Insert the block (B) into the adapter sleeve.

3. Clamp the ceramic block securely with the ball pressure screw (C).
   Use the block clamp tool with torque wrench for this purpose.
   The block is pressed laterally against the contact surface of the block fixing and simultaneously pulled in axially. The plate of the block holder thus rests on the block fixing.
Removing the adapter sleeve

1. Loosen the ball pressure screw.
2. Place the adapter sleeve removal tool in the inner groove (D) and pull out the adapter sleeve.

Blocks with 10 mm diameter block holders

1. Place the block (A) directly into the block fixing.
2. Clamp the ceramic block securely with the ball pressure screw (B). Use the block clamp tool with torque wrench for this purpose.

NOTE

If the block is not sufficiently tightened, it can lead to unsuitable results and ceramic breakages.
➢ Tighten the block with the block clamp tool with torque wrench until you hear a cracking sound.
➢ Check to make sure that the block is seated correctly.

The block is pressed laterally against the contact surface of the block fixing and simultaneously pulled in axially. The plate of the block holder thus rests on the block fixing.
7 Service

NOTE
Observe country-specific Regulations!
Some countries have legal regulations which require regular safety inspections of electrical devices or systems by the operator.

NOTE
Annual maintenance
Have maintenance performed on your unit annually by trained technical personnel / a service engineer.
The touch interface shows a reminder notification when it is time for maintenance.

NOTE
Observe error messages
You must observe error messages shown on the touch interface on in the software. If the error message does not disappear even after you have performed the prompted action, contact your service engineer.

NOTE
Machine care
Interval: Once a week or after every 4th water change
➢ Change the filter (see "Changing the filter [→ 56]").
➢ Clean the block fixing with the supplied tool (A).
➢ Also clean the tool clamping cones with the supplied tool (A).
➢ If the jets of water do not strike the tools, the service life of the tools will likely be reduced. In this case, clean the water nozzles carefully with a probe to free them of foreign matter.

NOTE
Processing chamber wet cleaning process
Interval (if dry milling is predominantly used): Once a week or in the case of heavy soiling.
➢ Clean the processing chamber.

NOTE
Using the tank cap opener
If you find the tank cap, tank drain or filter insert hard to open by hand, use the tank cap opener (see "Using the tank cap opener [→ 58]").

NOTE
Wear of the ball pressure screw
The high clamping forces cause wear of the ball pressure screw.
➢ Replace the ball pressure screw every 500 clamping operations.
7.1 Using the cleaning hose and the wet cleaning process

The processing chambers of devices used for dry milling of zirconium oxide should be cleaned regularly in order to prevent deposits of zirconium oxide dust in the chamber. A manual suction set with cleaning hose can be used before the wet cleaning process in order to support the user when sucking zirconium oxide dust out of the device’s processing chamber. This set is available as a spare part (REF 67 21 307). We recommend carrying out this cleaning procedure (or the wet milling of a restoration) at least once per week if the device is used for dry milling of zirconium oxide.

Proceed as follows to use the manual suction set and to execute the recommended wet cleaning process:

1. Activate the cleaning position in the "Routine Actions" area of the touch interface in order to bring the motors together so that the production chamber is easier to access and clean. This function can be started via the "Routine Actions" area (symbol on left) by selecting the "Cleaning Position" item.

2. Rotate the black adapter of the manual cleaning hose set from suction of the chamber to suction through the manual cleaning hose.

3. Activate the manual operation for the suction by setting the switch at the top of the device from "Auto" to "On".

4. Suck up the dust from the chamber as required.

5. Sucking up as much dust as possible from the workpiece axis is recommended. Also remove the dust from the bottom side of the block axis (see arrow).

6. Close the door.
   - The motor mounts and the tool axis move back to initial position.
7. After vacuuming the chamber you should perform the wet cleaning of the machine. This function can be started via the "Routine Actions" area (symbol on left) by selecting the "Cleaning Program" item. There are two cleaning options: 2 minutes and 15 minutes. Each cleaning option can be stopped at any time when the desired results have been achieved.

8. You can remove any zirconium oxide deposits in the lower part of the workpiece axis with a nylon brush between the wet cleaning processes.

### 7.2 Changing filter bags and HEPA filters

#### Changing filter bags

A notification to change the filter bag of the CEREC suction system is displayed on the touch interface after 120 dry-milled restoration units. This number may differ depending on the amount of zirconium oxide material milled and suctioned. If the filter bag is full before the notification, the touch interface may display a low-pressure warning which means that the filter bag must be replaced.

**NOTE**

If there is a significant fall in suction power, the filter bag may be full and must be replaced.

1. Loosen the two knurled nuts (A) on the maintenance cover.
2. Remove the lid.

3. Remove the filter bag from the nozzle and put a new filter bag on.
4. Put the maintenance cover on and screw it down with the two knurled nuts.

**NOTE**

Do not jam the filter bag

Make sure that the cap is sealed properly and the filter bag is not jammed.

5. After replacing the filter bag, activate the "Reset" button on the screen of the touch interface.
Changing the HEPA filter

After every fourth filter bag change, the touch interface automatically displays a notification to replace the HEPA filter. This number may differ depending on the amount of zirconium oxide material milled and suctioned. If the HEPA filter is full before the notification, the touch interface may display a low-pressure warning which means that the HEPA filter must be replaced.

The HEPA filter is located behind the filter bag.

**NOTE**

Replace the HEPA filter if suction power is still weak after replacing the filter bag.

1. Loosen the two knurled nuts (A) on the maintenance cover.
2. Remove the lid.
3. Remove the filter bag from the nozzle.
4. Unscrew the two Phillips screws on the perforated sheet on the inside of the suction system.
5. Take the perforated sheet out.

6. Remove the dusty HEPA filter and insert a new HEPA filter.
7. Put the perforated sheet back on and screw it down with the two Phillips screws.
8. Put the filter bag back on again.
9. Put the maintenance cover on and screw it down with the two knurled nuts.

**NOTE**

Do not jam the filter bag
Make sure that the cap is sealed properly and the filter bag is not jammed.

10. After replacing the filter bag, activate the “Reset” button on the screen of the touch interface.
7.3 Changing the water

7.3.1 General information

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coolant</strong></td>
</tr>
<tr>
<td>Use distilled or demineralized water.</td>
</tr>
</tbody>
</table>

If a water change is due, a notification appears on your touch interface.

**Preventing odors**

All coolant additives contain a biodegradable preservative. Despite this, however, odors may still develop under unfavorable conditions.

Observe the following:

- Change the water at least once a week.
- With ambient temperatures above 25 °C (77 °F), change the water every 2 to 3 days to prevent foul odors.
- Drain the tank if you do not intend to operate the unit for more than one week.
- Clean the tank if the odors recur.
- Add the coolant additive DENTATEC and fill the tank up to the brim with water. Let it stand for at least 24 hours and then rinse it out thoroughly with water once again.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Damage to surfaces!</strong></td>
</tr>
<tr>
<td>In the undiluted state, the coolant additive DENTATEC disintegrates plastic surfaces and can cause discoloration.</td>
</tr>
<tr>
<td>➢ Do not place DENTATEC on the unit.</td>
</tr>
<tr>
<td>➢ Do not spill DENTATEC.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approved coolant additive</strong></td>
</tr>
<tr>
<td>Use only DENTATEC as a coolant additive.</td>
</tr>
</tbody>
</table>
7.3.2 Changing the water

NOTE
Change the filter insert regularly!
Replace the filter insert with a new one on every fourth water change at the latest.

Water tank

<table>
<thead>
<tr>
<th>A</th>
<th>Tank</th>
<th>D</th>
<th>Tank drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Tank cap</td>
<td>E</td>
<td>RFID chip</td>
</tr>
<tr>
<td>C</td>
<td>Filter insert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.3.2.1 Procedure

NOTE

Disposal
Dispose of the contents of the container in accordance with local, national, and international regulations.

To change the water, proceed as follows:

☑ The unit is switched on.
☑ No machining process is running.
☑ Open the drawer.
1. Pull the water tank out.
2. Open the drain opening (D).
3. Empty two thirds of the water from the tank.
4. Close the drain opening (D).
5. Shake the tank vigorously.
6. Open the drain opening (D).
7. Drain the rest of the water.
8. Close the drain opening (D).
9. Turn the tank cap (B) counter-clockwise and take it off.

NOTE

Foaming not permissible!
If any cleaning agents are used, this will create foam, which is not permitted.
Do not use any cleaning agents.

10. Add 75 ml of DENTATEC to the tank.
11. Fill the tank with water until the filter insert (C) is completely immersed (up to the bottom edge of the cover thread, approx. 3.5 liters).
12. Wait for a short time until the filter insert (C) is completely soaked; then add an appropriate amount of water.
13. Close the water tank by tightening the tank cap (B) clockwise by hand. Do not use the tank cap opener for this.
14. Push the water tank back into the housing.
15. Select the symbol shown on the left on the touch interface.
16. To reset the water tank counter, press the "Replace" button next to the "Water Tank" category.
17. If the filter was also replaced, press the "Replace" button next to the "Filter" category to reset the filter counter.
7.4 Tools

7.4.1 Overview of materials / tools

Permitted tool combinations are indicated on the touch interface.

7.4.2 Changing tools

**NOTE**

Replacement of tools
Change the tools when the system prompts you to do so.

**CAUTION**

Risk of injury from calibration pins/tools

If you reach into the processing chamber, for example, to insert/remove a ceramic block, change tools or insert/remove a calibration phantom, you may injure yourself on the calibration pins/tools.

Be careful not to brush against the calibration pins/tools with your hand.

Always insert your hand into the processing chamber below the calibration pins/tools.

In the event of cleaning or maintenance work in the processing chamber, we recommend removing the Bur 1.0 and/or Bur 0.5 tools beforehand.

We also recommend that you select the "Cleaning Position" option on the touch interface to position the motors together so that the floor of the production chamber is easier to access and clean.

- The touch interface displays a dialog box that specifies the tool to be changed or the application to be used.
  1. Select either the individual tool or the individual tool set.
     - The motors move to the position for changing the tools.
     - The dialog box for changing the tools opens.
  2. Open the processing chamber door.
  3. Loosen the tool with the torque wrench and pull it out manually.
  4. Hold the colored rear end of the tool approximately 1 mm in front of the RFID scanner.
     - If the correct tool type is selected and read by the RFID scanner, the touch interface indicates this. The motor on which the tool is to be inserted is also indicated.
     - If an incorrect or defective/worn-out tool type is selected and read by the RFID scanner, the touch interface indicates that another (correct or new) tool should be selected.
  5. Insert the tool into the appropriate motor as shown on the touch interface. Tighten the respective chuck with the torque wrench until a cracking sound is heard.
  6. Close the processing chamber door.
  7. If an application is selected requiring the replacement of more than one tool, repeat the aforementioned process for the remaining tools.
NOTE

Cleaning cooling water nozzles
The cooling water nozzles in the processing chamber must be free from limescale and grinding dust/milling dust deposits at all times. The respective cooling water jet must always strike the tool accurately!

✓ The cooling water nozzles are dirty.
➢ Clean the nozzles with a probe.

NOTE

Only use suitable tools!
Do not use any tools of the CEREC MC XL / MC X / MC / inLab MC XL or inLab MC X5 units.

Changing a defective tool

If a tool breaks during the machining process or a tool with low remaining service life is indicated during routine maintenance, the tool is displayed in red on the touch interface. The touch interface also offers the option of replacing the defective tool.

✓ The touch interface displays a dialog box that specifies the tool to be changed or the application to be used.

1. Select the tool.
   ❖ The motors move to the position for changing the tool.
   ❖ The dialog box for changing the tools opens.
2. Open the processing chamber door.
3. Loosen the tool with the torque wrench and pull it out manually.
4. Hold the colored rear end of the tool approximately 1 mm in front of the RFID scanner.
   ❖ If the correct tool type is selected and read by the RFID scanner, the touch interface indicates this. The motor on which the tool is to be inserted is also indicated.
   ❖ If an incorrect or defective/worn-out tool type is selected and read by the RFID scanner, the touch interface indicates that another (correct or new) tool should be selected.
5. Insert the tool into the appropriate motor as shown on the touch interface. Tighten the respective chuck with the torque wrench until a cracking sound is heard.
6. Close the processing chamber door.
7.5 Cleaning surfaces

**NOTE**
Do not allow liquids to run into the ventilation slots!

Remove dirt regularly using mild, commercially available cleaning agents.

Cleaning agents categorized as "nonionic and anionic surfactant-based soap solutions" can be used.

7.6 Replacing the main fuses

**WARNING**
Electric shock
Disconnect the power plug at the unit end before replacing the fuses.

**NOTE**
Fuse type
Use only fuses of the same type in the fuse holder!

![Fuse holder diagram]

**Fuse holder**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Cover</td>
<td>C</td>
</tr>
<tr>
<td>B</td>
<td>Main switch</td>
<td>D</td>
</tr>
</tbody>
</table>

Fuses: T3.15 250V

Order no. 64 45 378

✓ The power plug must be disconnected.
1. Use a screwdriver to carefully pry off the cover of the fuses on the back side of the unit.
2. Pull out the fuse holder.
3. Replace the defective fuses.
4. Reinsert the fuse holder.
5. Close the cover.
7.7 Changing the filter

NOTE
Change the filter insert regularly!
Replace the filter insert with a new one at every fourth water change at the latest. Depending on the number and quantity of materials processed, the replacement cycle may be shorter. You must also replace with a new filter cartridge when the "water pressure is too low" message appears.

NOTE
Filter
Only use filter inserts approved by Dentsply Sirona!

Water tank

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Tank</td>
<td>D</td>
<td>Tank drain</td>
</tr>
<tr>
<td>B</td>
<td>Tank cap</td>
<td>E</td>
<td>RFID chip</td>
</tr>
<tr>
<td>C</td>
<td>Filter insert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.7.1 Procedure for all materials

✔ The tank is drained, see "Removing water from the unit [→ 57]."
1. Open the drawer of the unit.
2. Pull the water tank out of the unit's housing with the handle on the bottom front side of the tank.
3. Turn the tank cap counter-clockwise and take it off. If you find the tank cap hard to open by hand, use the tank cap opener.
4. Take the filter insert out of the tank.
5. Rinse the water tank.
6. Insert a new filter with handle into the tank and press it firmly onto the base in the floor of the tank.
7. Fill the tank, see "Changing the water [→ 50]."

<table>
<thead>
<tr>
<th>Filter insert</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter unit (1 pcs)</td>
<td>63 87 067</td>
</tr>
<tr>
<td>Filter unit (six pack)</td>
<td>64 29 950</td>
</tr>
</tbody>
</table>

7.8 Removing water from the unit

You must remove water from the unit if you will not be using it for a long period of time or wish to transport it.

7.8.1 Procedure

✔ No machining process is running.
1. Turn the device off.
2. Open the drawer of the unit.
3. Pull the water tank out of the unit's housing with the handle on the bottom front side of the tank.
4. Drain the water out of the water tank through the drain opening and reinset the water tank in the unit.
5. Switch the unit on.
6. Select the symbol shown on the left on the touch interface.
7. Activate the "Water Pump" option to switch on the pump.
   The water pump then starts pumping the water out of the unit. Let the pump run until no more water escapes from the nozzles.
8. Deactivate the "Water Pump" option to switch off the pump.
9. Pull out the water tank and empty it.
10. Push it back into the housing.
11. Close the drawer of the unit.
7.9 Using the tank cap opener

**NOTE**

**Risk of damage to the tank**
Use the tank cap opener *only for opening* the tank cap.
Do not use the tank cap opener for closing the tank cap. It is sufficient to tighten the tank cap clockwise by hand.

**Opening the tank cap**

- The water tank has been pulled out and drained.
- Place the tank cap opener on the tank cap as shown, and take off the tank cap by unscrewing it counter-clockwise.

**Opening the tank drain**

- The water tank has been pulled out.
- The black rubber stopper can be removed by hand.
8 Technical description

8.1 System requirements

- CEREC SW 5.1.1 and higher versions

8.2 Production unit

8.2.1 General technical description

- Digital feed control with force monitoring for extremely sensitive processing
- Process-controlled tool drives

Grinding tools

- Diamond 1.4 CS (white)
- Diamond 1.2 CS (white)

Milling tools (wet and dry milling)

- Bur 2.5 ZrO2 CS (Yellow)
- Bur 1.0 CS (Black)
- Bur 0.5 CS (Black)
### 8.2.2 Technical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type designation</td>
<td>CEREC Primemill or CEREC Primemill US</td>
</tr>
<tr>
<td>Nominal mains voltage</td>
<td>100 V–240 V ~</td>
</tr>
<tr>
<td>Nominal mains frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Nominal current</td>
<td>2.1 – 4.2 A</td>
</tr>
<tr>
<td>Nominal power output</td>
<td>400 VA</td>
</tr>
<tr>
<td>Permissible mains voltage fluctuations</td>
<td>±10% of nominal voltage</td>
</tr>
<tr>
<td>Type of protection against electric shock</td>
<td>Protection class I device</td>
</tr>
<tr>
<td>Degree of protection against ingress of water</td>
<td>Ordinary device (without protection against ingress of water)</td>
</tr>
<tr>
<td>Overvoltage category</td>
<td>II</td>
</tr>
<tr>
<td>Ambient conditions</td>
<td>For indoor use</td>
</tr>
<tr>
<td></td>
<td>Pollution degree 2</td>
</tr>
<tr>
<td></td>
<td>Air pressure: 700 hPa – 1060 hPa</td>
</tr>
<tr>
<td>Temperature range</td>
<td>5°C to 40°C, 41°F to 104°F</td>
</tr>
<tr>
<td>Humidity range</td>
<td>80% rel. up to 31°C (87.8°F) decreasing to 50% rel. up to 40°C (104°F)</td>
</tr>
<tr>
<td>Operating mode</td>
<td>Continuous operation</td>
</tr>
<tr>
<td>Radio equipment frequency band:</td>
<td>13,553 MHz–13,567 MHz</td>
</tr>
<tr>
<td>Max. transmission power</td>
<td>&lt; 200 mW</td>
</tr>
<tr>
<td>Dimensions (WxHxD) in mm</td>
<td>729 x 454 x 465</td>
</tr>
<tr>
<td>Approx. weight</td>
<td>46 kg</td>
</tr>
</tbody>
</table>

### 8.2.3 Controller board

- 3x 2-axis stepping motor controller with microstepping
- 4 DC motor controllers with integrated speed and current control and force monitoring
- Ethernet, 2 USB, USB B, suction
9 Disposal

In accordance with Directive 2012/19/EU and national disposal regulations regarding old electrical and electronic devices, please be advised that such items must be disposed of in a special way within the European Union (EU). These regulations require the environmentally friendly recycling/disposal of old electrical and electronic devices. Such items must not be disposed of as domestic refuse. This has been expressed using the icon of the “crossed out trash can”.

Disposal procedure

We feel responsible for our products from the first idea to their disposal. For this reason, we give you an option to return our old electronic and electrical devices.

If you wish to dispose of your devices, please proceed as follows:

In Germany

To initiate return of the electrical device, please send a disposal request to enretec GmbH. You have the following options here:

- Use the ‘Returning an electrical device’ button under the ‘eom’ menu item on the enretec GmbH homepage (www.enretec.de).
- Alternatively, you can also contact enretec GmbH directly.

enretec GmbH
Kanalstraße 17
16727 Velten, Germany
Phone: +49 3304 3919-500
E-mail: eom@enretec.de

In accordance with the national disposal regulations regarding old electrical and electronic devices (ElektroG), as the manufacturer, we assume the costs for disposing of the electrical and electronic devices in question. Disassembly, transport and packaging costs shall be borne by the owner/operator.

Prior to disassembly/disposal of the unit, it must be prepared professionally (cleaned/disinfected/sterilized).

If your unit is not permanently installed, it will be collected from the practice. If it is permanently installed, it will be picked up curbside at your address by appointment.

Other countries

For country-specific information on disposal, contact your local dental dealers.
## 10 Consumable

<table>
<thead>
<tr>
<th>Tool</th>
<th>REF</th>
<th>Usage</th>
<th>Color</th>
<th>Connection geometry of the force transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond 1.4 CS</td>
<td>6714088</td>
<td>Grinding</td>
<td>White</td>
<td>Triangular</td>
</tr>
<tr>
<td>Diamond 1.2 CS</td>
<td>6714070</td>
<td>Grinding</td>
<td>White</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tool</th>
<th>REF</th>
<th>Usage</th>
<th>Color</th>
<th>Connection geometry of the force transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bur 2.5 ZrO2 CS</td>
<td>6713940</td>
<td>Milling of zirconium oxide (wet and dry)</td>
<td>Yellow</td>
<td>Square</td>
</tr>
<tr>
<td>Bur 1.0 CS</td>
<td>6713932</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td>Triangular</td>
</tr>
<tr>
<td>Bur 0.5 CS</td>
<td>6713924</td>
<td>All-purpose milling (wet and dry)</td>
<td>Black</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REF</th>
<th>Designation</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5809640</td>
<td>DENTATEC, 1000ml</td>
<td></td>
</tr>
<tr>
<td>6280171</td>
<td>Tank cap opener</td>
<td></td>
</tr>
<tr>
<td>6711340</td>
<td>Interchangeable blade TX 10x132</td>
<td></td>
</tr>
<tr>
<td>REF</td>
<td>Designation</td>
<td>Illustration</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>6718410</td>
<td>Block clamp tool, spare part</td>
<td></td>
</tr>
<tr>
<td>6479856</td>
<td>HT torque wrench, spare</td>
<td></td>
</tr>
<tr>
<td>6479849</td>
<td>Torque wrench, spare</td>
<td></td>
</tr>
<tr>
<td>6623792</td>
<td>Adapter sleeve</td>
<td></td>
</tr>
<tr>
<td>6704790</td>
<td>Adapter sleeve removal tool</td>
<td></td>
</tr>
<tr>
<td>6718444</td>
<td>Calibration set, spare part</td>
<td></td>
</tr>
<tr>
<td>6732528</td>
<td>Calibration pin (2x), spare part</td>
<td></td>
</tr>
<tr>
<td>6258987</td>
<td>Ball pressure screw set (5x), spare</td>
<td></td>
</tr>
<tr>
<td>6718451</td>
<td>Cleaning set, spare part</td>
<td></td>
</tr>
<tr>
<td>REF</td>
<td>Designation</td>
<td>Illustration</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>6718469</td>
<td>Screen insert, spare part</td>
<td></td>
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<tr>
<td>6429950</td>
<td>Filter MC/MCX (pack of 6 units)</td>
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<td>6151562</td>
<td>10 Base-T crossover cable 10m</td>
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We reserve the right to make any alterations which may be required due to technical improvements.