# PrograMill One

**Operating Instructions**
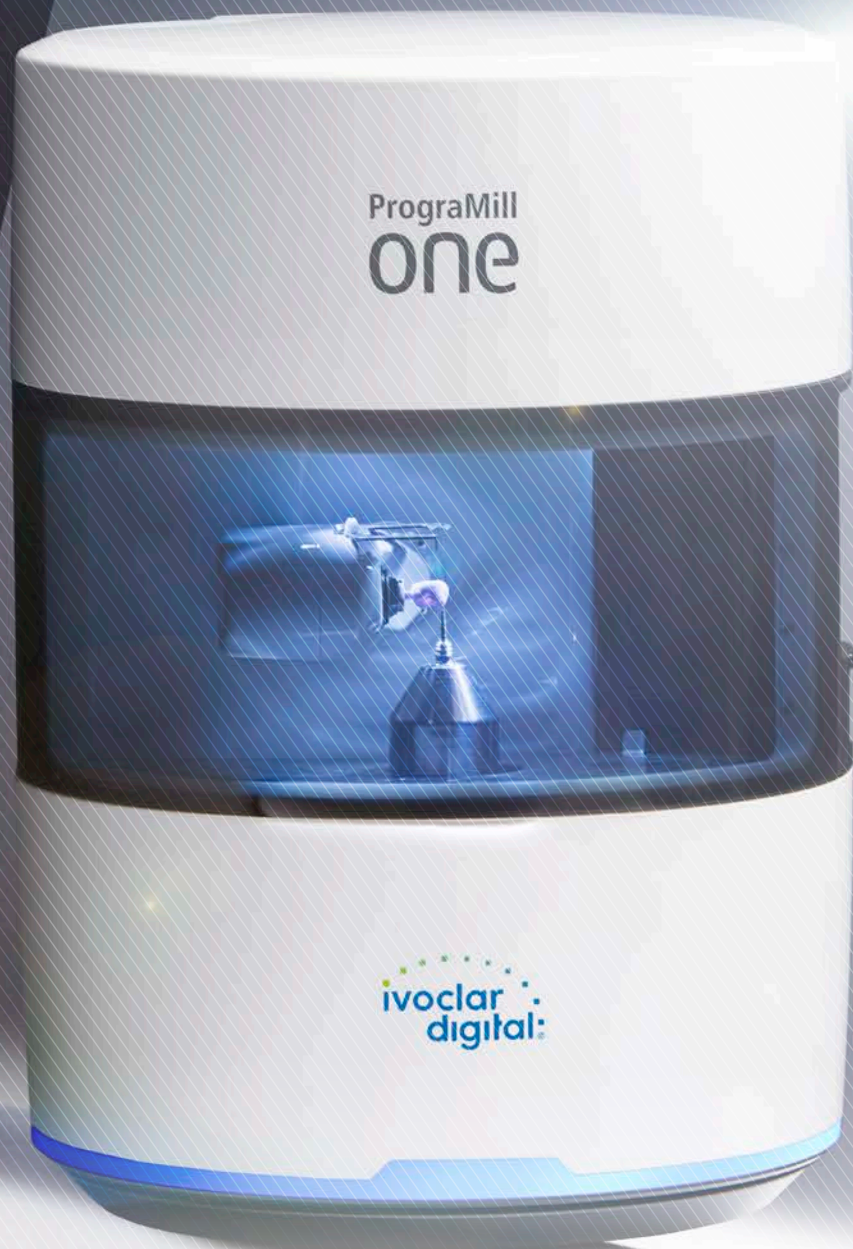
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# Table of Contents

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# 1 About this Document

These Operating Instructions will familiarize you with the PrograMill One features.

PrograMill One is a modern 5-axis milling system for dental applications. This device has been developed and produced according to the latest state-of-the-art technology.

Improper use can be dangerous. Please observe the relevant safety instructions and read the Operating Instructions carefully.

These Operating Instructions are an integral part of the device and are valid for all named machines.

The Operating Instructions describe the safe and correct use in all operating processes.

Should you lose these Operating Instructions, you can download them from www.ivoclarvivadent.com.

> For all types of technical questions, please contact your authorized service partner.

## 1.1 Target group

| Target group | Duties |
|---|---|
| Operator | • Keep these Operating Instructions available at the place where the unit is used, also for future use. |
| | • Request personnel read and observe these Operating Instructions and the applicable documents, in particular the safety instructions and warnings ("Safety", page 10). |
| | • Observe additional device-related stipulations and regulations. |
| Dental technician | • Read and observe these Operating Instructions and the applicable documents, in particular the safety instructions and warnings ("Safety", page 10). |
| Qualified dental staff members | |
| CNC technician | |
| Authorized Ivoclar Vivadent service partner | |

## 1.2 Signs and symbols

### 1.2.1 Warnings

Warnings are used in these Operating Instructions to warn you of a risk of injury to persons and/or damage to property.

1. Please always read and observe these warnings.

2. Follow all measures marked with the warning symbol and warning word.

Depending on the severity and probability of the danger, the following warning levels are distinguished:

| Warning symbol | Warning word | Danger level | Consequences resulting from non-observance |
|---|---|---|---|
| ⚠ | DANGER | Immediate imminent danger | Death, severe personal injury |
| ⚠ | WARNING | Potential danger | Death, severe personal injury |
| ⚠ | CAUTION | Potential danger | Slight personal injury |
| - | NOTICE | Potential danger | Damage to property |

Clarification of the structure of a warning:

⚠ **WARNING WORD! Name of source of danger, cause of hazard or type of risk.**

Consequences of non-compliance with instructions.

▶ Action in order to avoid danger.

Hazard example:

⚠ **WARNING! Risk of injury due to heavy lifting.**

Injuries to the back due to overloading.

▶ Only lift the device with the aid of the fork lift.

▶ Unpack the device after transportation.

## 1.2.2 Signs and symbols

| Symbol | Significance |
|---|---|
| ❗ | Additional information, e.g. for better understanding, for simplifying workflows or for further information. |
| ☑ | Prerequisite which must be followed before the subsequent actions can be performed. |
| ▶ | Individual steps which you must perform. |
| 1., 2. | Several steps that you must perform in the given order. |
| ➡ | The result indication of an or several operation steps for success control. |

## 1.3 Abbreviations

| Abbreviation | Significance |
|---|---|
| CAD | Computer Aided Design. Describes the computerized support of constructive tasks for the production of a product. |
| CAM | Computer Aided Manufacturing. Describes the use of a software, independent of the CNC machine, for creating the NC code. |
| CNC | Computerized Numerical Control. Describes an electronic method for controlling machine tools (CNC machines). |
| EMC | Electromagnetic Compatibility. Describes the interference of electrical or electronic devices with their surroundings. |
| ESD | Electrostatic Discharge Calibration using electrostatic contact. |
| LAN | Local Area Network |
| NC | Numerical Control The NC file contains numerical control commands for the milling machine and describes the milling paths. |
| OSD | Optical Status Display |
| WLAN | Wireless Local Area Network Describes a local radio network. |

## 1.4    Revision and validity

| Version | Date | Amendments to the previous version |
|---------|------|-----------------------------------|
| 1.0 | 2018-04 | First production |
| 2.0 | 2019-05 | Revision |
| 3.0 | 2020-02 | Revision |

## 1.5    Supporting documents

⊘ For details on the applicable documents, please contact your local trade partner or go the download section of Ivoclar Vivadent at http://www.ivoclarvivadent.com.

| Document | Clarification |
|----------|---------------|
| Checklist for your PrograMill One | Information about requirements that must be observed for transportation, installation and use of PrograMill One |
| Safety Data Sheet PrograMill Fluid for One | Information about the use of the PrograMill Fluid for One coolant concentrate |
| Documentation on the blocks used | Information on the use of blocks |
| Documentation on the tools used | "Approved tools for glass-ceramic / composite blocks", page 139 |

Depending on the system architecture you ordered, refer to the additional documentation included in the delivery.

# 2 Safety

⚠ **WARNING! Improper use of the device.**

Danger to the operator.

▶ The safety chapter contains important information on the safety of the device: Please read thoroughly prior to installation and operation.

🛈 The device is built according to state-of-the-art technology and recognized safety regulations. Nevertheless, its use could constitute a risk of injury of the user or third party or possibly cause impairment to the device and other property.

## 2.1 Intended use

PrograMill One is designed for milling and grinding in wet operation in the field of dental technology. Use PrograMill One exclusively for this purpose.

In the case of damage caused by improper use or failure to observe the Operating Instructions, all liability and guarantee claims are void.

Please note that only the areas of use, materials and milling strategies approved by the manufacturer ensure processing without damage to the machine.

The machine has been designed for milling the following materials:

- Glass-ceramics (IPS e.max® CAD, IPS Empress® CAD)

- Composite blocks (Tetric® CAD)

🛈 Only approved blocks and tools can be identified and thus be used by PrograMill One via a data matrix code on the block or on the tool, which ensure that misapplication is nearly impossible.

Basically, all Ivoclar Vivadent materials and tools in their respective categories are suitable for processing ("Approved tools for glass-ceramic / composite blocks", page 139).

All information regarding approved materials and areas of use corresponds to the state of knowledge at the time of going to print. For additional details, go to http://www.ivoclarvivadent.com.

It is not recommended to process materials or use tools from other manufacturers in this system due to the absence of milling strategy coordination and lack of tool harmonization.

### 2.1.1 Potential improper use

The device is not suitable for milling procedures outside of the dental field.

The following is considered as misuse of the system:

- Non-compliance with the specified intended use, intended operator specifications or intended environment
- Modifications, maintenance and repairs without prior authorization from Ivoclar Vivadent
- Operation with inappropriate parameters

Improper use of the device can lead to the following:

- Danger for patient and operating personnel
- Impairment of the operability of the device

Ivoclar Vivadent assumes no liability for damage resulting from improper use.

Typical misapplications of the device to be avoided:

| Improper use | Consequences |
|---|---|
| Use of not approved materials or tools | Device cannot perform milling jobs. |
| Incorrect cleaning (filter, collection container) | • Skin irritations <br> • Environmental damage <br> • Damage to the device |
| Operation without the tank | Emergency stop |
| Operation without coolant fluid | • Damage to the device <br> • Service life of device, filter and tools is reduced |
| Shut-down of the device by the user during the milling operation | Possible damage to the tool and the block. Possibly, automatic calibration may be necessary. |

### 2.1.2 Intended operator

The device may only be operated by qualified dental staff, dental technicians and CNC technicians who have received training for operating the device.

The user is responsible for selecting the correct device settings.

### 2.1.3 Intended environment

The device is only permitted for use in closed rooms within the specified ambient conditions ("Ambient conditions for operation", page 137) and in compliance with the requirements for safe installation ("Choosing the location site", page 29).

## 2.2 Operator's obligations

The operator is responsible for the safe operation of the device.

▶ Ensure compliance and control:

  **a.** Intended use

  **b.** Statutory or other safety and accident prevention regulations

▶ Only operate the device in a technically perfect condition, in a proper, safety-conscious and risk-conscious manner and while observing these Operating Instructions.

▶ Keep these instructions and all applicable documents complete, legible and accessible to personnel at all times.

## 2.3 Personnel qualifications

▶ Ensure that the personnel assigned to work with the device have read and understood these instructions and all applicable documents, in particular safety, maintenance and repair information, before starting work.

▶ Ensure that personnel is aware of hazards and safety equipment ("Working areas, potential hazards and safety measures on the device", page 14).

▶ Manage the responsibilities, competence and monitoring of staff.

▶ All work must only be carried out by qualified technical staff.

▶ Personnel to be trained should only carry out work on the unit under the supervision of qualified technical personnel.

## 2.4 Staff obligations

▶ Only operate the device in a technically perfect condition, in a proper, safety-conscious and risk-conscious manner and while observing these Operating Instructions.

▶ Refrain from any process that could endanger staff or third parties.

▶ In the case of safety-related malfunctions, switch off the device immediately and allow the fault to be rectified by the person responsible.

▶ In all cases of doubt regarding the safety of the device, switch off the device and prevent further use.

▶ In addition to the overall documentation, legal or other safety and accident prevention regulations including applicable standards and guidelines of the respective operating country must be complied with.

▶ Do not wear jewellery such as rings, bracelets or watches when working on the device, especially when cleaning the milling chamber. Danger of crushing or cutting injuries.

## 2.5   Personal protective equipment

▶   If loud operating noise cannot be prevented (sound level ≥ 80 dB(A)), use hearing protectors during milling.

▶   For protection against milling dust, vapours or other particles of dental materials during cleaning work wear a protective mask (half mask with protection class FFP3).

▶   When carrying out cleaning work, wear gloves.

▶   When handling the PrograMill Fluid for One coolant concentrate and when cleaning the unit, wear suitable protective equipment (see "Safety Data Sheet PrograMill Fluid" for One, "Supporting documents", page 9).

## 2.6 Working areas, potential hazards and safety measures on the device

As an operator, you are working at the areas described below.

The device is built according to state-of-the-art technology and recognized technical safety regulations. Hazardous areas, which cannot be avoided by design, are equipped with appropriate protective devices. Nevertheless, if the machine is used improperly, there is a danger to life or risk of injury to the user or third parties. In addition, the device, tools or workpieces may become damaged.

The working areas, their potential hazards and applicable safety measures are shown below:

| No. | Working area | Tasks / Work | Safety measures | Protective effect |
|---|---|---|---|---|
| 1 | Milling chamber | Cleaning when the device stands still | Locking the loading aid. Access to the milling chamber is not possible during operation. | • Protection against crushing and cutting injuries from the tools<br>• If the loading aid is removed, the device will not start.<br>• The maintenance access cannot be opened when the device is running. |
| 2 | Tank | Removal of the tank for filling with coolant fluid and filter exchange | Tank locking system protects against removal of the tank during operation | • Protection against electric shock, health risks and danger to the environment due to leaking coolant fluid<br>• If the tank is not in place, the device will not start.<br>The tank must be unlocked before removal. Unlocking is not possible during active processing. |
| 3 | Maintenance access with loading aid | Loading with tools and blocks | Loading aid prevents access into the housing | Protection against crushing and cutting injuries from the tools |

## 2.7 Safety instructions for potential hazard areas

### 2.7.1 Electromagnetic waves

This equipment may cause interference to radio communications or may interfere with the operation of equipment in the vicinity.

▶ To avoid injury to the user, never remove the housing covers.

▶ Do not use devices that generate electromagnetic waves together in the same room as this PrograMill One.

▶ Take appropriate measures in the case of radio interference, e.g. a new orientation, a new device position of PrograMill One or isolating measures.

▶ Only use the original accessories recommended and supplied by the manufacturer. Failure to do so can result in increased interference emissions or decreased immunity of PrograMill One.

### 2.7.2 Mechanics

Whilst the device is in operation, there are the following risks in the milling chamber or in the material and tool changer:

• Risk of crushing

• Cutting injuries caused by tools

• Damage to the machine

▶ To avoid injury to the user from inside the unit, never remove the covers.

▶ Do not reach into the material and tool changer via the loading aid or the shaft.

▶ Only reach in the milling chamber in the safe maintenance mode and for cleaning purposes ("Cleaning and Maintenance Work for the User", page 125).

### 2.7.3 Sound emission

The sound emission strongly varies depending on the material being processed and the milling conditions ("Classifications", page 136).

In the case of higher sound emissions, which may damage your hearing:

▶ Visually inspect the tool.

▶ If loud operating noise cannot be prevented (sound level ≥ 80 dB(A)), use hearing protectors during milling ("Personal protective equipment", page 13).

## 2.7.4 Electrical safety

If covers are opened or parts are removed which are only accessible with tools, voltage-carrying components may be exposed. The plugs may also be under voltage.

▶ Electrical work must only be carried out by your authorized service partner.

▶ Before connecting the device, check that the supply voltage and frequency are correct at the point of installation ("Electrical data", page 137 and the information on the type plate, see "Marking and labelling of PrograMill One", page 21).

▶ To avoid injury to the user and for cooling reasons and fire protection, never remove the housing covers.

▶ Observe the manufacturer's house installation instructions before installing ("Supporting documents", page 9).

▶ To avoid the risk of electric shock, only connect the device to a power supply with a protective earth conductor.

▶ The mains plug is used as a supply circuit disconnecting means. Always connect the mains plug to an easily accessible protective contact socket.

▶ Connect the grounded and accessible safety contact socket to a separately secured circuit.

▶ Make sure that the protective contact socket is equipped with a residual current circuit breaker (FI).

▶ Connect the machine to a separately secured circuit or make sure that no devices are connected that cause severe supply voltage fluctuations when switched on. These fluctuations interfere with the electronic controls and may cause failure of the system.

▶ If you need to disconnect the unit from the power supply at a later time: Disconnect the plug from the mains socket, not on the device.

## 2.8 Safety instructions for individual operating phases

### 2.8.1 Transport

▶ Only transport the device according to the description in these Operating Instructions ("Transportation and Assembly", page 29).

▶ In order to avoid corrosion on the device and subsequent damage to the device, transport and store the device only within the permissible temperature range and ambient conditions ("Ambient conditions", page 137).

▶ Observe the notes on transport safety ("Setting-up the unit", page 34). Risk of damage to the processing and changer arm.

### 2.8.2 Initial operation

▶ Ensure that this machine is only operated by trained specialists.

▶ If the device has been stored in a cold environment or at high humidity, maintain a drying or temperature adjustment time of approx. 4 hours (without voltage) at room temperature before initial operation.

▶ Before connecting the device, check that the supply voltage and frequency are correct at the point of installation ("Electrical data", page 137).

▶ Observe the notes on the location site ("Choosing the location site", page 29) and the ambient conditions ("Ambient conditions for operation", page 137).

### 2.8.3 Operation

▶ Keep unauthorized persons, such as patients, children and animals, away from the unit.

▶ In all cases of doubt regarding the safety of the device, switch off the device and take suitable measures to prevent further use.

▶ Prior to connecting power or operation, check the device, the accessories and protective equipment for any damage.

▶ Do not use damaged, non-functioning equipment or accessories; instead notify your authorized service partner.

▶ In order to ensure the product safety and warranty services, the device must be exclusively operated with the original accessories from Ivoclar Vivadent. The user bears the risk when using non-approved accessories.

▶ Ivoclar Vivadent recommends using approved materials only to ensure process reliability.

▶ Never bypass the safety equipment of the machine or set it out of operation ("Safety instructions for potential hazard areas", page 16).

▶ Only operate the device when the milling chamber is closed and the loading aid and the tank are in place.

▶ To avoid damaging the unit and reducing the performance, follow the cleaning instructions and cycles ("Cleaning by the user", page 19 and "Cleaning and Maintenance Work for the User", page 125).

▶ Only operate the device unsupervised if the operating conditions for unsupervised operation described below are fulfilled.

**Unsupervised operation:**

The machine may be operated unsupervised, provided the national and local laws and provisions allow for such action and provided that they are observed. Furthermore, the requirements of the respective insurance company must be met.

▶ Never use the device if the milling chamber is heavily soiled.

▶ Protect the device against unauthorized access.

## 2.8.4 Cleaning by the user

▶ Only clean as specified in these instructions and observe the associated safety regulations ("Cleaning and Maintenance Work for the User", page 125).

## 2.8.5 Improper maintenance, modifications and repairs

Improper service and improper repairs or modifications will endanger patients and users and result in damage to the unit.

Should you carry out any repairs or maintenance to the system or modifications to the device or remove the housing without prior written consent by an authorized service partner, all warranty claims are void.

Unauthorized opening and removal of components can expose voltage-carrying components. The plugs may also be under voltage. There is a risk of electric shock!

▶ Maintenance as well as repairs of damaged safety equipment or machine parts must only be carried out by a service partner authorized by Ivoclar Vivadent.

# 3 Design and Function

PrograMill One is a modern 5-axis milling system for grinding and milling dental restorations in wet operation. It has been designed so that various materials can be processed. The milling procedure is controlled via an electronic system with the corresponding software.

The PrograMill One system consists of the following components:

- CNC milling machine PrograMill One
- Tablet with corresponding [PrograMill One] app to control the milling machine

The PrograMill One system is not a stand-alone system, it is supplied with – depending on the ordered system architecture – an extending software.

## Ivoclar Digital system solution

For more information on CAD-integrated solutions, see further documentation.

The Ivoclar Digital system solution consists of a CAM PC with the software "PrograMill CAM". PrograMill One processes the milling jobs transmitted from "PrograMill CAM".
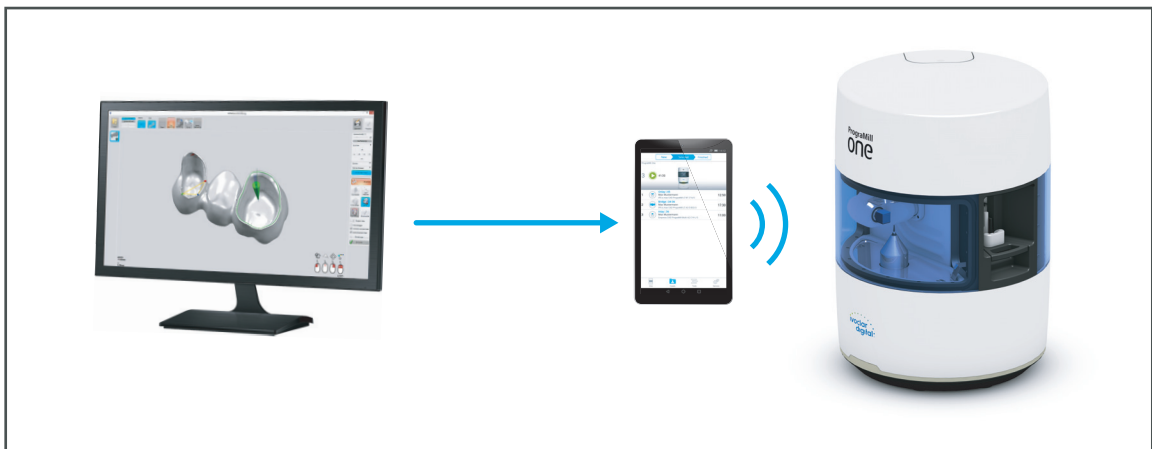
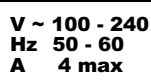## 3.1    Marking and labelling of PrograMill One

PrograMill One has the product name "PrograMill One" and the Ivoclar Digital logo marked on the front side.

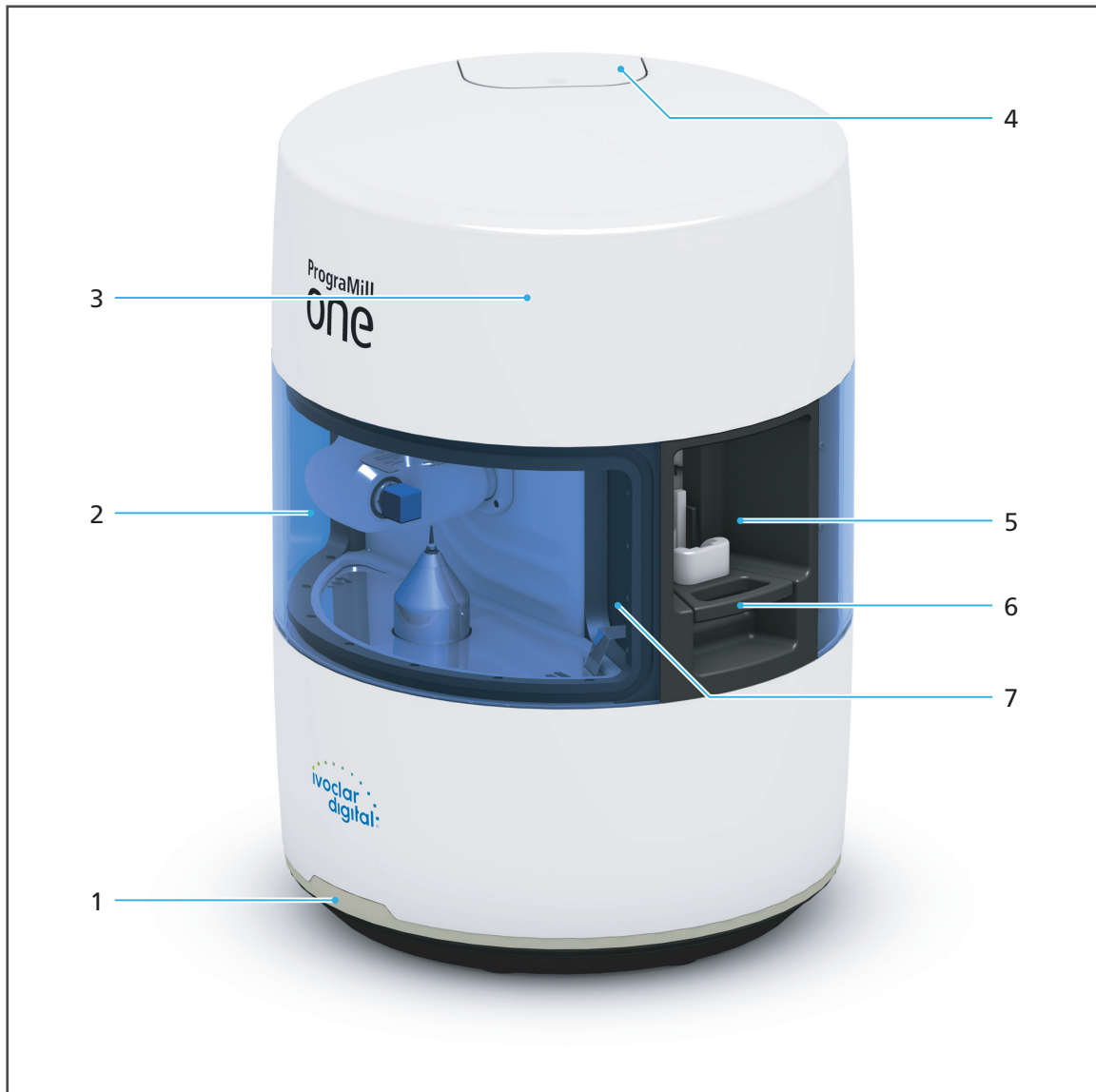The back of the milling machine has a type plate attached:



| No. | Description |
|-----|-------------|
| 1 | Position of type plate |

Symbols on the type plate:

| Symbol | Significance |
|--------|--------------|
| ivoclar vivadent Ivoclar Vivadent AG FL-9494 Schaan Liechtenstein | Manufacturer |
| YYYY | Year of manufacture (format YYYY, e.g. 2019) |
| CE | This product meets the requirements of the applicable EU directives |
| V ~ 100 - 240 Hz 50 - 60 A 4 max | Permitted supply voltage and supply frequency (depending on country) |

## 3.2   Design of PrograMill One

### 3.2.1   Front side

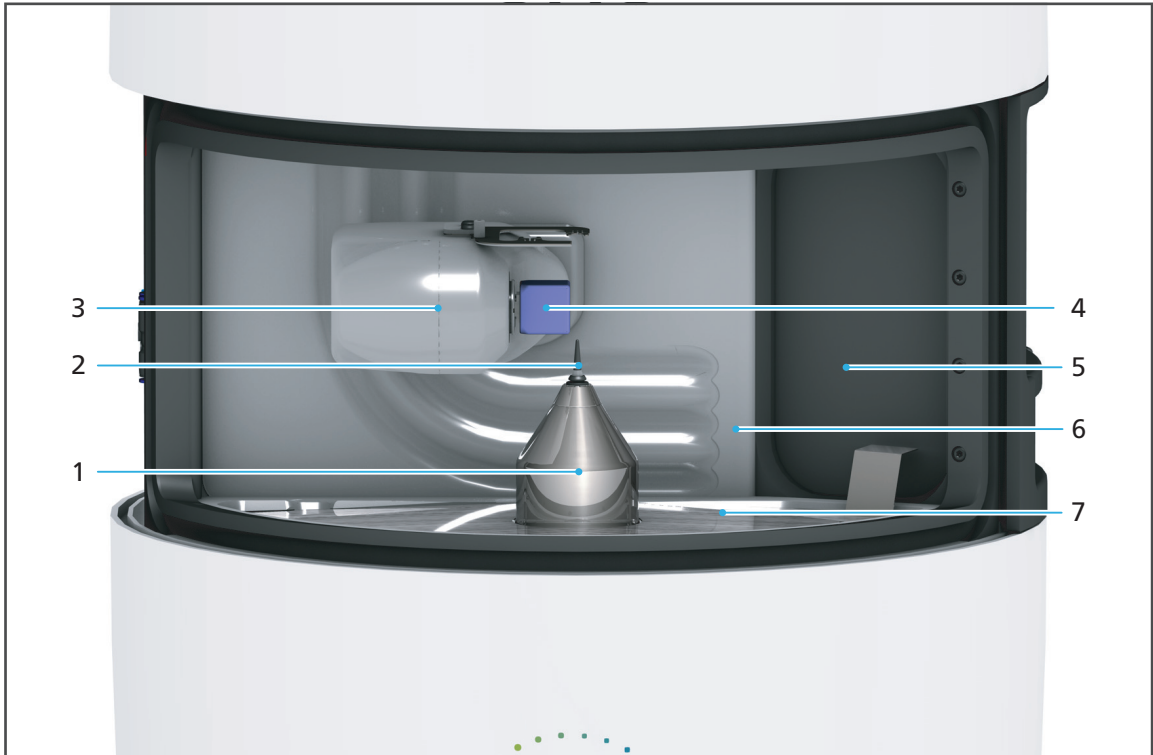| No. | Description | Function |
|---|---|---|
| 1 | OSD ring | Display device status |
| 2 | Milling chamber | Processing blocks / workpieces |
| 3 | Material and tool changer (under the secure housing cover) | Cartridge for blocks and tools for the pending milling jobs: <br><br>• Max. 5 blocks with the adapted Ivoclar Vivadent standard holder or "ESD pin B axis for One" <br><br>• Max. 8 milling, grinding and cleaning tools. Make sure that the cleaning tool is inserted into the tool holder slot marked with "II". The second position must be left empty. |
| 4 | Tank with integrated filter | • Intake coolant fluid <br><br>• Filter for the used coolant fluid before it is reused in the milling chamber |
| 5 | Maintenance access with loading aid | Loading the material and tool changer |
| 6 | Lever | |
| 7 | Opening to the milling chamber | Access to the milling chamber |

### 3.2.2 Back side



| No. | Description | Function |
|-----|-------------|----------|
| 1 | Network connection | Connection to the power supply |
| 2 | LAN connection | Connection to the local network |
| 3 | On / Off switch | Switching the device on and off |

### 3.2.3 Milling chamber

To increase the visibility of the components in the milling chamber, the screen will be hidden in the following pictures.



| No. | Description | Function |
|---|---|---|
| 1 | Spindle | • Rack for milling, grinding or cleaning tools<br>• Milling the blocks |
| 2 | Inserted milling, grinding or cleaning tool | - |
| 3 | Processing and changer arm (B axis) | • Placement of the tools into the spindle<br>• Holder for the block during the milling process |
| 4 | Inserted block | - |
| 5 | Opening to the milling chamber | Access to the milling chamber |
| 6 | Membrane | Sealing the milling chamber |
| 7 | Collection container | Collection of solid and liquid milling and grinding residues |

## 3.2.4  Material and tool changer

🔴 The material and tool changer is not accessible to the user. This chapter is only intended to explain how the device is equipped with blocks and tools.

The user can conveniently equip the material and tool changer via the loading aid. The processing and changer arm provides the tool holders (pos. no. 4 in the illustration, for tools) and block holders (pos. no. 5 in the illustration, for blocks) from the block and tool changer cartridges at the loading aid, where they can be removed, loaded and inserted.

🔴 The illustrations of the block and tool holders in these Operating Instructions may differ slightly form the actual block and tool holders.

| No. | Description | Function |
|---|---|---|
| 1 | Camera below cover | Identification of tools and blocks via the data matrix code for later use in a milling job. |
| 2 | Block cartridge (5 x) | • Reception for one block holder with one block.<br>• The device has space for five blocks. |
| 3 | Tool cartridge (4 x) | • Reception for one tool holder<br>• 6 milling/grinding tools and a cleaning tool. Make sure that the cleaning tool is inserted into the tool holder slot marked with "II". The second position must be left empty. |
| 4 (with 9 + 10) | Tool holder | • Component for loading up to two tools by the user.<br>• Arrow (9) shows the correct loading direction for the tool holder (4) in the loading aid.<br>• The hooks (10) must point upwards when loading. |
| 5 (with 6- 8) | Block holder | • Component for loading a block by the user.<br>• Figures of the block (6) show the correct loading direction of the block in the block holder.<br>• Arrow and description (7) show the correct loading direction of the block holder (5) in the loading aid.<br>• The hooks (8) must point upwards when loading. |

## 3.3 [PrograMill One] app and tablet

PrograMill One is operated via the [PrograMill One] app on the supplied tablet.



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 The [PrograMill One] app will be installed during the set-up procedure.

Information on operating the tablet can be found in the manufacturer's Instructions for Use.

Information on using the app can be found in section ("Operating the Operating Panel", page 50).

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# 4 Transportation and Assembly

 Transportation and assembly are carried out by your sales or service partner and a Digital Instructor / Master as part of your system instruction.

**Do not perform the tasks described below alone!**

## 4.1 Choosing the location site

Before setting up your device, select a suitable location site.

Make sure the following requirements are complied with:

▶ Observe the technical specifications for the operation and set-up site ("Supporting documents", page 9, Checklist for PrograMill One).

▶ Observe the technical network specifications ("Supporting documents", page 9, Checkliste for PrograMill One).

▶ Do not place or operate the device in a potentially explosive environment.

▶ In order to avoid overheating or corrosion on the device, only operate the device within the permissible temperature range and ambient conditions ("Ambient conditions for operation", page 137).

▶ Protect the device from moisture and heat (direct sunlight, radiators or other sources of heat).

▶ Operate the device in a dust-free environment, as ambient air is sucked in and the filter can quickly become clogged in dusty surroundings.

▶ Place the device on a stable, even, non-slip and clean working surface (load bearing capacity min. 40 kg). Note that the rubber machine feet can leave marks on sensitive surfaces.

▶ In order to avoid an increased reflection of sound waves,
   a. do not place the device in one of the corners of the room;
   b. maintain a distance to the wall of at least 30 cm.
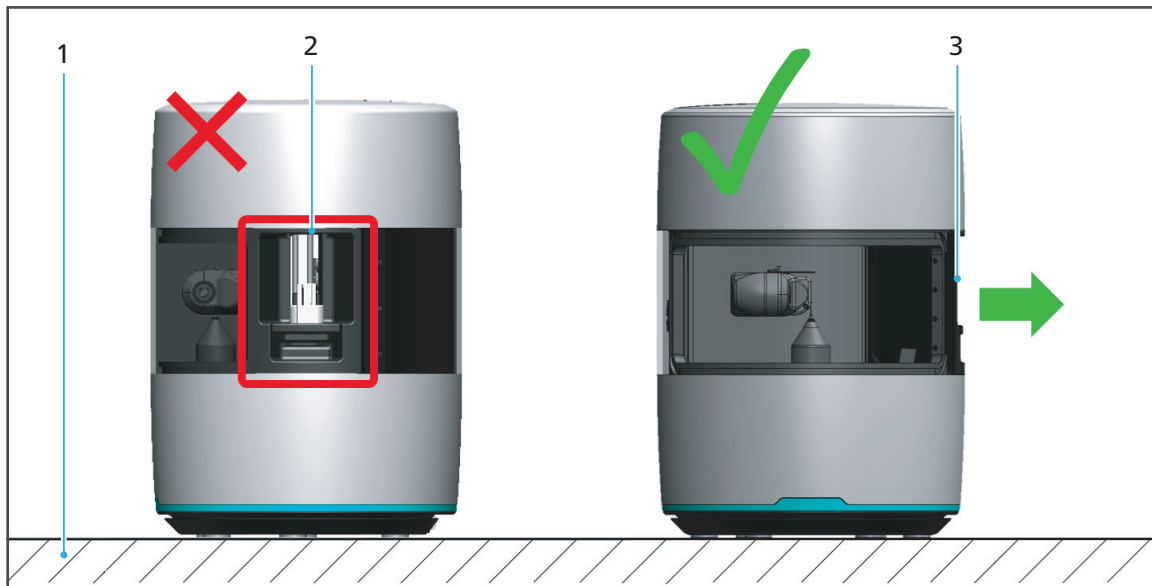
▶ Place the device on a solid working surface as shown in the picture (1), otherwise buzzing and rattling noises will occur due to the vibration.

▶ If placed on a surface with table legs, position the device precisely above the legs in order to minimize vibration transmission.

▶ In order to minimize the milling noise for the operator, do not position the device with the maintenance access directly opposite the operator (2). Position the device in such a way that the maintenance access is aligned parallel to the position of the operator (3).

▶ Ensure the device is free-standing and easily accessible.

    **a.** Do not fix the device to cabinets or shelves.

    **b.** Do not operate the device on or under other equipment.

    **c.** Maintain a distance to other devices.

▶ Risk of stumbling and falling! Avoid clutter in the workplace, keep the workplace clean, safely store cables and peripheral equipment.

▶ Avoid constant lopsided posture, set the workplace up ergonomically and ensure optimal seat height, position and lighting.

## 4.2 Transporting the device to the place of work

⚠ **WARNING! Risk of injury from the device tipping over or falling down.**

Crushing of extremities.

Damage to the device.

▶ Only use suitable means of transportation (e.g. fork lift trucks, capacity least 50 kg).

▶ Secure the device with suitable transport guards (e.g. tension straps) to prevent falling.

▶ Avoid impact, jerky movements and vibration during transportation.

▶ Stay well clear of suspended loads or raised parts.

⚠ **WARNING! Risk of injury due to heavy lifting.**

Injuries to the back due to overloading.

▶ Transport and lift the device in pairs (always hold the unit on the device floor).

▶ Unpack the device after transportation.

▶ Move the device in its original packaging by means of transportation to the defined location.
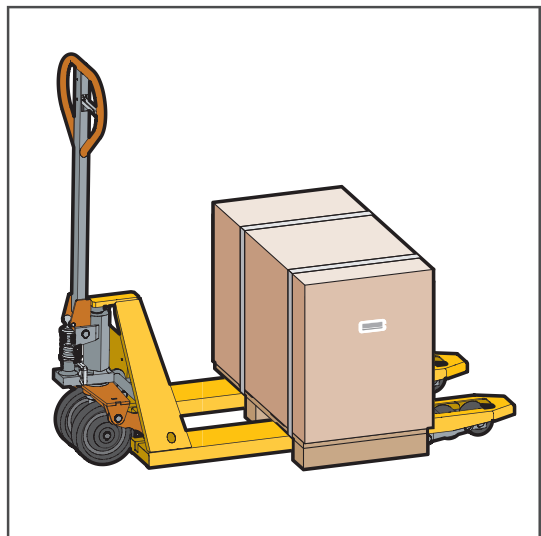
## 4.3    Unpacking the unit

⚠️  **WARNING! Risk of injury due to heavy lifting or the device falling down.**

Injuries to the back due to overloading.

Crushing of extremities.

Damage to the device.

▶    Remove the device from the inner box with at least two people.

▶    Always hold the device on the handhold and the device floor.

▶    Remove the fabric cover with handholds once the device is positioned on its definitive working surface.
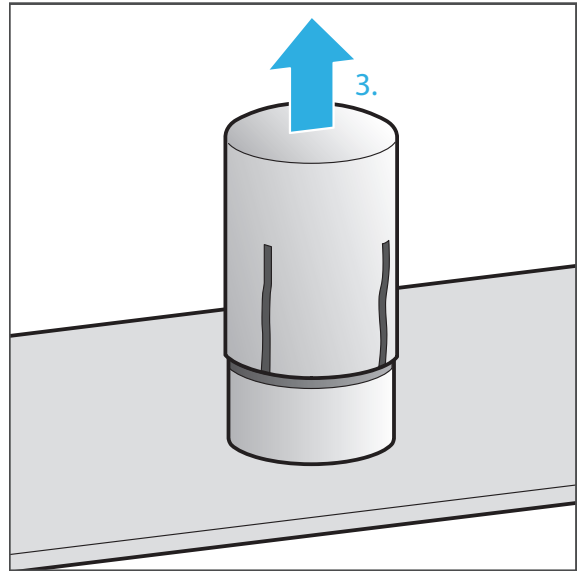
▶    Position the device carefully.

1.    Cut the transport bands with scissors (1).

2.    Fold in the handholds of the outer cardboard box.

      The handhold will be unlocked.

3.    Remove the handhold of the outer cardboard box (2).
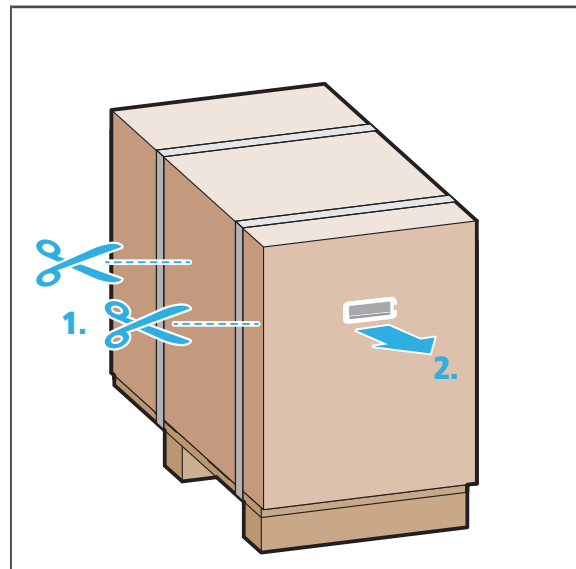


4.    Lift the outer cardboard box.

🛈    For this purpose, please observe the detailed information on the outer cardboard box.
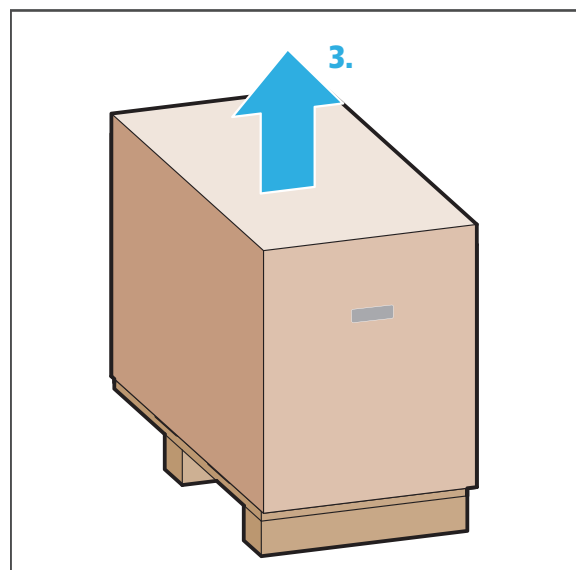
**5.** Open the inner box (4).

**6.** Remove the polystyrene from the box (5).
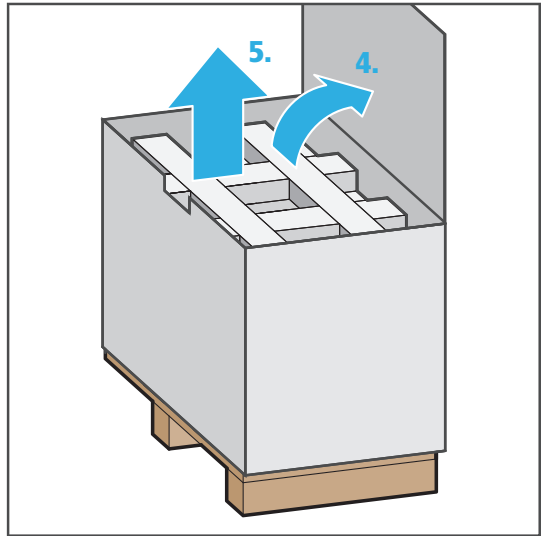


**7.** Remove the accessories box from the box (6).

**8.** With one person on each side, grip the handholds and lift the device out of the box (7).
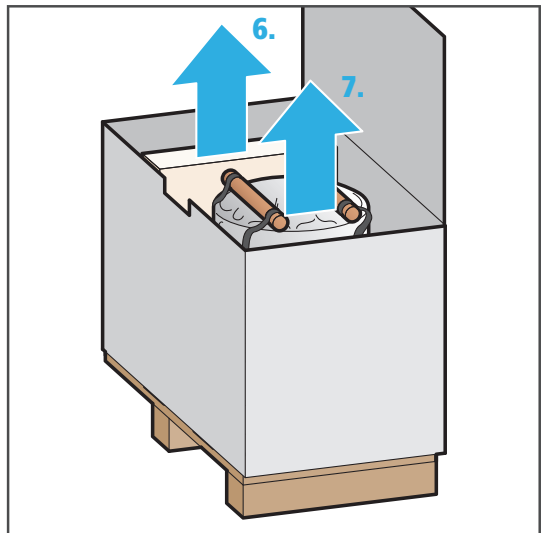


We recommend that you keep the packaging for correct transportation in the event of service work.

## 4.4    Setting-up the unit

⚠️ **WARNING! Risk of injury due to heavy lifting or the device falling down.**

Injuries to the back due to overloading.

Crushing of extremities.

Damage to the device.

▶    Remove the fabric cover with handholds once it is positioned on its definitive working surface.

▶    Position the device carefully.

☑ Location site selected ("Choosing the location site", page 29).

☑ Device unpacked ("Unpacking the unit", page 32).

**1.** With two people, hold on to the handholds and place the device onto the workplace surface (1).

**2.** Release the velcro bands (2).
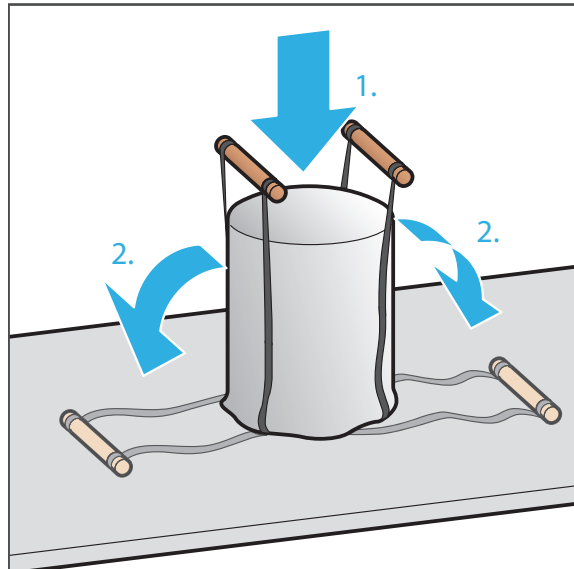
3.  Remove the fabric cover (3).



4.  Position the device on the workplace surface so that the operator is able to see all optical signals of the OSD ring at any time and control all operating elements, components and connections.

5.  Position the device so that there is no interference from other devices and so that it doesn't interfere with other devices ("Choosing the location site", page 29).
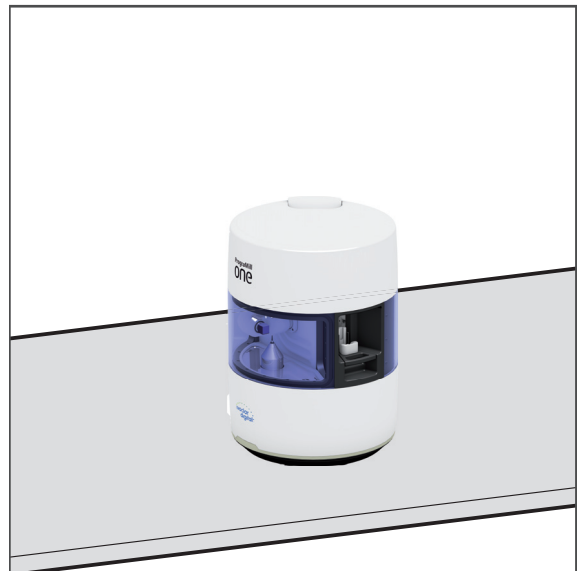


We recommend that you keep the packaging for possible maintenance and correct transportation.

## 4.5 Checking delivery contents and condition

Please be aware that as a result of the machine approval process, residual debris may be present in the milling chamber. This does not constitute a product deficiency.

1. Unpack the device at the place where it is used ("Unpacking the unit", page 32).
2. Check that all contents are complete ("Delivery form", page 138).
3. Check all components for transport damage.
4. Report any transport damage or missing components immediately.

# 5   Initial Operation

Device set-up is carried out by your sales or service partner and a Digital Instructor / Master as part of your system instruction.

**Do not perform the tasks described below alone!**

For information on using CAD-integrated systems, refer to the manufacturer's documentation ("Supporting documents", page 9).

Information on the CAM software "PrograMill CAM" can be found in the User Manual "PrograMill CAM" ("Supporting documents", page 9).

To start up the device, registration must be completed via the cloud system, see:

https://customer-reg.ivoclarvivadent.com

## 5.1   Connecting the device to the power supply

Only use the supplied power cable or an equivalent replacement power cable from Ivoclar Digital.

☑   Ensure that the power supply requirements are correct ("Electrical safety", page 17, "Electrical data", page 137 and type plate, see "Marking and labelling of PrograMill One", page 21)

1.   Connect the power cable to the power connection (1) in the device.
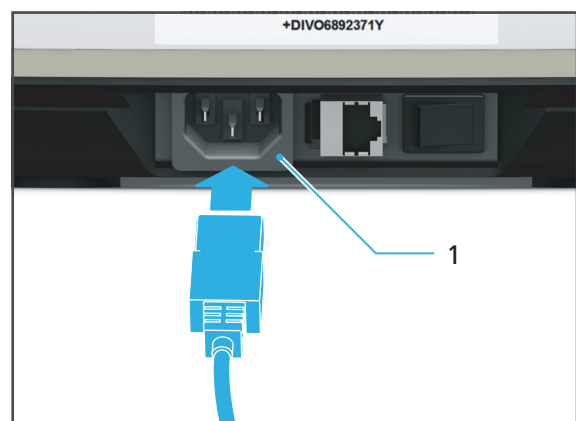


2.   Connect the power cable to the mains supply.

➡   Mains voltage is present on the device.

## 5.2 Connecting PrograMill One to the local network (LAN)

Your device supports Ethernet LAN. You can connect to a local area network (LAN).

- Only use the supplied patch cable or the original spare part.
- Your in-house technician or network administrator can help you configure and use LAN connections.

☑ Technical network specifications fulfilled ("Supporting documents", page 9, Checklist for PrograMill One).

☑ Network connection (in-house technology) is secured.

☑ Internet connection (in-house technology) is secured.

☑ Communication between the devices in the respective system solution (sales partner or Ivoclar Vivadent Digital Instructor / Master) is secured.

1. Connect one end of the patch cable to the PrograMill One LAN connection (1).
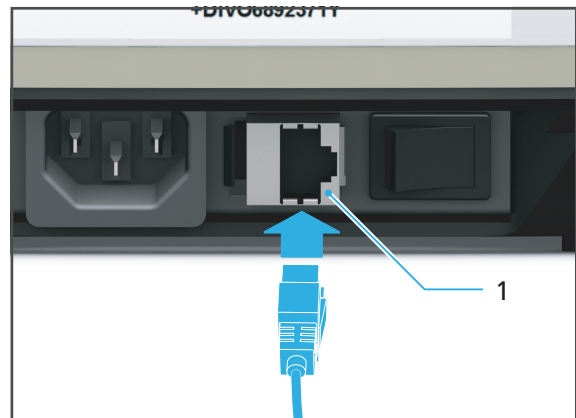


2. Connect the other end of the patch cable to your network connection.

## 5.3 Switching on the tablet

ⓘ Information on operating the tablet can be found in the manufacturer's Instructions for Use.

## 5.4 Connecting the tablet to the network via WLAN

☑ WLAN connection is available to the network in which PrograMill One can be found.

☑ The corresponding access data is available.

☑ Tablet is switched on.

ⓘ Information on installing the WLAN access can be found in the tablet's operating software documents.

## 5.5 Switching on PrograMill One (for the first time)

ⓘ When starting-up for the first time or after long standing phases the procedure may take a little more time.

1. Turn the On / Off switch at the back of PrograMill One from **0** to **I**.

   During the start-up phase, the OSD ring will blink in white.

   Upon first switch-on, the device is in transport mode.

   After any other switch-on, the device will automatically conduct a self-test.



2. Remove the transport safety lock from the milling chamber and prepare the device for operation, ("Removing the transport protection and preparing for initial operation", page 41).

ⓘ If at a later time you need to disconnect the unit from the power supply, disconnect the plug from the wall socket, not from the device.

## 5.6    Connecting the tablet and PrograMill One

At the initial start-up of the [PrograMill One] app, the menu [Auto-Connect] will be automatically shown on the tablet or other mobile device, in order to set the first connection between the app and PrograMill One in the local network.

At a later stage, other PrograMill One units, which are also connected to the local network, can be connected to the app via [Service - Settings - Scan for machines] (with CAD integrated systems, this function may differ).

The initial start-up procedure and the procedure to change devices is identical.

☑ The tablet and PrograMill One are switched on ("Switching on PrograMill One (for the first time)", page 39).

☑ The tablet and PrograMill One are logged in to the same network.

1.  When using your mobile device for the first time: Start the [PrograMill One] app ("Switching on the tablet", page 39).

    The menu [Auto-Connect] is shown automatically.

    – or –

    If you would like to connect a different PrograMill One device to the app than the device currently connected: Select [Service - Settings - Scan for machines] in the menu.

    The network will scan for available devices.

    After successful scanning, a list of all available devices will be shown.
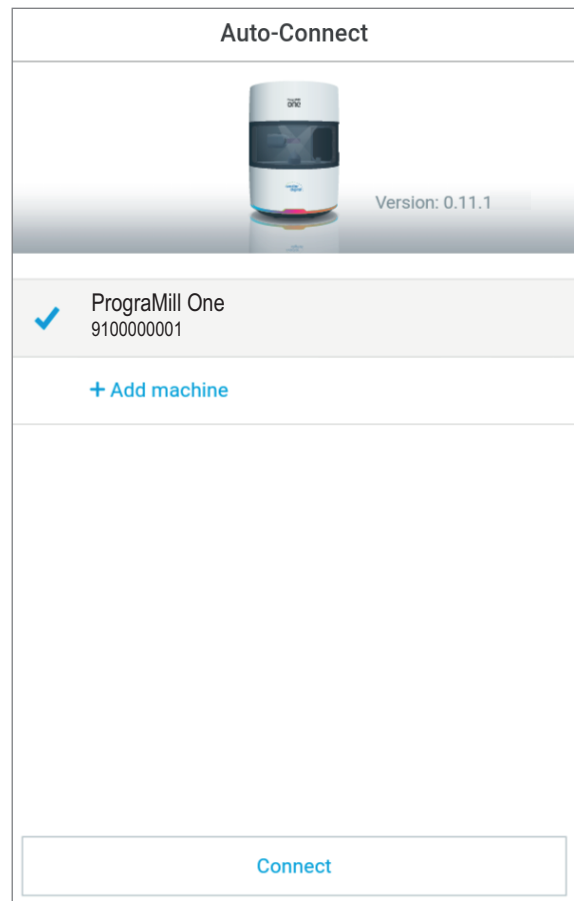


2.  Tap on the device to confirm which one it is that you would like connect to the app.

3.  Tap on [Connect].

➡ The tablet and PrograMill One are connected to one another.

## 5.7 Removing the transport protection and preparing for initial operation

To prevent damage from occurring during transportation, the device is delivered with a transport lock installed in the milling chamber (transport mode). This must be removed during initial set-up.

In addition, the device must be loaded with a block and tool holder during initial set-up. The first calibration will be run and the calibration and cleaning tool inserted.

For security reasons, the wizard will prompt you to acknowledge the following steps via the app.

☑ The tablet and PrograMill One are switched on ("Switching on PrograMill One (for the first time)", page 39).

☑ The tablet and PrograMill One are logged in to the same network.

☑ PrograMill One is in the transport mode.

1. Follow the instructions in the app.

   The processing and changer arm will release the transport lock.

2. Remove the loading aid (1) in the direction of the arrow.
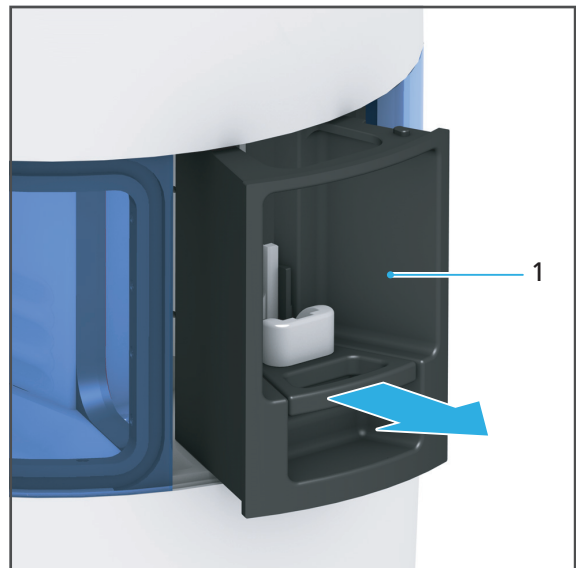


3. Loosen the lower knurled screw (1).

4. Remove the lower knurled screw from the milling chamber (2).

   The transport safety block remains on the transport lock.
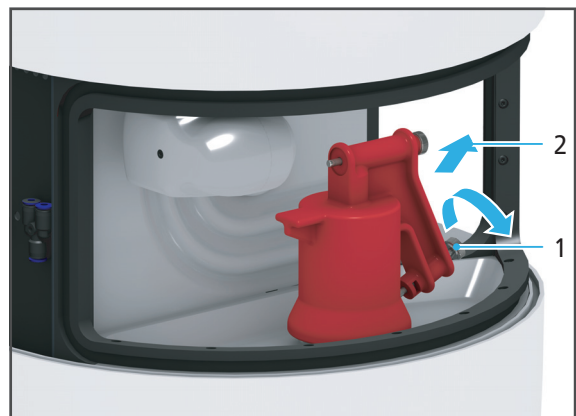
5.  Shift the transport lock over the spindle (1).

6.  Remove transport lock from the milling chamber (2).
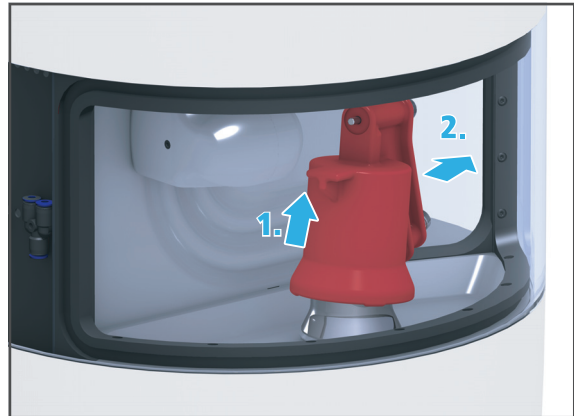


7.  Hold the cover and collection container in a slightly tilted position and insert it into the milling chamber (1).

8.  Shift the tilted collection container with the cover over the spindle (1).
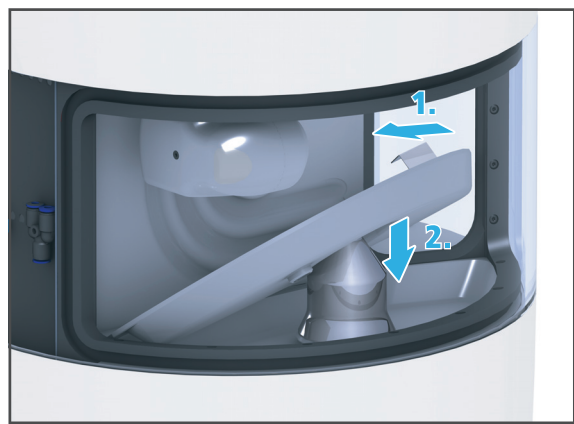


9.  Insert the loading aid (1) in the direction of the arrow.

10. Follow the instructions in the app.
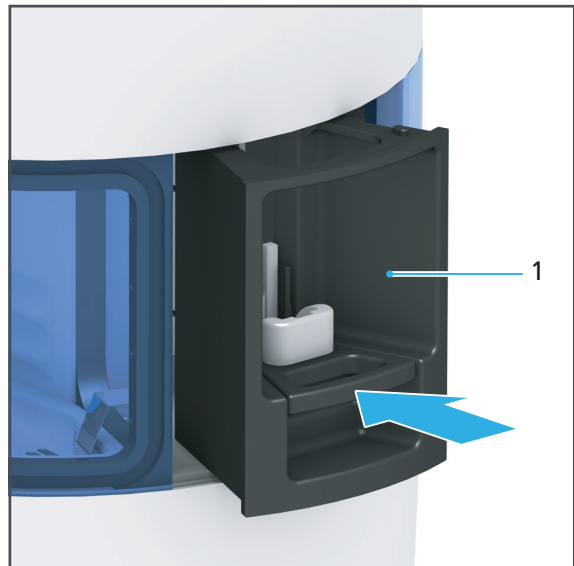


🛈  We recommend that you keep the transport protection components for correct transportation in the event of service work.

### 5.7.1  Inserting block and tool holders

After the removal of the transport safety lock, you will be prompted to subsequently insert all block and tools holders into the device.

For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

⚠ **CAUTION! Sharp edges on the block holder.**

Cutting injuries.
▶   Only grasp the block holders on the sides marked with arrows.

The block holder is equipped with an arrow that indicates the correct insertion direction of the block holder into the loading aid.

1.  Insert the block holder into the loading aid according to the specified insertion direction (1).

2.  Place the block holder into the loading aid (2).

3.  Press the lever on the loading aid upwards until a resistance is felt. Continue to push gently until the block holder clicks into place.

4.  Repeat the procedure for all block holders.

⚠ **CAUTION! Sharp edges on tool holder.**

Cutting injuries.

▶ Only grasp the tool holder on the closed sides (front and back side).

🛈 The tool holder is equipped with an arrow that indicates the correct insertion direction of the tool holder into the loading aid.

5. Insert the tool holder into the loading aid according to the specified insertion direction (1).

6. Place the tool holder into the loading aid (2).

7. Press the lever on the loading aid upwards until a resistance is felt. Continue to push gently until the tool holder clicks into place.

8. Repeat the procedure for all tool holders.

9. Follow the instructions in the app.
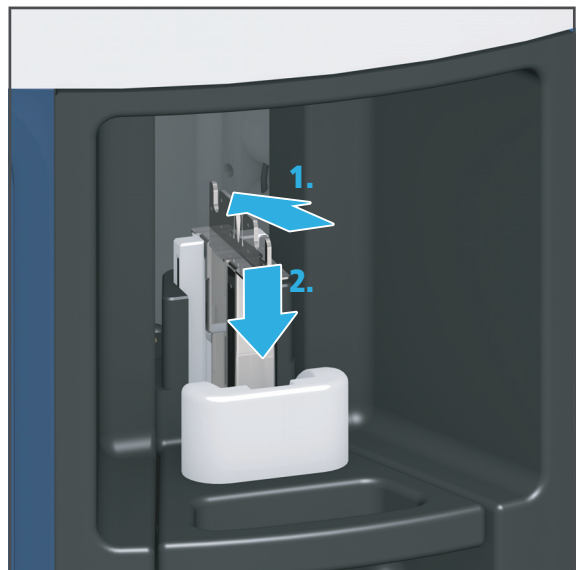
## 5.7.2 Inserting tools for calibration

After having inserted the block and tool holders, you will be prompted to insert the ESD pins "ESD pins B axis for One" and "ESD pin tool holder for One" one by one into the device.

The ESD pins will be manually inserted into the processing and changer arm in the milling chamber.

The ESD pin "ESD pin spindle for One" is already inserted into the spindle upon delivery.

⚠ **CAUTION! Milling dust, body grease or other residues on the ESD pins. Moisture in the device.**

Damage to the device due to collision of ESD pins in the milling chamber.

Damage to the device, tools or blocks due to faulty calibration.

▶ Always wear gloves when handling ESD pins.

▶ Wipe the ESD pins with a lint-free cloth before use.

▶ Clean the milling chamber including the collection container completely and very carefully with a dry, clean, soft cloth.

▶ To avoid damaging sensitive components in the milling chamber, avoid strong pressure, scrubbing, rubbing and wiping.

▶ Do not clean with or enter the milling chamber using brushes, tools, sponges with metal components, or any cleaning equipment other than that specified in this chapter.

🛈 For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

1. Remove the loading aid according to the instructions in the app.

2. Insert the "ESD pin B axis for One" as shown, with the shaft phases pointing downwards into the processing and changer arm.

3. Gently press the pin until it is firmly inserted.
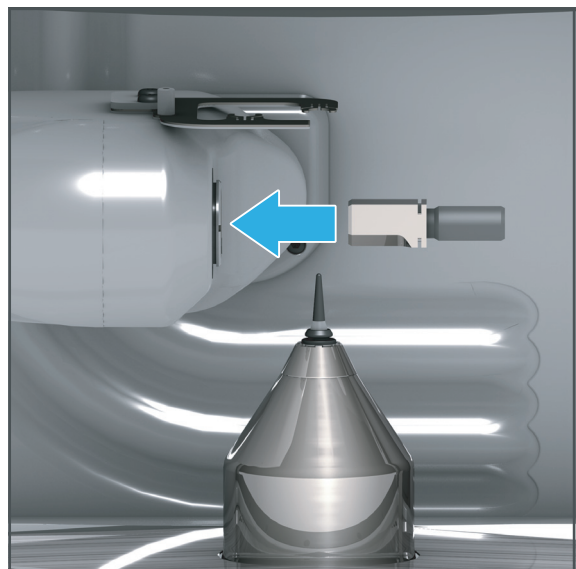


4. Insert the loading aid according to the instructions of the app.

5. Follow the instructions in the app.

6. Remove the loading aid according to the instructions in the app.

7. Remove the "ESD pin B axis for One".

8. Insert the "ESD pin tool holder for One" as shown with the shaft phases pointing downwards into the processing and changer arm.

9. Gently press the pin until it is firmly inserted.

10. Follow the instructions in the app.
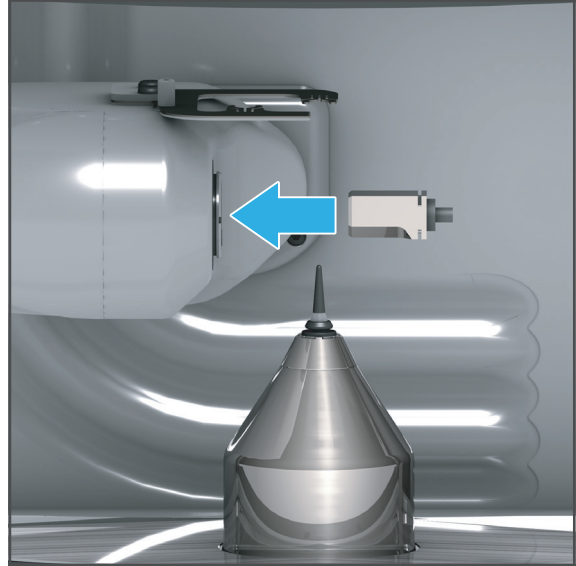


11. Insert the loading aid according to the instructions of the app and follow the instructions of the app.

### 5.7.3 Inserting the cleaning tool into the material and tool changer

After calibration, you will be prompted to insert the cleaning tool into the device ("Performing the automatic cleaning procedure", page 127).

⚠ **CAUTION! Sharp edges on the tool holder.**

Cutting injuries.

▶ Only grasp the tool holder on the closed sides (front and back side).

🛈 For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

**1.** Remove the tool holder from the loading aid in the direction of the arrow.

⚠️ **CAUTION! Cleaning tool is the wrong way around or has been inserted with the wrong ring.**

Damage to the device.

Damaged changer.

▶  Insert the cleaning tool into the tool holder according to the instructions.

▶  Do not insert with force.

🛈 If the cleaning tool wobbles in the tool holder, this is an indication that it has been inserted incorrectly. Check the position of the cleaning tool.

Insert the cleaning tool as shown into the tool holder slot marked with "II". The second position must be left empty.

**2.** Insert the cleaning tool as shown with the head pointing downwards into the tool holder slot marked with "II" so that the upper ring of the tool shaft locks into the tool holder.

The cleaning tool clicks securely into place in the tool holder.
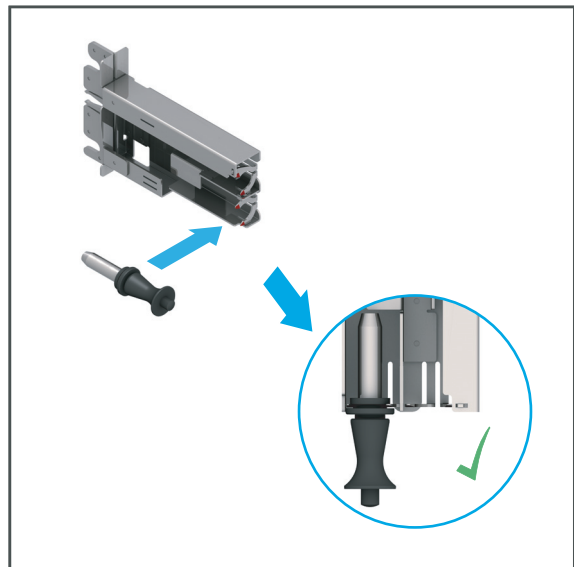


🛈 The tool holder is equipped with an arrow that indicates the correct insertion direction of the tool holder into the loading aid.

3. Insert the tool holder with cleaning tool in position into the loading aid according to the specified insertion direction (1).

4. Place the tool holder into the loading aid (2).

5. Press the lever on the loading aid upwards until a resistance is felt. Continue to push gently until the tool holder clicks into place.
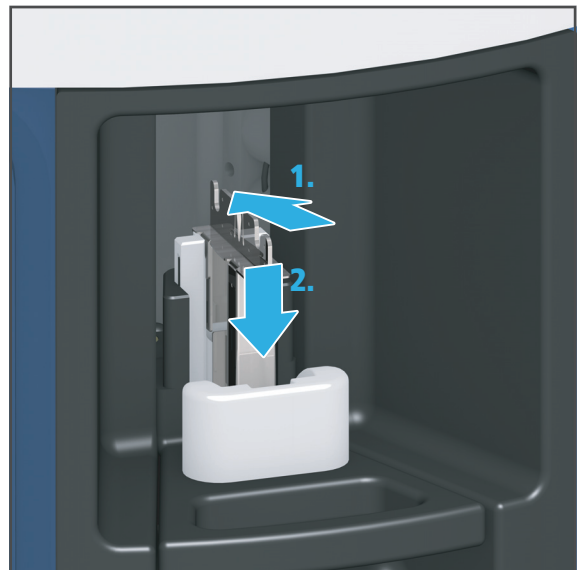
➡ The tool holder with the cleaning tool is transferred to the material and tool changer.

➡ The device will unload the tool and block holders - one by one - including the ESD pins that are still in the device.

### 5.7.4 Finalizing the set-up

1. In order to remove the ESD pins that have remained in the device, follow the instruction in the app.

2. Check the app for further tasks and perform these tasks (e.g. insert the tank).

➡ The device will automatically perform a self test.

➡ After successful self test, the device is ready for operation.

## 5.8 Using the app on other mobile devices

☑ WLAN is connected to the network in which PrograMill One can be found.

1. Download the [PrograMill One] app from the respective store (iTunes, Play Store etc.) onto your mobile device.

2. Start the [PrograMill One] app and connect to PrograMill One ("Connecting the tablet and PrograMill One", page 40).

# 6    Operating the Operating Panel

PrograMill One is controlled solely via the [PrograMill One] app.

**❶** In order to guarantee safe and reliable operation of PrograMill One, carry out the necessary updates for the operating system and the app on a regular basis.

The appearance of the user panel can vary from version to version. Illustrations in these instructions may therefore be slightly different to the appearance in the app.

## 6.1    Starting the app

▶   Tap on the icon: 

➡   The [PrograMill One] app will start.

➡   When PrograMill One is connected to the app and the tablet, the start screen will be shown ("Overview of the [PrograMill One] app", page 51).

➡   If PrograMill One is not connected to the app and the tablet, the menu [Auto-Connect] will be shown.

## 6.2 Overview of the [PrograMill One] app

The [PrograMill One] app consists of the following areas:
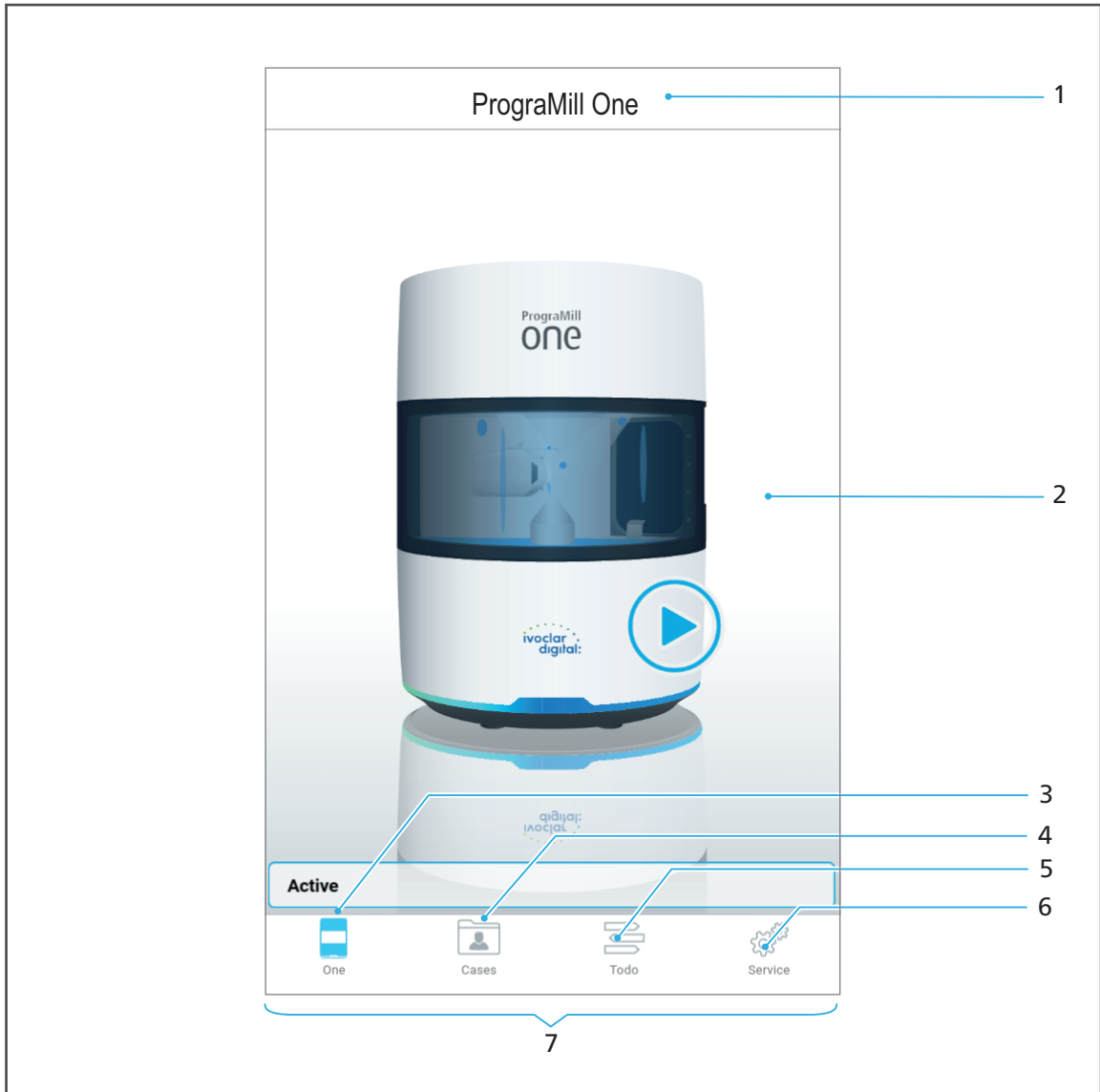


| No. | Element | Description | Reference |
|---|---|---|---|
| 1 | Navigation panel | Display of the device name | - |
| 2 | Main area | Main display area of the active menu | - |
| 3 | Main menu [One] | Start menu with device overview | "Main menu [One]", page 53 |

| No. | Element | Description | Reference |
|-----|---------|-------------|-----------|
| 4 | Main menu [Cases] | Status overview of milling jobs in 3 tabs:<br>• New / pending milling jobs<br>• Running milling jobs<br>• Completed milling jobs | "Main menu [Cases]", page 56 |
| 5 | Main menu [ToDo] | Tasks to be performed by the user (job-dependent), e.g.:<br>• Insert tool<br>• Insert blocks<br>• Fill water tank<br>• Change the filter | "Main menu [ToDo]", page 66 |
| 6 | Main menu [Service] | • Display of the block positions in the material and tool changer<br>• Display of the tool positions in the material and tool changer<br>• Start the manual cleaning function and set the maintenance mode<br>• Additional settings of the device | "Main menu [Service]", page 71 |
| 7 | Menu bar | Menu selection with the 4 main menus | - |

The active menu, where you are currently, will be coloured blue:

All other menus are coloured grey:

## 6.3   Main menu [One]

In the main menu [One] you can check the current status of your device at a glance.
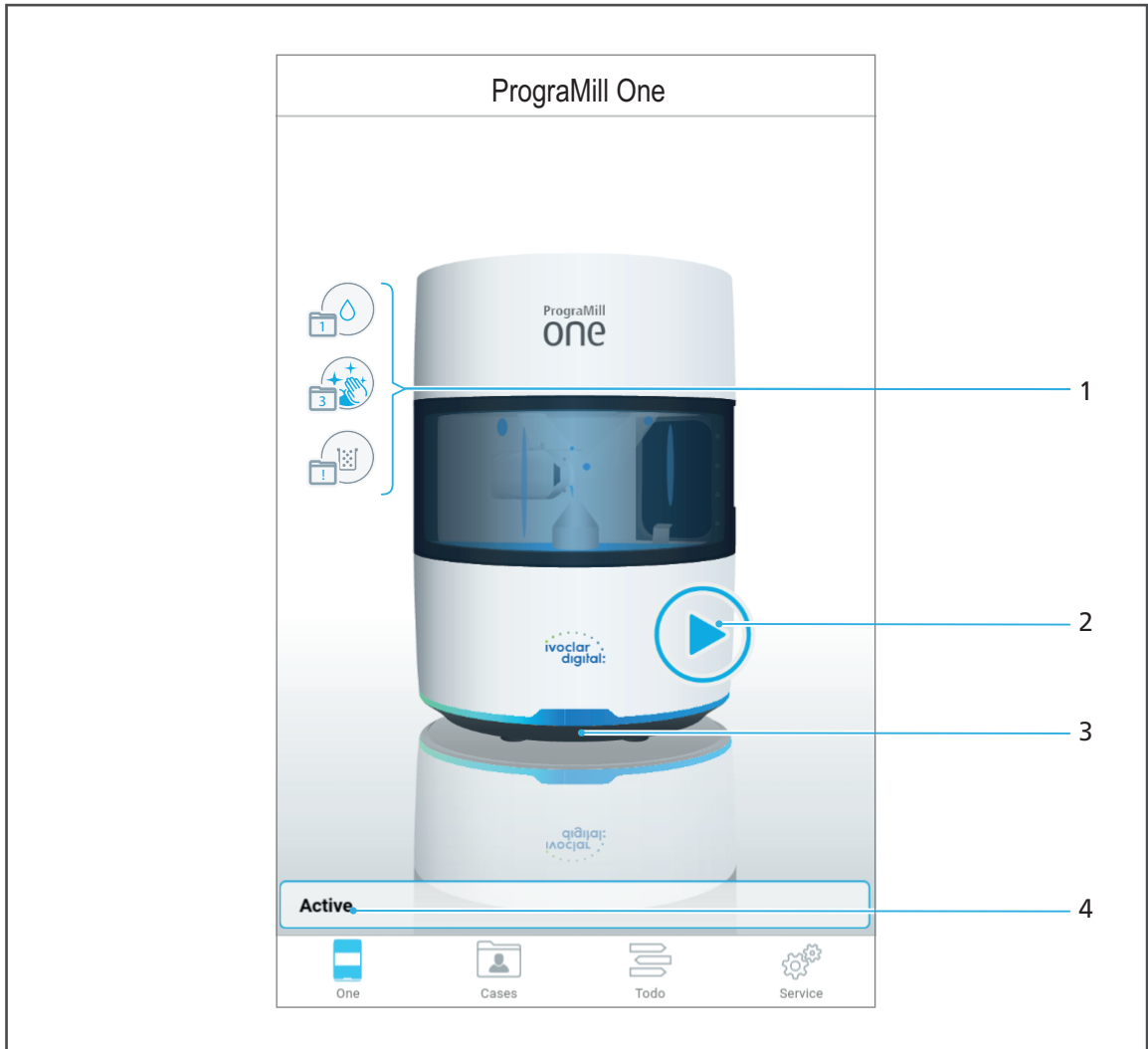


| No. | Element | Description | Reference |
|---|---|---|---|
| 1 | Tasks | Tasks that will be due shortly | "Pending tasks", page 54 |
| 2 + 4 | Messages regarding device status (situation-dependent) | Status indication that the device is ready for operation | • "Pending tasks", page 54<br>• "Device Messages and Troubleshooting", page 116 |
| 3 | OSD ring | The colour of the OSD ring shows the current status of the device | "OSD ring status", page 116 |

❶ Depending on the device status, the following additional information may be shown:

- Shut down button
- Notifications on available updates
- Notifications on occurred errors

## 6.3.1 Pending tasks

The task symbols are defined as follows:

| Element | Designation | Description | Reference |
|---|---|---|---|
| | Water level low | Water/coolant fluid must be refilled shortly. | "Changing/Refilling the water in the main tank and changing the filter", page 83 |
| | Manual cleaning | Manual cleaning must be conducted shortly. | "Carrying out manual cleaning work on the housing and in the milling chamber", page 128 |
| | Replace filter | The filter must be replaced shortly. | "Changing/Refilling the water in the main tank and changing the filter", page 83 |

❶ The numbers in the symbols indicate after how many milling jobs the task will be due (< 5 milling jobs).

The exclamation mark indicates that the task will be due shortly but at least 5 more milling jobs can be processed.

## 6.3.2 Device status symbols and designations

The device status symbols and descriptions are defined as follows:

| Element | Designation | Description | Reference |
|---|---|---|---|
| | Boot | Device is booting up | "Switching on PrograMill One (for the first time)", page 39 |
| | Seft test | Seft test is conducted | "Switching on PrograMill One (for the first time)", page 39 |
| - | Standby | Device is ready for operation | - |
| | Active | Device is active (e.g. milling job in progress) | "Editing Milling Jobs", page 81 |

| Element | Designation | Description | Reference |
|---|---|---|---|
| | Error | A device-specific error occurred | "Troubleshooting / error table", page 117 |
| | Transport | Transport mode is active (initial start-up) | "Removing the transport protection and preparing for initial operation", page 41 |
| | Maintenance | Device is in maintenance mode; loading aid is unlocked or removed | "Main menu [Service]", page 71 |
| | Cleaning | Automatic cleaning is conducted | "Performing the automatic cleaning procedure", page 127 |
| | Recalibrating | Device is calibrated | "Removing the transport protection and preparing for initial operation", page 41 |
| | Identifying | Newly inserted blocks / tools are identified | • "Inserting tools", page 89<br>• "Inserting blocks", page 99 |

## 6.4    Main menu [Cases]

In the main menu [Cases] all milling jobs assigned to PrograMill One are edited.

It is divided into 3 sections:

- New / pending milling jobs ( "Tab [New]", page 57)
- Running milling jobs ( "Tab [Selected]", page 60)
- Completed milling jobs ( "Structure of the tab [Finished]", page 65)

## 6.4.1 Tab [New]

In the Tab [New], all milling jobs transmitted by the Ivoclar Digital system solution to PrograMill One, which are waiting for processing, are shown. In this tab, the processing order is determined.

PrograMill One can be operated in Single or Multi mode:

- Single mode:

  Fast processing of individual milling jobs

- Multi mode:

  Preparation of up to 5 milling jobs for convenient, chronological processing without the necessity of being present at the device.

You can transfer as many milling jobs as required to PrograMill One for later processing.

PrograMill One can process a maximum of 5 milling jobs in one milling sequence in the Multi mode (5 blocks can be placed in the material and tool changer). This milling sequence can be defined as required by the user. After successful processing of the 5 defined milling jobs, the next 5 can be prioritized and prepared (see "Starting several milling jobs (Multi mode)", page 108).

| No. | Element | Description | Reference |
|-----|---------|-------------|-----------|
| 1 | Milling job list | List of all available milling jobs | • "Preparing milling jobs", page 89 |
| 2 | Milling job | Details of the individual milling job | • "Starting several milling jobs (Multi mode)", page 108<br>• "Deleting a not required milling job", page 114<br>• "Starting individual milling jobs (Single mode)", page 107 |
| 3 | Symbol | The milling job cannot be selected for processing (5 milling jobs have already been selected).<br>If less than 5 milling jobs have been selected (e.g. further milling jobs can be selected), the symbol will change to | - |
| 4 | Symbol | Delete the milling job from the list and remove from PrograMill One | "Deleting a not required milling job", page 114 |
| 5 | Status of the milling job | The colour of the outer ring indicates the status | "Status of the milling job", page 59 |
| 6 | Symbol<br>1 - 5 | Milling job selected for machining (max. 5 milling jobs in the Multi mode). The number indicates the position of the milling job in the processing sequence. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| 7 | Type of milling job | The preview shows which restoration is created with the milling job | "Type of milling job", page 59 |

## 6.4.2 Type of milling job

The symbols show which type of restoration is produced with the milling job.

The list below corresponds to the state of knowledge of the device at the time of going to print. The list will be continuously expanded with the introduction of new features.

| Element | Description |
|---|---|
| | Posterior crown |
| | Partial posterior crown |
| | Onlay |
| | Inlay |
| | Veneer |
| | Anterior crown |

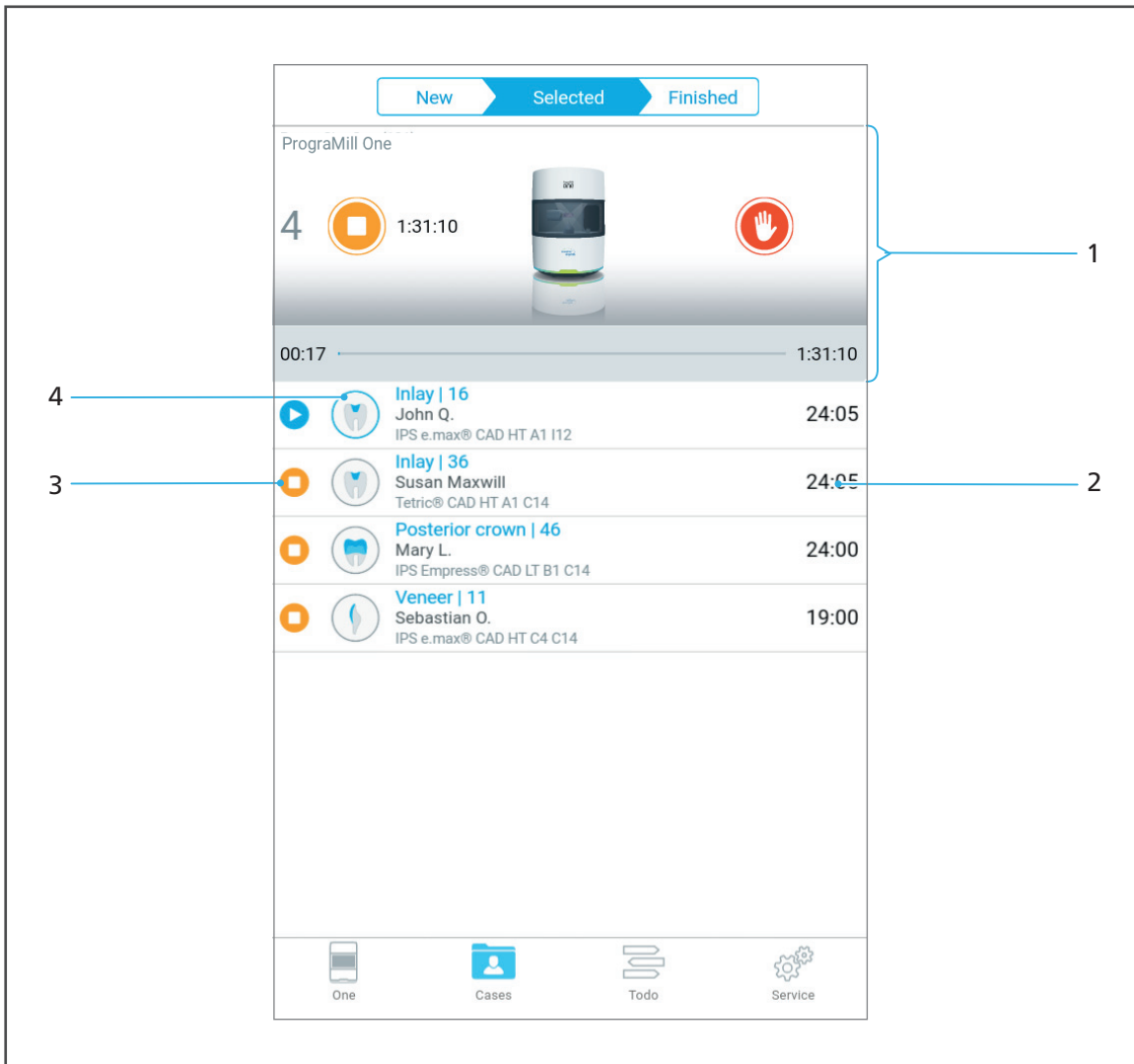## 6.4.3 Status of the milling job

The colour of the outer ring indicates the status of the milling job:

| Element | Description | Reference |
|---|---|---|
| | Job not ready for milling: necessary tool or block has not been inserted | • "Main menu [ToDo]", page 66<br>• "Preparing milling jobs", page 89 |
| | Job is ready for milling | • "Tab [Selected]", page 60<br>• "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| | Job is being milled | |
| | Job successfully completed and ready to unload | • "Structure of the tab [Finished]", page 65<br>• "Completing / unloading the finished milling job", page 112 |
| | Job error | "Device Messages and Trouble-shooting", page 116 |

## 6.4.4 Tab [Selected]

In the tab [Selected] a maximum 5 prioritized milling jobs are shown. In this tab, processing is started or if necessary paused. After having successfully processed a job, it is transferred to the [Finished] tab and will no longer be displayed in the [Selected] tab.
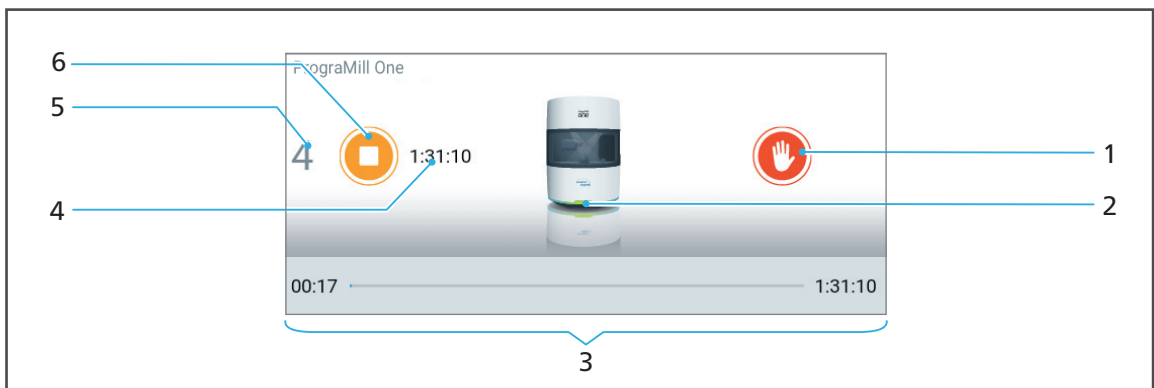


| No. | Element | Description | Reference |
|---|---|---|---|
| 1 | Status indication (starting and stopping the milling jobs) | • Summary of the pending and running milling jobs<br>• Symbols to start and pause the milling jobs<br>• Top task from the main menu [Cases]<br>• Device status | • "Structure of status display", page 61<br>• "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| 2 | Duration of the milling job | Processing duration of the individual milling job | - |

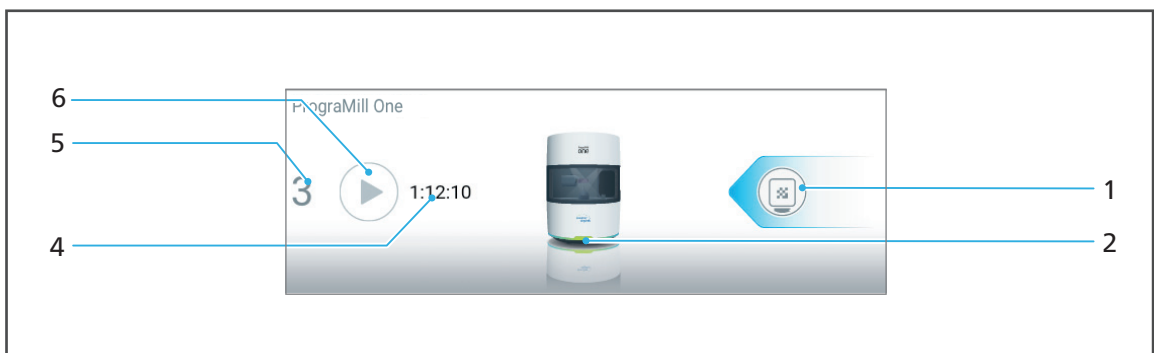| No. | Element | Description | | Reference |
|-----|---------|-------------|---|-----------|
| 3 | Processing status of the milling jobs (status only) | 1, 2, 3, etc. | Milling job ready for milling, not yet started | "Preparing milling jobs", page 89 |
| | | ▶ | Milling job is being processed | - |
| | | ■ | Milling job not yet started | - |
| 4 | Type and status of the milling job | Type of restoration produced and current status of the milling job | | • "Type of milling job", page 59<br>• "Status of the milling job", page 59 |

**Structure of status display**

The status display is used to display and control the 5 selected milling jobs. The display changes depending on the status of the milling jobs (tasks to be performed, start, stop, pause).
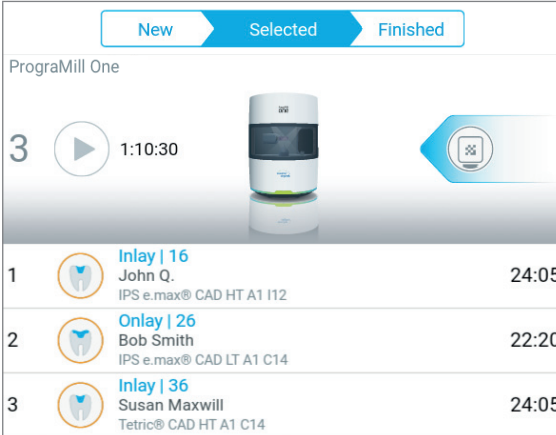
Example of a running milling job:
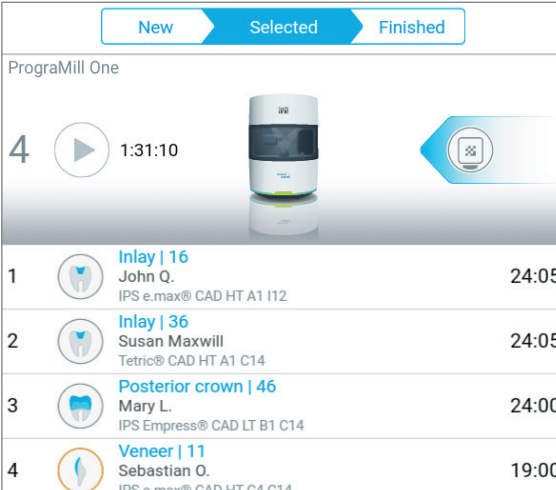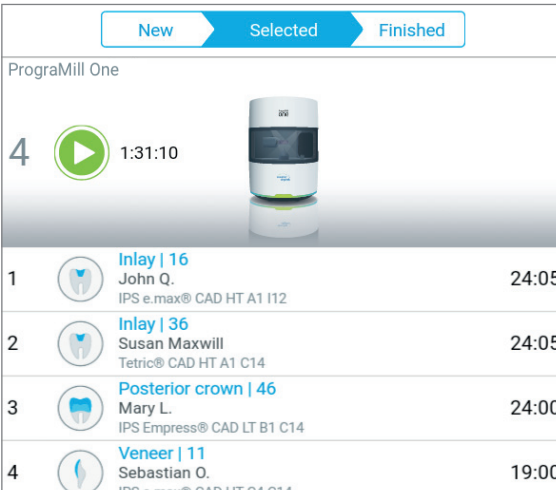


Example of a pending milling job with tasks that must be done:

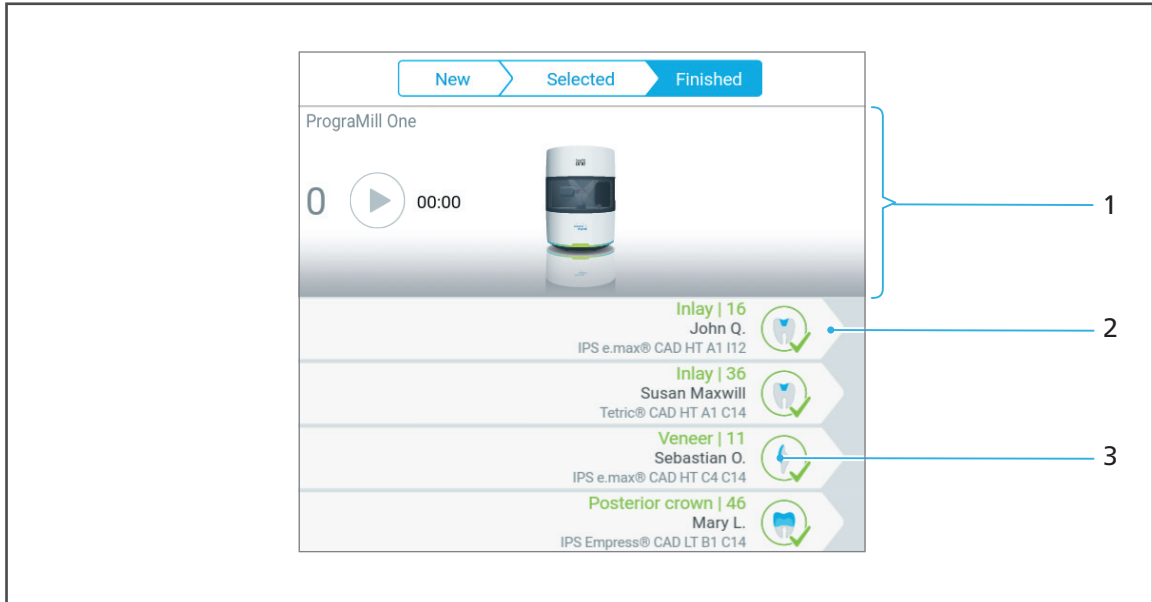| No. | Element | Description | Reference |
|---|---|---|---|
| 1 | Before starting the job | • Top task from the main menu [Cases]<br>• Examples: Water change, filter change, insert block, insert tool, etc. | • Device-related tasks: "Status displays in the section [Maintenance]", page 69 |
| | No symbol | All tasks completed | • Block-related tasks: "Status displays in the section [Blocks]", page 70<br>• Tool-related tasks: "Status displays in the section [Tools]", page 70<br>• "Preparing milling jobs", page 89 |
| | With running jobs: Symbol | Perform emergency stop | "Performing an emergency stop", page 111 |
| 2 | Device status | Device-related tasks which must be processed (if applicable) | - |
| 3 | Status bar milling job | • Left: Elapsed time<br>• Right: Total milling duration for all running and pending milling jobs | - |
| 4 | Milling duration | Total remaining time (in hh:min) for all pending and running milling jobs | - |
| 5 | Milling jobs | Number of pending or running milling jobs | - |
| 6 | Symbols to start and pause the milling jobs (symbol situation-dependent) | Milling jobs can not yet be started. Tasks must be performed. | "Preparing milling jobs", page 89 |
| | | Milling jobs can be started | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| | | Milling jobs are paused | "Pausing the processing of milling jobs after the current milling job and then continuing again", page 110 |
| | | Pause further milling jobs after this current running job | |

Examples:

| Status | Description |
|---|---|
| New — Selected — Finished<br>PrograMill One<br>3 ▶ 1:10:30<br><br>1  Inlay \| 16 — John Q. — IPS e.max® CAD HT A1 I12 — 24:05<br>2  Onlay \| 26 — Bob Smith — IPS e.max® CAD LT A1 C14 — 22:20<br>3  Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 — 24:05 | • Before starting the job<br>• 3 milling jobs are pending.<br>• No milling jobs are ready for machining.<br>• For each milling job, at least one task must be carried out in the [ToDo] section. This is indicated by the orange contour of the milling job.<br>  Example: Insert block; indicated by the symbol displayed in the arrow at the right side. |
| New — Selected — Finished<br>PrograMill One<br>4 ▶ 1:31:10<br><br>1  Inlay \| 16 — John Q. — IPS e.max® CAD HT A1 I12 — 24:05<br>2  Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 — 24:05<br>3  Posterior crown \| 46 — Mary L. — IPS Empress® CAD LT B1 C14 — 24:00<br>4  Veneer \| 11 — Sebastian O. — IPS e.max® CAD HT C4 C14 — 19:00 | • Before starting the job<br>• 4 milling jobs are pending.<br>• 3 milling jobs are ready for machining.<br>• For the fourth milling job, at least one task must be carried out in the [ToDo] section.<br>  Example: Insert block; indicated by the symbol displayed in the arrow at the right side. |
| New — Selected — Finished<br>PrograMill One<br>4 ▶ 1:31:10<br><br>1  Inlay \| 16 — John Q. — IPS e.max® CAD HT A1 I12 — 24:05<br>2  Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 — 24:05<br>3  Posterior crown \| 46 — Mary L. — IPS Empress® CAD LT B1 C14 — 24:00<br>4  Veneer \| 11 — Sebastian O. — IPS e.max® CAD HT C4 C14 — 19:00 | • Before starting the job<br>• 4 milling jobs are ready for machining.<br>• All task in the [ToDo] section have been carried out. |

| Status | Description |
|---|---|
| New · Selected · Finished<br><br>PrograMill One<br><br>4 ◻ 1:31:10 · 🖐<br><br>00:17 ———— 1:31:10<br><br>▶ Inlay \| 16 — John Q. — IPS e.max® CAD HT A1 I12 — 24:05<br>◻ Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 — 24:05<br>◻ Posterior crown \| 46 — Mary L. — IPS Empress® CAD LT B1 C14 — 24:00 | • During processing of the milling jobs.<br>• The first milling job is currently being processed.<br>• All other milling jobs are in the processing queue. |
| New · Selected · Finished<br><br>PrograMill One<br><br>3 ◻ 1:31:10 · 🖐<br><br>00:58 — 1:31:10<br><br>▶ Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 — 24:05<br>◻ Posterior crown \| 46 — Mary L. — IPS Empress® CAD LT B1 C14 — 24:00<br>◻ Veneer \| 11 — Sebastian O. — IPS e.max® CAD HT C4 C14 — 19:00 | • During processing of the milling jobs.<br>• After completion of the first milling job, other milling jobs were paused and can be restarted at any time ("Pausing the processing of milling jobs after the current milling job and then continuing again", page 110):<br><br>◻ |
| New · Selected · Finished<br><br>PrograMill One<br><br>0 ▶ 00:00<br><br>Inlay \| 16 — John Q. — IPS e.max® CAD HT A1 I12 ✓<br>Inlay \| 36 — Susan Maxwill — Tetric® CAD HT A1 C14 ✓<br>Veneer \| 11 — Sebastian O. — IPS e.max® CAD HT C4 C14 ✓<br>Posterior crown \| 46 — Mary L. — IPS Empress® CAD LT B1 C14 ✓ | All jobs have been completed and can be found in the tab [Finished]. |

## 6.4.5  Structure of the tab [Finished]

In the tab [Finished] all successfully completed milling jobs are displayed. Via this tab, milling jobs can be completed and the finished restorations can be unloaded.



| No. | Element | Description | Reference |
|---|---|---|---|
| 1 | Status display | • Summary of the pending and running milling jobs<br>• Symbols to start and pause the milling jobs<br>• Top task from the main menu [ToDo]<br>• Device status | "Structure of status display", page 61 |
| 2 | Unload milling job | Section for milling job completion and unloading the final restoration (tap) | "Completing / unloading the finished milling job", page 112 |
| 3 | Type and status of the milling job | Type of restoration produced, and indication that the milling job has been completed. | • "Type of milling job", page 59<br>• "Status of the milling job", page 59 |

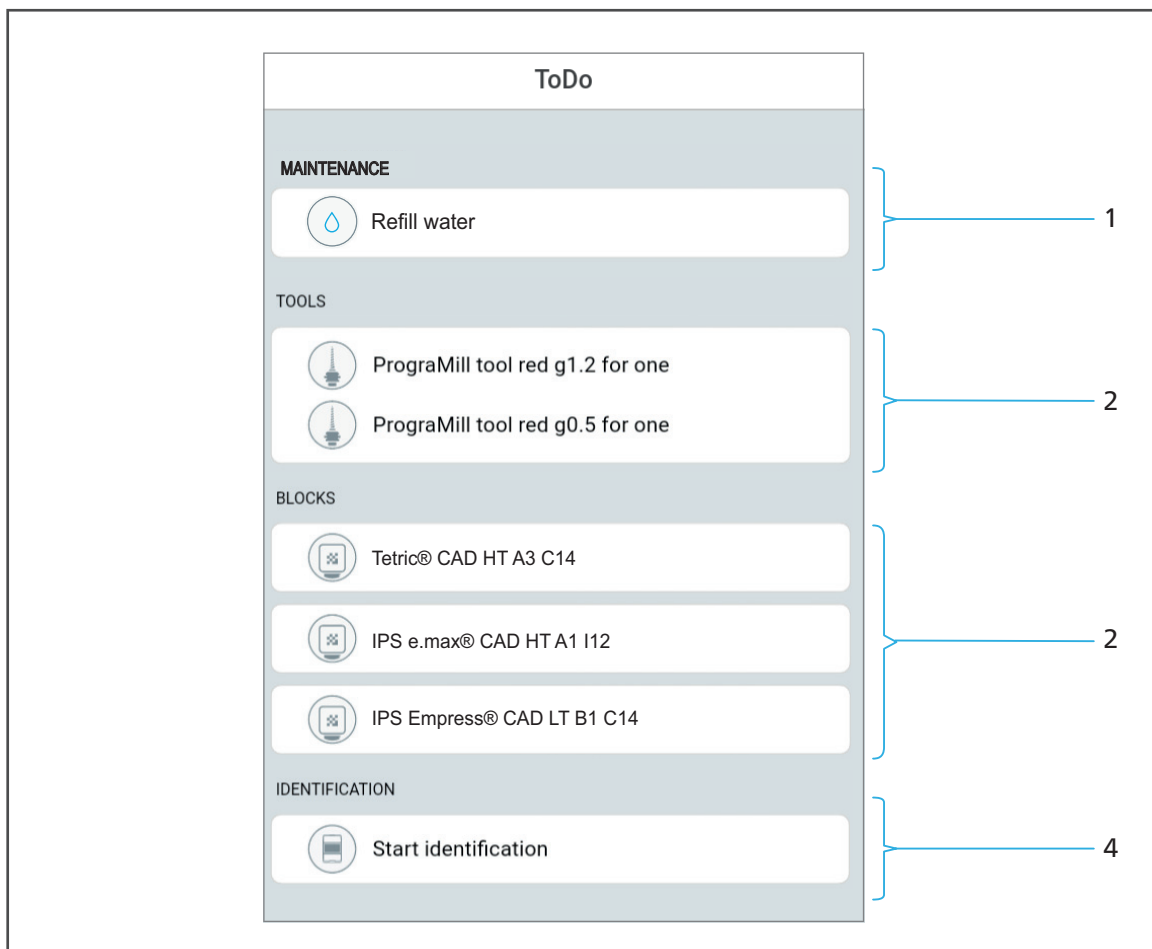## 6.5 Main menu [ToDo]

PrograMill One provides optimal support in preparing your milling jobs. The main menu [ToDo] displays all tasks that are still required to perform the selected milling jobs ("Preparing milling jobs", page 89).

This includes:

- Insert required blocks
- Insert required tools
- Change water / refill water / reduce water
- Change the filter
- Identify tools and blocks

Example:

In the main menu [ToDo] the following information is shown:

| No. | Element | Description | Reference |
|-----|---------|-------------|-----------|
| 1 | Section [Maintenance] | List of device-related tasks, e.g. refill water (the above illustration shows all tasks which can occur in the [Maintenance] section) | • "Status displays in the section [Maintenance]", page 69<br>• "Changing/Refilling the water in the main tank and changing the filter", page 83 |
| 2 | Section [Tools] | List of tools still required for the active milling jobs | • "Status displays in the section [Tools]", page 70<br>• "Inserting tools", page 89 |
| 3 | Section [Blocks] | List of blocks still required for the active milling jobs | • "Status displays in the section [Blocks]", page 70<br>• "Inserting blocks", page 99 |
| 4 | Section [Identification] | Start manual identification of tools and blocks | • "Status displays in the section [Identification]", page 71<br>• "Inserting tools", page 89<br>• "Inserting blocks", page 99 |

If you tap on the respective list entry, the Wizard will guide you step by step through the processing of the respective task(s).

Example: Insert the required blocks into the block holder (example illustration):
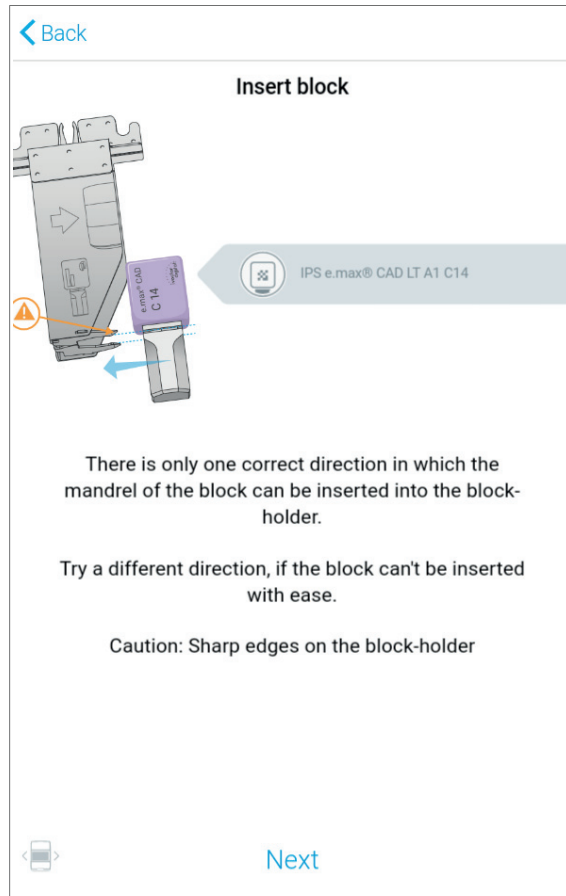


After successfully completing the tasks, the jobs can be started in the [Cases] menu ("Main menu [Cases]", page 56).

## 6.5.1 Status displays in the section [Maintenance]

In the [Maintenance] section, the symbols provide information on the status of the tank, the filter, and the cleaning status of the unit. If you tap on the respective list entry, the Wizard will guide you step by step through the processing of the respective task(s) (e.g. conduct cleaning, etc.).

The following list of features corresponds to the state of knowledge at the time of going to print. With the introduction of new features, this list will be continuously updated.

| Element | Description | Reference |
|---|---|---|
| | Water level too high | "Changing/Refilling the water in the main tank and changing the filter", page 83 |
| | Water level too low | |
| | Filter change required | |
| | Perform the automatic cleaning procedure | "Performing the automatic cleaning procedure", page 127 |
| | Perform the manual cleaning procedure | "Carrying out manual cleaning work on the housing and in the milling chamber", page 128 |
| | Loading aid removed, device in maintenance mode | - |
| | Perform general device-related tasks, e.g. start-up | - |

### 6.5.2 Status displays in the section [Blocks]

In the [Blocks] section, the symbols provide information on the status of the respective blocks. The ID shows the user which blocks are actually required for the upcoming milling jobs. By tapping on the respective entry in the list, you can call up the corresponding Wizard, which will then guide you through the upcoming task (insert missing block, unload unused block, etc.).

The following list of features corresponds to the state of knowledge at the time of going to print. With the introduction of new features, this list will be continuously updated.

| Element | Description | Reference |
|---|---|---|
|  | Insert or remove block | "Inserting blocks", page 99 |
|  | Insert or remove ESD pin B axis for One | "Inserting tools for calibration", page 45 |
|  | Insert or remove ESD pin tool holder for One | |

### 6.5.3 Status displays in the section [Tools]

In the [Tools] section, the symbols provide information on the status of the respective tools. The ID shows the user which tools are actually required for the upcoming milling jobs. By tapping on the respective entry in the list, you can call up the corresponding Wizard, which will then guide you through the upcoming task (insert missing tools, unload unused tools, etc.).

The following list of features corresponds to the state of knowledge at the time of going to print. With the introduction of new features, this list will be continuously updated.

| Element | Description | Reference |
|---|---|---|
|  | Insert or remove tool | "Inserting tools", page 89 |
|  | Insert or remove ESD pin spindle for One | "Inserting tools for calibration", page 45 |
|  | Insert or remove cleaning tool | "Inserting the cleaning tool into the material and tool changer", page 47 |

### 6.5.4 Status displays in the section [Identification]

In the [Identification] section, the symbols provide information that there are still non-identified tools or blocks:



By tapping on the respective entry in the list, you can start the identification manually. As an alternative, you can wait for the automatic identification by the device. The device will automatically perform the identification within the next minutes.

## 6.6 Main menu [Service]

If a function is not active during a specific device status, it will be greyed out.

In the main menu [Service], you can perform various configurations and presets for your device.
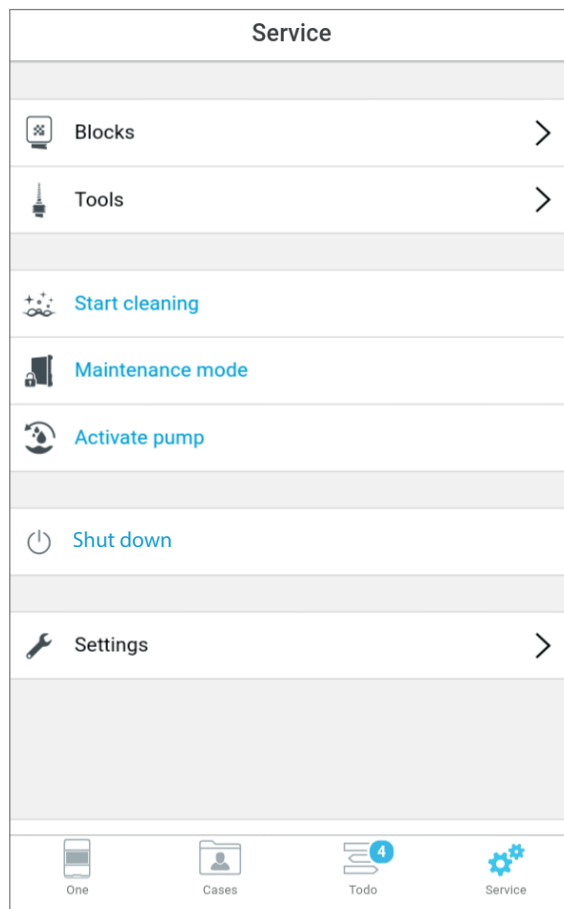
In the main menu [Service] the following information is shown:

| Element | Menu | Description | Reference |
|---|---|---|---|
| | Blocks | Display and edit the individual block positions in the material and tool changer | • "Section [Blocks]", page 73<br>• "Inserting blocks", page 99 |
| | Tools | Display and edit the individual tool positions in the material and tool changer | • "Section [Tools]", page 76<br>• "Inserting tools", page 89 |
| | Start cleaning | Perform manual cleaning at the device | "Carrying out manual cleaning work on the housing and in the milling chamber", page 128 |
| | Maintenance mode | Place the machine in maintenance mode to unlock the loading aid and perform work in the milling chamber | - |
| | Activate pump | Start pump for a few seconds in order to drain liquid from the milling chamber | - |
| | Shut down | Shut down PrograMill One | "Shutting the device down and switching it off", page 115 |
| | Settings | Perform app settings / app configuration | "Section [Settings]", page 79 |

### 6.6.1 Section [Blocks]

In the [Blocks] section, you can see and change the status of the max. 5 blocks inserted in the material and tool changer.

The 5 block holders and their occupation is shown:
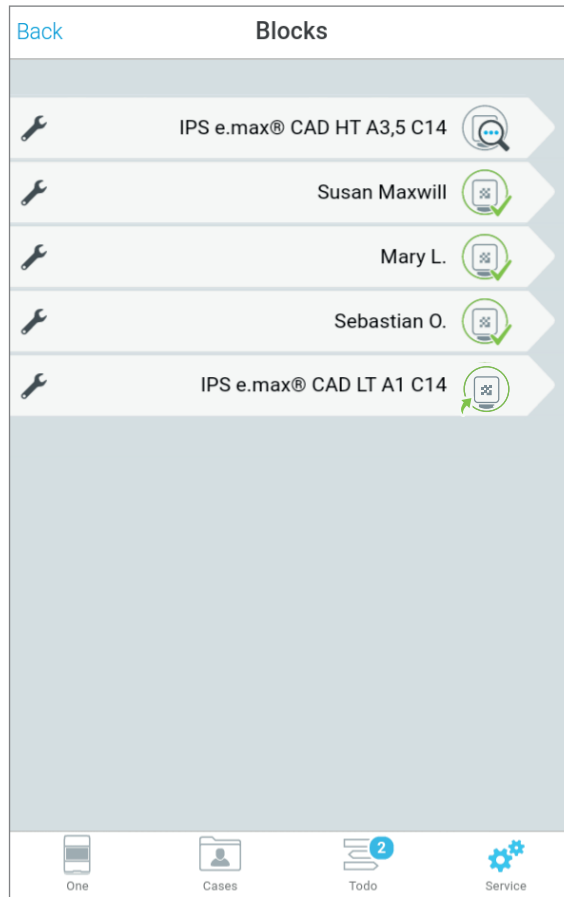


The following list of features corresponds to the state of knowledge at the time of going to print. With the introduction of new features, this list will be continuously updated.

| Element | Description | Reference |
|---|---|---|
| | No block inserted | "Inserting blocks", page 99 |
| | Block is inserted and marked for identification: The Data Matrix Code on the shaft will be read by the camera integrated into PrograMill One. | - |
| | Block is inserted and correctly identified. It is not required for any of the upcoming milling jobs and is therefore not assigned to a job. | "Removing blocks and restorations which are no longer required", page 104 |

| Element | Description | Reference |
|---|---|---|
| | Block is inserted and correctly identified. It is required for one of the upcoming milling jobs and is assigned to this job. | "Preparing milling jobs", page 89 |
| | Bock has not yet been identified. It is required for one of the upcoming milling jobs and is assigned to this job. | • "Device Messages and Troubleshooting", page 116<br>• "Manually registering a non-identified block", page 121 |
| | Block is currently in the milling chamber for identification. Identification is running. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108<br>• "Device Messages and Troubleshooting", page 116<br>• "Manually registering a non-identified block", page 121 |
| | Block is inserted and correctly identified. The corresponding milling job is ready for processing. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| | Block is currently in the milling chamber for identification. Identification of the block failed: The Data Matrix Code on the shaft could not be read (unauthorized or damaged block / unreadable code). In such a case, you can manually register the block using the app. | • "Device Messages and Troubleshooting", page 116<br>• "Manually registering a non-identified block", page 121 |
| | The block is again in the material and tool changer. Identification of the block failed: The Data Matrix Code on the shaft could not be read (unauthorized or damaged block / unreadable code). In such a case, you can manually register the blog using the app. | |
| | Milling job active: Block is being processed. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |

| Element | Description | Reference |
|---|---|---|
| | ESD pin B axis for One is in the material and tool changer. | "Inserting tools for calibration", page 45 |
| | ESD pin B axis for One is in the material and tool changer. Calibration is being conducted. | |
| | ESD pin tool holder for One is in the material and tool changer. | |
| | ESD pin tool holder for One is in the material and tool changer. Calibration is being conducted. | |
| | Job failed. Block is in the milling chamber. | "Troubleshooting / error table", page 117 |
| | Job failed. Block is again in the material and tool changer. | |
| | Job successful. Block is in the milling chamber. | - |
| | Job successful. Block is again in the material and tool changer. | - |

In order to register those blocks manually that could not be identified by the device, tap this symbol:

For more information, please refer to the following sections:

- "Troubleshooting / error table", page 117

- "Manually registering a non-identified block", page 121

## 6.6.2  Section [Tools]

In the [Tools] section, you can see and change the status of the tools inserted in the material and tool changer.
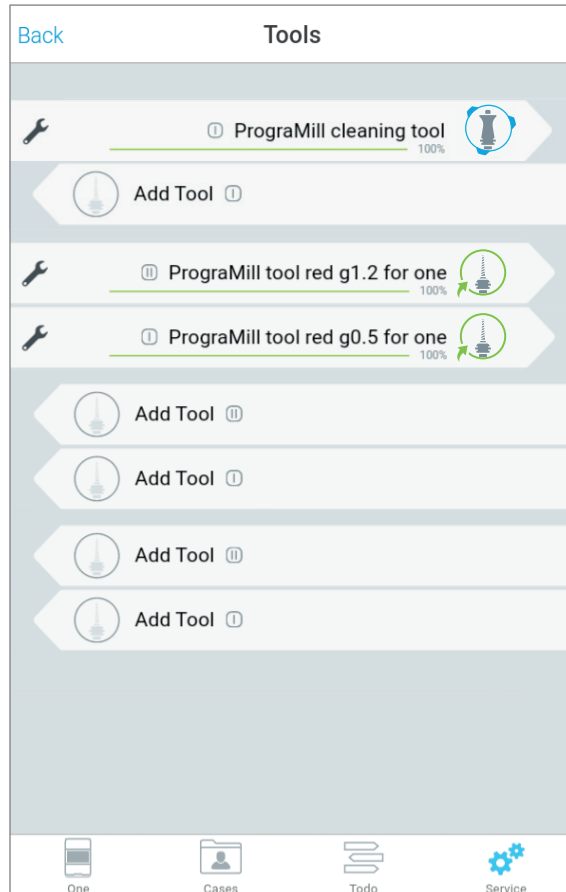


The following list of features corresponds to the state of knowledge at the time of going to print. With the introduction of new features, this list will be continuously updated.

| Element | Description | Reference |
|---|---|---|
|  | No tool inserted | "Inserting tools", page 89 |
|  | Tool is inserted and marked for identification: The Data Matrix Code on the shaft will be read by the camera integrated into PrograMill One. | - |
|  | Tool is inserted and correctly identified. It is not required for any of the upcoming milling jobs and is therefore not assigned to a job. | "Removing unnecessary, worn or defective tools", page 95 |
|  | Tool is inserted and correctly identified. It is required for one of the upcoming milling jobs and is assigned to this job. | "Preparing milling jobs", page 89 |

| Element | Description | Reference |
|---|---|---|
| | Tool has not yet been identified. It is required for one of the upcoming milling jobs and is assigned to this job. | • "Device Messages and Trouble-shooting", page 116<br>• "Manually registering a non-identified tool", page 123 |
| | Tool is inserted and correctly identified. The corresponding milling job is ready for processing. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| | Identification of the tool failed: The Data Matrix Code on the shaft could not be read (unauthorized or damaged tool / unreadable code). In such a case, you can manually register the tool using the app. | • "Device Messages and Trouble-shooting", page 116<br>• "Removing unnecessary, worn or defective tools", page 95<br>• "Manually registering a non-identified tool", page 123 |
| | Worn tool<br>Tool is in the spindle in the milling chamber. | "Removing unnecessary, worn or defective tools", page 95 |
| | Worn tool<br>The tool is again in the material and tool changer. | |
| | Job failed.<br>Tool is in the spindle in the milling chamber. | |
| | Job failed.<br>The tool is again in the material and tool changer. | |
| | Milling job is being processed, tool is being used. | • "Starting individual milling jobs (Single mode)", page 107<br>• "Starting several milling jobs (Multi mode)", page 108 |
| | ESD pin spindle for One is in the material and tool changer. | "Inserting tools for calibration", page 45 |
| | ESD pin spindle for One is in the material and tool changer. Calibration is conducted. | |
| | Cleaning tool is in the material and tool changer. | "Performing the automatic cleaning procedure", page 127 |
| | Cleaning tool is in the material and tool changer. Automatic cleaning is conducted. | |

The respective tool service life in % is shown below the inserted tools.

In order to register those tools manually that could not be identified by the device, tap this symbol:

For more information, please refer to the following sections:

- "Troubleshooting / error table", page 117
- "Manually registering a non-identified tool", page 123

## 6.6.3 Section [Settings]

🛑 If a function is inactive during a particular device status, it will be greyed out.

The update function will only be shown if a corresponding update for the device is available.

In the section [Settings] the following information is shown:
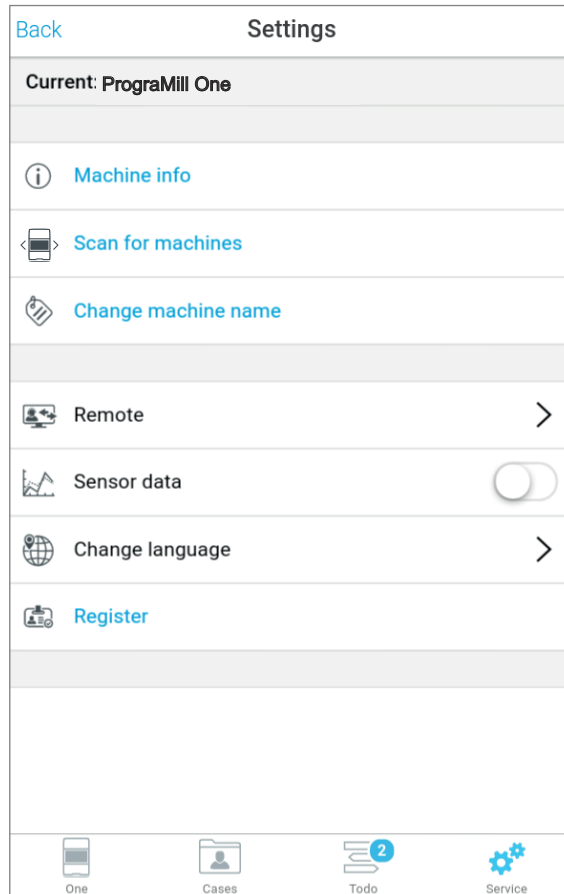


| Element | Menu | Description | Reference |
|---|---|---|---|
| | Download machine update | Download current software version onto the device | - |
| | Install machine update | Install current software version onto the device | - |
| | Machine info | Show information on the device (name, serial number) | - |

| Element | Menu | Description | Reference |
|---------|------|-------------|-----------|
| | Scan for machines | • When the app is initially started: Connect the tablet or other mobile device with a PrograMill One device in your local network<br><br>• During operation: Connect the tablet or other mobile device with another PrograMill One device / control another PrograMill One device with the app | "Connecting the tablet and PrograMill One", page 40 |
| | Rename machine | Customize the name of the machine | - |
| | Remote | Adjust settings for remote operation | - |
| | Sensor data | Define whether user data is transferred to the authorized service partner for service purposes and for product improvement | - |
| | Change language | Set the language for the app's operating panel | - |
| | Register | Proceed to the login section | - |

# 7 Editing Milling Jobs

PrograMill One receives the defined milling jobs from your Ivoclar Digital system solution.

To find out how to design restorations and transfer the milling jobs to PrograMill One, see the relevant Operating Instructions for your Ivoclar Digital system solution ("Supporting documents", page 9).

The following describes how to prepare and execute these milling jobs in the app for processing by PrograMill One.

## 7.1 Special procedure to process zirconium oxide

The functionalities to process zirconium oxide will be available in an upcoming software version.

The processing of "zirconium oxide" after having milled other material types requires a special procedure, which might differ slightly from the procedure described below.

Technical background: the milling dust of other materials has a negative effect on the shade of the zirconium oxide blocks.

The scope of delivery of the device includes two tanks:
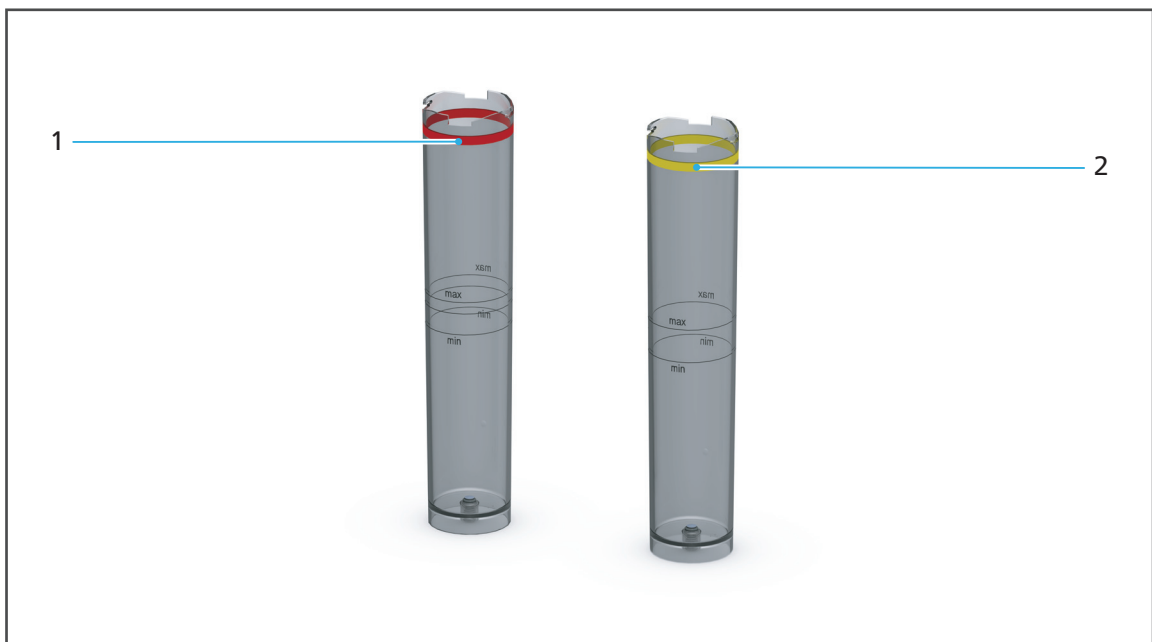
| No. | Designation | Type of material | Coolant fluid |
|-----|-------------|------------------|---------------|
| 1 | Main tank with red colour code | For all materials with the exception of zirconium oxide | Distilled water (according to VDE0510) and PrograMill Fluid for One |
| 2 | Additional tank with yellow colour code | Exclusively for zirconium oxide | Exclusively distilled water (according to VDE0510) |

**NOTICE! Processing of zirconium oxide after e.max without prior manual cleaning / tank change.**

Damage to the zirconium oxide blocks.

Faulty shade of zirconium oxide.

▶ When processing zirconium oxide after milling jobs of the material type "e.max", manual cleaning must be performed.

▶ Use the additional tank for zirconium oxide.

▶ Observe the stipulations about filling the tank.

▶ Do not use the main tank for zirconium oxide.

For reasons of safety, the Wizard in the app guides you step by step through the individual steps.

The tanks are identical with the exception of their colour-coding. Preparation, insertion and removal is done the same way. The filter change is also identical.

## 7.2 Changing/Refilling the water in the main tank and changing the filter

🛈 The following description applies to all material types with the exception of zirconium oxide. When processing zirconium oxide milling jobs, refer to the section "Special procedure to process zirconium oxide", page 81.

**NOTICE! Processing zirconium oxide after e.max without prior manual cleaning / tank change.**

Damage to the zirconium oxide block.

▶ Perform manual cleaning when processing zirconium oxide after milling jobs of the material type "e.max".

▶ Use the additional tank for zirconium oxide.

▶ Observe the notes on filling.

▶ Main tank is not suitable for zirconium oxide.

The following description applies both to the initial start-up and to the subsequent cleaning and maintenance of the tank and filter during operation.

It is not necessary to remove the filter on the initial start-up.

The tank is equipped with a double bayonet closure:

• Half turn of the tank lid:

 When opening the tank, the filter remains attached to the tank lid and can be removed together with the lid. A half turn is suitable for water change.

• More than half turn of the tank lid:

 When opening the tank, the filter remains attached to the tank. More than a half turn is suitable for filter change.

If the device is switched off, or if the device has detected a low water level and further processing of milling jobs has stopped automatically, the tank will be automatically unlocked.

The device can only be operated with a full tank and a filter. Otherwise an error message is given by the device.

🛈 The filter on your device may look slightly different from the filters illustrated in this manual.

---

**NOTICE!  Clean the filter, release the coolant fluid into the water circulation.**

Damage to the device.

Danger to the environment.

▶   Do not rinse the filter, but instead, change and dispose of as described in this chapter.

▶   Dispose of the tank contents according to the specifications (see safety data sheet of the coolant concentrate PrograMill Fluid for One, "Supporting documents", page 9).

---

**NOTICE!  Operation of the unit without the addition of the coolant fluid.**

Increased wear.

Reduced service life of the device and filter.

▶   Use distilled water (according to VDE0510).

▶   Always add the coolant concentrate PrograMill Fluid for One to the water.

---

**NOTICE!  Falling or tipping of the tank.**

Damage to the tank.

▶   Carefully remove the tank, fill and reinsert.

▶   Ensure that the tank can not fall or tip.

---

### 7.2.1   Preparing the coolant fluid / filter change

▶   Press in the indentation (1).

For easier removal, the tank is pushed out a little.
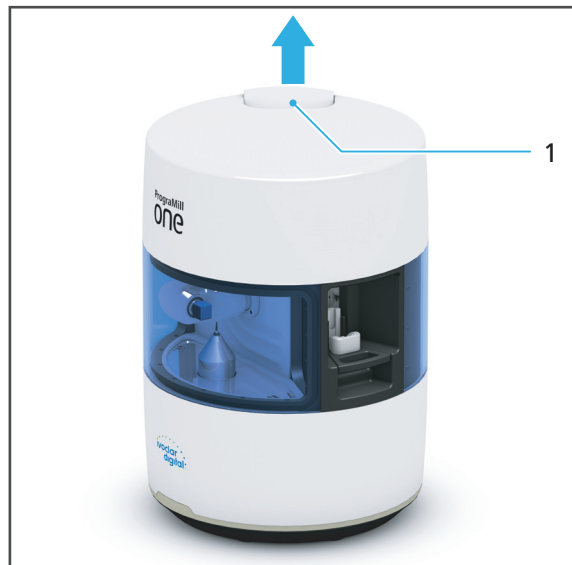


⮕   You can now change / refill the water of the tank ("Changing / Refilling the water of the tank", page 85).

⮕   Or: You can now change the filter ("Finalizing coolant fluid / filter change", page 88).

## 7.2.2 Changing / Refilling the water of the tank

If you want to change or refill the water only, proceed as follows:

1. Completely remove the tank from the device (1).

2. Turn the tank lid half-turn in the direction of the arrow (2) until it is released from the tank.

3. Remove the tank lid from the tank.
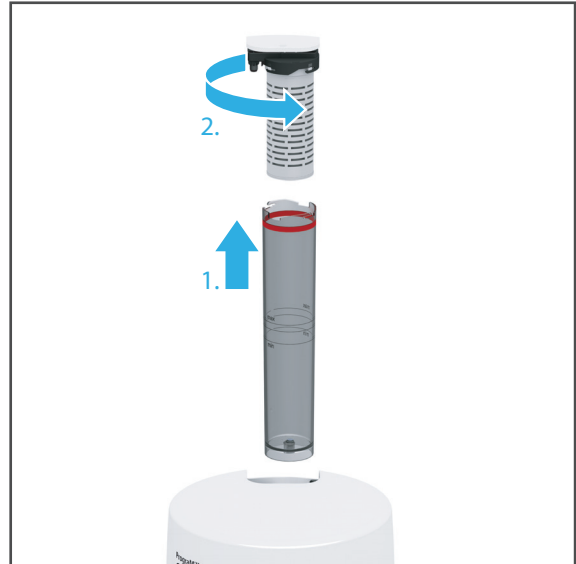


4. Dispose of the filter contents according to the instruction (see safety data sheet Coolant Concentrate PrograMill Fluid for One, "Supporting documents", page 9).

5. Dispose of the tank contents according to the instruction (see safety data sheet Coolant Concentrate PrograMill Fluid for One, "Supporting documents", page 9).

6. Fill the tank with water up to the middle of the marking (between "min." and "max.") with distilled water (according to VDE0510).

7. Fill the tank up to the fill level "max." with PrograMill Fluid for One coolant concentrate.

8. Screw the tank lid onto the tank in the direction of the arrow  (1).
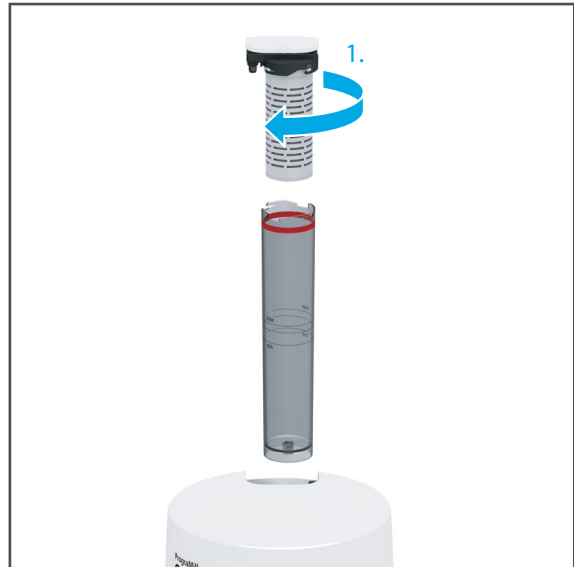


9. Finalize the coolant fluid / filter change ("Finalizing coolant fluid / filter change", page 88).

### 7.2.3 Changing the filter

If you want to change the filter, proceed as follows:

1. Completely remove the tank from the device (1).

2. Turn the tank lid in the direction of the arrow (2) until it is released from the tank and the filter.

3. Remove the tank lid from the tank.
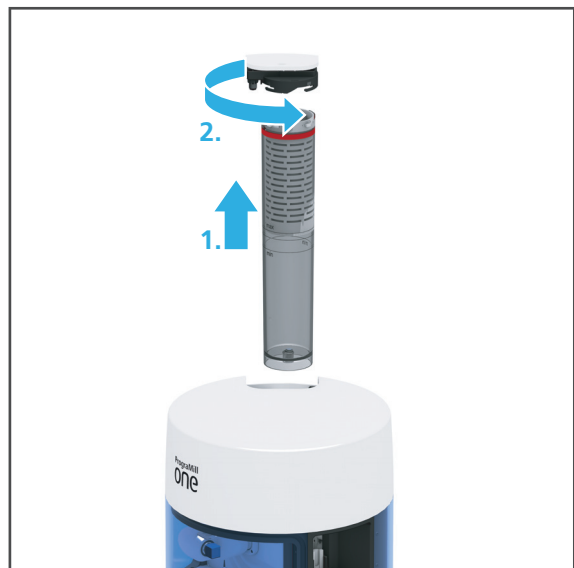
4.  Turn the filter in the direction of the arrow (1) and remove it from the tank (2).

5.  Dispose of the used filter according to country-specific regulations.
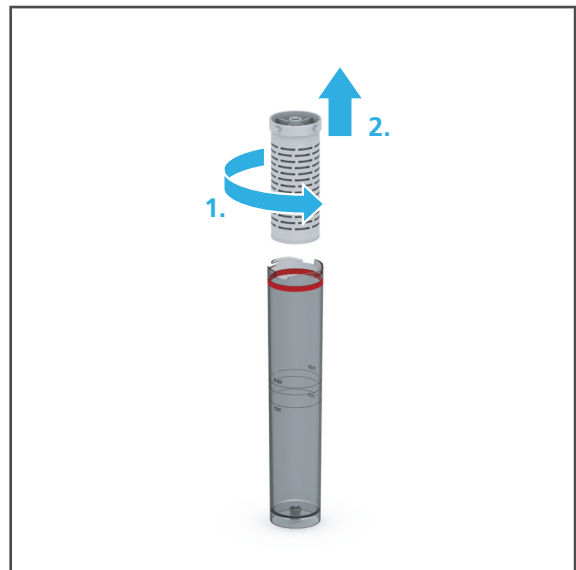


6.  Dispose of the filter contents according to the instructions (see safety data sheet Coolant Concentrate PrograMill Fluid for One, "Supporting documents", page 9).

7.  Place the new filter into the tank (1) and turn in the direction of the arrow (2).
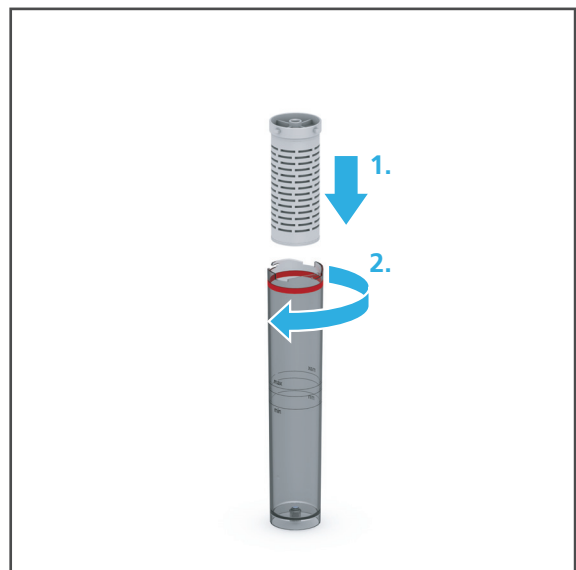
8.  Screw the tank lid back onto the tank in the direction of the arrow (1).



9.  Finalize coolant fluid / filter change ("Finalizing coolant fluid / filter change", page 88).

### 7.2.4 Finalizing coolant fluid / filter change

▶ Place the tank as shown with the indentation (1) pointing towards the centre of the device and press in the direction of the arrow until the tank clicks into place.
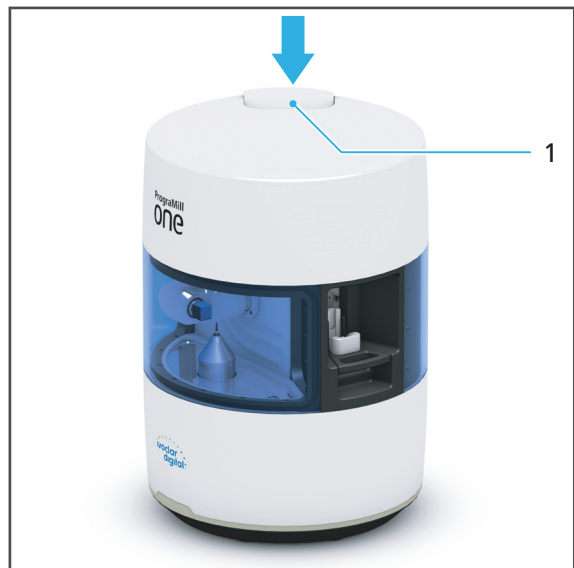
## 7.3   Preparing milling jobs

☑   The tablet and PrograMill One are switched on ("Switching on PrograMill One (for the first time)", page 39).

☑   The tablet and PrograMill One are logged in to the same network.

☑   Milling jobs have been defined in the Ivoclar Digital system solution and transferred to PrograMill One.

You can either use PrograMill One with the Wizard in the main menu [ToDo] to prepare the device for processing milling jobs, or insert the tools and blocks independently in the main menu [Service].

The options will be described below.

### 7.3.1  Inserting tools

Observe the list of tools required for the different material types in section "Approved tools for glass-ceramic / composite blocks", page 139.

You can either insert tools with the help of the Wizard in the main menu [ToDo] or, as an advanced user, insert tools independently into the material and tool changer via the main menu [Service].

In the menu [ToDo] only the tools which are required for the milling jobs will be displayed. In the menu [Service - Tools] you have access to all tool holders.

The options will be described below.

The illustrations of the tool holders in these Operating Instructions may differ slightly from the actual tool holders.

**Operating the material and tool changer via the main menu [ToDo]**

☑ You are in the main menu [ToDo].

☑ The material and tool changer is not active.

▶ In the [Tools] section, in the list of required tools, tap the tool of your choice.



➠ The material and tool changer will be brought into position and the tool holder will be provided at the loading aid.

➠ You can now insert the tool ("Inserting the tools into the device using the loading aid", page 92).

➠ The app shows a Wizard which will guide you step by step through the insertion process.

**Operating the material and tool changer via the main menu [Service]**

☑  You are in the main menu [Service].

☑  The material and tool changer is not active.

1.  Select the sub-menu [Tools]

2.  In the list of tools, tap on the position of your choice.



➡  The material and tool changer will be brought into position and the tool holder will be provided at the loading aid.

➡  You can now insert the tool ("Inserting the tools into the device using the loading aid", page 92).

➡  The app shows a Wizard which will guide you step by step through the insertion process.

### Inserting the tools into the device using the loading aid

For easy handling, the tools are inserted into the loading aid in specially designed tool holders with a marked insertion direction, and then transferred to the material and tool changer.

The position of the tools in the tool holder is specified by the Wizard displayed on the app.

⚠ **CAUTION! Sharp edges on the tool holder.**

Risk of cutting injury.

▶ Only grasp the tool holder on the closed sides (front and back sides).

⚠ **CAUTION! Sharp edged tools!**

Cutting injuries by sharp cutting edges!

▶ When handling the tools, be careful not to injure yourself or others.

▶ Only grasp the milling tools on the shaft, not on the cutting edge.

🛈 For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

1. If the tool holder is installed: Remove the tool holder from the loading aid in the direction of the arrow.

**NOTICE! Tools are the wrong way around or have been inserted with the wrong ring.**

Damage to the device.

Damaged tools.

▶ Insert the tools into the tool holder according to the instructions.

▶ Do not insert with force.

---

🛈 If the tool wobbles in the slot, this is an indication that the tool has been inserted incorrectly. Check the installation of the tool.

---

2. Insert the tool as shown with the cutting edge pointing downwards into the tool holder so that the upper ring on the tool shaft locks into the tool holder.

   The tool clicks securely into place in the tool holder.



---
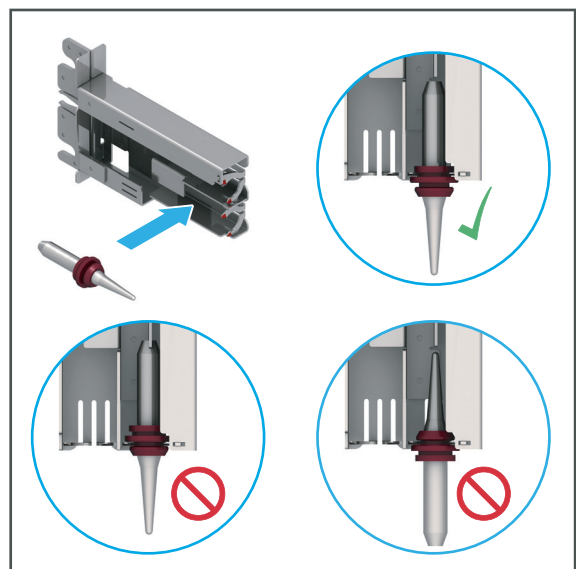
🛈 On the tool holder there is an arrow to show the correct direction of insertion for the tool holder in the loading aid.

---

3. Insert the tool holder with tool in position into the loading aid according to the specified insertion direction (1).

4. Place the tool holder into the loading aid (2).

5. Press the lever on the loading aid upwards until a resistance is felt. Push gently until the tool holder clicks into place.

   The tool holder with the inserted tool is transferred to the material and tool changer.
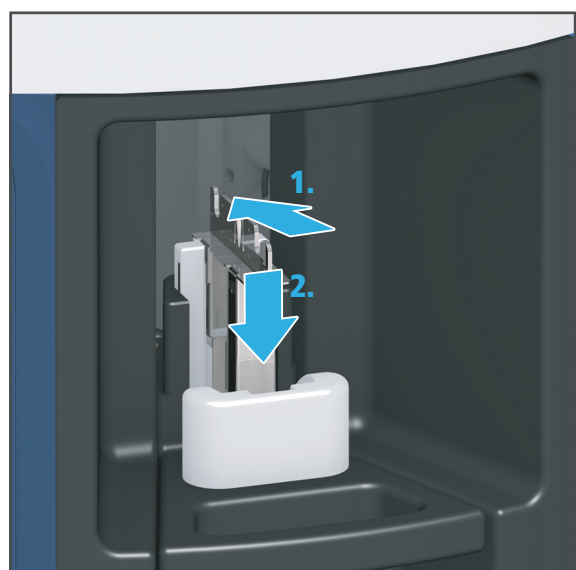
**6.** Start manual identification of the tool in the menu [ToDo] (e.g. faster start of milling job possible in the Single mode).

– or –

Have the tool automatically identified by the machine (e.g. if several tools are inserted in the Multi mode).

➡ The tool is identified / scanned, indicated by the symbol in the app (for symbol description see "Status displays in the section [Tools]", page 70).

➡ If the tool has been successfully identified or an error occurred, the symbol changes accordingly.

In case of an unsuccessful identification, you can manually register the tool in the app.

In the event of a failed identification, additional information on troubleshooting can be found in section:

- "Troubleshooting / error table", page 117
- "Manually registering a non-identified tool", page 123

### 7.3.2 Removing unnecessary, worn or defective tools

The service life of a tool is dependent on the block material. Information on service life can be found in the app.

You can either remove tools with help of the Wizard in the main menu [ToDo] or, as an advanced user, remove them independently from the material and tool changer via the main menu [Service].

In the menu [ToDo] only the tools which are required for the milling jobs will be displayed. In the menu [Service - Tools] you have access to all tool holders.

The options will be described below.

**Operating the material and tool changer via the main menu [ToDo]**

☑ You are in the main menu [ToDo].

☑ The material and tool changer is not active.

▶ In the [Tools] section, in the list of required tools, tap the tool of your choice.



➡ The material and tool changer will be brought into position and the tool holder will be provided at the loading aid.

➡ You can now remove the tool ("Removing tools from the device via the loading aid", page 97).

➡ The app shows a Wizard which will guide you step by step through the removal process.

**Operating the material and tool changer via the main menu [Service]**

☑ You are in the main menu [Service].

☑ The material and tool changer is not active.

1. Select the sub-menu [Tools].

2. In the list of tools, tap the position of your choice.
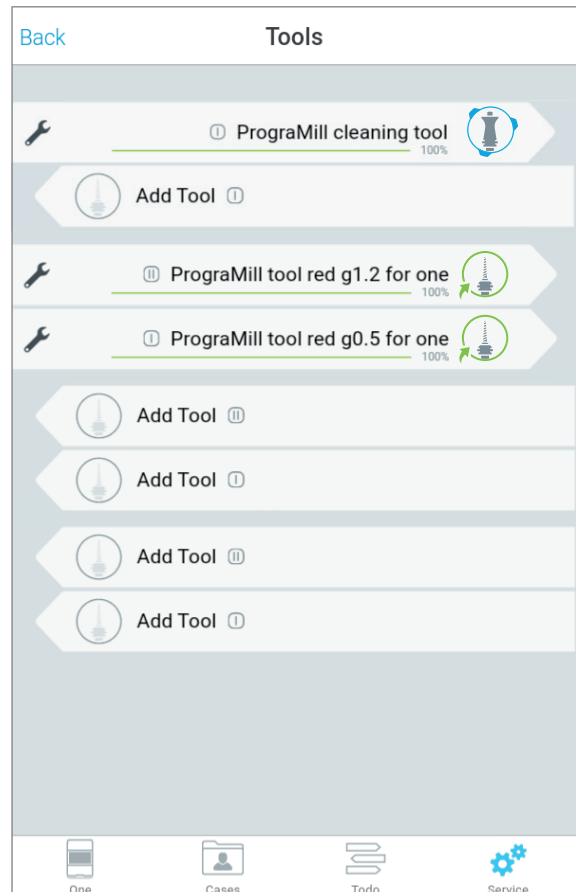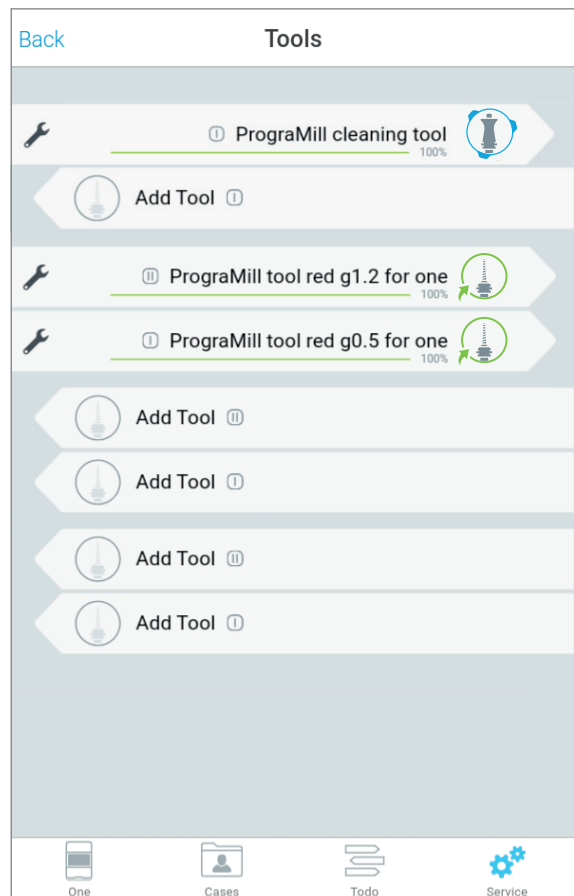


➡ The material and tool changer will be brought into position and the tool holder with the tool in place will be provided at the loading aid.

➡ You can now remove the tool ("Removing tools from the device via the loading aid", page 97).

➡ The app shows a Wizard which will guide you step by step through the removal process.

**Removing tools from the device via the loading aid**

⚠ **CAUTION! Sharp edges on the tool holder.**

Risk of cutting injury
▶ Only grasp the tool holder on the closed sides (front and back sides).

⚠ **CAUTION! Sharp edged tools!**

Cutting injuries by sharp cutting edges!
▶ When handling the tools, be careful not to injure yourself or others.
▶ Only grasp the milling tools on the shaft, not on the cutting edge.

🛈 For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

**1.** Remove the tool holder with the tool from the loading aid in the direction of the arrow.

2. Remove the tool from the tool holder.
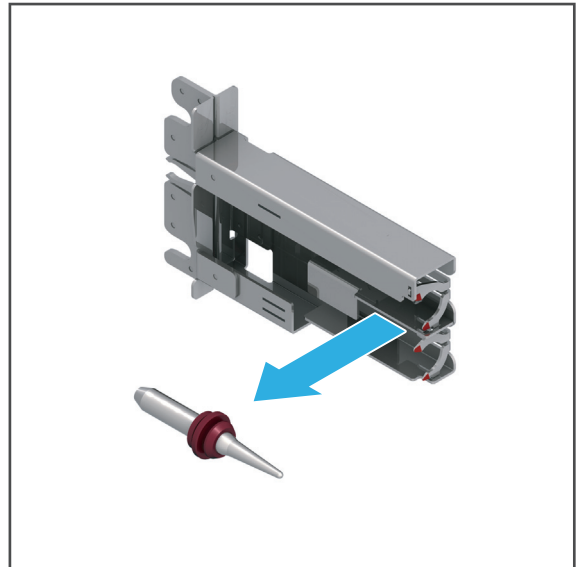


3. Dispose of worn tools.

   – or –

   Tools which will be reused must be kept in the correct position for safe identification and protected against damage.

4. Insert new tool in tool holder or place the empty tool holder into the device ("Inserting tools", page 89).

## 7.3.3  Inserting blocks

You can either place blocks with help of the Wizard in the main menu [ToDo] or, as an advanced user, remove them independently from the material and tool changer via the main menu [Service - Blocks].

In the menu [ToDo] only the blocks which are required for the milling jobs will be displayed. In the menu [Service - Blocks] you have access to all block holders.

The options will be described below.

### Operating the material and tool changer via the main menu [ToDo]

☑  You are in the main menu [ToDo].

☑  The material and tool changer is not active.

▶  In the [Blocks] section, in the list of required blocks, tap the block of your choice.



➡  The material and tool changer will be brought into position and the block holder will be provided at the loading aid.

➡  You can insert the block ("Inserting the block into the device using the loading aid", page 101).

➡  The app shows a Wizard which will guide you step by step through the insertion process.

**Operating the material and tool changer via the main menu [Service]**

☑ You are in the main menu [Service].

☑ The material and tool changer is not active.

1. Select the sub-menu [Blocks]

2. In the list of blocks, tap on the position of your choice.



➡ The material and tool changer will be brought into position and the block holder will be provided at the loading aid.

➡ You can insert the block ("Inserting the block into the device using the loading aid", page 101).

➡ The app shows a Wizard which will guide you step by step through the insertion process.

**Inserting the block into the device using the loading aid**

For easy handling, the blocks are inserted into the loading aid in specially designed block holder(s) with a marked insertion direction, and then transferred to the material and tool changer.

⚠ **CAUTION! Sharp edges on the block holder.**

Cutting injuries.

▶  Only grasp the block holders on the sides marked with arrows.

❗ For safety reasons, the Wizard asks you to additionally confirm the following steps in the app.

**1.** If the block holder is installed: Remove the block holder from the loading aid in the direction of the arrow.

🛈 The hexagon on the block shaft can only be correctly inserted in the block holder in one direction (installation safety).

The correct alignment of the block in the block holder is shown on the block holder (alignment by means of the illustration and the Data Matrix Code on the shaft of the block). Make sure that the shaft phases are aligned in the way shown in the picture.

If the block cannot be inserted easily, the installation direction may be incorrect. Rotate the block (as illustrated with the metal shaft down) until it fits easily into the block holder.

⚠ **CAUTION! Block inserted the wrong way around**

Damage to the device.

Damaged block.

▶ Insert the block into the block holder according to the instructions.

▶ Do not insert with force.

2. Insert the block as shown (1) with the shaft pointing downwards into the block holder so that it clicks into place in the block holder.

🛈 Make that the shaft (3) is correctly aligned.

On the block holder there is an arrow (2) to show the correct direction of insertion for the block holder in the loading aid.
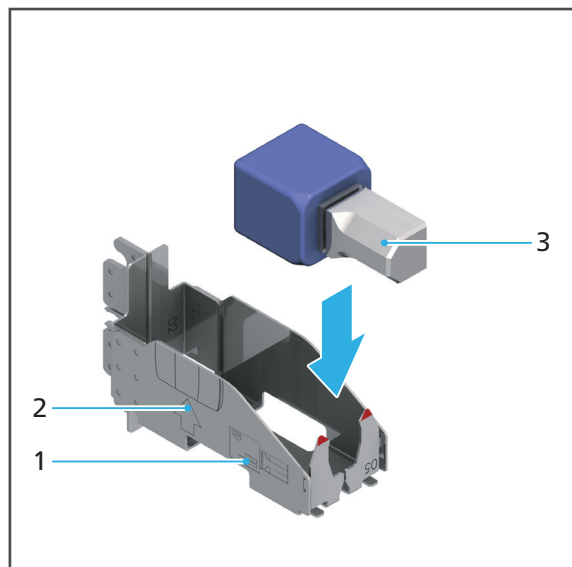
3. Insert the block holder with the block in position into the loading aid according to the specified insertion direction (1).

4. Place the block holder into the loading aid (2).

5. Press the lever on the loading aid upwards until a resistance is felt. Push gently until the block holder clicks into place.

   The block holder with the inserted block is transferred to the material and tool changer.

6. Start manual identification of the block in the menu [DoTo] (e.g. for faster start of the milling job in the Single mode).

   – or –

   Have the device automatically register the block (e.g. when inserting numerous block in the Multi mode).

➡ The block is identified / scanned, indicated by the symbol in the app (for symbol description see "Status displays in the section [Blocks]", page 70).

➡ If the block has been successfully identified, the symbol changes accordingly.

In case of an unsuccessful identification, you can manually register the block in the app.

In the event of a failed identification, additional information on troubleshooting can be found in section:

- "Troubleshooting / error table", page 117
- "Manually registering a non-identified block", page 121

### 7.3.4 Removing blocks and restorations which are no longer required

❶ You can remove the blocks and any defective restorations from the material and tool changer using the Wizard in the main menu [ToDo] or in the main menu [Service].

In the menu [ToDo] only the blocks which are required for the milling jobs will be displayed. In the menu [Service - Blocks] you have access to all block holders.

Both options will be explained below using an unused or defective block.

**Operating the material and tool changer via the main menu [ToDo]**

☑ You are in the main menu [ToDo].

☑ The material and tool changer is not active.

▶ In the [Blocks] section, in the list of required tools, tap on your choice.



➡ The material and tool changer will be brought into position and the block holder containing the block will be provided at the loading aid.

➡ You can remove the block ("Removing the block from the device via the loading aid", page 106).

➡ The app shows a Wizard which will guide you step by step through the removal process.

**Operating the material and tool changer via the main menu [Service]**

☑ You are in the main menu [Service].

☑ The material and tool changer is not active.

1. Select the sub-menu [Blocks]

2. In the list of blocks, tap on the position of your choice.



➡ The material and tool changer will be brought into position and the block holder containing the block will be provided at the loading aid.

➡ You can remove the block ("Removing the block from the device via the loading aid", page 106).

➡ The app shows a Wizard which will guide you step by step through the removal process.

**Removing the block from the device via the loading aid**

1. Remove the block holder with the block from the loading aid in the direction of the arrow.



2. Removing the block from the block holder.

3. Dispose of the defective block according to the specifications in the instructions.

   – or –

   Blocks which will be reused at a later stage must be kept in the correct position for safe identification and protected against damage.

4. Insert the new block in the block holder or place the empty block holder into the device ("Inserting blocks", page 99).
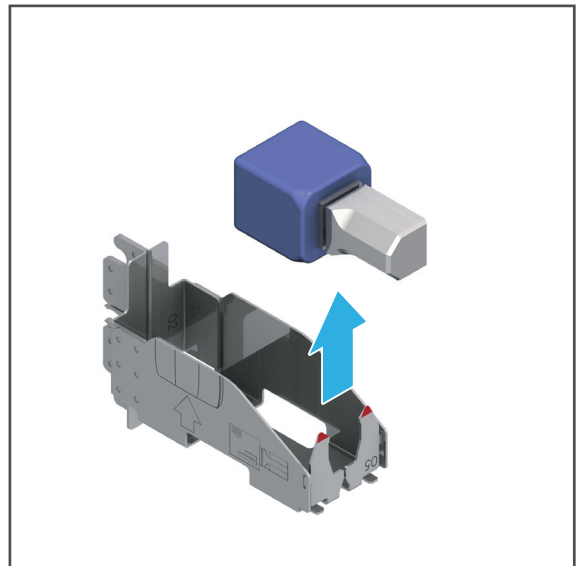
## 7.4    Starting individual milling jobs (Single mode)

In the main menu [Cases], tab [New], all milling jobs transmitted from the Ivoclar Digital system solution to PrograMill One, which are waiting for processing, are displayed ("Tab [New]", page 57).

In the Single mode, individual milling jobs will be performed.

You can either insert the required block and the tool right now in advance or perform all device- and milling job-related tasks after the start of the milling job with the help of the Wizard.

☑    The cleaning status of the unit is OK ("Cleaning and Maintenance Work for the User", page 125).

☑    You are in the main menu [Cases] in the tab [New].

1.    In order to start the milling jobs, tap on the symbol in the status display:

⊙

The milling job is selected and marked with

①.

❗ You can start the milling job in both tabs: [New] or [Selected].

2.    In order to start the milling job, tap on the tab [Selected].

The milling duration is displayed.

3.    Tap the icon in the status bar:

▶

In case other device- or milling job-related tasks are pending, the Wizard will guide your through the respective tasks.

As soon as all tasks are performed, the milling job will start.

➡ The milling progress of the job is displayed.

| 00:02 ▬——————————————————— 00:20 |
|---|
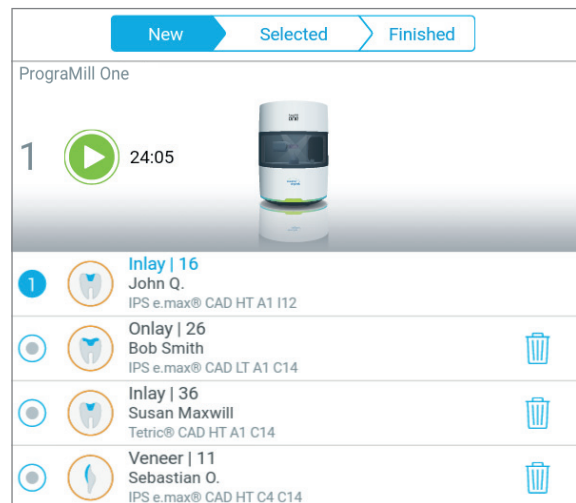
➡ The remaining processing time of the milling job is shown in the status display:



## 7.5 Starting several milling jobs (Multi mode)

In the main menu [Cases], in the tab [New], all milling jobs transferred from the Ivoclar Digital system solution to the PrograMill One device, which are ready for processing, are shown ("Tab [New]", page 57).

You can transfer as many milling jobs as required to PrograMill One for later processing.

PrograMill One can process a maximum of 5 milling jobs in one milling sequence in the Multi mode (5 blocks can be placed in the material and tool changer).

This sequence can be defined as required by the user. After successful processing of the 5 defined milling jobs, the next 5 can be prioritized and prepared.

☑ You are in the main menu [Cases].

☑ At least two milling jobs are displayed.

1. Tap on the tab [New].
   The transferred jobs will be shown.

2. In order to define the new milling job sequence, tap on ⊙ next to every milling job in the desired order.
   Next to the selected milling job, depending on its position in the milling sequence, the following is displayed:

   ①, ②, ③, ④ or ⑤
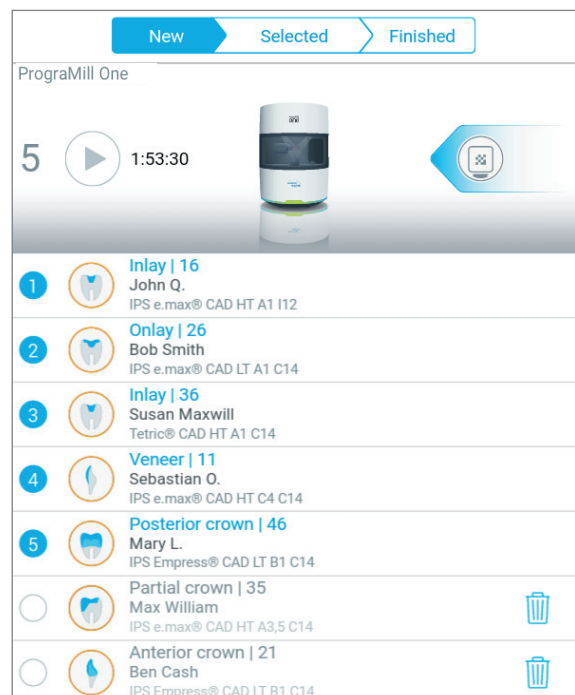
❗ In order to delete a job from the selection, click on the symbol at the respective position next to the milling job:

① - ⑤

All milling jobs that succeed the deleted job will move one position up in the list.

3. Tap the tab [Selected].

   The milling duration of each individual milling job is displayed next to the job.

   The total milling time is shown in the status display.

   In case other device- or milling job-related tasks are pending, the first task will be shown in the status bar on the right side and the number of all pending tasks will be shown in the menu bar of the main menu [ToDo].

   | | New | Selected | Finished |
   |---|---|---|---|
   
   PrograMill One

   4 ▶ 1:31:10

   | | | | |
   |---|---|---|---|
   | 1 | | Inlay \| 16<br>John Q.<br>IPS e.max® CAD HT A1 I12 | 24:05 |
   | 2 | | Inlay \| 36<br>Susan Maxwill<br>Tetric® CAD HT A1 C14 | 24:05 |
   | 3 | | Posterior crown \| 46<br>Mary L.<br>IPS Empress® CAD LT B1 C14 | 24:00 |
   | 4 | | Veneer \| 11<br>Sebastian O.<br>IPS e.max® CAD HT C4 C14 | 19:00 |
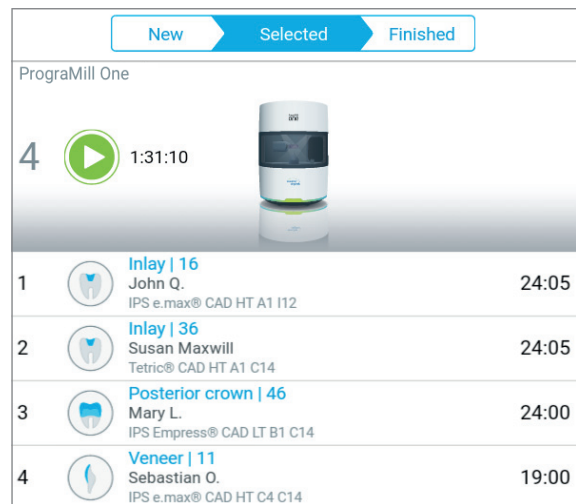
4. Click the first task in the status bar and perform all task one by one with the help of the Wizard.

   – or –

   Perform the tasks in the main menu [ToDo].

5. As soon as all tasks are performed, tap the following symbol in the status bar:

   ▶

➡ The milling jobs will be processed in the defined order.

➡ The milling progress of the job is displayed.

   00:02 ▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬ 00:20

➡ The remaining processing time of all milling jobs is shown in the status display:

   PrograMill One

   4 ⏹ 1:31:10 ✋

### 7.5.1 Pausing the processing of milling jobs after the current milling job and then continuing again

☑ One milling job is processed.

☑ At least one more milling jobs are in the processing queue.

☑ You are in the main menu [Cases] in the tab [Selected].

1. In order to pause the milling jobs (example: milling jobs 2 and 3) after the currently running milling job, tap on the symbol in the status display:

   The current milling job is processed until it is complete.

   Once the current milling job has finished, PrograMill One stops.

2. In order to continue processing (milling jobs 2 and 3), tap the symbol in the status display:



➡ The next milling job in the list will be processed.
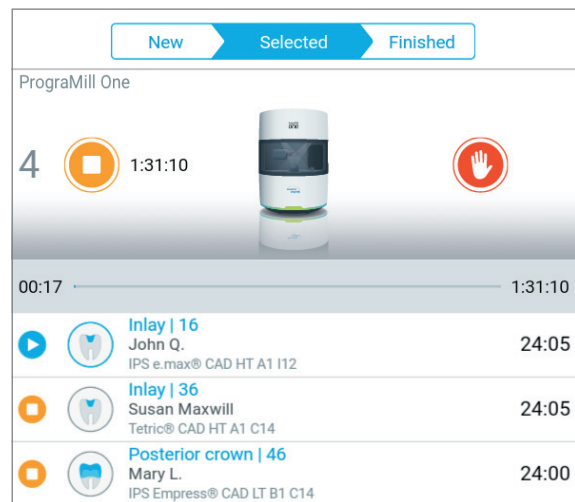
## 7.6    Performing an emergency stop

Use the emergency stop only in the most extreme case, e.g. in order to prevent possible damage to the spindle, processing and changer arm or tools, including overheating of the device.

After an emergency stop, the running milling job can be restarted.

**CAUTION! Stopping a running milling job.**

The milling machine stops in an uncontrolled manner.

Processing and changer arm is in the wrong position.

Danger of collision in the milling chamber and therefore damage to the device at the start of a new milling job or the resumption of a milling job.

Damage to the device.

Damage to blocks or tools.

▶   Only use the emergency stop in extreme emergencies

☑   A milling job is processed.

☑   You are in the main menu [Cases] in the tab [Selected].

▶   To activate an emergency stop, tap on the symbol in the status display:
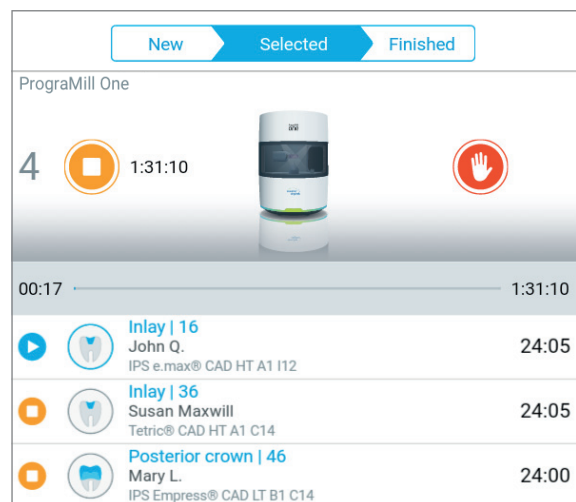


➡   The running milling job will be aborted.

➡   Once the device has been restarted, the milling job will continue to be processed.

## 7.7 Completing / unloading the finished milling job

### 7.7.1 Completing the milling job and removing the finished restoration

**Completing the milling job**

☑ All milling jobs have been completed.

☑ You are in the main menu [Cases] in the tab [Finished].

▶ In the list of finished jobs, tap on the job of your choice.
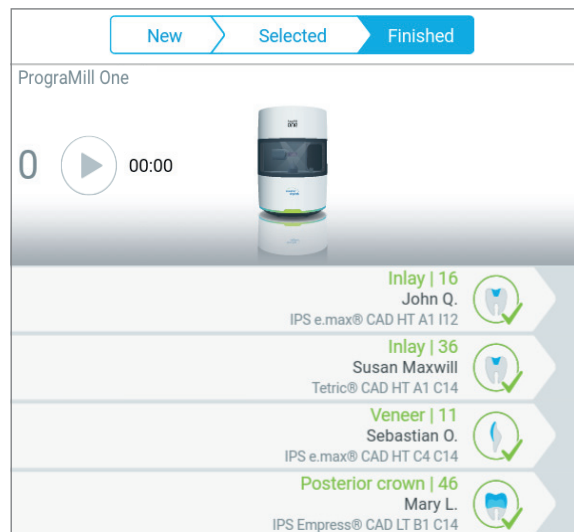


➡ The milling job is completed.

➡ The material and tool changer will be brought into position and the block holder containing the milled restoration will be provided at the loading aid.

➡ You can remove the restoration ("Removing the finished restoration at the loading aid", page 113).

➡ The app shows a Wizard which will guide you step by step through the removal process.

**Removing the finished restoration at the loading aid**

1. Remove the block holder with the block from the loading aid in the direction of the arrow.



⚠ **CAUTION! Sharp edges on the restoration.**

Cutting injuries.

▶ Only grasp the restoration at the metal shaft.

2. Remove the restoration from the block holder.

3. Insert a new block in the block holder or place the empty block holder into the device ("Inserting blocks", page 99).

4. Clean the restoration ("Cleaning the restoration", page 114).
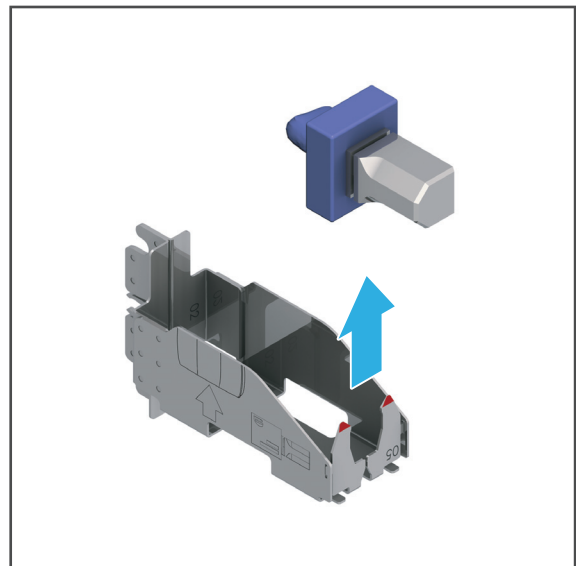
### 7.7.2 Cleaning the restoration

> ⚠ **WARNING! Insufficient cleaning of the restoration before insertion.**
>
> The restoration fails in the patient's mouth. Risk of aspiration or swallowing.
>
> Coolant fluid residues on the restoration. Nausea or allergy. Damage to the restoration during further processing.
> ▶ Clean the restoration before further processing.

▶ Clean the restoration according to the specifications in the instructions of the respective material.

## 7.8 Deleting a not required milling job

The tab [New] in the [Cases] menu offers the option to delete not yet processed milling jobs from the list.

☑ You are in the main menu [Cases] in the tab [New].

☑ At least one milling job is shown.

▶ Tap on the symbol for deletion next to the milling job:

🗑
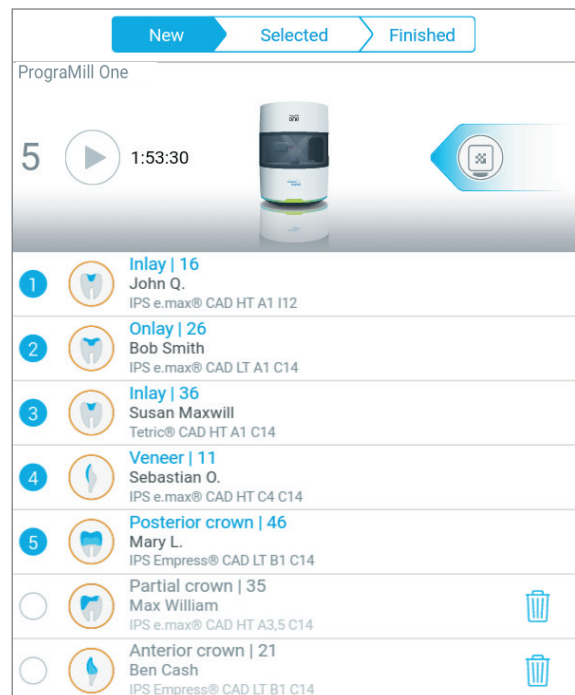


➥ The milling job is removed from the list.

## 7.9 Shutting the device down and switching it off

**NOTICE! Switching the device off during a running milling job.**

The milling machine stops in an uncontrolled manner.

The processing and changer arm is in the wrong position.

Danger of collision in the milling chamber at the start of a new milling job or the resumption of a milling job.

Damage to the device.

Damage to the blocks or tools.

▶ Do not pull the power supply plug during active processing.

▶ Do not switch off the device during operation with the on/off switch.

▶ Wait until the active milling processes have finished.

☑ All active milling jobs have been successfully completed.

☑ Sealing air has run for 20 minutes.

1. In the menu, select [Service - Shut down].

   During the shut-down, the OSD ring blinks white, from the milling chamber towards the On / Off switch.

2. Turn the On / Off switch at the back of PrograMill One from **I** to **0**.
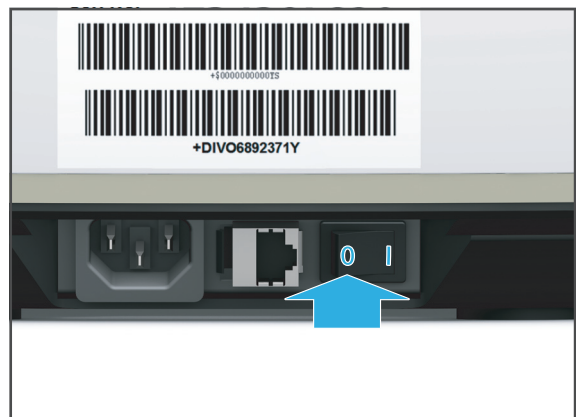


➡ The device is switched off.

➡ During the system shut-down, the OSD ring will blink.

➡ Once the system is shut down, the OSD ring will go out.

# 8 Device Messages and Troubleshooting

The device informs you via the OSD ring and the displays in the [PrograMill One] app about the state of your device, pending tasks and potential problems.

In the event of an error, first check the displays in the app.

If you cannot solve problems with the help of the information in the app and the following sections, please contact an authorized service partner.

## 8.1 OSD ring status

| OSD ring | Colour | Meaning |
|---|---|---|
|  | Red blinking light | Warning for the user, possibly user intervention required, possibly output error code.<br>Contact your authorized service partner. |
|  | Orange blinking light, white | Display of maintenance tasks in the area of the loading aid.<br>Pending tasks for the operator. |
|  | Blue, white sequential light | Automatic cleaning is being conducted |
|  | Blue, green sequential light with coloured edge | Device is active (e.g. milling job is processed) |
|  | Blue, green sequential light without coloured edge | Device is ready for operation |
|  | Rainbow colours | • Newly inserted blocks / tools are being identified<br>• Device calibration is running |
|  | White blinking light in the direction of the status indicator | Device is starting up |
|  | White blinking light in the direction of the network switch | Device is shutting down |

## 8.2    Messages in the app

PrograMill One informs you about the mode it is in (e.g. maintenance mode, transport mode) as well as about any errors and warnings. They are displayed as messages in tablet.

Follow the instructions in the app which will guide you through the respective tasks to be carried out step by step.

In addition to the displayed messages, observe the status of the OSD ring ("OSD ring status", page 116).

## 8.3    Troubleshooting / error table

| Error | Possible reason(s) | Solution |
|---|---|---|
| Machine won't start | Power supply is not connected or has been interrupted.<br>Power failure. | • Check power supply and restore if necessary.<br>• Switch machine on (again).<br>• If the problem continues: Contact your authorized service partner. |
| App does not recognize the device. Switched on machine does not respond to input via tablet. | No network connection | • Check network connection and restore if necessary.<br>• If the problem continues: Please contact the in-house technician. |
| | Necessary updates have not been downloaded. | • Download an update from the respective store (iTunes, Play Store etc.) onto your mobile device.<br>• If the problem continues: Contact your authorized service partner. |
| The machine does not continue to work. OSD ring does not light up any more. | Power supply has been interrupted.<br>Power failure. | • Check power supply and restore if necessary.<br>• Switch the machine off and then on again. Follow the instructions in the operating panel.<br>• If the problem continues: Contact your authorized service partner. |
| | Fault in the machine | • Contact your authorized service partner. |

| Error | Possible reason(s) | Solution |
|---|---|---|
| Device does not shut down | Milling jobs currently being processed haven't been finished | • Wait until processing has finished.<br>• Try to repeat shut-down. |
| | No network connection | • Check network connection and restore if necessary.<br>• If the problem continues: Please contact the in-house technician. |
| | Fault in the machine | • Contact your authorized service partner. |
| Water loss | Tank defect | • Place the machine out of order and unplug from the power supply.<br>• Contact your authorized service partner. |
| No milling jobs are shown in the job list. | No milling jobs transmitted by the CAM software (depending on the system architecture) | • Transfer milling jobs to the milling machine (again). |
| | No network connection | • Check network connection and restore if necessary.<br>• Transfer milling jobs to the milling machine (again).<br>• If the problem continues: Please contact the in-house technician. |
| Milling jobs will not start. | Tasks haven't been finished: | |
| | None or incorrect tools / blocks have been inserted for the milling job. | • Insert a suitable tool / block ("Inserting tools", page 89 and "Inserting blocks", page 99). |
| | The tank is empty, filter is full, no PrograMill Fluid for One coolant concentrate was used | • Check tank and filter ("Changing/Refilling the water in the main tank and changing the filter", page 83). |

| Error | Possible reason(s) | Solution |
|---|---|---|
| Failed milling job | Tool / block is broken | • Eject tool / block ("Removing unnecessary, worn or defective tools", page 95).<br>• Insert a suitable tool / block ("Inserting tools", page 89 and "Inserting blocks", page 99). |
| | Construction error in the CAD software | • Check the construction and settings in the CAD and CAM software.<br>• Transfer milling jobs to the milling machine again. |
| | Error in the work preparation or milling path calculation in the CAM software (depending on system architecture) | |
| Tool / block not recognized | Non-approved tool / block without suitable Data Matrix Code has been inserted | • Eject tool / block ("Removing unnecessary, worn or defective tools", page 95).<br>• Insert a suitable tool / block ("Inserting tools", page 89 and "Inserting blocks", page 99).<br>• Register tool / block manually ("Manually registering a non-identified tool", page 123 and "Manually registering a non-identified block", page 121) |
| | Data Matrix Code is scratched or damaged | |
| Tool / block is recognized, but not assigned to the desired milling job | Wrong tool / wrong block for the milling job inserted | • Eject tool / block ("Removing unnecessary, worn or defective tools", page 95).<br>• Insert a suitable tool / block ("Inserting tools", page 89 and "Inserting blocks", page 99).<br>• If the problem continues: Contact your authorized service partner. |

| Error | Possible reason(s) | Solution |
|---|---|---|
| Tool / block is broken | Tool service life has been exceeded. | • Eject tool / block ("Removing unnecessary, worn or defective tools", page 95). |
| | Construction error in the CAD software | • If tool / block cannot be removed: Contact your authorized service partner. |
| | Error in the work preparation or milling path calculation in the CAM software (depending on system architecture) | • Check the construction in the CAD and CAM software. |
| | | • Transfer milling jobs to the milling machine (again). |
| | | • Insert a suitable tool / block ("Inserting tools", page 89 and "Inserting blocks", page 99). |

## 8.4 Manually registering a non-identified block

If the Data Matrix Code on the shaft of a block cannot be read out during the identification process, you can register the block manually.

To do so, proceed as follows:

**1.** Choose the section [Blocks]

The list of inserted blocks is displayed.

The following symbol is shown in the entry of the non-identified block:
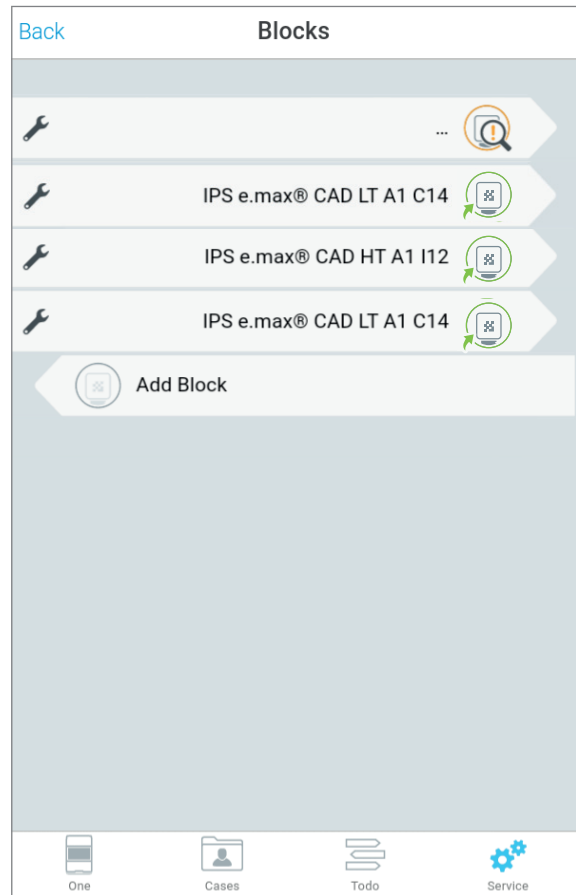
2. Tap the icon in the entry of the block:

The list of available block types will be displayed.

| Cancel |
| --- |
| **Select block type** |
| Unidentifiable in slot 1 |
| IPS e.max CAD |
| I12 > |
| C14 > |
| C16 > |
| IPS Empress CAD |
| I12 > |
| C14 > |
| Tetric CAD |
| I12 > |
| C14 > |
| PrograMill One |
| ESD-Pin for One > |
| ESD-Pin B-Axis for One > |
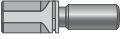
3. Tap on the desired block type.

4. To confirm the block type and to make additional settings (e.g. choose the shade, define the sinter shrinkage), follow the instructions in the app.

➡ The block is registered.

## 8.5 Manually registering a non-identified tool

If the Data Matrix Code on the shaft of a tool cannot be read out during the identification process, you can register the tool manually.

To do so, proceed as follows:

☑ You are in the main menu [Service].

1. Choose the section [Tools].
   The list of inserted tools is displayed.
   The following symbol is shown in the entry of the non-identified tool:
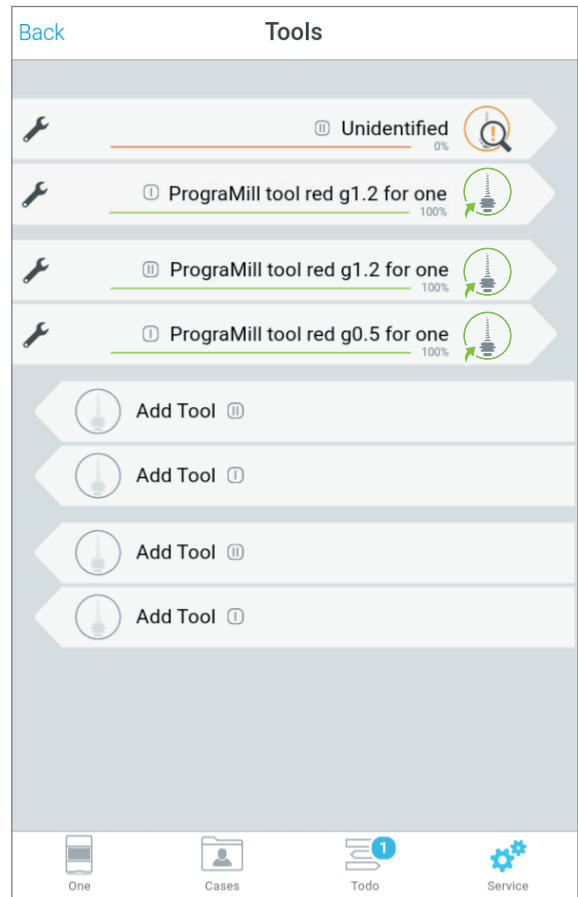
2.  Tap the icon in the entry of the tool:

    

    The list of available tool types will be displayed.

| | |
|---|---|
| | Cancel |
| **Select tool** | |
| Unidentifiable in slot 1 | |
| Tools | |
| PrograMill tool red g0.5 for One | › |
| PrograMill tool red g1.2 for One | › |
| PrograMill One | |
| Cleaning tool for One | › |
| ESD-Stift-B-Achse for One | › |
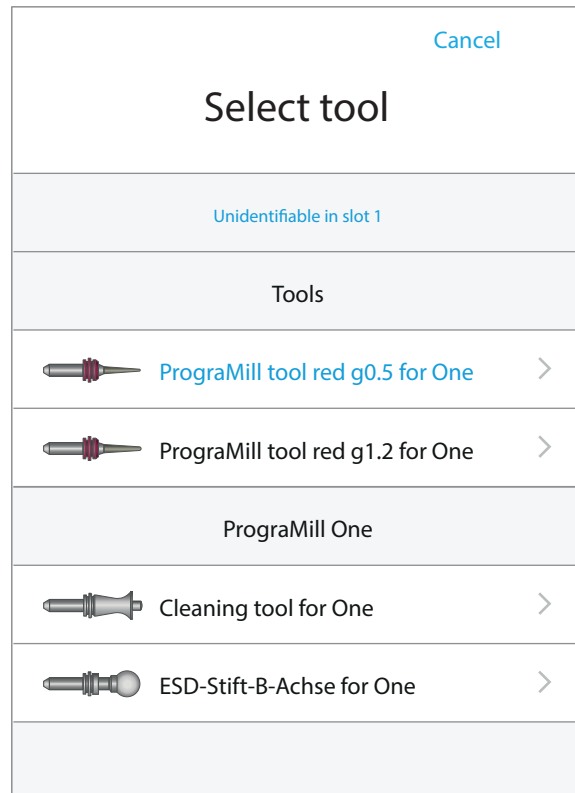
3.  Tap on the desired tool type.

4.  To confirm the tool type, follow the instructions in the app.

➡  The tool is registered.

# 9 Cleaning and Maintenance Work for the User

This chapter deals exclusively with the cleaning of the PrograMill One.

Information on cleaning the tablet can be found in the manufacturer's Instructions for Use.

Water which is mixed with coolant concentrate must be collected separately and disposed of according to country specific requirements.

**DANGER! Improper cleaning and maintenance of the device. Failure to observe the specified cleaning intervals stated in the app and defined in these instructions.**

Danger to patients and users.

Damage to the device.

▶ Only carry out work on the device described in this chapter and assigned to the user.

▶ Always carry out the cleaning tasks at the specified intervals.

## 9.1 Cleaning and maintenance table

The operator is solely responsible to observe the cleaning and maintenance intervals stated below.

In some cases, you will receive additional information in the main menu [ToDo] or in the status display in the main menu [Cases] in the tab [Selected], see column [Interval].

| Duties | Responsible person | Interval | Reference |
|---|---|---|---|
| Change / refill water in the tank | Operator | According to app notifications | • "Changing/ Refilling the water in the main tank and changing the filter", page 83 |
| Change the filter | Operator | According to app notifications | |
| Automatic cleaning program of the milling chamber | Automatic cleaning by the system without intervention by the operator | The machine will perform cleaning automatically depending on the number of processed milling jobs | • "Performing the automatic cleaning procedure", page 127<br>• For automatic cleaning, the cleaning tool must be inserted into the material and tool changer |
| Manual cleaning of the milling chamber | Operator | Depending on the situation:<br>• 1x per week<br>• before the weekend<br>• before longer standing times<br>• If necessary, in case of visible contamination<br>• Before processing zirconium oxide | • "Carrying out manual cleaning work on the housing and in the milling chamber", page 128<br>• "Special procedure to process zirconium oxide", page 81 |

## 9.2   Performing the automatic cleaning procedure

The cleaning process starts automatically after a series of milling jobs have been completed and takes about 4 minutes.

A special cleaning tool is required to carry out cleaning (included in the delivery).

Upon initial start up, the cleaning tool is inserted in the same way as a tool into the material and tool changer and usually remains in the device.

For easy handling, the cleaning tool is placed into one of the tool holders. The second location in the tool holder can not be used during this time.

☑   The cleaning tool is inserted in the device ("Inserting the cleaning tool into the material and tool changer", page 47).

▶   If you are prompted: Follow the instructions in the app.

## 9.3 Carrying out manual cleaning work on the housing and in the milling chamber

### 9.3.1 Preparing for cleaning

☑ The cleaning tool is in the material and tool changer ("Inserting the cleaning tool into the material and tool changer", page 47).

☑ The device is switched on.

☑ You are in the main menu [Service].

1. If there is still water in the milling chamber at the time of cleaning: Start the integrated suction pump via the menu [Activate pump].

2. In the menu tap on [Start cleaning].
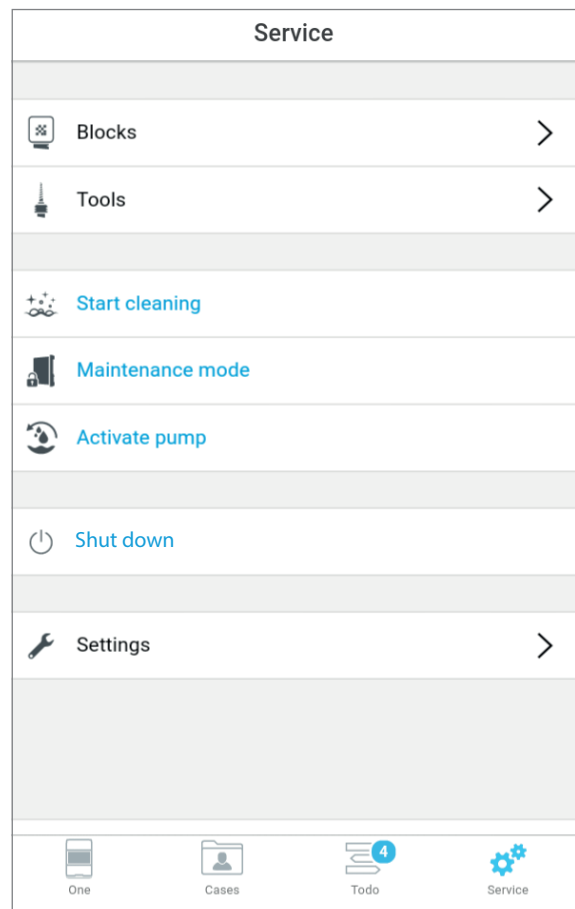


➥ The app shows a Wizard which will guide you step by step through the cleaning process.

### 9.3.2 Uninstalling and cleaning the loading aid

1. Remove the loading aid (1) in the direction of the arrow.
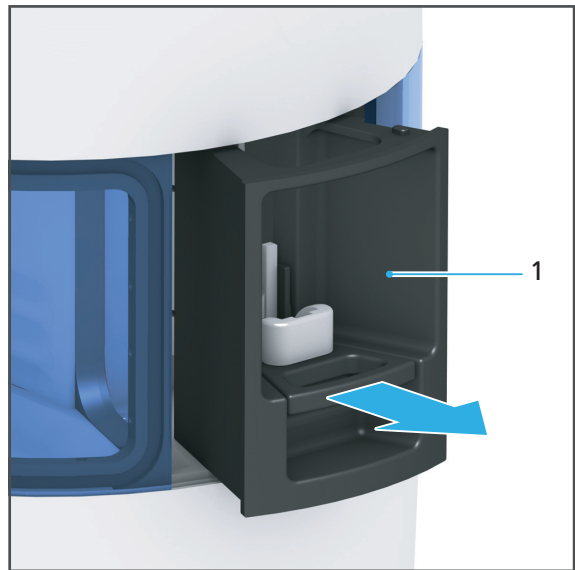


2. Wipe with a soft cloth dampened with water.

### 9.3.3 Cleaning the housing

⚠ **WARNING! Improper cleaning of the device. Voltage-carrying components come into contact with moisture. Voltage-carrying components are exposed.**

Danger of electric shock.

Damage to the device.

▶ Never remove the housing cover.

▶ Ensure that no liquids or items enter into the inside of the device.

▶ Clean the housing with a soft cloth, dampened with tap water and a mild, pH neutral detergent.

## 9.3.4  Cleaning the milling chamber

⚠ **CAUTION! Skin contact with the coolant fluid. Residues enter the water circuit.**

Skin irritation.

Danger to the environment due to leaking coolant fluid.

▶ When handling the coolant liquid and components which could contain the fluid (tank, collection container, etc.), wear gloves.

▶ Dispose of deposits of the milling chamber and collection container according to local regulations.

▶ Observe the Safety Data Sheet of the Coolant Concentrate PrograMill Fluid for One and the documentation about the used blocks, "Supporting documents", page 9.

**NOTICE!  Improper cleaning of the milling chamber with unsuitable equipment and cleaning agents.**

Damage to the membrane and other sensitive components in the inner chamber.

▶ Do not clean with or enter the milling chamber using brushes, tools, sponges with metal components, or any cleaning equipment other than that specified in this chapter.

▶ Do not use sharp, chlorine-containing cleaners. Only use mild, pH neutral cleaning agents.

▶ To avoid damaging the sensitive components in the milling chamber, avoid strong pressure, scrubbing, rubbing and wiping.

▶ In general, do not clean the processing and changer arm, the changer fork and nozzle holes in the interior.

▶ Do not move, relocate or manipulate the cover between the milling chamber and the material and tool changer.

▶ To avoid scratching and therefore clouding the window of the milling chamber, clean the milling chamber only with the recommended cleaning accessories specified in this section or in the app.

▶ Do not wear jewellery such as rings, bracelets or watches when working on the device, especially when cleaning the milling chamber.

**NOTICE!  Contact with the membrane when removing the collection container and cover.**

Damage of the membrane.

▶ Do not touch the membrane with the collection container or cover.

❗ For safety reasons, a Wizard in the app will guide you step by step through the individual cleaning tasks.

1. Remove excess water with a dry towel.

2. Grasp the collection container (2) and cover (2) by the handle (1).
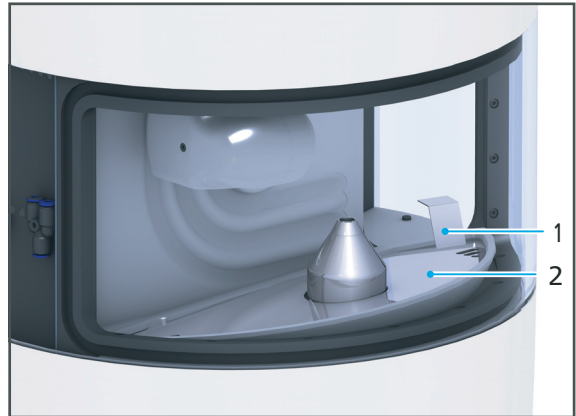


3. Hold the collection container and cover at a slight angle.
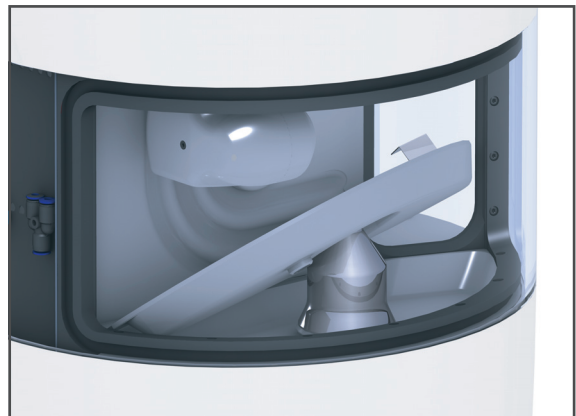


4. Remove the collection container and cover from the milling chamber.
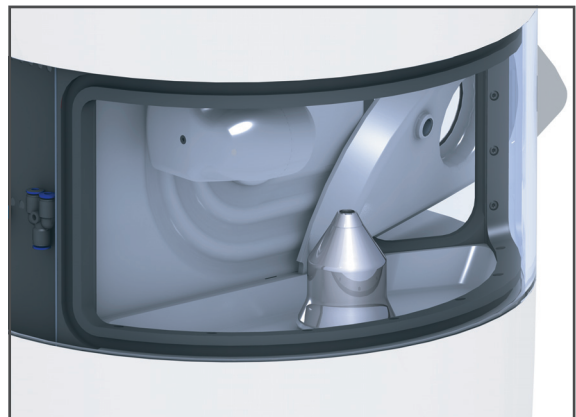
**NOTICE!  Contact with the membrane or the spindle when cleaning the milling chamber.**

Damage of the membrane.

Damage of the spindle.

▶   Do not touch the membrane or the spindle with the cleaning accessories.

5.   Remove milling residues and coolant fluid from the milling chamber using a paper towel.

6.   Dry the bottom of the milling chamber with a paper towel.

**NOTICE!  Residues enter the inside of the device.**

Damage to the device.

▶   Ensure that no residues enter the drainage of the device.

7.   Carefully clean the drainage in the milling chamber with a cotton bud.

8.   Release the lateral locks of the collection container and remove the cover from the collection container.

9.   Remove residues in the inside of the collection container using a plastic spatula and dispose of according to local specifications (documentation on the blocks used, "Supporting documents", page 9).

10.  Rinse the collection container and the cover under running water and dry with paper towels.

11.  Allow the cover to snap in place with the collection container.

12.  Hold the collection container and the cover in a slightly tilted position and insert it into the milling chamber (1).

13.  Shift the tilted collection container with the cover over the spindle (2).
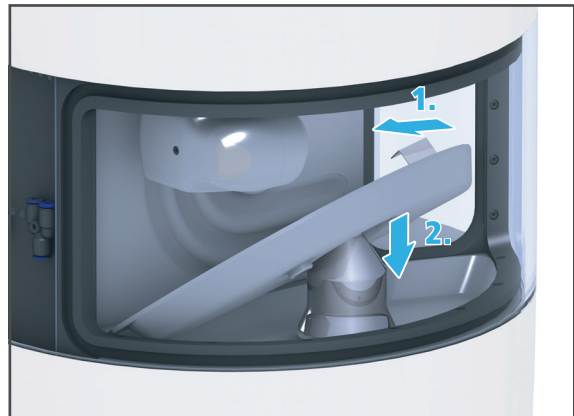
## 9.3.5  Inserting the loading aid

1. Wipe the bottom of the maintenance access with a soft cloth dampened with water.

2. Insert the loading aid (1) in the direction of the arrow.
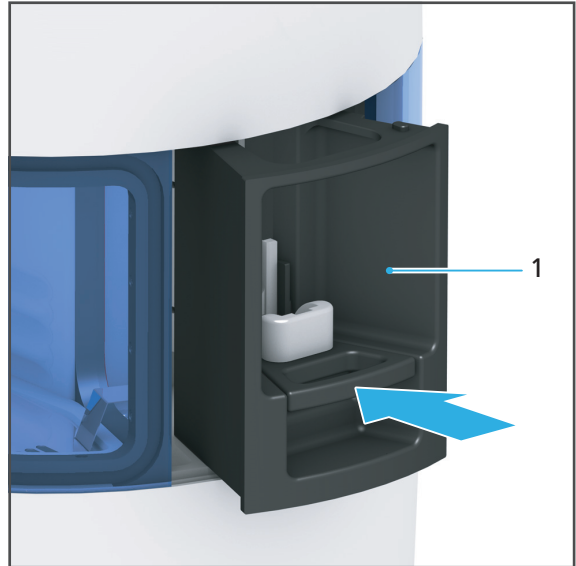
# 10 Decommissioning

⚠ Your sales or service partner and a Digital Instructor / Master will decommission your device.

## 10.1 Storing the device

1. Ensure that the storage space meets the following requirements:

   • dry
   • vibration free

2. Make sure that the storage requirements are met ("Ambient conditions for storage and transportation", page 137).

## 10.2 Disposing of the device

| | The operator is responsible for proper disposal. |
|---|---|
| | The product must not be disposed of in the household waste. It must be collected separately from the household waste and disposed of according to local regulations for the disposal of electronic equipment in an environmentally safe manner or returned to Ivoclar Vivadent for disposal. |

# 11  Repair

⚠ **DANGER! Improper repairs/device maintenance.**

Danger to the user and to the patient.

▶ Repairs on the device must only be carried out by service partners authorized by Ivoclar Vivadent using the valid version of the Service Manual.

## 11.1  Authorized service partners

❶ For information about the authorized service partners in your country, contact your local distribution partner or Ivoclar Vivadent or go to http://www.ivoclarvivadent.com.

## 11.2  Sending defective devices for repair

❶ Use only the original packaging together with the corresponding foam material for transportation purposes.

1. Take the device out of service before returning it to the authorized service partner ("Decommissioning", page 134).

2. Send the device in suitable packaging (e.g. original packaging) to an authorized service partner.

# 12 Technical Data

The following technical data refer exclusively to the PrograMill One milling machine.

For information on the technical data of the accessories or other components of PrograMill One, please refer to the respective operating instructions.

## 12.1 Classifications

| Characteristics | Value |
|---|---|
| Test standards | • IEC 61010-1:2010 <br> • EN 61010-1:2010 <br> • UL 61010-1:2012-05 <br> • CAN/CSA-C22.2 No. 61010-1:2012-05 |
| Radio protection / Electromagnetic compatibility | EMV certified |
| Noise level | (Measuring conditions): 70 dB(A) <br> All other action movements (tool change, axis movement, etc.): 70 dB (in 1 m distance) <br> Measuring conditions: <br><br> • Tools (standing time expired) <br> • Measuring distance to sound source 1m <br> • Measurement according to ISO 3746, accuracy class 3 |

## 12.2 Measurements, weight

| Characteristics | Value |
|---|---|
| Height | 479 mm |
| Diameter | 340 mm |
| Weight | 36.5 kg (80.5 lbs) |

## 12.3  Ambient conditions

### 12.3.1 Ambient conditions for storage and transportation

| Characteristics | Value |
|---|---|
| Acceptable ambient temperature | -20 °C to +65 °C |
| Maximum relative humidity | 80 % |
| Acceptable ambient pressure | 500 mbar to 1060 mbar |

### 12.3.2 Ambient conditions for operation

| Characteristics | Value |
|---|---|
| Acceptable ambient temperature | +15 °C to +30 °C |
| Maximum relative humidity | 80% for temperatures up to 31 °C, gradually decreasing to 50% relative humidity at 40°C; condensation excluded. |
| Maximum operating altitude | 2000 m (6561 feet) above sea level / elevation |

## 12.4  Electrical data

| Characteristics | Value |
|---|---|
| Network connection | 100 to 240 V / 50 to 60 Hz |
| Permissible voltage fluctuations | ± 10% |
| Max. input | 4 A |
| Max. power input | 250 W |

# 13 Appendix

## 13.1 Delivery form

| Item description | Number | Item number |
|---|---|---|
| PrograMill One unit | 1 | 689233 (without accessories) |
| Tablet PC | 1 | 689262 |
| Second tank | 1 | - |
| Patch cable 5 m, green cat. 5 | 1 | 662792 |
| Power cable | 1 | country-specific |
| ESD pin spindle for One | 1 | 689258 |
| ESD pin B axis for One | 1 | 689259 |
| Block holder for One | 6 | 689263 |
| Tool holder for One | 5 | 689264 |
| Screen cleaner for One | 1 | 689260 |
| Collet 4 mm for One | 1 | 689257 |
| PrograMill filter for One | 2 | 689265 |
| PrograMill tool red g1.2 for One | 1 | 689062 |
| PrograMill tool red g0.5 for One | 1 | 689063 |
| Operating Instructions PrograMill One EN | 1 | - |

## 13.2 Ordering spare parts

1. When ordering spare parts, keep the following information ready:

   • Item number
   • Serial number

2. Contact your authorized service partner.

## 13.3  Recommended additional components

### 13.3.1 PrograMill Fluid for One for wet processing

| Item description | Number | Item number |
|---|---|---|
| PrograMill Fluid for One | 1 | 703569 |

## 13.4  Approved tools for glass-ceramic / composite blocks

**NOTICE!  Use of unapproved tools.**

Damage to the device.

▶    Only use the tools recommended in these instructions and by Ivoclar Vivadent.

All information regarding material and application extensions corresponds to the state of knowledge at the time of going to print. For additional details, go to:

http://www.ivoclarvivadent.com

The number in the article description corresponds to the shaft diameter in millimetres. Further identification of the tools: c = coated (coating for longer service life), g = grinder (diamond-coated grinder for wet processing of glass-ceramics)

| Item description | Number | Item number |
|---|---|---|
| PrograMill tool red g1.2 for One | 1 | 689062 |
| PrograMill tool red g0.5 for One | 1 | 689063 |

## 13.5  CE marking / Declaration of Conformity

**ivoclar vivadent:**
passion vision innovation

$C \epsilon$

### Declaration of conformity

| | |
|---|---|
| Manufacturer | Ivoclar Vivadent AG |
| Address | Bendererstrasse 2 |
| | LI – 9494 Schaan |
| | Liechtenstein |

| | |
|---|---|
| Product | **PrograMill one** |
| Type of material | **Dental Laboratory Equipment** |
| Classification | **Technical Device** |

We herewith declare under our exclusive responsibility that the above mentioned products meet the provisions of the following EC Council Directives and its implementation in national law. All supporting documentation is retained on the premises of the manufacturer and, where applicable, the notified body.

| | |
|---|---|
| Directives | 2006/42/EG Machinery Directive |
| | 2014/35/EU Low Voltage Directive |
| | 2014/30/EU EMC-Directive |

| | |
|---|---|
| Standards | IEC/EN 61010-1 :2010 |
| | EN 61326-1:2013 |

| | |
|---|---|
| Notified Body Address | not applicable |
| Place, Valid from | Schaan, 16.04.2018 |
| | Replaces version of: -- |
| Valid until | 16.04.2023 |

| | | |
|---|---|---|
| Signature | | |
| Name | Markus Heinz | Gottfried Rohner |
| Positon | CPO Production & Logistics | Director Equipment Development |
| Date | 16.04.2018 | 16.04.2018 |

# Ivoclar Vivadent – worldwide

**Ivoclar Vivadent AG**
Bendererstrasse 2
9494 Schaan
Liechtenstein
Tel. +423 235 35 35
Fax +423 235 33 60
www.ivoclarvivadent.com

**Ivoclar Vivadent Pty. Ltd.**
1 – 5 Overseas Drive
P.O. Box 367
Noble Park, Vic. 3174
Australia
Tel. +61 3 9795 9599
Fax +61 3 9795 9645
www.ivoclarvivadent.com.au

**Ivoclar Vivadent GmbH**
Tech Gate Vienna
Donau-City-Strasse 1
1220 Wien
Austria
Tel. +43 1 263 191 10
Fax: +43 1 263 191 111
www.ivoclarvivadent.at

**Ivoclar Vivadent Ltda.**
Alameda Caiapós, 723
Centro Empresarial Tamboré
CEP 06460-110 Barueri – SP
Brazil
Tel. +55 11 2424 7400
Fax +55 11 3466 0840
www.ivoclarvivadent.com.br

**Ivoclar Vivadent Inc.**
1-6600 Dixie Road
Mississauga, Ontario
L5T 2Y2
Canada
Tel. +1 905 670 8499
Fax +1 905 670 3102
www.ivoclarvivadent.us

**Ivoclar Vivadent Shanghai
Trading Co., Ltd.**
2/F Building 1, 881 Wuding Road,
Jing An District
200040 Shanghai
China
Tel. +86 21 6032 1657
Fax +86 21 6176 0968
www.ivoclarvivadent.com

**Ivoclar Vivadent Marketing Ltd.**
Calle 134 No. 7-B-83, Of. 520
Bogotá
Colombia
Tel. +57 1 627 3399
Fax +57 1 633 1663
www.ivoclarvivadent.co

**Ivoclar Vivadent SAS**
B.P. 118
74410 Saint-Jorioz
France
Tel. +33 4 50 88 64 00
Fax +33 4 50 68 91 52
www.ivoclarvivadent.fr

**Ivoclar Vivadent GmbH**
Dr. Adolf-Schneider-Str. 2
73479 Ellwangen, Jagst
Germany
Tel. +49 7961 889 0
Fax +49 7961 6326
www.ivoclarvivadent.de

**Ivoclar Vivadent Marketing (India)
Pvt. Ltd.**
503/504 Raheja Plaza
15 B Shah Industrial Estate
Veera Desai Road, Andheri (West)
Mumbai, 400 053
India
Tel. +91 22 2673 0302
Fax +91 22 2673 0301
www.ivoclarvivadent.in

**Ivoclar Vivadent Marketing Ltd.**
The Icon
Horizon Broadway BSD
Block M5 No. 1
Kecamatan Cisauk Kelurahan Sampora
15345 Tangerang Selatan – Banten
Indonesia
Tel. +62 21 3003 2932
Fax +62 21 3003 2934
www.ivoclarvivadent.com

**Ivoclar Vivadent s.r.l.**
Via del Lavoro 47
40033 Casalecchio di Reno (BO)
Italy
Tel. +39 051 6113555
Fax +39 051 6113565
www.ivoclarvivadent.it

**Ivoclar Vivadent K.K.**
1-28-24-4F Hongo
Bunkyo-ku
Tokyo 113-0033
Japan
Tel. +81 3 6903 3535
Fax +81 3 5844 3657
www.ivoclarvivadent.jp

**Ivoclar Vivadent Ltd.**
4F TAMIYA Bldg.
215 Baumoe-ro
Seocho-gu
Seoul, 06740
Republic of Korea
Phone: +82 (2) 536-0714
Fax: +82 (2) 6499-0744
www.ivoclarvivadent.co.kr

**Ivoclar Vivadent S.A. de C.V.**
Calzada de Tlalpan 564,
Col Moderna, Del Benito Juárez
03810 México, D.F.
México
Tel. +52 (55) 50 62 10 00
Fax +52 (55) 50 62 10 29
www.ivoclarvivadent.com.mx

**Ivoclar Vivadent BV**
De Fruittuinen 32
2132 NZ Hoofddorp
Netherlands
Tel. +31 23 529 3791
Fax +31 23 555 4504
www.ivoclarvivadent.com

**Ivoclar Vivadent Ltd.**
12 Omega St, Rosedale
PO Box 303011 North Harbour
Auckland 0751
New Zealand
Tel. +64 9 914 9999
Fax +64 9 914 9990
www.ivoclarvivadent.co.nz

**Ivoclar Vivadent Polska Sp. z o.o.**
ul. Jana Pawla II 78
00-175 Warszawa
Poland
Tel. +48 22 635 5496
Fax +48 22 635 5469
www.ivoclarvivadent.pl

**Ivoclar Vivadent LLC**
Prospekt Andropova 18 korp. 6/
office 10-06
115432 Moscow
Russia
Tel. +7 499 418 0300
Fax +7 499 418 0310
www.ivoclarvivadent.ru

**Ivoclar Vivadent Marketing Ltd.**
Qlaya Main St.
Siricon Building No.14, 2nd Floor
Office No. 204
P.O. Box 300146
Riyadh 11372
Saudi Arabia
Tel. +966 11 293 8345
Fax +966 11 293 8344
www.ivoclarvivadent.com

**Ivoclar Vivadent S.L.U.**
Carretera de Fuencarral nº24
Portal 1 – Planta Baja
28108-Alcobendas (Madrid)
Spain
Tel. +34 91 375 78 20
Fax +34 91 375 78 38
www.ivoclarvivadent.es

**Ivoclar Vivadent AB**
Dalvägen 14
169 56 Solna
Sweden
Tel. +46 8 514 939 30
Fax +46 8 514 939 40
www.ivoclarvivadent.se

**Ivoclar Vivadent Liaison Office**
: Tesvikiye Mahallesi
Sakayik Sokak
Nisantas' Plaza No:38/2
Kat:5 Daire:24
34021 Sisli – Istanbul
Turkey
Tel. +90 212 343 0802
Fax +90 212 343 0842
www.ivoclarvivadent.com

**Ivoclar Vivadent Limited**
Compass Building
Feldspar Close
Warrens Business Park
Enderby
Leicester LE19 4SD
United Kingdom
Tel. +44 116 284 7880
Fax +44 116 284 7881
www.ivoclarvivadent.co.uk

**Ivoclar Vivadent, Inc.**
175 Pineview Drive
Amherst, N.Y. 14228
USA
Tel. +1 800 533 6825
Fax +1 716 691 2285
www.ivoclarvivadent.us

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