s i r o n a.

T h e   D e n t a l   C o m p a n y

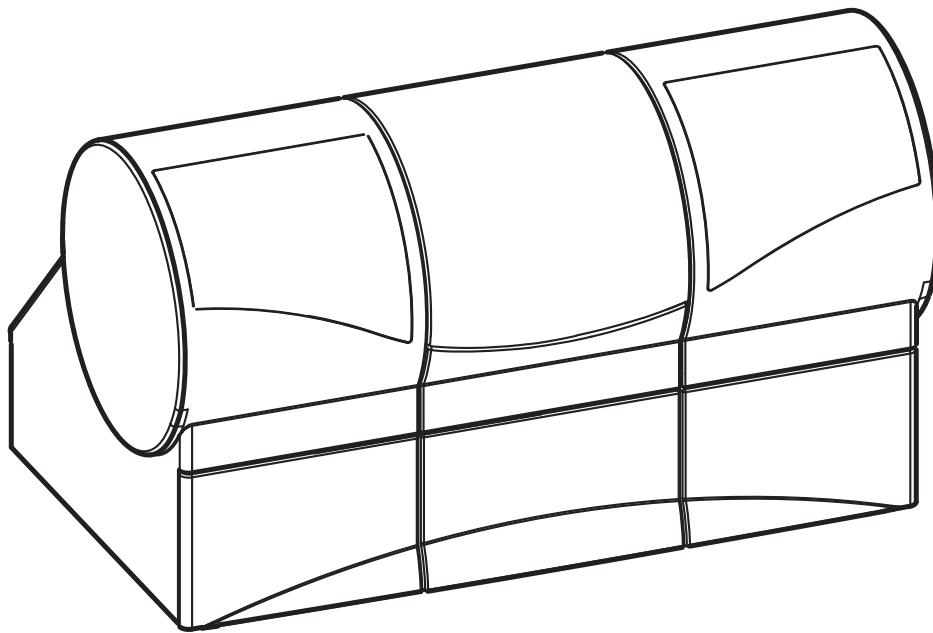# Sirona Dental CAD/CAM System inLab MC XL

Operating Instructions

This product is covered by one or more of the following US patents:

- US6454629
- US6394880
- US7178731

- US6702649
- US7522764
- US7163443

Contents

1 Dear Customer,

Thank you for purchasing your inLab MC XL® from Sirona.

This device enables you to produce dental restorations, e.g. from ceramic material with a natural appearance (**CE**ramic **REC**onstruction).

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

To prevent personal injury or material damage, it is important to observe all safety information.

To safeguard your warranty claims, please complete the attached **Installation Report / Warranty Passport** when the system is handed over and send it to the indicated fax number.

Your
inLab MC XL Team

2 General information

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 instructions provided in this document, which are highlighted as follows:

> ⚠ **DANGER**
>
> Imminent danger that could result in serious bodily injury or death.

> ⚠ **WARNING**
>
> Potentially dangerous situation that could result in serious bodily injury or death.

> ⚠ **CAUTION**
>
> Potentially dangerous situation that could result in slight bodily injury.

> **NOTICE**
>
> Potentially harmful situation which could lead to damage of the product or an object in its environment.

> **IMPORTANT**
>
> Instructions for use 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:

✔ Prerequisite **1.** First action step **2.** Second action step or ➢ Alternative action ✎ Result	Requests you to do something.
See "Formats and symbols used [→ 7]"	Identifies a reference to another text passage and indicates the relevant page number.
• List	Identifies a list item.
"Command / menu item"	Identifies commands / menu items or a quote.

2.3 Warranty

To safeguard your warranty claims, please complete the attached Installation Report / Warranty Passport when the unit is handed over. Then fax it to the specified fax no.

3 General description

3.1 Certification

CE mark

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 61010-1:2002-08 and DIN EN 61326-1:2006-10.

> ⚠ **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 60950-1:2005 based on IEC 60950-1: 2005
- UL 60950 third edition 2000

GOST mark

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 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 mesostructure may also be used in conjunction with the Camlog Titanium base CAD/CAM (types K2244.xxxx) (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:

- Nobel Biocare Replace (K020646)
- Nobel Biocare Branemark (K022562)
- Friadent Xive (K013867)
- Biomet 3i Osseotite (K980549)
- Astra Tech Osseospeed (K091239)
- Zimmer Tapered Screw-Vent (K061410)
- Straumann SynOcta (K061176)
- Straumann Bone Level (K053088, K062129, K060958)
- Biomet 3i Certain (K014235, K061629)
- Nobel Biocare Active (K071370)

⚠️ **CAUTION**

Small diameter implants and large angled abutments in the anterior region of the mouth due to possible failure of the implant system.

⚠️ **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.

4 Safety

4.1 Basic safety information

4.1.1 Prerequisites

NOTICE
Important information on building installation
The building installation must be performed by a qualified expert in compliance with the national regulations. DIN VDE 0100-710 applies in Germany.

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

NOTICE
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 Sirona or by agencies authorized by Sirona.
- Components which have failed and influence the safety of the unit must be replaced with original (OEM) spare parts.

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 Changes to the product

Modifications to this unit which may affect the safety of the operator, patients or third parties are prohibited by law!

4.1.4 Accessories

In order to ensure product safety, this device may be operated only with original Sirona accessories or third-party accessories expressly approved by Sirona. In particular, only the power cable supplied with the unit or the corresponding original spare part may be used with the unit. The user assumes the risk of using non-approved accessories.

4.2 Opening the milling chamber door during the production process

---

⚠ **CAUTION**

Instruments that continue to run

When the milling chamber door is opened during the production process, the instruments could continue to run for a short time.

➢ Be careful not to touch the instruments with your hand or any other object during this time.

➢ Avoid opening the milling chamber door while the milling unit is in operation.

➢ Before you open the milling chamber door, end any actions that are running by selecting the *"Stop"* key on the milling unit or in the application software.

4.3 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.

5 Installation and startup

5.1 Transport and unpacking

All Sirona products 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.

NOTICE
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 prior to shipment (if it has been operated). Removing water from the unit [→ 55]

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 milling unit in the vicinity of the patient (place it at least 1.5 m away from the patient).

The milling unit requires a level floor space of approx. 700 x 420 mm The height of the milling unit is:

- with the milling chamber door closed: 425 mm

- with the milling chamber door open: 570 mm

Install the milling unit in such a way that it is not difficult to operate the main switch.

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

Note that the unit weighs 43 kg!

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

> **NOTICE**
>
> **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 and 40°C.

5.3.1 Installation site with low light incidence

> **NOTICE**
>
> **Impairment of the scanned result due to sudden incidence of light.**
>
> A sudden, strong incidence of light may falsify the scanned result.
>
> Set the unit up so that the milling chamber is not located directly in the beam path of an extreme light source and is not exposed to direct sunlight.

5.4 Initial startup

> **NOTICE**
>
> **Important information on initial startup**
>
> Observe the software installation instructions!

5.4.1 Functional elements

Unit overview

Ports on the back side
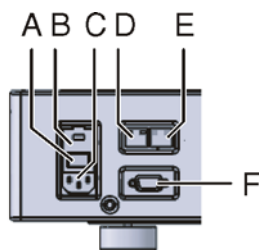
Ports

A	Main switch **I** = ON, **0** = OFF	D	LAN port Ethernet
B	Fuse cover	E	This connection is not used
C	Power connection	F	Barcode reader port

Milling chamber
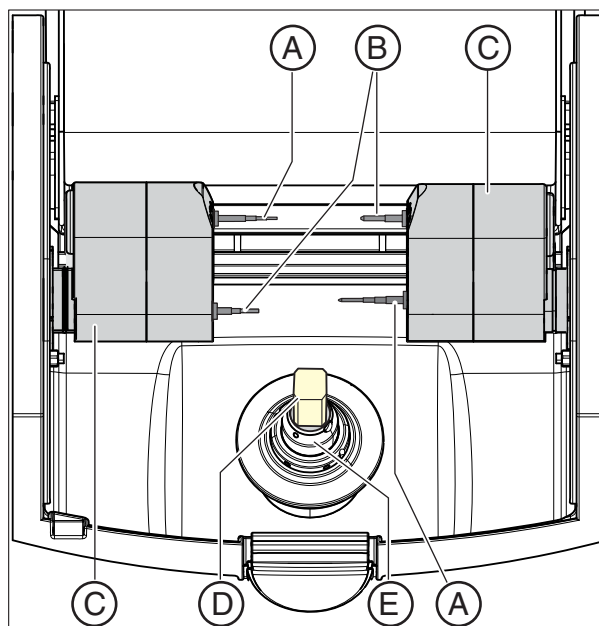
Milling chamber

A	Instrument set 1	D	Ceramic block
B	Instrument set 2	E	Workpiece spindle
C	Motor mount		

5.4.2 Standard accessories

5.4.2.1 Instruments

The following instruments are available for production purposes. When replacing instruments, ensure the permitted instrument combinations are used (see "Permitted instrument combinations [→ 32]").
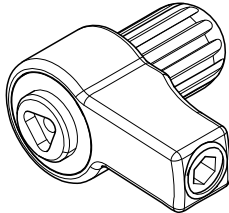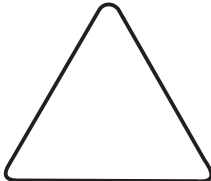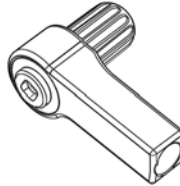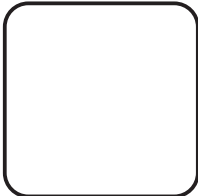
5.4.2.2 Calibration pins

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

5.4.2.3 Torque wrench

To insert or replace the instruments or calibration pins, use the following torque wrench.

Instrument	REF	Usage	Torque wrench	Clamping format of the force transmission
Step Bur 12 S	6240167	Grinding	Triangular
Cyl. Pointed Bur 12 S	6240159	Grinding		
Step Bur 20	6259597	Grinding		
Cyl. Pointed Bur 20	6259589	Grinding		
Step Bur 12	6260025	Grinding		
Shaper 25	6299395	Milling		
Finisher 10	6299387	Milling		
Calibration pin (AiO*)	6241132	Calibration		
Shaper 25 RZ	6433440	Milling		Square

* **A**ll-**i**n-**O**ne

5.4.3 Display description

These operating instructions describe how to operate the unit by executing and confirming commands via your PC.

You can also confirm commands such as *"Start"*, *"Stop"*, *"Cancel"* or *"OK"* directly on the display of your milling unit.

Possible commands are then shown above the corresponding button on the display. In the example shown, **button 1, (A)** would confirm the command *"Start"* and **button 4, (D)** would confirm the command *"Stop"*.
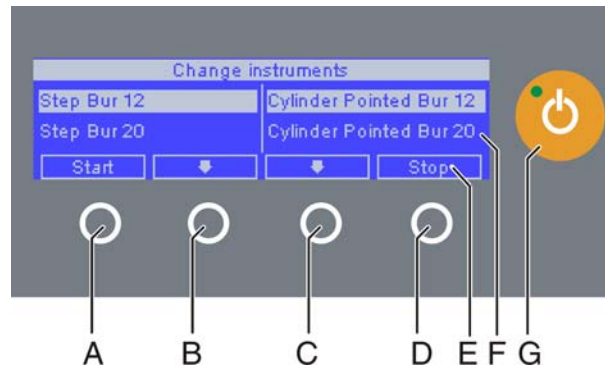
Display

A	Button 1	E	Command
B	Button 2	F	Display
C	Button 3	G	ON/OFF switch
D	Button 4		

5.4.4 Lighting of the milling chamber

The lighting of the milling chamber depends on the machining operation involved:

Machining operation	Lighting color
Machining	white
Operation completed	Green
Error or *"Stop"* button pressed	Red

5.4.5   **Inserting the milling chamber sieve**

> ⚠ **CAUTION**
>
> **Risk of injury on instruments**
>
> Be careful not to brush against the instruments with your hand.

> **NOTICE**
>
> **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 sieve is suitable for all restoration and material types. It is absolutely essential that no chips enter into the cooling circuit when milling models.
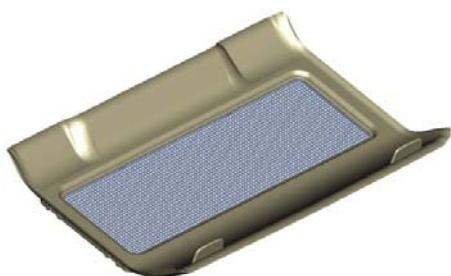
1. Remove the milling chamber sieve from the packaging.
2. Wet the underside of the sieve with water before insertion and press it firmly against the floor of the milling chamber.

> **NOTICE**
>
> **Make sure the milling cutters are used correctly**
>
> If the milling cutters are not used as described below, this may cause damage to the milling unit.
>
> ➢ Use the Shaper 25 and Finisher 10 milling cutters only in inLab MC XL milling units, as of serial number 120 000 or in inLab MC XL milling units that have been upgraded using the motor upgrade kit for inLab (REF 6338631).
>
> ➢ Use the Shaper 25 and Finisher 10 milling cutters only for manufacturing models from the inCoris S model (REF 6299361) and inCoris L model blocks (REF 6299379).

5.4.6   **Connecting the barcode reader**

Tool holder

➢ Insert the block clamp tool on the left and the bar code reader on the right.

> **NOTICE**
>
> **Using the block clamp tool**
>
> When milling models, the block clamp tool with 1.6 Nm is required. This block clamp tool is also part of the milling model starter kit (REF 63 20 993).

Connecting the bar code reader

➢ Plug the bar code reader into the serial interface to the rear of the milling unit and secure with screws.

5.4.7 Installation

5.4.7.1 Connecting to the PC via LAN

An Ethernet connection is located to the rear of the unit, which can be used to connect the PC to the milling unit. Use a network cable to do this (LAN connection).
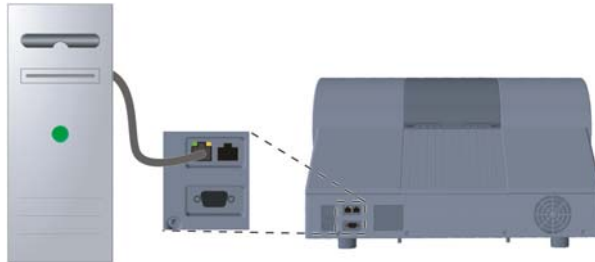
Using a network cable

Connect the PC to the LAN connection of the unit.

If problems arise when connecting via a network cable, please read the separate instructions "Operating the MC XL via LAN".

5.4.7.2 Connecting the milling unit to the power supply

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

➢ Connect the milling unit to the power supply with the power cable included in delivery.

5.4.7.3 Installing the unit

You must connect the unit to the PC before putting it into operation. This is described in the chapter "Connecting to the PC via LAN [→ 20]".

Searching for unit automatically

The unit is connected to the PC via a LAN cable.

Search for unit manually

The unit is connected to the PC via a LAN cable.

Removing the unit

✔ If you no longer require a unit (e.g. a unit is replaced), you can remove it.

✔ The unit is 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 deinstall.

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 unit is removed.

5.4.8 Filling the water tank

NOTICE
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" [→ 56]).
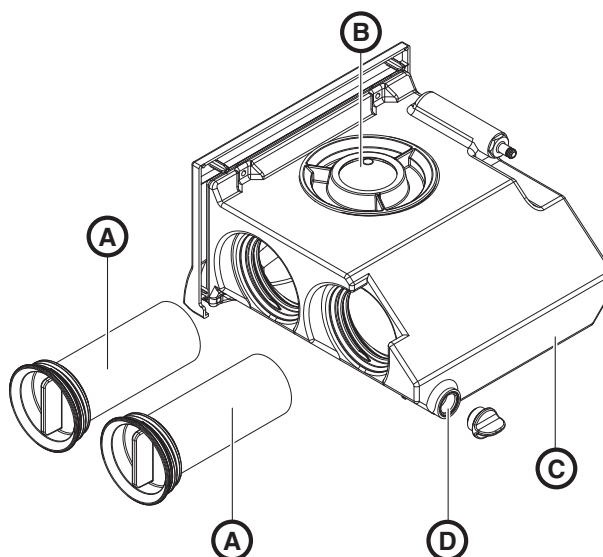
Water tank

A	Filter inserts	C	Tank
B	Tank cap	D	Tank drain

✔ The water tank has been drained, see "Removing water from the unit".

1. Pull out the water tank at the front of the unit.

2. Turn the tank cap counter-clockwise and take it off.

> **NOTICE**
>
> **Damage to surfaces!**
>
> When undiluted, DENTATEC milling additive etches plastic surfaces and can cause discoloration.
>
> ➤ Do not place DENTATEC on the unit.
>
> ➤ Do not spill DENTATEC.

3. Add approx. 75 ml of DENTATEC to the tank.
4. Fill the tank with water until the filter inserts are completely immersed (up to the bottom edge of the cover thread, approx. 3 liters).
5. Wait briefly until the filter inserts are soaked full and add a corresponding amount of water.
6. Close the water tank by tightening the tank cap clockwise by hand. **Do not use the tank cap opener for this**.
7. Push the water tank back into the housing.
8. Switch the unit on (see Switching the unit ON and OFF [→ 22]).
9. Switch the pump on (press the *"Pump"* button) to fill the water circuit.
10. Fill the water tank up again until the filter inserts are completely immersed (up to the bottom edge of the cover thread).

5.4.9 Switching the unit ON and OFF

> **NOTICE**
>
> **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.
>
> The milling unit contains grease depots for lubricating components which 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.

> **NOTICE**
>
> **Do not adjust the line voltage**
>
> The unit automatically adjusts to the line voltage.

Switching the unit on

✔ The milling unit is connected to the power supply.

1. The main switch on the rear side of the unit is set to position **I** (ON).
2. Press the ON/OFF button on the front panel.

↳ The unit switches on and the display lights up.
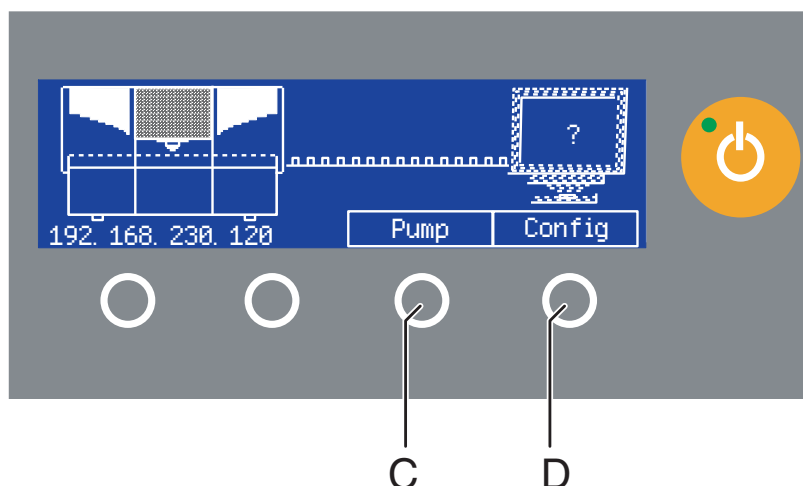
Power-up display

When the milling unit is switched on, the display shows a picture of the milling unit trying to contact the PC.

You can start or stop the water pump by pressing the *"Pump"* button (**C**). This enables you to drain the water circuit without connecting to the PC (e.g. prior to transport) or fill the water circuit during startup.

You can call up the IP address by pressing the *"Config"* button (**D**). You can configure the milling unit in the network with this address.

Switching the unit off

✔ The unit has finished the machining operation.

➢ Briefly press the ON/OFF button on the front panel.

↳ When you let go of the button, the unit switches off.

5.5 Repacking

NOTICE
Repack only drained units!
Drain the unit! See "Removing water from the unit [→ 55]".

✔ 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 inLab MC XL".

5.7 Storage

NOTICE
Repack only drained units!
Drain the unit! See "Removing water from the unit [→ 55]".

Store the unit in a closed and dry room at a temperature of -10°C to 50°C for a maximum period of 12 months.

6 Operation
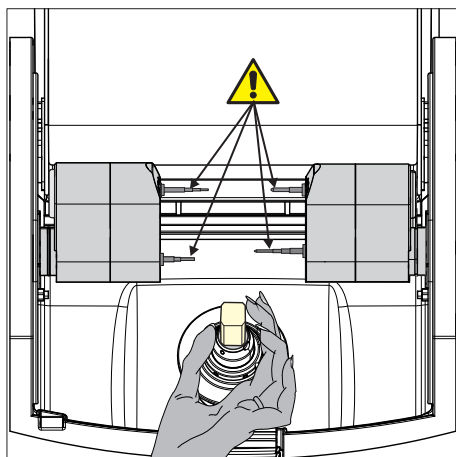
> ⚠ **CAUTION**
>
> **Risk of injury on calibration pins/instruments**
>
> If you reach into the milling chamber (e.g.: when inserting/removing a ceramic block, changing instruments or inserting/removing a calibration phantom), you may injure your hand on the calibration pins/instruments.
>
> Be careful not to brush against the calibration pins/instruments with your hand.
>
> Always insert your hand in the milling chamber underneath the calibration pins/instruments.

6.1 Configuration (inLab MC XL)

In the *"Devices"* area, various settings can be subsequently modified.

1. Click the *"Configuration"* button in the system menu.
2. Click on the *"Devices"* button.
3. Click on the unit that you wish to configure.

inLab MC XL

You can subsequently edit the following settings via the menu item *"MC XL"*:

- Name
- Connection settings
    - Retrieve IP settings automatically
    - Specify IP settings manually
- Manual block fixing
    - If you use manual block fixing, a check mark must be placed in front of *"Manual block fixation"*.
    - Models can only be milled using manual block fixation.
- Second motor set
    - The check mark must be placed in front of *"Two Bur Sets"*.
    - You can deactivate instrument sets individually. A deactivated instrument set will simply be ignored during production, calibration etc.
    NOTICE! The restoration may be damaged if longer instruments are present in the deactivated instrument set than in the active set. Ensure that the instruments installed in the deactivated instrument set are not longer than those in the active set.

- Scanner

  – If the milling unit has an integrated scanner, a check mark must be placed in front of *"Scanner"*.

  – Use the scanner to read bar codes.

- Bar code reader

  – If a bar code reader is used, this option must be activated.

- External tank

  – If the external water tank is connected and the check mark has been placed, you will not be reminded to change the water until a later point in time.

Deactivating an instrument set

You may need to deactivate an instrument set, e.g. unless it is possible to replace a defective instrument or in case a milling motor is defective or cannot be calibrated.

In all of these cases, you can deactivate sets 1 and 2 separately. A deactivated set will simply be ignored during production, calibration etc.

NOTICE
Milling tools may only be used in set 1.

NOTICE
Risk of collision
The restoration may become damaged if longer instruments are present in the deactivated instrument set than in the active set.
➢ Ensure that the instruments installed in the deactivated instrument set are not longer than those in the active set.

➢ To deactivate an instrument set, you can remove the check mark in front of the respective instrument set in the software.

6.2 Calibrating the unit

NOTICE
Use only the supplied calibration tools
Use only the supplied calibration pins and the corresponding calibration phantom when calibrating the milling 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.

NOTICE
Faulty production result
If the unit is not calibrated, the production result may be faulty.

Preparing a calibration

1. Take the calibration pins and calibration phantom out of the drawer of the unit.
2. In the software, navigate to the system menu, and click on the *"Configuration"* button.
3. Click on the *"Devices"* button.
4. Click on the unit that you wish to calibrate.
5. Click on the *"Calibrate"* step.
   - ↳ If two instrument sets are set:
     A dialog box then opens where you can select the instrument set to be calibrated or the two instrument sets to be calibrated consecutively. The date of the last calibration is also displayed.
6. If necessary, select the desired instrument set.
   You can also select the desired instrument set on the milling unit (up/down arrow).
7. Click on the *"Start"* button.
   - ↳ The milling unit then moves into position to insert the calibration tools.
     A dialog box prompts you to insert the calibration pins and the calibration phantom and to close the milling chamber door again.

Inserting the calibration pins and phantom

1. Press the catch of the milling chamber door and open the door.
2. Loosen the instruments with the torque wrench and remove them.
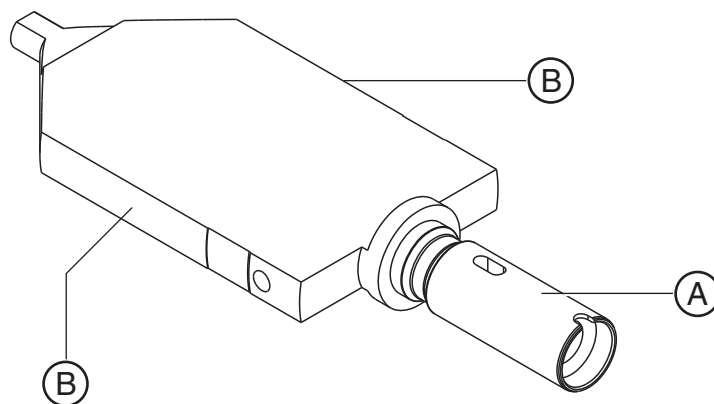
Calibration phantom

NOTICE
Grasp the calibration phantom correctly
Grasping the calibration phantom by its wide surfaces may cause calibration errors.
➢ Always grasp the calibration phantom by its clamping shank **(A)** when removing it from the storage box.
➢ Always grasp the calibration phantom by its narrow surfaces **B** when inserting it into the block fixing.

3. Remove the adapter sleeve (see "Using the manual block fixing [→ 36]").

4. To insert the calibration phantom into the block fixing, grasp it by its narrow surfaces **B**.

5. Clamp the calibration phantom with the ball pressure screw. Use the block clamp tool for this purpose.

6. Insert the calibration pins in the motor mount by hand. Tighten the corresponding chuck with the torque wrench until a clicking sound can be heard.

7. Close the milling chamber door.

Performing a calibration

➢ Confirm your selection in the *"Calibrate milling unit"* window with the *"Start"* button.

   ↳ The automatic calibration begins and takes approx. 12 minutes. Wait until the calibration has been completed.

Inserting the instruments

1. Open the milling chamber door following calibration.

2. Loosen the calibration pins with the torque wrench and remove them.

3. Loosen the ball pressure screw.

4. Remove the calibration phantom by grasping it by its narrow surfaces **(B)**.

NOTICE
Store the calibration tools in a safe place
Store the calibration pins and the calibration body in a safe place (e.g. in a storage box in the unit drawer).

5. Insert the instruments in the motor mount by hand. Tighten the corresponding chuck with the torque wrench until a clicking sound can be heard.

6. Close the milling chamber door.

   ↳ The dialog box for selecting the instruments then appears.

7. Select the inserted instruments and confirm by clicking the *"Start"* button in the window.

   ↳ The motor mounts move to their starting positions. The *"Calibration succeeded"* dialog box appears.

Exiting the calibration

1. Click on the *"OK"* button.

2. Click on the step *"Exit Configuration"*.
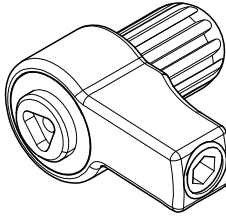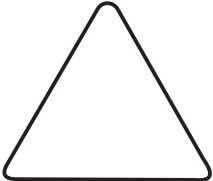
6.3 Production process

6.3.1 Process types

Various process types are available for production purposes. These vary in terms of the type of materials to be processed and the instruments to be used.

6.3.1.1 Grinding

For grinding purposes, use the following instruments as well as the appropriate torque wrench:

Instrument	REF	Torque wrench	Clamping format of the force transmission
Step Bur 12 S	6240167		Triangular
Step Bur 12	6260025		
Cyl. Pointed Bur 12 S	6240159		
Step Bur 20	6259597		
Cyl. Pointed Bur 20	6259589		

6.3.1.2   **Milling**

The milling option is available from the following serial numbers onwards:

Machine type	Serial number
inLab MC XL	129001
CEREC MC XL	129001
CEREC MC XL Premium Package	302001
CEREC MC	202001
CEREC MC X	231001

All other machines must be equipped with the Milling Design 2010 starter kit (REF:64 48 893) or with the Milling for enclosed motors starter kit (REF: 64 51 079).
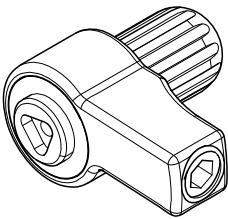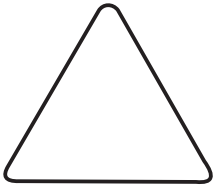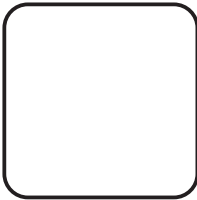
IMPORTANT
The milling process is supported in the inLab software from version 4.2.3 onwards.

Activating the milling option

1.   Select *"Configuration"/ "Settings"/ "Milling"*.
2.   Check *"Activate"*.

Instruments and torque wrenches

For milling purposes, use the following instruments as well as the appropriate torque wrenches:

Instrument	REF	Torque wrench	Clamping format of the force transmission
Finisher 10	6299387		Triangular
Shaper 25 RZ	6433440		Square
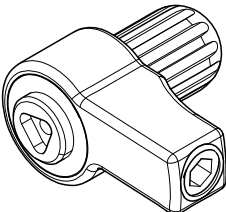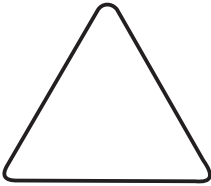
6.3.1.3   **Milling models**

NOTICE
The "Milling models" option can only be used if you have one of the following machines: - inLab MC XL from serial number 120 000 - CEREC MC XL Premium Package

For milling purposes, use the following instruments as well as the appropriate torque wrench:

Instrument	REF	Torque wrench	Clamping format of the force transmission
Shaper 25	6299395		Triangular
Finisher 10	6299387		

NOTICE
Chips gathered in the milling chamber
When milling models, a large number of chips collect in the milling chamber.
➢ Each time a model block is milled, remove the chips from the milling chamber by hand.
➢ Before removing them, squeeze the chips so that any stored water is released into the cooling circuit.

6.3.1.4 Permitted instrument combinations

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

The following table shows the instrument combinations, the positions where they must be inserted and the materials that can be produced with each instrument combination.

> inLab SW 4.2, inLab MC XL, CEREC MC X, CEREC MC XL, CEREC MC XL Premium Package

MOTOR SET	LEFT	RIGHT	COMBINATION
Set 1 or set 2	Step Bur 12S	Cylinder Pointed Bur 12S	①
Set 1 or set 2	Step Bur 12	Cylinder Pointed Bur 12S	②
Set 1 or set 2	Step Bur 20	Cylinder Pointed Bur 20	③
Set 1 or set 2	Step Bur 20	Cylinder Pointed Bur 12S	④
Set 1	Shaper 25 RZ	Finisher 10	⑤ *
Set 1	Finisher 10	Finisher 10	⑥ **
Set 2	Shaper 25	Shaper 25	

DESCRIPTION	FIGURE	REF.
Step Bur 12S	①	62 40 167
Step Bur 12	②	62 60 025
Cylinder Pointed Bur 12S	③	62 40 159
Step Bur 20	④	62 59 597
Cylinder Pointed Bur 20	⑤	62 59 589
Shaper 25 RZ	⑥	62 33 440
Finisher 10	⑦	62 99 387
Shaper 25	⑧	62 99 395

Sirona	MATERIAL	COMBINATION
	CEREC Blocs	① ②
	CEREC Blocs PC	① ②
	CEREC Blocs C In	① ②
	CEREC Guide Blocs	③
	inCoris ZI	③ ⑤
	inCoris TZI	③ ⑤
	inCoris AL	③
	inCoris CC	③
	inCoris Model S	⑥
	inCoris Model L	⑥

Vita	MATERIAL	COMBINATION
	VITABLOCS® MarkII	① ②
	VITABLOCS® TriLuxe	① ②
	VITABLOCS® TriLuxe forte	① ②
	VITABLOCS® RealLife	① ②
	VITABLOCS® Enamic	① ②
	VITABLOCS® Suprinity	① ②
	VITABLOCS® Suprinity FC	① ②
	In-Ceram Zirconia	① ②
	In-Ceram Alumina	① ②
	In-Ceram Spinell	① ②
	In-Ceram YZ	③ ⑤
	In-Ceram AL	③
	CAD-Temp	③ ⑤
	CAD-Waxx	③ ⑤

Ivoclar Vivadent	MATERIAL	COMBINATION
	IPS Empress® CAD	① ②
	IPS Empress® CAD Multi	① ②
	IPS e.max® CAD	① ② ④
	IPS e.max® CAD A	① ②
	IPS AcrylCAD	③ ⑤
	IPS TelioCAD	③ ⑤
	IPS e.max® ZirCAD	③ ⑤

Dentsply	MATERIAL	COMBINATION
	Crypton for inLab	③
	CELTRA® DUO	① ②
	CELTRA® CAD	① ②

3M ESPE	MATERIAL	COMBINATION
	LavaTMUltimate	① ②

Merz Dental	MATERIAL	COMBINATION
	artegral® ImCrown	① ②
	artBloc® Temp	③ ⑤

* Only with units from the following serial numbers: inLab MC XL 129001, CEREC MC XL 129001, CEREC MC XL Premium Package 302001, CEREC MC 202001, CEREC MC X 231001 or the exchange of the left motor by units with 2 motors or the left motor in set 1 by unit with 4 motors.

** Only with inLab MC XL as from SN 120000 or CEREC MC XL Premium Package.

6.3.2 Preparations

✔ Download or design a restoration (see operator's manual).

✔ When the milling option is activated, you can choose between the milling and grinding manufacturing processes for plastic and zirconium oxide materials in the material selection step.

✔ You are in the *"MILL"* phase and have selected the milling unit, tested the settings, and positioned the restoration in the block.

➢ Click on the *"Start Milling"* step.

   ✇ The milling unit then moves to the insertion position.

6.3.3 Starting the production process

✔ The instrument sets are equipped with the instrument combinations required for the production process.

1. Depending on the configuration, you will be prompted to enter the bar code (see also "Entering the bar code [→ 35]").

2. Press the catch of the milling chamber door and open the door.

NOTICE

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.

---

3. Place the selected block in the block fixing.

4. Clamp the block with the ball pressure screw. Use the block clamp tool for this purpose (see also "Using the manual block fixing [→ 36]").

5. Close the milling chamber door and confirm the procedure by clicking *"Start"*.

   ✇ The estimated time required for the production process will then appear in a PC message window. The restoration of the occlusal view and the production mode are also displayed.

NOTICE

Aborting the production process

You can abort the production process at any time by pressing the *"Stop"* button.

6.3.4 Terminating the production process

1. When the production process has been completed, open the milling chamber door.
2. Remove the restoration.
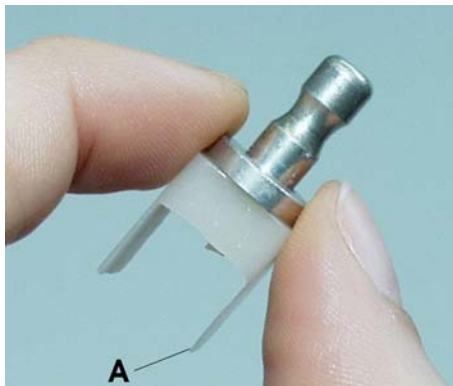
⚠ WARNING
Risk of injury on the remainder of the ceramic block
The remaining portion of the ceramic block may have sharp edges (e.g. **A**) that could injure you if it is not removed carefully.
Always grasp the remainder of the ceramic block by its metal holder.

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 milling chamber door.

⚠ CAUTION
Do not use inaccurate production results!
Production results must be judged by the user (dentist or dental technician) and must not be used if defects are detected!

NOTICE
If you have not used the milling unit for a rather long time, we recommend you should switch it off and then open the milling chamber door so that the milling chamber can dry out.

6.3.5 Information on the seal of approval

Proper selection and processing of the material are decisive for the long-term clinical success of the restoration, especially in the case of zirconia. However, different types of zirconia require individually matched machine parameters. This is the reason why you can and must select different types of zirconia in the inLab software. These machine parameters are coordinated between Sirona and its material partners in complex development processes. In addition to the desired fit and surface quality, they also guarantee a maximum degree of material and equipment safety. The consistently high quality of the production results and the fit can only be guaranteed and damage to the production machines can only be excluded if certified materials are used.

> **NOTICE**
>
> **Block without seal of approval**
>
> If a block is found without a seal of approval during the production process (milling or grinding), the following message appears:
> „No quality label was recognized on the block. The grinding and milling processes as well as the instruments are specially verified for certified materials. Certified materials can be identified by the engraved "inLab" lettering on the block. The use of zirconium oxide materials without quality label can lead to inferior results as well as increased wear on the device and instruments.
> Do you still wish to start the manufacturing process?"

6.4 Entering the bar code

Scanner active, Barcode Reader not active

If you have activated the option *"Scanner"* in the system configuration dialog and the option *"Barcode Reader"* is not active, the bar code will automatically be read by the scanner. You will be able to enter the substitute code (8-digit character string, e.g. *1234XYZ) manually on the PC only if this process fails.

Barcode Reader active

If you have activated the option *"Barcode Reader"* in the unit configuration dialog (e.g. for inCoris ZI), you must read in both bar codes with the bar code reader. To do this, hold the bar code reader tilted to a slight angle and move it over both of the bar codes on the block continuously and evenly.

If the reading process fails, you can read-in the bar code once again by pressing *"Retry"* (button 1 on the unit display). Alternatively, you also can enter the substitute code (8-digit character string, e.g. *1234XYZ) on the PC manually.

Scanner not active, Barcode Reader not active

If neither the option *"Barcode Reader"* nor the scanner has been activated in the system configuration dialog, you always will be prompted to enter the substitute code (8-digit character string, e.g. *1234XYZ) on the PC manually.

6.5 Using the manual block fixing

Store the block clamp tool in the corresponding holder (see also "Gluing on the tool holder" [→ 19]).

You can attach the holder to a suitable location with the adhesive pad. Clean and degrease the contact surface beforehand.

NOTICE
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 10 mm diameter block holders
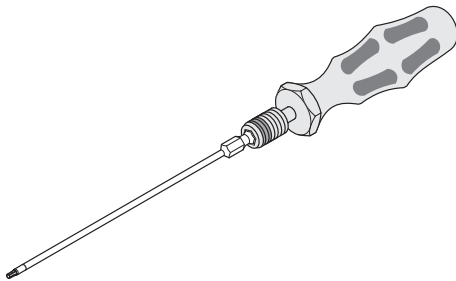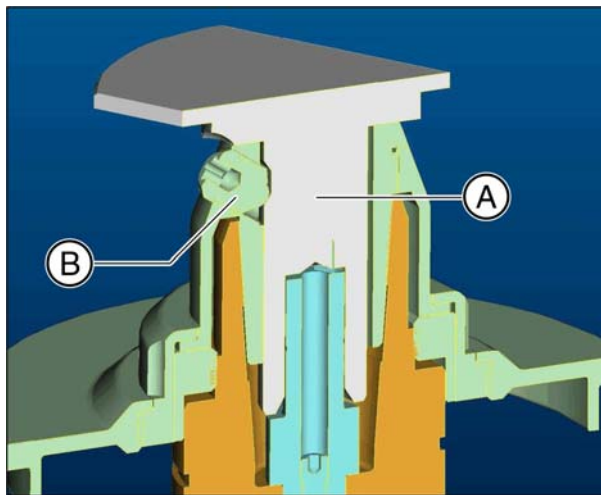
NOTICE
Fasten the block tightly
If the block is not tightened sufficiently, this may result in falsification of the production result and fracturing of its ceramic material.
➤ **Fasten the block tightly using the block clamp tool with torque wrench until you hear a click.**
➤ Check to make sure that 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.

Blocks with 6 mm diameter block holders
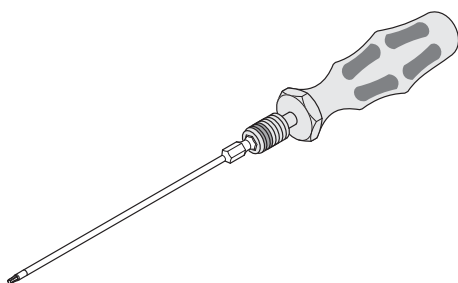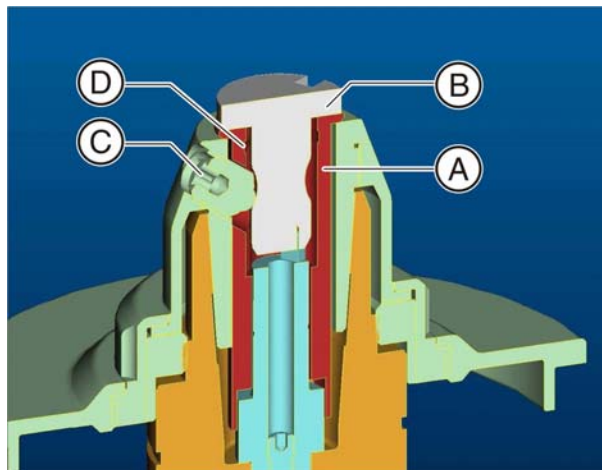
> **NOTICE**
>
> **Fasten the block tightly**
>
> If the block is not tightened sufficiently, this may result in falsification of the production result and fracturing of its ceramic material.
>
> ➢ **Fasten the block tightly using the block clamp tool with torque wrench until you hear a click.**
>
> ➢ Check to make sure that the block is seated very firmly.

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

> **NOTICE**
>
> **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 block clamp tool in the inner groove (**D**) and pull out the adapter sleeve.

7 Maintenance

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

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

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

NOTICE
Machine care
Interval: Once a week or after every 4th water change
➢ Change the filters (see Changing filters [→ 50])
➢ **Clean** the manual block chuck according to the the cleaning set instructions (REF 61 77 161).
➢ **Clean** the clamping cones and chucks of the instruments according to the cleaning set instructions (REF 61 77 161).
➢ If the jets of water do not strike the instruments, carefully remove any foreign particles from the water nozzles with a probe.

NOTICE
Chips gathered in the milling chamber
When milling models, a large number of chips collect in the milling chamber.
➢ Each time a model block is milled, remove the chips from the milling chamber by hand.
➢ Before removing them, squeeze the chips so that any stored water is released into the cooling circuit.

NOTICE
Do not confuse the block screw with the ball pressure screw
When operating an inLab milling unit and an inLab MC XL milling unit in the same room, be careful not to confuse the block screw of the inLab with the ball pressure screw of the inLab MC XL.

NOTICE
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" [→ 56]).

NOTICE
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 Changing the water

7.1.1 General information

NOTICE
Damage to the pump and milling drives!
An excessively high ceramic and/or base metal content in the cooling water will damage the pump and milling drives.
Change the water regularly!

When the water is due to be changed, a message window appears on your monitor to remind you that it is time to change the water.

Preventing odors

All milling additives contain a biologically degradable 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, 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 DENTATEC milling additive 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.

NOTICE
Damage to surfaces!
When undiluted, DENTATEC milling additive etches plastic surfaces and can cause discoloration.
➤ Do not place DENTATEC on the unit.
➤ Do not spill DENTATEC.

> **NOTICE**
>
> **Permissible milling additive**
>
> Use only DENTATEC as a milling additive.

7.1.2 Changing the water

> **NOTICE**
>
> **Change the filter inserts regularly!**
>
> Replace both filter inserts after every fourth water change.
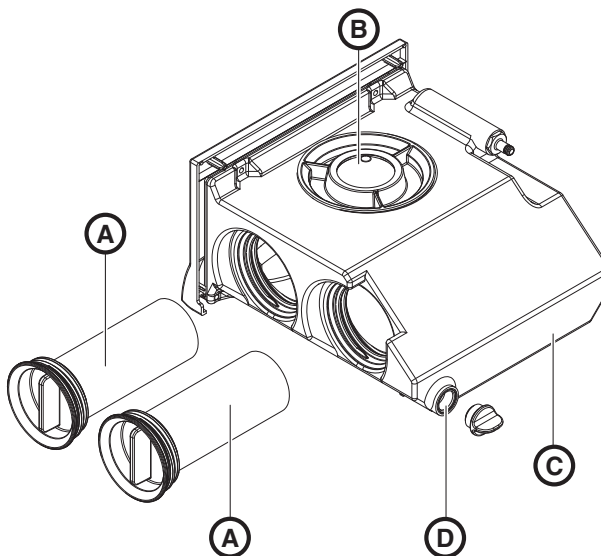
Water tank

A	Filter inserts	C	Tank
B	Tank cap	D	Tank drain

7.1.2.1 Procedure for all materials except for base metals

To change the water, proceed as follows:

✔ The unit is switched on.

✔ No production/scanning process is running.

1. Pull out the water tank at the front of the unit.
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 milling water.
8. Close the drain opening (D).
9. Turn the tank cap (B) counter-clockwise and take it off.

NOTICE
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 approx. 75 ml of DENTATEC to the tank.
11. Fill the tank with water until the filter inserts (A) are completely immersed (up to the bottom edge of the cover thread, approx. 3 liters).
12. Wait briefly until the filter inserts (A) are soaked full and add a corresponding 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.

7.1.2.2 Procedure for processing base metal materials

7.1.2.2.1 Important information

NOTICE
Observe the safety information from the material manufacturer
Observe the safety instructions regarding occupational safety and disposal referred to in the material manufacturer's operating instructions.

IMPORTANT
Use a waterproof receptacle with a nominal volume of 10l as a collecting vessel for changing the water (e.g. a commercially available 10l plastic bucket). When selecting the collecting vessel, bear in mind that it will also serve as a transporting container for disposal and is not reusable.

IMPORTANT
Wearing protective waterproof gloves is recommended.

IMPORTANT
In mixed operation, the tank can be used with base metals and other materials. It is, however, recommended that you use an additional standard tank which is only used for processing base metal materials.
inLab double filter tank, complete, order no.: 62 00 898

IMPORTANT

Ask your disposal company whether the filter waste needs to be correctly sorted for disposal.

IMPORTANT

Once the water has been changed, the collecting vessel will contain a mixture of base-metal slurry (in mixed operation, there will also be other materials) and water. The machining particles dispersed in the water will settle to the bottom of the collecting vessel within 24h, resulting in a clear separation between the water and the settled solid matter.

The clear water can then be removed or siphoned off from the collecting vessel. The collecting vessel can be used until it is max. half-full of milling slurry (solid matter) or until the permitted weight for the collecting vessel used has been reached. 5l of correctly sorted base-metal machining waste corresponds to 40kg in weight depending on the base-metal alloy.

NOTICE

The external tank (REF 6377662) must not be used for processing base metal materials.

7.1.2.2.2 Emptying the water tank

Emptying the milling water and milling slurry

✔ The unit is switched on.

✔ No milling process is running.

✔ A collecting vessel of approx. 10l is available.

1. Pull out the water tank at the front of the unit.

2. Pan the tank vigorously 5x in circular movements.

3. Open the drain opening (D). Tilt the tank so that no liquid escapes through the drain opening.

4. Close the drain opening (D) using your thumbs and pan the tank vigorously 5x in circular movements again.

5. Empty approx. 1/3 of the contents of the tank into the collecting vessel provided. Operating the spring-loaded inlet opening of the tank cap (B) allows the contents to flow out more easily.

6. Close the drain opening (D) using your thumbs and pan the tank vigorously 5x in circular movements again.

7. Empty approx. 1/2 of the remaining contents of the tank into the collecting vessel provided. Operating the spring-loaded inlet opening of the tank cap (B) allows the contents to flow out more easily.

8. Close the drain opening (D) using your thumbs and pan the tank vigorously 5x in circular movements again.

9. Empty the residual contents into the collecting vessel provided.

10. Close the drain opening (D) with the screw cap.

Rinsing and emptying the water tank

1. Turn the tank cap (B) counter-clockwise and take it off.

2. Fill the tank approx. 1/3 full with water.

3. Close the tank cap (B).

4. Open the drain opening (D). Tilt the tank so that no liquid escapes through the drain opening.

5. Close the drain opening (D) using your thumbs and pan the tank vigorously 5x in circular movements again.

6. Empty the residual contents into the collecting vessel provided.

7. Close the drain opening (D) with the screw cap.

7.1.2.2.3 Filling the water tank

1. Turn the tank cap (B) counter-clockwise and take it off.
2. Add approx. 75 ml of DENTATEC to the tank.
3. Fill the tank with water until the filter inserts are completely immersed (up to the bottom edge of the cover thread, approx. 3 liters).
4. Wait briefly until the filter inserts are soaked full and add a corresponding amount of water. This applies in particular after the filter has been changed.
5. Close the water tank by tightening the tank cap clockwise by hand. Do not use the tank cap opener for closing the tank cap.
6. Push the water tank back into the housing.

7.2 Instruments

7.2.1 Overview of materials and instruments

The following table shows the instrument combinations, the positions where they must be inserted and the materials that can be produced with each instrument combination.

> inLab SW 4.2, inLab MC XL, CEREC MC X, CEREC MC XL, CEREC MC XL Premium Package

MOTOR SET	LEFT	RIGHT	COMBINATION
Set 1 or set 2	Step Bur 12S	Cylinder Pointed Bur 12S	①
Set 1 or set 2	Step Bur 12	Cylinder Pointed Bur 12S	②
Set 1 or set 2	Step Bur 20	Cylinder Pointed Bur 20	③
Set 1 or set 2	Step Bur 20	Cylinder Pointed Bur 12S	④
Set 1	Shaper 25 RZ	Finisher 10	⑤ *
Set 1	Finisher 10	Finisher 10	⑥ **
Set 2	Shaper 25	Shaper 25	

DESCRIPTION	FIGURE	REF.
Step Bur 12S	1	62 40 167
Step Bur 12	2	62 60 025
Cylinder Pointed Bur 12S	3	62 40 159
Step Bur 20	4	62 59 597
Cylinder Pointed Bur 20	5	62 59 589
Shaper 25 RZ	6	62 33 440
Finisher 10	7	62 99 387
Shaper 25	8	62 99 395

* Only with units from the following serial numbers: inLab MC XL 129001, CEREC MC XL 129001, CEREC MC XL Premium Package 302001, CEREC MC 202001, CEREC MC X 231001 or the exchange of the left motor by units with 2 motors or the left motor in set 1 by unit with 4 motors.
** Only with inLab MC XL as from SN 120000 or CEREC MC XL Premium Package.

Sirona	MATERIAL	COMBINATION
	CEREC Blocs	① ②
	CEREC Blocs PC	① ②
	CEREC Blocs C In	① ②
	CEREC Guide Blocs	③
	inCoris ZI	③ ⑤
	inCoris TZI	③ ⑤
	inCoris AL	③
	inCoris CC	③
	inCoris Model S	⑥
	inCoris Model L	⑥

Vita	MATERIAL	COMBINATION
	VITABLOCS® MarkII	① ②
	VITABLOCS® TriLuxe	① ②
	VITABLOCS® TriLuxe forte	① ②
	VITABLOCS® RealLife	① ②
	VITABLOCS® Enamic	① ②
	VITABLOCS® Suprinity	① ②
	VITABLOCS® Suprinity FC	① ②
	In-Ceram Zirconia	① ②
	In-Ceram Alumina	① ②
	In-Ceram Spinell	① ②
	In-Ceram YZ	③ ⑤
	In-Ceram AL	③
	CAD-Temp	③ ⑤
	CAD-Waxx	③ ⑤

Ivoclar Vivadent	MATERIAL	COMBINATION
	IPS Empress® CAD	① ②
	IPS Empress® CAD Multi	① ②
	IPS e.max® CAD	① ② ④
	IPS e.max® CAD A	① ②
	IPS AcrylCAD	③ ⑤
	IPS TelioCAD	③ ⑤
	IPS e.max® ZirCAD	③ ⑤

Dentsply	MATERIAL	COMBINATION
	Crypton for inLab	③
	CELTRA® DUO	① ②
	CELTRA® CAD	① ②

3M ESPE	MATERIAL	COMBINATION
	LavaTMUltimate	① ②

Merz Dental	MATERIAL	COMBINATION
	artegral® ImCrown	① ②
	artBloc® Temp	③ ⑤

7.2.2 Changing instruments

> **NOTICE**
>
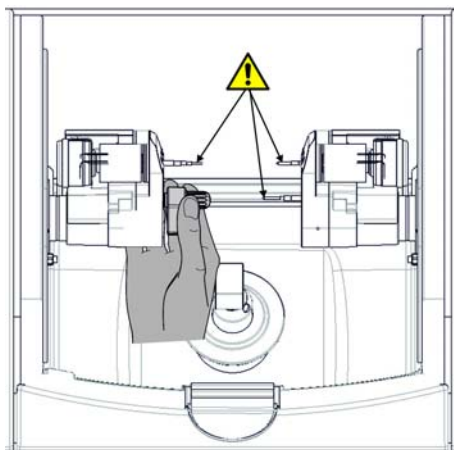> **Instruments without chuck**
>
> In order to ensure that no grease residue from previously used chucks remains in the **clamping cone** when using instruments without a chuck, we **strongly** recommend **degreasing** the clamping cone.

> **NOTICE**
>
> **Regular replacement of instruments**
>
> Change the instruments as soon as the system prompts you to do so.
>
> Change the instruments after using them to mill 25 restorations at the latest.

1. In the software, navigate to the system menu, and click on the *"Configuration"* button.
2. Click on the *"Devices"* button.
3. Click on the unit whose instruments you wish to replace.
4. Click on the *"Change Instruments"* button.
   - ✋ If two sets are activated:
     A dialog box then opens where you can select the set, whose instruments should be replaced.
5. If necessary, select the desired set.
6. Click on the *"Start"* button.
   - ✋ The motors travel to the change position for the instruments. The dialog box for changing the instruments opens.
7. Press the catch of the milling chamber door and open the door.
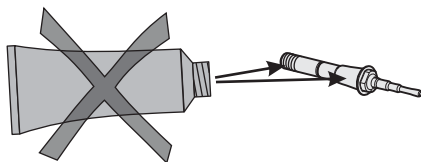
> ⚠ **CAUTION**
>
> **Risk of injury on instruments**
>
> If you put your hand in the milling chamber, you could injure it on the instruments.
>
> Be careful not to brush against the instruments with your hand.
>
> Apply the torque wrench as shown.

8. Loosen the worn-out or defective instrument with the torque wrench and pull it out manually.

9. **NOTICE! Do not grease the instrument without chuck!** Insert the new instrument into the motor mount by hand. Tighten the corresponding chuck with the torque wrench until a clicking sound can be heard.

> **NOTICE**
>
> **Inaccurate production results**
>
> Interchanging instruments leads to faulty production results.

10. Close the milling chamber door.

11. In the software, select the instrument(s) you have used and click *"Start"*.

NOTICE

Cleaning cooling water nozzles

The cooling water nozzles in the milling chamber always must be kept free of lime and milling dust deposits. The corresponding cooling water jet must always strike the instrument accurately!

✔ The cooling water nozzles are dirty.

➢ Clean the nozzles with a cleaning wire and the SPRAYVIT syringe (if available).

NOTICE

Use only suitable instruments!

Do not use any instruments from CEREC 2 or CEREC 3 units.

Replacing a defective instrument

If an instrument breaks during the production phase, the corresponding motor travels to the change position. A dialog box which marks the side with the broken instrument with a red cross then opens.

✔ The instrument is broken.

1. Change the defective instrument as described above.

2. Select the instrument which you have inserted.

3. Press the *"Start"* button.

7.3 Care and cleaning agents

NOTICE

Approved care and cleaning agents

Use only care and cleaning agents which have been approved by Sirona!

A continuously updated list of approved agents can be downloaded from the Internet at the address *"www.sirona.com"*. In the navigation bar, go to the menu items *"SERVICE"* / *"Care and cleaning"* and then open the document *"Care and cleaning agents"*.

If you do not have any access to the Internet, please contact your dental depot to order the list.

REF 59 70 905

7.4 Cleaning surfaces

NOTICE
Care and cleaning agents
Use only cleaning and care agents which have been approved by Sirona, see Cleaning and care agents [→ 47].

NOTICE
Do not allow liquids to run into the ventilation slots!

7.4.1 Disinfecting

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

Observe the manufacturer's instructions regarding restrictions for use.

7.4.2 Protection against medicaments

Due to their high concentrations and the substances they contain, many medicaments can dissolve, etch, bleach or discolor surfaces.

NOTICE
Damage to the surface
Clean the surface immediately with a moist cloth and a cleaning agent.

7.4.3 Cleaning

Remove dirt, grime and disinfectant residue regularly using mild, commercially available cleaning agents.
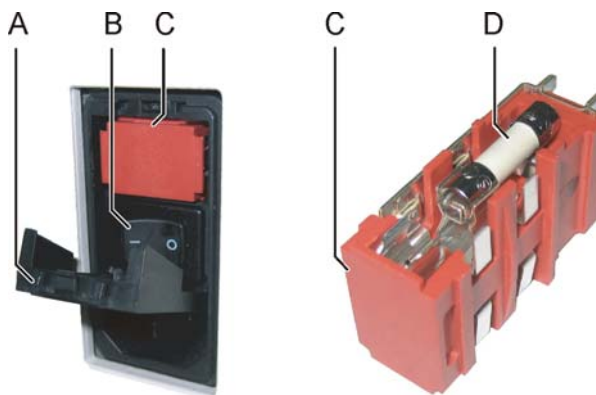
7.5 Replacing the main fuses

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

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

Fuse holder

A	Cover	C	Fuse holder
B	CC	D	Fuse

Fuses:	T5H250V	Order No. 20 33 111

✔ 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.

7.6 Changing the filter

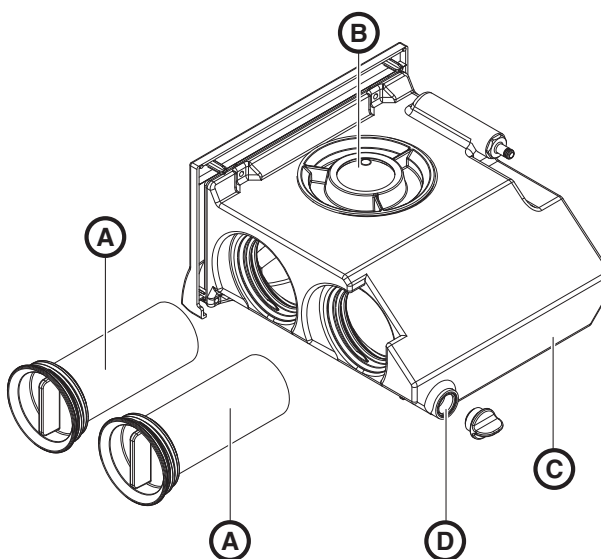| NOTICE |
| --- |
| **Change the filter inserts regularly!** |
| Replace both filter inserts once a week or after every fourth water change. |
| If a message stating that the water pressure is too low appears, you must change the filter inserts. |

NOTICE
Filter
Use only filter inserts approved by Sirona!

Water tank

A	Filter inserts	C	Tank
B	Tank cap	D	Tank drain

7.6.1 Procedure for all materials except for base metals

✔ The tank is empty, see "Removing water from the unit [→ 55]".

1. Pull out the water tank at the front of the unit.
2. Unscrew the covers on the side and take them out of the tank along with the filter inserts.
3. Rinse the water tank.
4. Insert the new filters with cover into the tank and screw them tight.
5. Fill the tank, see "Changing the water" [→ 39].

Filter insert: Order No. 61 29 519

7.6.2 **Base metal operation or mixed operation with base metal and other materials**

NOTICE
Observe the safety information from the material manufacturer
Observe the safety instructions regarding occupational safety and disposal referred to in the material manufacturer's operating instructions. Dirty filters must be disposed of appropriately in accordance with these specifications.

1. Empty the water tank (see "Emptying the water tank [→ 42]").
2. Unscrew the covers on the side and take them out of the tank along with the filter inserts.
3. Rinse the water tank.
4. Insert the new filters with cover into the tank and screw them tight.
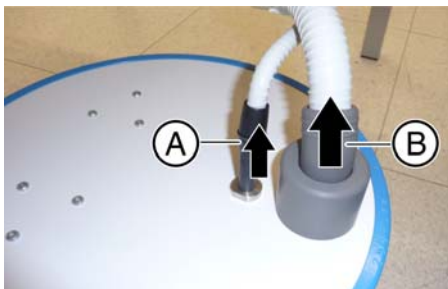5. Fill the tank (see Filling the water tank [→ 44]).

7.6.3 **Changing filters on the external tank**

Cleaning the plug-in tank
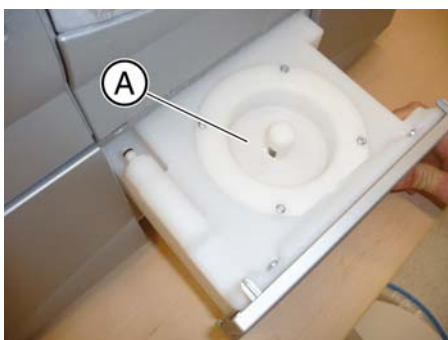
1. Pull out the plug-in tank.
2. Clean the outlet (A) and then rinse it with water.
3. Reinsert the plug-in tank.

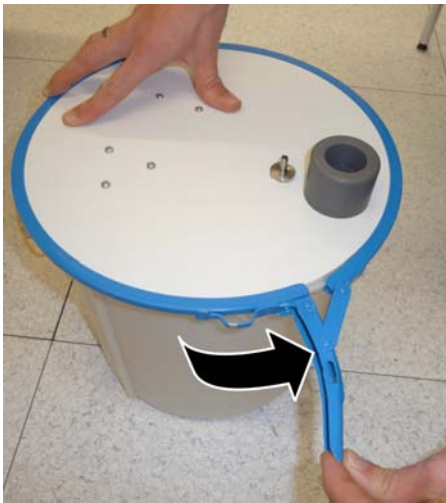### Opening the external water tank

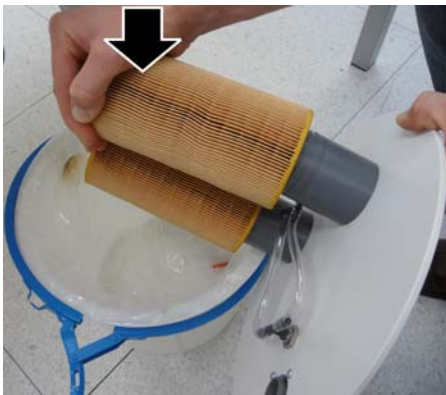| NOTICE |
|---|
| **Risk of damage to the hoses** |
| If you pull on the hose, you may damage it. |
| ➢ Always pull it from the pipe section (A or B). |

1. Pull off the suction connection (A).
2. Pull off the drain hose (B).

3. Open the clamping ring and lay it down.

Disposing of filter cartridges and ceramic sludge

1. Release the filter cartridges by tilting them slightly. The springs remain attached.
   Tip: If a spring accidentally comes loose, you can reattach it by screwing it in counter-clockwise.
2. Dispose of the filter cartridges with domestic waste.
3. Slowly pour the water out of the container into the outlet so that the ceramic sludge remains in the container.
4. Take the plastic bag out of the container and dispose of it with domestic waste.

Preparing the external water tank

1. Insert the plastic bag into the external water tank in such a way that it protrudes by around 3-4 cm.
2. Ensure that it protrudes evenly around the edge of the container.
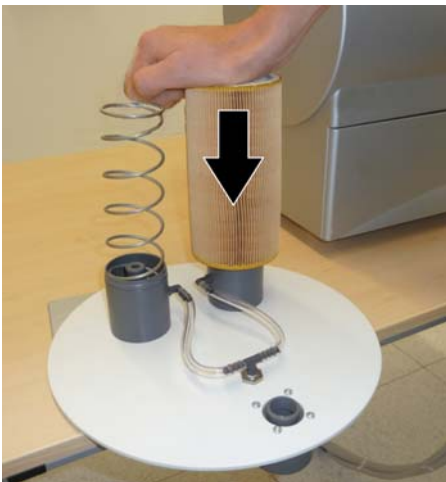
3. Place the clamping ring onto the external water tank with the labeling (A) facing up.

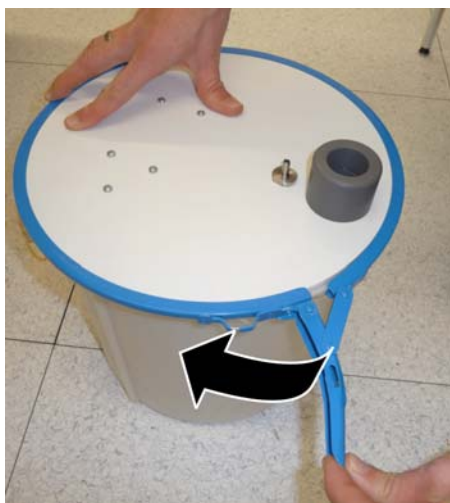4. Add approx. 400 ml of DENTATEC to the tank.

5. Fill the tank up to the filling level with water (approx. 16 liters).
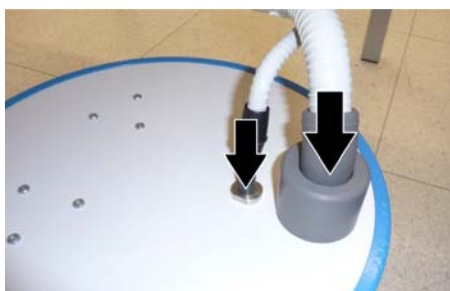
Installing the filters

1. Press down the 2 filters until they click into place on the lid.

2. Insert the lid with the filters into the container.

3. Close the clamping ring.

Connecting the External Water Tank

1. Insert the suction connection up to the stop.
2. Insert the drain hose up to the stop.

NOTICE
Risk of overflowing
Sagging of the drain hose may result in overflowing.
➢ Arrange the external water tank in such a way that there is a continuous incline in the drain hose (you may need to rotate or move the external water tank).

7.7 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.

7.7.1 Procedure for all materials except for base metals

✔ No production process is running.
1. Switch off the unit.
2. Pull out the water tank at the front of the unit.
3. Drain the water out of the water tank through the drain opening and reinsert the water tank in the unit.
4. Switch the unit on.
5. Press the *"Pump"* button to switch the pump on.
   ⮑ The water pump then starts pumping the water out of the unit. Let the pump run until no more water escapes from the nozzles.
6. Press the *"Pump"* button to switch the pump off.
7. Pull out the water tank and empty it.
8. Push it back into the housing.

7.7.2 Base metal operation or mixed operation with base metal and other materials

NOTICE
Observe the safety information from the material manufacturer
Observe the safety instructions regarding occupational safety and disposal referred to in the material manufacturer's operating instructions. Dirty filters must be disposed of appropriately in accordance with these specifications.

1. Empty the water tank (see Emptying the water tank [→ 42]) and insert it back into the unit.
2. Switch the unit on.
3. Press the *"Pump"* button to switch the pump on.
   ⮑ The water pump then starts pumping the water out of the unit. Let the pump run until no more water escapes from the nozzles.
4. Press the *"Pump"* button to switch the pump off.
5. Pull out the water tank and empty it.
6. Push it back into the housing.
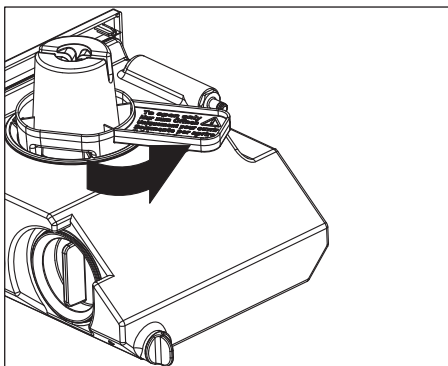
7.8   Using the tank cap opener

| NOTICE |
|---|
| **Risk of damage to the tank** |
| Use the tank cap opener **only for opening** the tank cap, tank drain and filter insert. |
| Do not use the tank cap opener for closing the tank cap. To close the tank cap, tank drain and filter insert it is sufficient to tighten them 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 filter cap
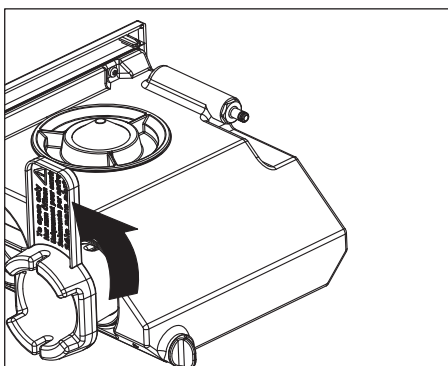
✔   The water tank has been pulled out and drained.

➢   Place the tank cap opener on the filter cap as shown, and take off the filter cap by unscrewing it counter-clockwise.

Opening the tank drain
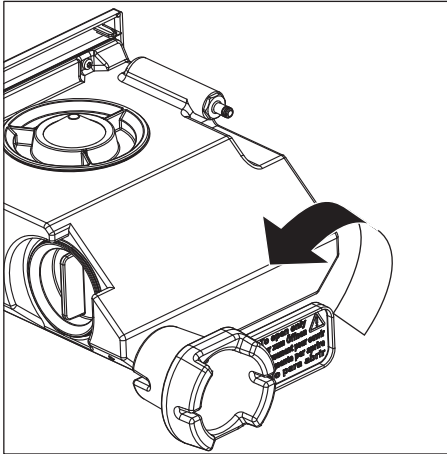
✔ The water tank has been pulled out.

➢ Place the tank cap opener on the filter drain as shown, and take off the filter drain by unscrewing it counter-clockwise.

8 Technical description

8.1 System requirements

The inLab SW software may be installed only on the 64-bit inLab PC.

The hardware version of the inLab PC must be **HQ PC Hardware** with Windows 7 (64-bit) or higher.

8.2 Milling unit

8.2.1 General technical description

- Digital feed control with force monitoring for extremely sensitive processing of ceramic materials
- Process-controlled milling motors
- Production repeatability: +/- 25 μm
- Milling speed: 1.0 - 1.5 mm/min.

Instruments (performance-monitored, backlash-free bearing)

- Grain size: 64 μm
- Speed: 42,000 rpm
- Step Bur 12 S
- Step Bur 20
- Cyl. Pointed Bur 12 S
- Cyl. Pointed Bur 20

8.2.2 Technical data

Type designation	Milling unit inLab MC XL
Rated line voltage	100V - 230V AC
Rated power frequency	50/60 Hz
Rated current	1.5 - 3.5 A
Nominal power output	320 VA
Permissible line voltage fluctuations	±10% of nominal voltage
Type of protection against electric shock	Class 1 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
	Barometric pressure: 700 hPa – 1060 hPa
Temperature range	5 ℃ to 40 ℃
Humidity range	80% rel. up to 31°C decreasing to 50% rel. up to 40°C
Operating mode	Continuous operation
Dimensions (WxHxD) in mm	700 x 425 x 420
Approx. weight	43 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, RJ45 interface 10 Mbit/sec

9 Disposal

Your product is marked with the adjacent symbol. Within the European Economic Area, this product is subject to Directive 2002/96/EC as well as the corresponding national laws. This directive requires environmentally sound recycling/disposal of the product. The product must not be disposed of as domestic refuse!

Please observe the disposal regulations applicable in your country.

Disposal procedure

Please note that this product is subject to the stipulations in EC Directive 2002/96 governing waste electrical and electronic equipment and must be disposed of in line with these special requirements within the European Union (EU).

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

When disposing of equipment permanently, please proceed as follows:

In Germany:

To initiate return of the electrical device, please send a disposal order to "enretec GmbH".

1. You can find a form for placing a disposal order on the company's homepage (www.enretec.de) under the menu item "Entsorgung elektrischer und elektronischer Geräte" (Disposal of electric and electronic devices). The form can either be downloaded or completed online.

2. Fill out the form with the corresponding details and send it as an online order or fax it to enretec GmbH at +49(0)3304 3919 590. You can also get in touch with the following contacts for disposal orders and any questions relating to this you may have:
Phone: +49(0)3304 3919 500;
E-mail: pickup@eomRECYCLING.com
Mailing address: enretec GmbH, Geschäftsbereich eomRECYCLING Kanalstrasse 17, 16727 Velten

   ✎ Any nonpermanently installed equipment will be picked up at its installation site in the practice. Permanently installed equipment will be picked up curbside at your address by appointment.

All disassembly, transport and packaging costs are to be borne by the owner/operator of the equipment. The disposal itself is free of charge.

Worldwide (outside Germany):

Please contact your local dental equipment specialist for country-specific information on disposal.

Index

P

Packaging, 13

Packing, 23

Ports, 15

Power connection, 15

Product safety, 12

Protection class, 59

R

Rated current, 59

Rated line voltage, 59

Repair, 11

S

Safety information , 6

Scope of supply, 23

T

Temperature range, 59

Transport, 13

Type designation, 59

U

Unit installation

automatically, 20

Unpacking, 13

W

Warranty, 7

Water, 59

Water tank

Change water, 40

Filling the, 21

Odors, 39

Overview, 21, 40, 50

Removing water from the unit, 55

Water change, 39

Weight, 59

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

Sirona Dental Systems GmbH

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