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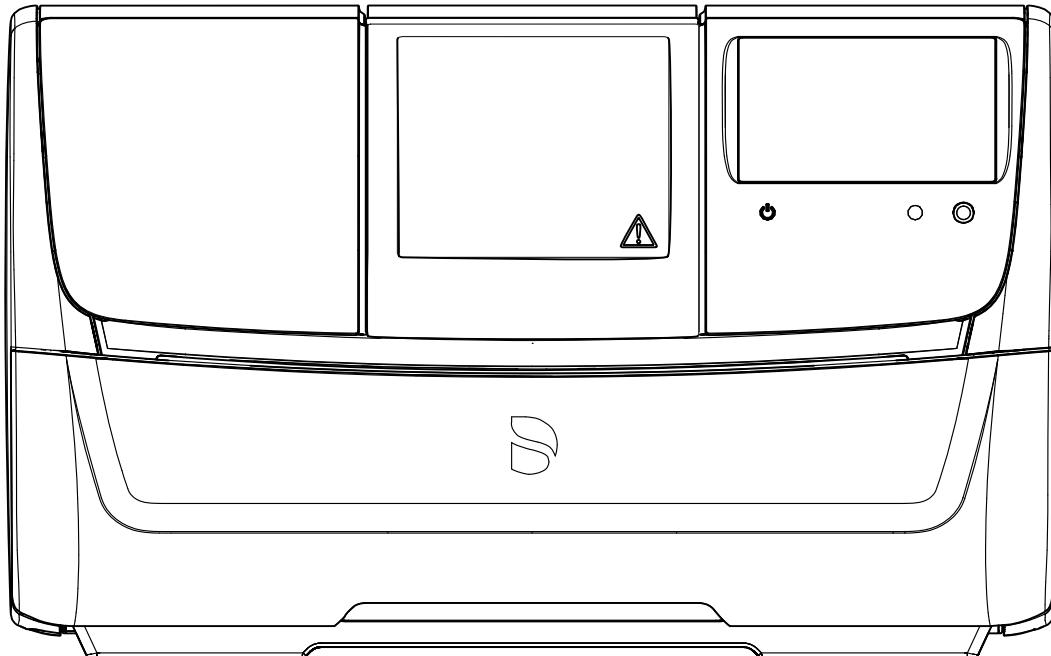
09.2019



# CEREC Primemill

Operating Instructions (valid for USA)

English



## Table of contents

<b>1</b>	Dear Customer,.....	5
1.1	Contact data.....	5
<b>2</b>	General data .....	6
2.1	Identification of the danger levels .....	6
2.2	Formats and symbols used.....	7
2.3	Note PC / Acquisition Unit.....	7
<b>3</b>	General description.....	8
3.1	Certification .....	8
3.2	Intended use .....	9
3.3	Further use of Sirona Dental CAD/CAM system.....	12
3.4	Legend .....	13
<b>4</b>	Safety.....	15
4.1	Basic safety information.....	15
4.1.1	Prerequisites .....	15
4.1.2	Maintenance and repair .....	15
4.1.3	Modifications to the product.....	15
4.1.4	Accessories and consumables .....	16
4.2	Opening the processing chamber door during the machining process.....	16
4.3	Electrostatic charge .....	16
4.3.1	ESD warning labels.....	16
4.3.2	ESD protective measures .....	17
4.3.3	About the physics of electrostatic charges.....	17
4.4	Wireless phone interference with equipment .....	18
4.5	Disturbance of data transmission.....	19
4.6	Ventilation slots.....	19
<b>5</b>	Installation and startup.....	20
5.1	Transport and unpacking .....	20
5.2	Disposal of packaging materials .....	20
5.3	Installation site .....	21
5.4	Commissioning .....	23
5.4.1	Functional elements .....	23
5.4.2	Supplied tools .....	26
5.4.2.1	Instruments.....	26
5.4.2.2	Calibration pins.....	26
5.4.2.3	Torque wrench.....	26

5.4.3	Touch display description .....	27
5.4.4	Illumination of the processing chamber, LED light strip, and On/Off button .....	27
5.4.5	Using the processing chamber screen.....	28
5.4.6	Installation.....	29
5.4.6.1	Connecting to the PC via LAN.....	29
5.4.6.2	Connecting the unit to the power supply .....	29
5.4.6.3	Installing the unit.....	29
5.4.6.4	Connecting the suction device (optional).....	31
5.4.6.5	Connecting to the PC via WLAN (option) .....	34
5.4.6.6	Operating several production units at one access point.....	35
5.4.6.7	Connecting to the PC via the wireless interface (optional).....	35
5.4.7	Filling the water tank .....	37
5.4.8	Switching the unit ON and OFF .....	38
5.5	Repacking .....	39
5.6	Scope of supply .....	39
5.7	Storage .....	39
<b>6</b>	<b>Operation .....</b>	<b>40</b>
6.1	Configure .....	40
6.2	Calibrating the unit.....	41
6.3	Machining process .....	43
6.3.1	Process types .....	43
6.3.1.1	Grinding .....	43
6.3.1.2	Milling .....	44
6.3.1.3	Permitted instrument combinations .....	44
6.3.2	Preparations.....	44
6.3.3	Starting the machining processes.....	45
6.3.4	Ending the machining processes .....	46
6.4	Manual block clamp .....	47
<b>7</b>	<b>Service .....</b>	<b>49</b>
7.1	Using the cleaning hose and the wet cleaning process .....	50
7.2	Changing filter bags and HEPA filters.....	51
7.3	Changing the water .....	54
7.3.1	General information .....	54
7.3.2	Changing the water .....	55
7.3.2.1	Procedure .....	56

7.4	Instruments .....	57
7.4.1	Overview of materials/instruments.....	57
7.4.2	Changing instruments .....	57
7.5	Care, cleaning agents, and disinfectants .....	59
7.6	Cleaning surfaces .....	59
7.6.1	Disinfecting .....	59
7.6.2	Cleaning.....	59
7.7	Replacing the main fuses.....	60
7.8	Changing the filter.....	61
7.8.1	Procedure for all materials .....	62
7.9	Removing water from the unit .....	62
7.9.1	Procedure .....	62
7.10	Using the tank cap opener .....	63
8	Technical description .....	64
8.1	System requirements .....	64
8.2	Production unit .....	64
8.2.1	General technical description.....	64
8.2.2	Technical data.....	65
8.2.3	Controller board .....	65
9	Disposal .....	66
10	Consumable.....	67
	Index .....	70

## 1 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 (**C**Eramic **R**EConstruction).

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](mailto:contact@dentsplysirona.com)  
[www.dentsplysirona.com](http://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 operating instructions. Such information is highlighted as follows:

#### DANGER

An imminent danger that could result in serious bodily injury or death.

#### WARNING

A possibly dangerous situation that could result in serious bodily injury or death.

#### CAUTION

A possibly dangerous situation that could result in slight bodily injury.

#### NOTE

A possibly harmful situation which could lead to damage of the product or an object in its environment.

#### IMPORTANT

Application instructions and other important information.

**Tip:** Information for simplifying work.

## 2.2 Formats and symbols used

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

<p>✓ Prerequisite 1. First action step 2. Second action step or ➢ Alternative action ↳ Result ➢ Individual action step</p>	Requests you to do something.
See "Formats and symbols used [→ 7]"	Identifies a reference to another text passage and specifies its page number.
● List	Designates a list.
"Command / menu item"	Indicates commands / menu items or quotations.

## 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.

This product bears the CE mark in accordance with the provisions of Council Directive 2006/42/EC (machinery directive). As such, the following standards apply: DIN EN ISO 12100:2011-03, DIN EN 61010-1:2011-07 and DIN EN 61326-1:2013-07.

#### 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.

#### Compliance statement

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

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

## 3.2 Intended use

The Sirona Dental CAD/CAM System is intended for use in partially or fully edentulous mandibles and maxillae in support of single or multiple unit cement retained restorations. For the BH 3.0 S, SSO 3.5 L and SBL 3.3 L titanium bases, the indication is restricted to the replacement of single lateral incisors in the maxilla and lateral and central incisors in the mandible. The system consists of three major parts: TiBase, inCoris mesostructure, and CAD/CAM software.

Specifically, the inCoris mesostructure and TiBase components make up a two-piece abutment which is used in conjunction with endosseous dental implants to restore the function and aesthetics in the oral cavity. The inCoris mesostructured may also be used in conjunction with the Camlog Titanium base CAD/CAM (types K2244.X)(XX) (K083496) in the Camlog Implant System. The CAD/CAM software is intended to design and fabricate the inCoris mesostructure. The inCoris mesostructure and TiBase two-piece abutment is compatible with the following implant systems:

Manufacturer	Name of Implant System	Implant Size		
		Platform	Diameter	Length
Nobel Biocare	Replace	NP	3.5	10mm – 15mm
		RP	4.3	10mm – 18mm
		WP	5.0	10mm – 18mm
		6.0	6.0	10mm – 18mm
	Active	NP	3.5	8.5mm – 18mm
		RP	4.3/5.0	8.5mm – 18mm
	Branemark	NP	3.3	10mm – 15mm
		RP	3.75/4.0	7mm – 18mm
Straumann	Synocta	NN (3.5mm)	3.3	8mm – 16mm
		RN (4.8mm)	3.3/4.1/4.8	4mm – 16mm
		WN (6.5mm)	4.8	4mm – 14mm
	Bone Level	NC (3.3mm)	3.3	8mm – 16mm
		RC (4.1mm/4.8mm)	4.1/4.8	8mm – 16mm
Dentsply Sirona Implants	Osseospeed	3.5/4.0	3.5 S / 4.0 S	6mm – 17mm
		4.5/5.0	4.5/5.0/5.0 S	9mm – 17mm
	Xive	3.4	3.4	9.5mm – 18mm
		3.8	3.8	8mm – 18mm
		4.5	4.5	8mm – 18mm
		5.5	5.5	8mm – 15mm
	Osseospeed EV	3.6	3.6	6mm – 17mm
		4.2	4.2	6mm – 17mm
		4.8	4.8	6mm – 17mm
		5.4	5.4	6mm – 15mm
	Ankylos	C/X	A, B, C, D	8mm – 17mm

Manufacturer	Name of Implant System	Implant Size		
		Platform	Diameter	Length
Biomet 3i	Osseotite	3.4	3.25	8.5mm – 18mm
		4.1	3.75	8.5mm – 20mm
			4.1	
			3/4	
		5.0	5.0	7mm – 18mm
			4/5	
	Certain	3.4	3.25	8.5mm – 18mm
			4/3	
			3/4/3	
		4.1	4.0	8.5mm – 20mm
			4/5/4	
			5/4	
		5.0	5.0	8.5mm – 15mm
			4/5	
Zimmer	Tapered Screw-Vent	3.5	3.7/4.1	8mm – 16mm
		4.5	4.7	8mm – 16mm
		5.7	6	8mm – 16mm
Thommen Medical	Thommen Medical Implants	3.5	3.5	8mm – 17mm
		4	4	6.5mm – 15.5mm
		4.5	4.5	6.5mm – 17mm
		5	5	6.5mm – 17mm
		6	6	6.5mm – 15.5mm
Osstem/Hiossen	Osstem TS Implant System Hiossen Implant System	Mini	3.5	8.5mm – 15mm
		Regular	4.0/4.5/5.0/6.0/7.0	6mm – 15mm

Manufacturer	Name of Implant System	Implant Size			
		Platform	Diameter	Length	
BioHorizons (Internal Connection)	Tapered 3.0, Tapered plus	3.0  3.5  4.5  5.7	3.0/3.4/3.8	9mm – 18mm	
	Tapered internal		3.0	10.5mm – 15mm	
	Tapered plus		4.6	7.5mm – 15mm	
	Tapered internal, Tapered internal tissue level		3.0/3.8	9mm – 18mm	
	Internal dental implant		3.5	9mm – 15mm	
	Single stage dental implants		3.5/4.0	9mm – 15mm	
	Tapered plus		5.8	7.5mm – 15mm	
	Tapered internal, Tapered internal tissue level		4.6	7.5mm – 15mm	
	Internal dental implant		4.0	9mm – 15mm	
	Single stage dental implants		4.0/5.0	9mm – 15mm	
Tapered internal, Tapered internal tissue level	Internal dental implant, Single stage dental implants		5.8	7.5mm – 15mm	
			5.0/6.0	9mm – 15mm	

### Dry processing

#### CAUTION

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.

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.

#### NOTE

Before using dry processing, verify the functioning, correct connection and the tightness of the connections. All available suction openings must be free.

#### NOTE

Before dry processing check that the CEREC suction device contains a functioning HEPA fine-dust filter.

**⚠️ WARNING**

Small diameter implants and angled abutments are not recommended for the posterior region.

**⚠️ CAUTION**

Federal Law (USA) restricts the sale of this device to or on the order of a physician, dentist, or licensed practitioner.

### 3.3 Further use of Sirona Dental CAD/CAM system

The Sirona Dental CAD/CAM System is also:

- an optical impression system for computer assisted design and manufacturing (CAD/CAM) according to 21 CFR 872.3661. The system records the topographical characteristics of teeth, dental impressions, or stone models for use in the computer-assisted design and manufacturing of dental restorative prosthetic devices.
- an endosseous dental implant accessory according to 21 CFR 872.3980. The system is used to produce a part that the user can manually incorporate together with other 3rd party components into a dental surgery guide, a temporary accessory used with endosseous dental implants with tissue contact for less than 1 hour (exempt).

Such devices are exempt from the premarket notification procedures.

## 3.4 Legend



This symbol can be found on the rating plate on the unit.

Meaning: See warning notice in section "Replacing the main fuses [→ 60]".



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 [→ 16]".



This symbol can be found on the rating plate on the unit.

Meaning: ESD warning sign,  
see section "Electrostatic charge [→ 16]".



This symbol can be found on the drawer of the unit.

Meaning: Meaning: No heavy loads.

See notice in section "Installation site [→ 21]".



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 [→ 66]").



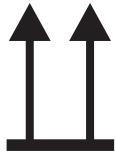
Follow the operating instructions.

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



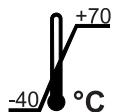
Protect from moisture



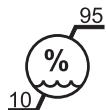
Fragile; handle with care



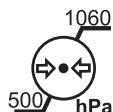
Stack limit



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 also include grinding/milling instruments, blocks, and coolants. The current selection of approved blocks and corresponding grinding/milling instruments can be found in the latest software as well as in the "Bur tables for the CEREC milling and grinding units" in the downloads 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

#### CAUTION

##### **Instruments that continue to run**

When the processing chamber door is opened during the machining process, the instruments could continue to run for a short time (approx. 2–3 seconds).

- Be careful not to touch the instruments with your hand or any other object during this time.
- Avoid opening the processing chamber door while the milling and production unit is in operation.
- Before you open the processing chamber door, end any actions that are running by pressing the "*Stop*" button on the production unit touch display or in the application software.

### 4.3 Electrostatic charge

#### 4.3.1 ESD warning labels

ESD warning label



#### CAUTION

##### **Risk of injury or damage to components from electrostatic discharge**

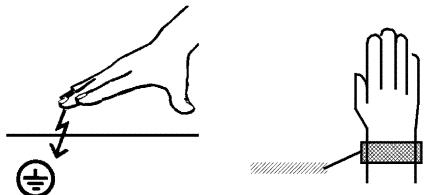
For electrical components labeled with an ESD warning label, observe the following instructions.

- Apply the ESD protective measures.
- Do not touch connector pins or sockets without applying ESD protective measures first.
- Do not establish any connections between these connectors without applying ESD protective measures first.

### 4.3.2 ESD protective measures

#### ESD

#### ESD protective measures



#### Training

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.

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.

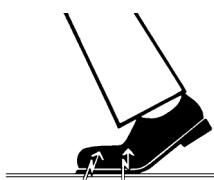
The content of this training is explained in the Chapter "About the physics of electrostatic charges" [→ 17].

### 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



#### 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:

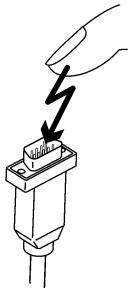
- perceptible at 3,000 V or higher
- audible at 5,000 V or higher (cracking, crackling)
- visible at 10,000 V or higher (arc-over)

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.

#### Note on wireless communication

Data communication between the acquisition unit and the CEREC Primemill production unit should preferably be established via the wireless interface CEREC Radio Device or 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 the wireless interface (CEREC Radio Device) or WLAN, which generally ensures 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 [→ 62]").

#### Transport without packaging

#### CAUTION

##### Damage to the unit or risk of injury during transport without packaging

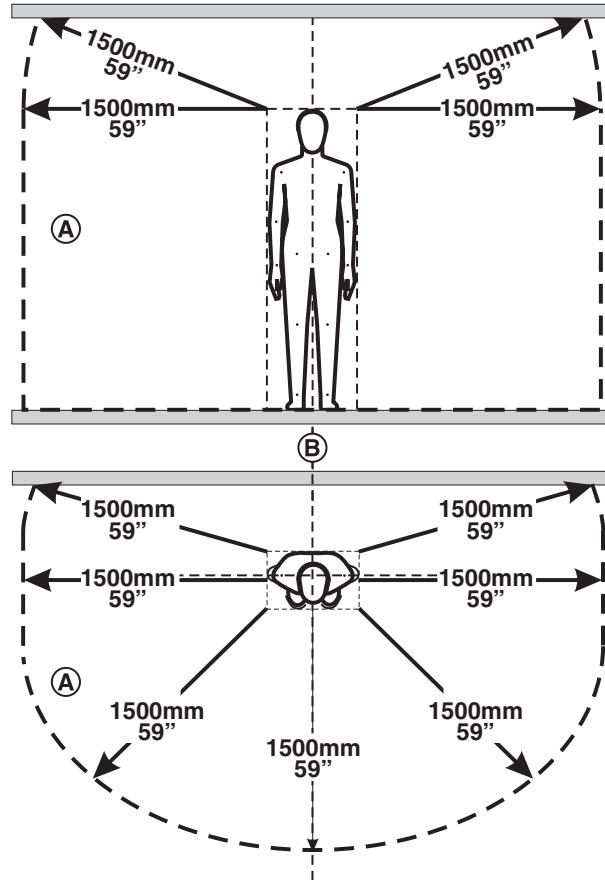
There is a danger of the unit falling down if it is grasped by its plastic housing.

- > 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 so that the main switch is easily accessible.

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

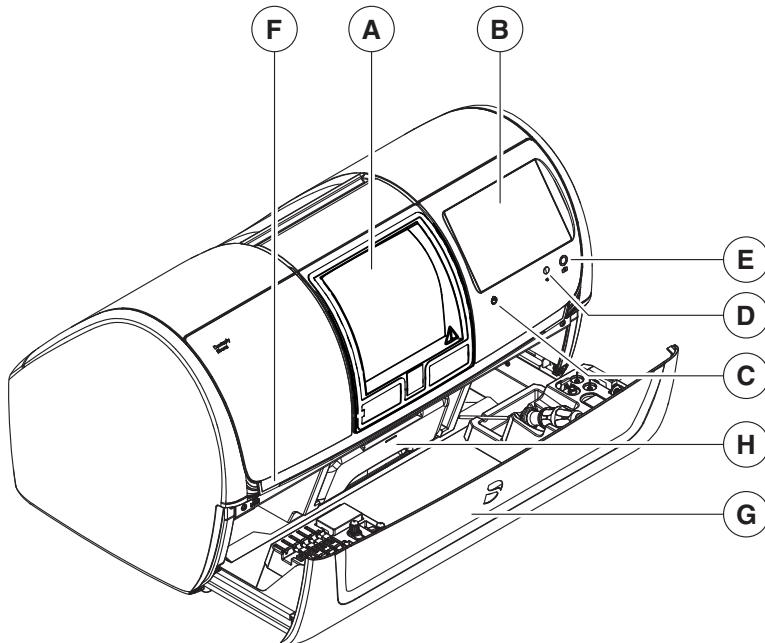
### NOTE

Important information on initial startup

Observe the software installation instructions!

### 5.4.1 Functional elements

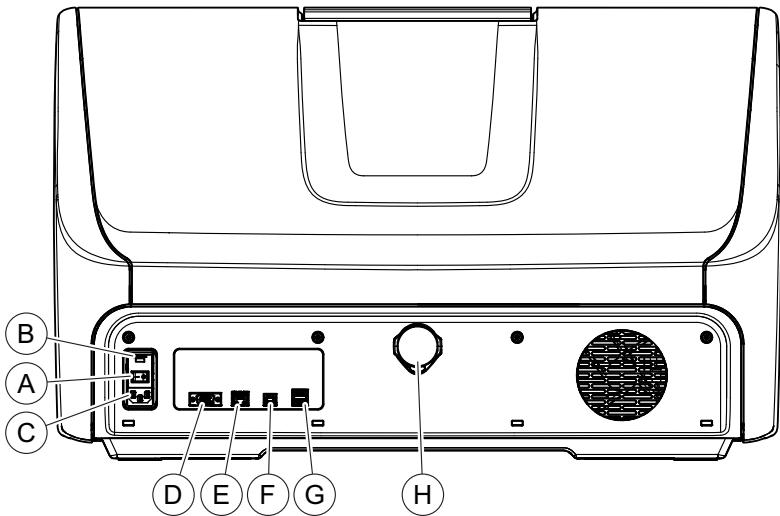
#### Unit overview



Production unit overview

A	Processing chamber	E	Webcam
B	Touch display	F	LED strip
C	ON/OFF switch	G	Drawer
D	RFID scanner	H	Water tank

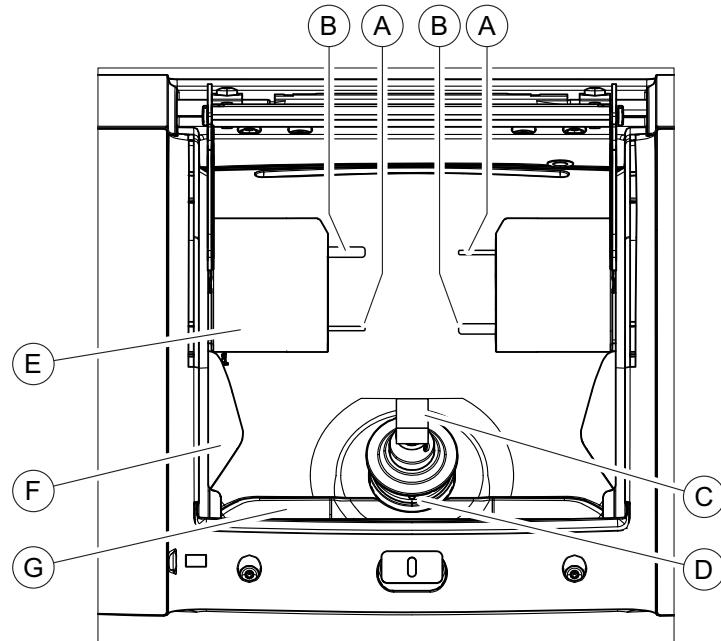
### Ports on the back side



#### Connections

A	Main switch <b>I = ON, 0 = OFF</b>	E	LAN
B	Fuse cover	F	USB B
C	Power connection	G	USB 1 USB 2
D	Communications interface for suction	H	Connection for suction

### Processing chamber



### Processing chamber

A	Instrument set 1	E	Motor mount
B	Instrument set 2	F	Suction connection
C	Block	G	Screen
D	Workpiece spindle		

## 5.4.2 Supplied tools

### 5.4.2.1 Instruments

The following instruments are available for milling and grinding purposes. When replacing instruments, ensure the permitted instrument combinations are used (see "Permitted instrument combinations [→ 44]").

### 5.4.2.2 Calibration pins



The calibration pins are used when calibrating the instrument sets (see "Calibrating the unit [→ 41]").

### 5.4.2.3 Torque wrench

To insert or replace the instruments or calibration pins, use the appropriate torque wrench. When doing so, pay attention to the connection geometry of the torque wrench.

Instrument	REF	Usage	Color	Connection geometry of the force transmission
Bur 2.5 ZrO <sub>2</sub> CS	6713940	Milling of zirconium oxide (wet and dry)	Yellow	Square A technical drawing of a square-shaped torque wrench connection.
Bur 1.0 CS	6713932	All-purpose milling (wet and dry)	Black	Triangular A technical drawing of a triangular-shaped torque wrench connection.
Bur 0.5 CS	6713924	All-purpose milling (wet and dry)	Black	
Diamond 1.4 CS	6714088	Grinding	White	
Diamond 1.2 CS	6714070	Grinding	White	
Diamond 1.0 CS	6714062	Grinding	White	
Diamond 0.6 CS	6714054	Grinding	White	
Calibration pin		Calibration	Light blue	

### 5.4.3 Touch display description

In these Operating Instructions, operation is described in such a manner that you can execute and confirm commands via your PC or the touch display, such as "Start", "Stop", "Cancel" or "OK". Other possible commands also have buttons on the touch display.

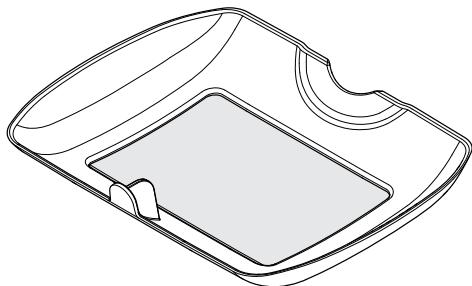
### 5.4.4 Illumination of the processing chamber, LED light strip, and On/Off button

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

Machining operation	Sub-process	Processing chamber	LED light strip	ON/OFF button
Unit off – Main switch on	-	Off	Off	Blue, constant
Switch the unit on – Booting process	-	Off	Off	Yellow, constant
	Self-test	Off	White, pulsating	Yellow, constant
	Starting position	White, pulsating	White, pulsating	Yellow, constant
	Complete	White, constant	White, constant	Green, constant
	Errors	Red, constant	Red, constant	Green, constant
The unit is ready to receive processing operations	Status OK	Status OK	White, constant	Green, constant
	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	White, constant	White, constant	Green, constant
Unit is in operation	Status OK	White, constant	Progress bars displayed in blue and white, fully in green	Green, constant
	Problem – Process pauses and can be restarted; e.g. tool broken, water pressure inadequate	White, constant	Yellow, constant	Green, constant
	Serious error – Process stopped; e.g. broken block	Red, constant	Red, constant	Green, constant
Processing concluded successfully	Door closed	White, constant	Green, constant	Green, constant
	Door open	White, constant	White, constant	Green, constant
	Door closed again	White, constant	White, constant	Green, constant

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

#### 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.

##### IMPORTANT

It is essential that the screen is emptied and washed following each milled drilling template.

Check the water level in the water tank following each milled drilling template, as water is absorbed in the material waste.

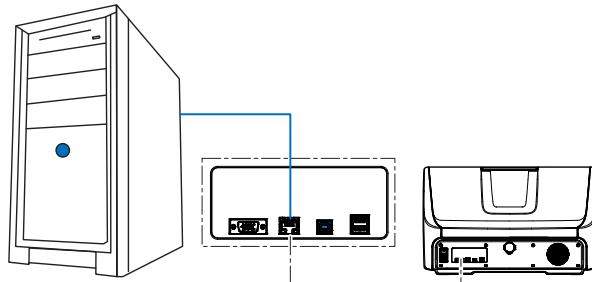
The screen enables simpler cleaning of processing chambers.

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

## 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

#### NOTE

##### Grounded power outlet

The unit must be connected to a grounded power outlet.

- 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 display.
- 2. Select the set-up language.
  - ↳ The unit looks for a hub or a virtual software hub.
- 3. If using a virtual software hub solution, make sure that the PC on which the software hub is executed is switched on.
  - ↳ The touch display displays information if the hub connection has been established.
- 4. If no hub or software hub is available, you can change the IP settings of the CEREC Primemill without continuing the hub or performing a manual hub search.
- 5. Check the hub presets and change them if required.
- 6. Check on the touch display whether or not an 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 on the "*Devices*" button.
- 3. Click on 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.
- 4. Enter a name and a short designation for the new unit.
  - ↳ The unit name, the designation, and the software version are then shown on the touch display.

#### 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 on the "*Devices*" button.
- 3. Click on the "*Add Device (Manual)*" button.
- 4. Set the network.
- 5. Enter the network address which appears on the "*IP address:*" display once the production unit has been switched on.
- 6. Click on the "*Ok*" button.
  - ↳ The software attempts to contact the device.

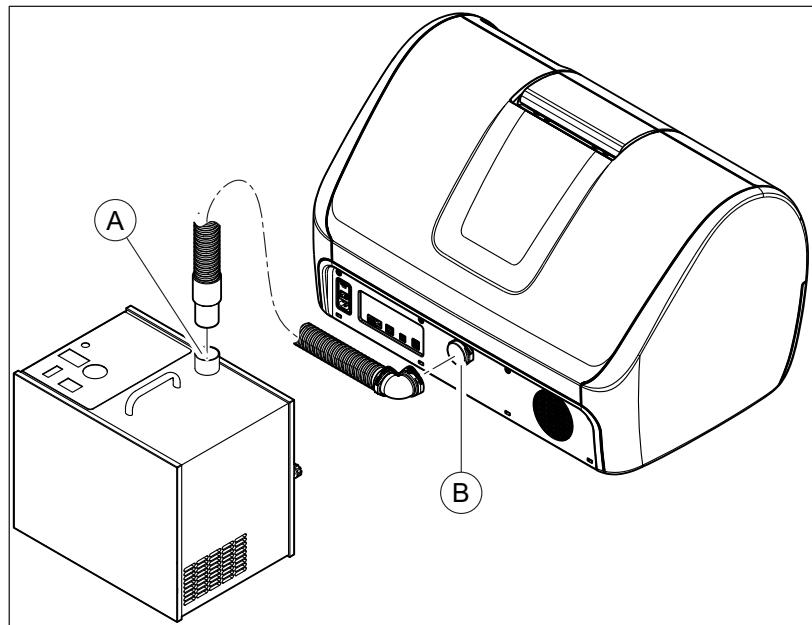
If the connection fails, check the connection. If necessary, ask a qualified technician.

#### 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 on the "*Devices*" button.
- 3. Click on the unit that you wish to uninstall.
- 4. Click on the "*Delete Device*" button.
  - ↳ You will be asked if you would like to remove the unit.
- 5. Click on 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.



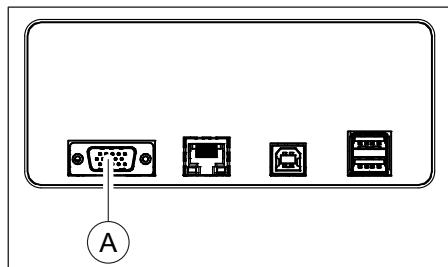
1. Insert the power cable into the relevant socket on the suction system.
2. Plug the other end into an appropriate power socket with a protective ground terminal.

##### 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.

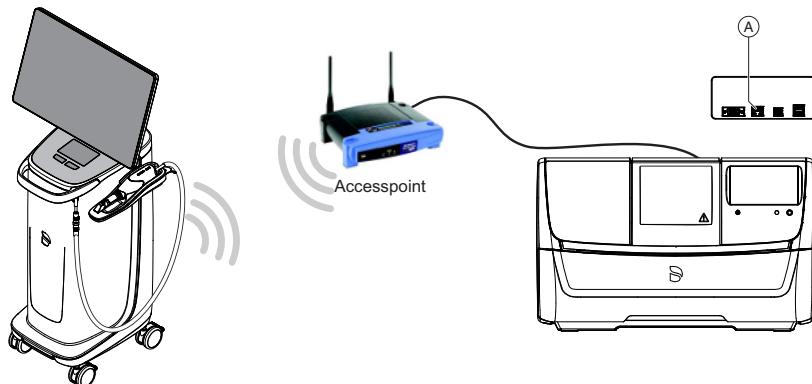
- **Recommendation:** Set the suction power to the minimum (min).

#### NOTE

We recommend replacing the filter bag for the CEREC suction after approx. 120 restoration units. This number may differ depending on the amount of zirconium oxide materials 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 and the access point, using the network cable (10m, Order No.: 61 51 521).
  - ↳ The access point is pre-configured at the factory for this application.

#### Positioning the access point

1. As a test, place the access point near the production unit at head level or higher.
2. Perform a communication test as described in the separate instructions (see "Operating MC XL via WLAN in infrastructure mode", chapter "Final work, analyzing connection quality"). If applicable, follow the instructions on changing channels.
3. After you have found the optimum setting, take the acquisition unit and place it in the position in which it will be operated that is farthest away from the access point.
4. From this position, repeat the communication test you conducted earlier. If the results are satisfactory, leave the access point permanently in this position.
5. If the results are not satisfactory, position the access point outside of the room in which the production unit is located and repeat the communication test.
  - ↳ If the connection quality is still not adequate, WLAN communication cannot be easily achieved under the local conditions. In this case, ask your network administrator for assistance.

#### NOTE

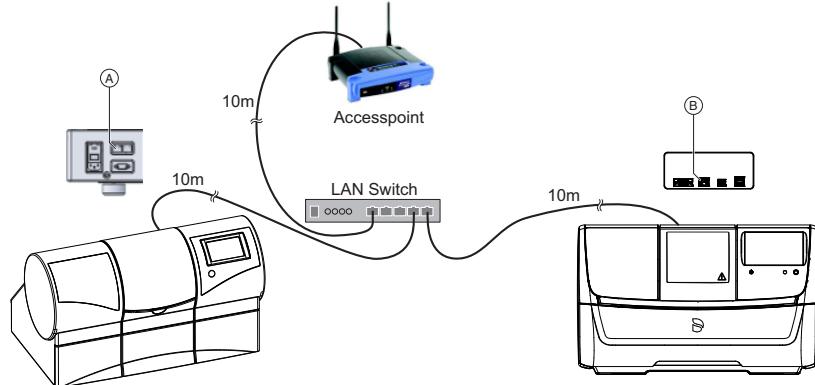
##### LAN connection

Operation via a cable LAN connection is possible at any time.

#### 5.4.6.6 Operating several production units at one access point

For the operation of several production units on one access point, you will also require the following components:

- 1x LAN switch (e.g. Netgear ProSave 5 Port Gigabit Switch, Model GS 105)
- 1x LAN network cable (10m, order No.: 61 51 521).



1. Connect the LAN connection **A** of the MC XL production unit or **B** of the Primemill production unit with the LAN switch using the 10m LAN network cable provided.
2. Connect the access point with the LAN switch using the additional 10 m LAN network cable.  
Now, all production units connected to the LAN switch can be operated via WLAN.

#### 5.4.6.7 Connecting to the PC via the wireless interface (optional)

The CEREC acquisition unit has one of the following wireless modules installed:

- CEREC Radio Device
  - Installation kit: 65 42 521
  - Retrofit kit: 65 43 073
- or
- Höft & Wessel HW 8614/F2
  - No longer available! Observe the following information:

#### IMPORTANT

The conversion from Höft & Wesel to the CEREC Radio Device was performed in multiple stages. The first deliveries of CEREC Radio Device to markets with approval took place in July 2015. Acquisition units and production units can only work with one wireless module system or the other. This means that an additional production unit or acquisition unit that is acquired by existing customers which need to be connected wirelessly to existing systems will require the existing systems to be retrofitted in order to work with the new CEREC Radio Device.

#### 5.4.6.7.1 CEREC Radio Device

##### **Creating a network**

The supplied network devices have not as yet been part of a network. To enable several networks from various operators to be created next to one another or in the same area, new network devices must first form a network. This is described in the following section.

To create a new network with several new network devices, perform the following steps:

1. Place all network devices in the same area.
2. Switch all network devices on within one minute.
3. After switching on the last network device, wait approx. one minute.
4. Make sure that all network devices are connected, as indicated by the green LED; see section "LED displays" in the "CEREC Radio Device" operating instructions (REF 65 45 177).

All network devices now belong to a single network, which can be operated as an independent network, and can communicate with one another. The network created in this way is unique worldwide. In the event of problems, see section "Network creation failures" in the "CEREC Radio Device" operating instructions (REF 65 45 177).

##### **Extending the network - adding a new network device**

New network units can be added to an existing network. However, to prevent any network unit from becoming part of the network, the user must complete four simple but specific steps:

1. Place the new network units next to a network unit belonging to the network.
2. Switch on the new network devices.
3. Switch the existing network device off and on again within one minute.
4. After one minute the new network devices will become part of the network.

##### **IMPORTANT**

A network with CEREC Radio Devices can include up to three network devices. Larger networks are not possible.

### 5.4.7 Filling the water tank

#### NOTE

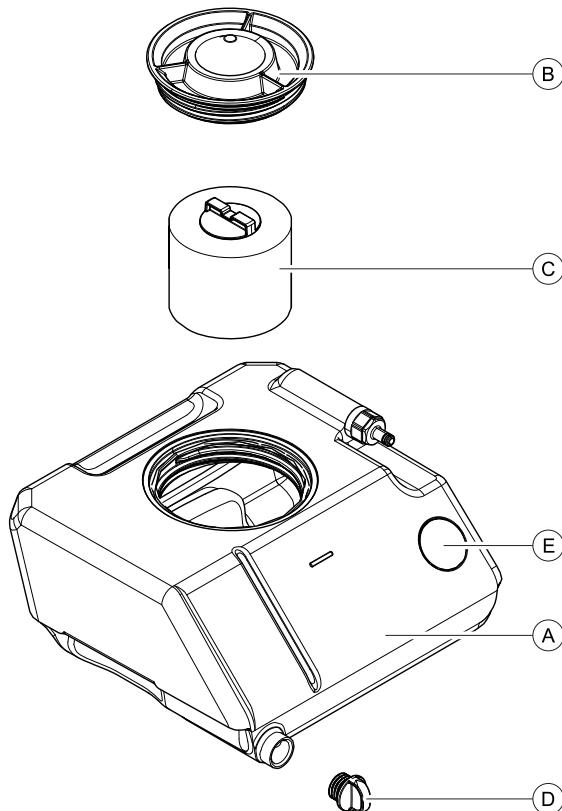
##### Using the tank cap opener

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

A	Tank	D	Tank drain
B	Tank cap	E	RFID label (RFID) tag
C	Filter insert		

- ✓ The water tank is drained, see "Removing water from the unit [→ 62]".
- 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 in the touch display.
11. Switch the water pump on to fill the water circuit.
12. Leave the water pump running until a constant jet of water hits the instruments (approx. 10 seconds).
13. Switch the water pump component off.
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 in the touch display.
16. To reset the water tank counter, press the "Check" 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.

#### Switch 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.  
↳ The production unit is looking for hub in the network.

- ↳ If no hub is found in the network, you can manually enter the IP settings.
- 4. Confirm the date and time.
- 5. Activate the suction settings if necessary.
- 6. Press the "Back" button to change a setting or press "Save" to conclude setup.

#### Switching the unit off

- ✓ The unit has finished the machining operation.
- Press the On/Off button on the front.
- ↳ The unit then switches off. The On/Off button changes from green to blue.

### 5.5 Repacking

#### NOTE

**Rewrap only drained units!**

Drain the unit!

- ✓ 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

#### NOTE

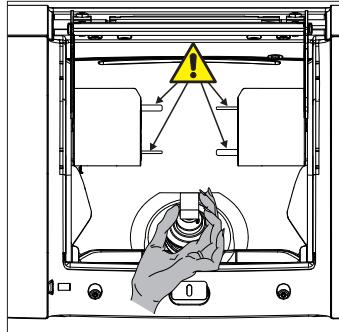
**Rewrap only drained units!**

Drain the unit! See "Removing water from the unit [→ 62]".

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

## 6 Operation

### ⚠ CAUTION



#### Risk of injury on calibration pins/instruments

If you reach into the processing chamber (e.g.: when inserting/removing a ceramic block, changing instruments, or inserting/removing a calibration phantom), you may injure your hand on the calibration pins/instruments.

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

Always insert your hand in the processing chamber underneath the calibration pins/instruments.

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

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

## 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
- Temperature Unit
- Suction Unit



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

- Language
- Region
- Date and Time
- Temperature Unit
- IP Settings
- Firmware Version
- Suction Unit
- Calibration
- Camera
- Service

## 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 in the touch display.
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) and insert them in the machine.
6. Close the door.
  - ↳ The calibration for set 1 is performed. The automatic calibration starts and lasts approx. 4 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) and insert them in the machine.
10. Close the door.
  - ↳ The calibration for set 2 is performed. The automatic calibration starts and lasts approx. 4 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

Before every process, make sure that all necessary connections are correctly coupled.

### 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.

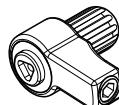
#### CAUTION

##### Risk of injury through cutting and grinding tools

There is risk of cuts through sharp edges of accessible parts and the use of rotating cutting and grinding tools that are sharp and/or pointed.

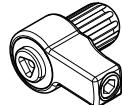
#### 6.3.1.1 Grinding

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

Instrument	REF	Usage	Color	Connection geometry of the force transmission
Diamond 1.4 CS	6714088	Grinding	White	
Diamond 1.2 CS	6714070	Grinding	White	
Diamond 1.0 CS	6714062	Grinding	White	
Diamond 0.6 CS	6714054	Grinding	White	

### 6.3.1.2 Milling

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

Instrument	REF	Usage	Color	Connection geometry of the force transmission
Bur 2.5 ZrO <sub>2</sub> CS	6713940	Milling of zirconium oxide (wet and dry)	Yellow	Square 
Bur 1.0 CS	6713932	All-purpose milling (wet and dry)	Black	Triangular 
Bur 0.5 CS	6713924	All-purpose milling (wet and dry)	Black	

### 6.3.1.3 Permitted instrument combinations

Depending on the materials to be processed and the process type used, various instrument combinations are permitted. They are permanently stored.

### 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 display of the production unit shows the HOME screen and the device door is closed.
  - 1. The production unit positions the tools as soon as the door is closed.
  - 2. If a data matrix code is present:  
The Webcam is activated and you can scan in the data matrix code of the block (see "").
- or
- > If no data matrix 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 "Manual block clamp [→ 47]").
  - 6. Close the processing chamber door.
    - ↳ The expected duration of the machining process is displayed in the touch display. The restoration number, date, ID number, and username are also displayed.

#### 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.

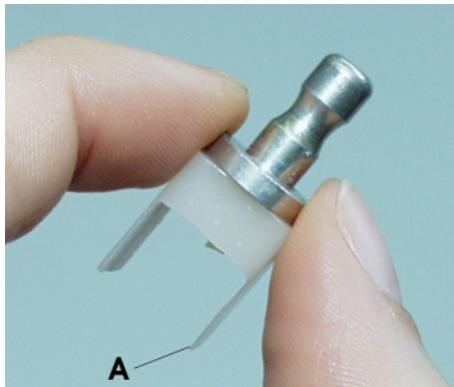
#### NOTE

##### Ending the machining processes

You can terminate the machining process at any time by clicking the "Stop" button on the PC or on the touch display.

### 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 Manual block clamp

Keep the clamp tool in the associated holder.

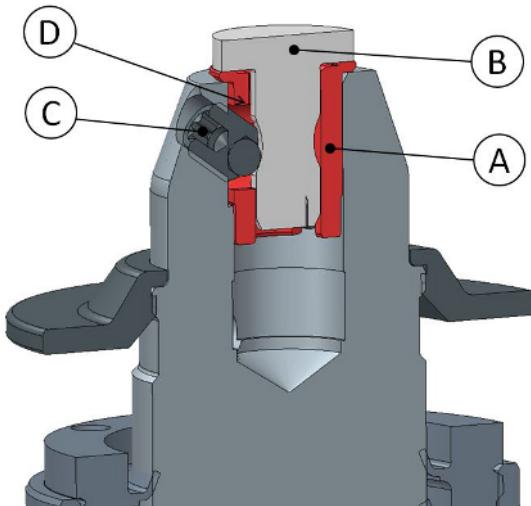
### NOTE

#### 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

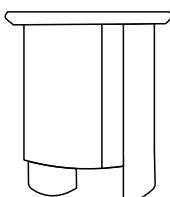
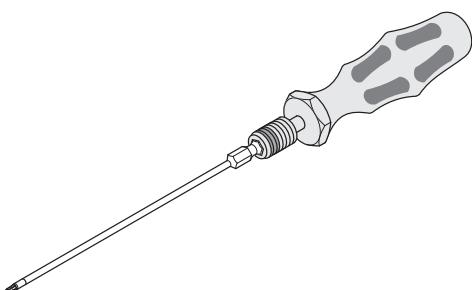


### NOTE

#### Fasten the block tightly

If the block is not sufficiently tightened, it can lead to unsuitable results and ceramic breakages.

- Securely tighten the block with the block clamping tool with the torque wrench, until you can hear a clicking sound.
- Check to make sure that the block is seated very firmly.



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.

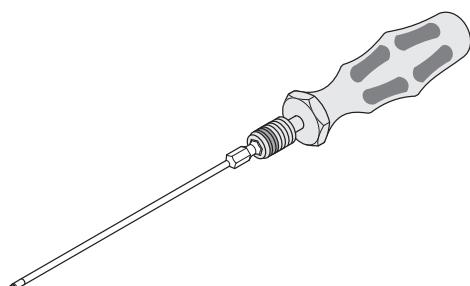
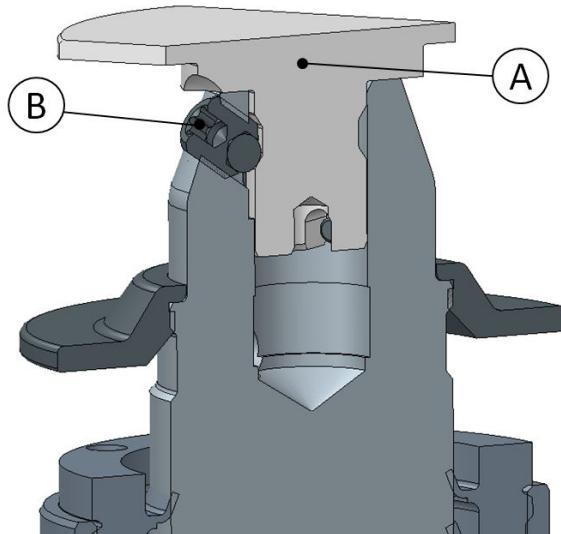
- ↳ The block is pressed laterally against the contact surface of the block fixing and simultaneously pulled in axially. The plate of the block holder thus rests on the block fixing.

### 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



#### NOTE

##### Fasten the block tightly

If the block is not sufficiently tightened, it can lead to unsuitable results and ceramic breakages.

- **Securely tighten the block with the block clamping tool with the torque wrench, until you can hear a clicking sound.**
- Check to make sure that the block is seated very firmly.

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.  
↳ 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

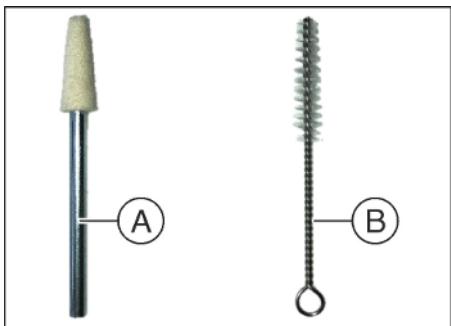
Have maintenance performed on your unit annually by trained technical personnel / a service engineer.

The touch display shows a reminder notification when it is time for maintenance.

### NOTE

#### Observe error messages

You must observe error messages shown on the display or 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").
- Clean manual block fixing with the supplied tool (A).
- Also clean instrument clamping cone with the supplied tool (A).
- If the jets of water do not strike the instruments, the service life of the instruments will likely be reduced. In this case, clean the water nozzles carefully with the supplied tool (B) 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").

### 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 second cleaning hose with a nozzle 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 hose is available separately as a spare part (REF 65 89 795). 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 cleaning hose and to execute the recommended wet cleaning process:

1. Remove the normal hose which is connected to the milling/grinding unit.
2. Connect the cleaning hose to the upper opening of the suction device.
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. You must also always remove the dust from the bottom of the impact pane of the block axis (see arrow).





6. After vacuuming the chamber you should perform the wet cleaning of the machine. This function can be started via the "Routine Actions" are (symbol on left) by selecting the "Cleaning Program" item. The process runs for 15 minutes, but can be canceled at any time if the desired result is reached.
7. You can remove any zirconium oxide deposits in the lower part of the workpiece axis with a nylon brush between the wet cleaning processes.

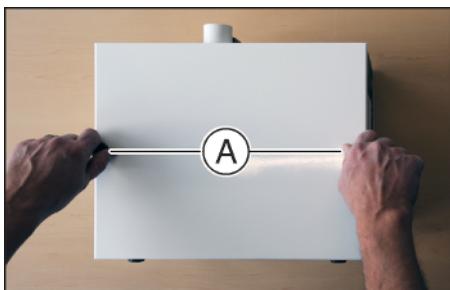
## 7.2 Changing filter bags and HEPA filters

### Changing filter bags

The touch display automatically displays a notification to change the filter bag of the CEREC suction system after 120 dry-milled restoration units. This number may differ depending on the amount of zirconium oxide materials milled and suctioned. If the filter bag is full before the notification, the touch display might display a warning at low pressure, meaning that the filter bag needs to be replaced.

#### NOTE

If there is a significant fall in suction power, the filter bag could be full and will need replacing.



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 display.

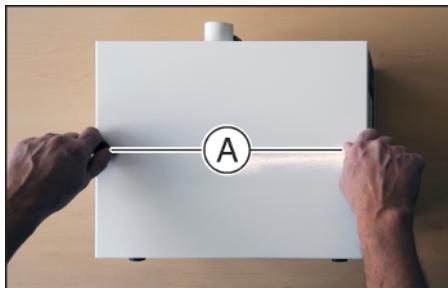
## Changing HEPA filters

After every fourth filter bag change, the touch display automatically displays a notification to replace the HEPA filter. This number may differ depending on the amount of zirconium oxide materials milled and suctioned. If the HEPA filter is full before the notification, the touch display might display a warning at low pressure, meaning that the HEPA filter needs to be replaced.

The HEPA filter is located behind the filter bag.

### NOTE

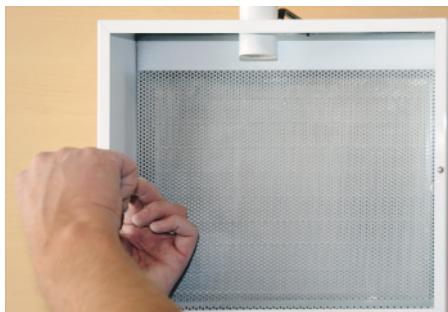
Replace the HEPA filter if suction power is still weak after replacing the filter bag.



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 display.

## 7.3 Changing the water

### 7.3.1 General information

#### NOTE

##### Coolant

Use distilled or demineralized water.

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

#### 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.

#### 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.

#### NOTE

##### Approved coolant additive

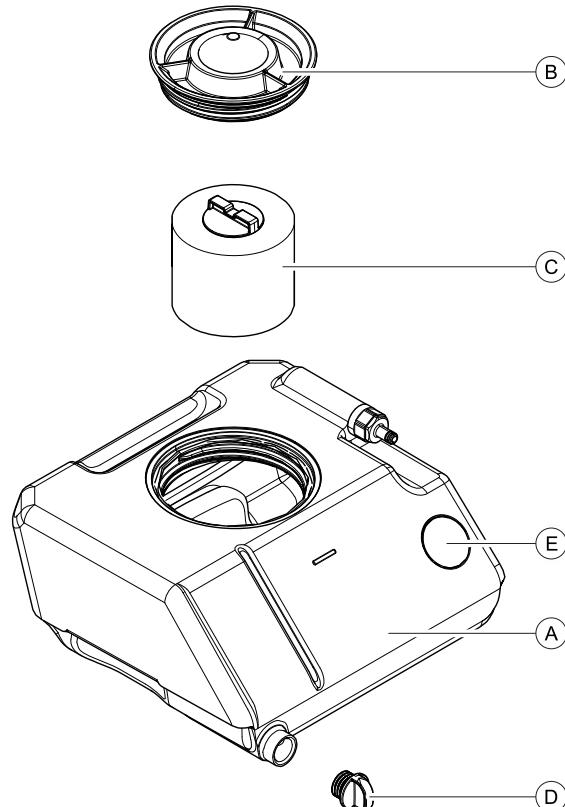
Use only DENTATEC as a coolant additive.

### 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

A	Tank	D	Tank drain
B	Tank cap	E	RFID label (RFID) tag
C	Filter insert		

### 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 in the touch display.
- 16. To reset the water tank counter, press the "Check" button next to the "Water Tank" category.



## 7.4 Instruments

### 7.4.1 Overview of materials/instruments

Additional instrument combinations are displayed in the touch display.

### 7.4.2 Changing instruments

#### NOTE

##### Instrument replacement

Change the instruments as soon as the system prompts you to do so.

#### ⚠ CAUTION

##### Risk of injury on calibration pins/instruments

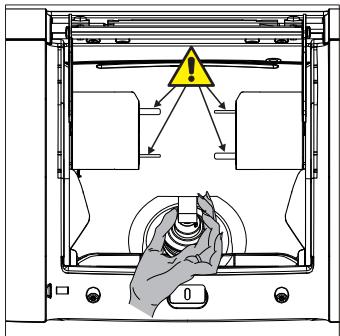
If you reach into the processing chamber (e.g.: when inserting/removing a ceramic block, changing instruments, or inserting/removing a calibration phantom), you may injure your hand on the calibration pins/instruments.

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

Always insert your hand in the processing chamber underneath the calibration pins/instruments.

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

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



- ✓ A dialog box is displayed on the touchscreen which specifies the instrument to be changed or the application to be used.
- 1. Replace either the individual instrument or the individual instrument set.
  - ↳ The motors move to the position for changing the instruments.
  - ↳ The dialog box for changing the instruments opens.
- 2. Open the processing chamber door.
- 3. Loosen the instrument with the torque wrench and pull it out manually.
- 4. Hold the colored rear end of the instrument approx. 1–3 mm in front of the RFID scanner.
  - ↳ If the correct unit type is selected and read by the RFID scanner, the touch display shows this. The motor to which the instrument is to be integrated is also shown.
  - ↳ If an incorrect or defective / used unit type is selected and read by the RFID scanner, the touch display shows that another (correct or new) instrument should be selected.
- 5. Insert the instrument into the corresponding motor as shown on the touch display. Tighten the corresponding chuck with the torque wrench until a clicking sound can be heard.
- 6. Close the processing chamber door.

7. If an application is selected requiring the replacement of more than one instrument, repeat the aforementioned process for the remaining instruments.



#### NOTE

##### Cleaning cooling water nozzles

The cooling water nozzles in the processing chamber must be free from limescale, grinding dust/milling dust deposits. The corresponding cooling water jet must always strike the instrument accurately!

- ✓ The cooling water nozzles are dirty.  
➤ Clean the nozzles with the supplied tool.

#### NOTE

##### Use only suitable instruments!

Do not use any instruments of the devices CEREC MC XL / MC X / MC / inLab MC XL or inLab MC X5.

#### Changing a defective instrument

If an instrument breaks during the processing process or an instrument with low remaining service life is indicated during routine maintenance, the instrument in the touch display is displayed in red. The touch display also offers the option of replacing the defective instrument.

- ✓ A dialog box is displayed on the touchscreen which specifies the instrument to be changed or the application to be used.
1. Select the instrument.
    - ↳ The motors move to the position for changing the instrument.
    - ↳ The dialog box for changing the instruments opens.
  2. Open the processing chamber door.
  3. Loosen the instrument with the torque wrench and pull it out manually.
  4. Hold the colored rear end of the instrument approx. 1–3 mm in front of the RFID scanner.
    - ↳ If the correct unit type is selected and read by the RFID scanner, the touch display shows this. The motor to which the instrument is to be integrated is also shown.
    - ↳ If an incorrect or defective / used unit type is selected and read by the RFID scanner, the touch display shows that another (correct or new) instrument should be selected.
  5. Insert the instrument into the corresponding motor as shown on the touch display. Tighten the corresponding chuck with the torque wrench until a clicking sound can be heard.
  6. Close the processing chamber door.

## 7.5 Care, cleaning agents, and disinfectants

### NOTE

#### Approved care, cleaning, and disinfecting agents

Use only care, cleaning, and disinfecting agents approved by Dentsply Sirona!

The following equipment is approved for use:

Manufacturer	average
Alpro	<ul style="list-style-type: none"><li>• Plasti Sept</li><li>• Plasti Sept Wipes</li></ul>
Henry Schein	<ul style="list-style-type: none"><li>• Maxima Non-Alcoholic Surface Disinfection</li></ul>
Schülke & Mayr	<ul style="list-style-type: none"><li>• Mikrozid Sensitive Liquid</li><li>• Mirkozid Sensitive Wipes</li></ul>
Dürr	<ul style="list-style-type: none"><li>• FD 366 Sensitive</li><li>• FD 366 Sensitive Wipes</li></ul>
Kerr Corporation	<ul style="list-style-type: none"><li>• CaviCide</li><li>• Cavi Wipes</li></ul>

## 7.6 Cleaning surfaces

### NOTE

Do not allow liquids to run into the ventilation slots!

### 7.6.1 Disinfecting

Wipe surfaces down with a surface disinfectant (wiping disinfectant).

Observe the manufacturer's instructions regarding restrictions for use.

### 7.6.2 Cleaning

Remove dirt, grime and disinfectant residue regularly using mild, commercially available cleaning agents.

## 7.7 Replacing the main fuses

### WARNING

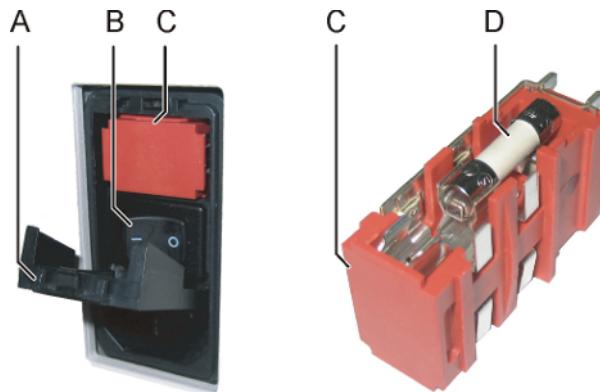
#### Electric shock

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*

A	Cover	C	Fuse holder
B	Main switch	D	Fuse

Fuses: T3.15H250V 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.

## 7.8 Changing the filter

### NOTE

#### Change the filter insert regularly!

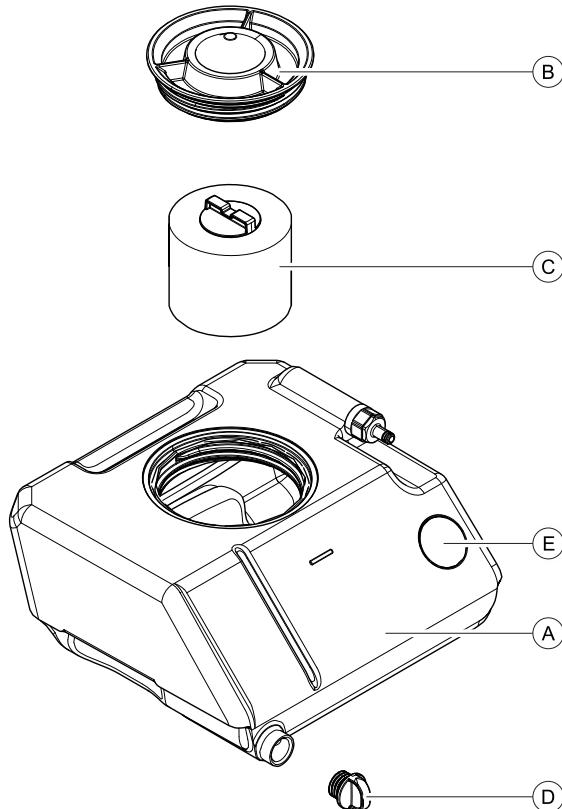
Replace the filter insert with a new one once per week or on every fourth water change.

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

A	Tank	D	Tank drain
B	Tank cap	E	RFID label (RFID) tag
C	Filter insert		

### 7.8.1 Procedure for all materials

- ✓ The tank is drained, see "Removing water from the unit [→ 62]".
- 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 [→ 54]".

Filter insert	Order number
Filter unit (1 pcs)	63 87 067
Filter unit (six pack)	64 29 950

## 7.9 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.

### 7.9.1 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 reinsert the water tank in the unit.
- 5. Switch the unit on.
- 6. Select the symbol shown on the left in the touch display.
- 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.



## 7.10 Using the tank cap opener

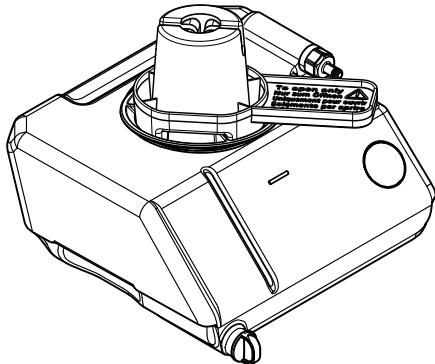
### NOTE

#### 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



#### 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 and higher versions
- inLab CAM SW 21.0 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
- Processing repeatability: +/- 25 µm

##### Grinding instruments

- Diamond 1.4 CS (white)
- Diamond 1.2 CS (white)
- Diamond 1.0 CS (white)
- Diamond 0.6 CS (white)

##### Milling instruments (wet and dry milling)

- Bur 2.5 ZrO<sub>2</sub> CS (Yellow)
- Bur 1.0 CS (Black)
- Bur 0.5 CS (Black)

### 8.2.2 Technical data

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

### 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, 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](http://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](mailto: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.

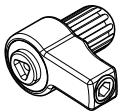
Prior to disassembly/disposal of the unit, it must be prepared professionally (cleaned/disinfected/sterilized).

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.

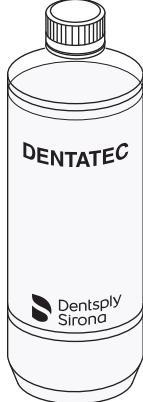
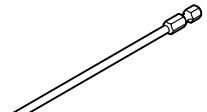
#### Other countries

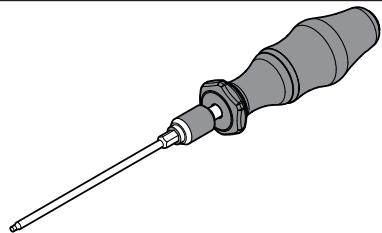
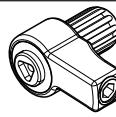
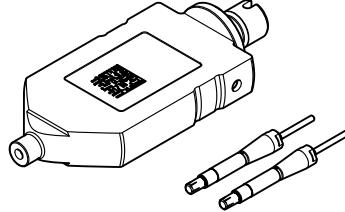
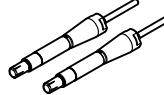
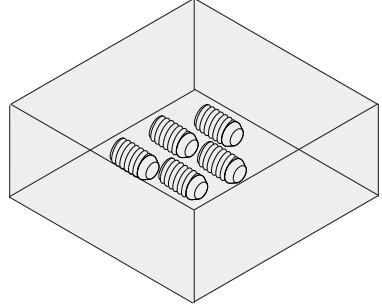
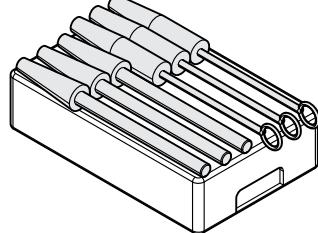
For country-specific information on disposal, contact your local dental dealers.

## 10 Consumable

Instrument	REF	Usage	Color	Connection geometry of the force transmission
Diamond 1.4 CS	6714088	Grinding	White	Triangular 
Diamond 1.2 CS	6714070	Grinding	White	
Diamond 1.0 CS	6714062	Grinding	White	
Diamond 0.6 CS	6714054	Grinding	White	

Instrument	REF	Usage	Color	Connection geometry of the force transmission
Bur 2.5 ZrO <sub>2</sub> CS	6713940	Milling of zirconium oxide (wet and dry)	Yellow	Square 
Bur 1.0 CS	6713932	All-purpose milling (wet and dry)	Black	Triangular 
Bur 0.5 CS	6713924	All-purpose milling (wet and dry)	Black	

REF	Designation	Illustration
5809640	DENTATEC, 1000ml	
6280171	Tank cap opener	
6711340	Interchangeable blade TX 10x132	

REF	Designation	Illustration
6718410	Block clamp tool, spare part	
6479856	HT torque wrench, spare	
6479849	Torque wrench, spare	
6623792	Adapter sleeve	
6704790	Adapter sleeve removal tool	
6718444	Calibration set, spare part	
6732528	Calibration pin (2x), spare part	
6258987	Ball pressure screw set (5x), spare	
6718451	Cleaning set, spare part	

REF	Designation	Illustration
6718469	Screen insert, spare part	
6429950	Filter MC/MCX (pack of 6 units)	
6151562	10 Base-T crossover cable 10m	

# Index

## B

Base, 21  
Building installation, 15

## C

Calibration tools  
    Calibration phantom, 41  
    Calibration pins, 41  
Care, cleaning, and disinfecting agents, 59  
CE mark, 8  
Connection  
    Ethernet, 29  
    LAN, 29  
    WLAN (Wi-Fi), 34  
Connection for suction, 24  
Connections, 24  
Cooling water nozzles, 58  
Customer Service Center, 5

## D

Dimensions, 65  
Disinfectant, 59  
Disposal of old electrical and electronic devices, 66

## E

enretec GmbH, 66

## F

Filter  
    mode, 61  
    Order number, 62  
Fuse, 24  
    Fuse type, 60  
    Order number, 60  
    Replacement, 60

## H

Humidity range, 65

## I

Installation site, 22  
Installing the unit  
    automatic, 30  
    manual, 30  
    removal, 30  
Instruments, 58, 64  
    Changing a defective instrument, 58

## M

Main switch, 24  
Maintenance, 15  
    Regulations, 49  
Manufacturer's address, 5  
Milling unit  
    Processing chamber, 25

## N

Nominal current, 65  
Nominal mains voltage, 65

## O

Operating mode, 65

## P

Packaging, 20  
Packing, 39  
Power connection, 24  
Product safety, 16  
Production unit  
    Overview, 23  
    Touch display, 27  
Protection class, 65

## R

Repair, 15

## S

Safety instructions, 6  
Scope of supply, 39

## T

Temperature range, 65

Transport, 20

Type designation, 65

## U

Unpacking, 20

## V

Ventilation slots, 19

## W

Water, 65

Water tank

    Changing the water, 56

    Filling, 37

    Odors, 54

    Overview, 37, 55, 61

    Removing water from the unit, 62

    water change, 54

Weight, 65

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We reserve the right to make any alterations which may be required due to technical improvements.

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