

PrograPrint Clean

Operating Instructions



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1 About this document

These Operating Instructions will familiarize you with the PrograPrint Clean features.

PrograPrint Clean is a cleaning device for the further processing of dental objects produced with PrograPrint PR5. 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 Instructions are an integral part of the device and are valid for all machine versions indicated.

The Operating Instructions describe the safe and correct use in all phases of operation.

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 groups

Target group	Duties
Operator	<ul style="list-style-type: none">• Keep these Operating Instructions available at the place where the device is used, also for future use.• Request personnel read and observe these Operating Instructions and the documents of equal applicability, in particular the safety instructions and warnings ("Safety", page 13).• Observe additional device-related stipulations and regulations.
Dental technician	<ul style="list-style-type: none">• Read and observe these Operating Instructions and the documents of equal applicability, in particular the safety instructions and warnings ("Safety", page 13).
Qualified dental staff members	
Authorized Ivoclar Vivadent service partner	

1.2 Signs and symbols in this document

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

Explanation 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.

Example of a warning:

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

Risk to the patient and the user.

Damage to the device.

- ▶ Only carry out work on the device described in this chapter and assigned to the user.
- ▶ Do not use any cleaning agents for components, for which no explicit cleaning agents are mentioned.
- ▶ Always carry out the cleaning tasks at the specified intervals.

1.2.2 Signs and symbols

Symbol	Meaning
	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 operation step or several steps, for success control.

1.3 Warning symbols and command signs on the device

Warning symbols and command signs are attached to the device in order to warn you of damage to property and personal injury.

1. Always observe the warning symbols and command signs on the device.
2. Follow the instructions described in the warning symbol or command sign.

The following warning symbols are on the device:

Warning symbol	Meaning
	General warning sign
	Warning of inflammable substances
	Explosive atmosphere hazard warning

The following command signs are on the device:

Command sign	Meaning
	Observe the Operating Instructions
	Wear eye protection
	Wear protective gloves
	Work with explosion-proof fume hood / explosion-proof extraction cabinet in continued operation

1.4 Revisions and validity

Version	Date	Amendments to the previous version
1.0	2019-07	First production
2.0	2019-11	Revision

1.5 Documents of equal applicability



For details on the documents of equal applicability, please contact your local trade partner or go to the download section of Ivoclar Vivadent at <http://www.ivoclarvivadent.com>.

Document	Explanation
Instructions for Use for the different materials	Information about the use of the materials to be processed
Supplement sheet on the cleaning fluid isopropanol (isopropyl alcohol)	Safety-relevant information on the cleaning fluid isopropanol (see Ivoclar Vivadent download area and "Contents of the supplement sheet "Important information on the handling of isopropanol"", page 11)
Operating Instructions on the use of 3D printer PrograPrint PR5	Information about requirements that must be observed for the transport, set-up and use of PrograPrint PR5
Operating Instructions for the post-curing unit PrograPrint Cure	Information about requirements that must be observed for the transport, set-up and use of PrograPrint Cure
PrograPrint Workflow Manual	Short instructions on the entire workflow of the PrograPrint system
Instructions for Use for CAMbridge	Manual for the CAM software "CAMbridge"
Short Instructions for: <ul style="list-style-type: none"> • PrograPrint PR5 • PrograPrint Clean • PrograPrint Cure 	Excerpt of operation-relevant topics from the respective Operating Instructions

1.6 Contents of the supplement sheet “Important information on the handling of isopropanol”



If you operate the PrograPrint Clean cleaning device with isopropanol as the cleaning fluid, the following points must be observed:

1. The PrograPrint Clean cleaning device must only be operated in an explosion-proof fume hood / explosion-proof extraction cabinet due to the isopropanol vapours (explosion hazard). The explosion-proof fume hood / explosion-proof extraction cabinet must be designed at least for Zone 2. The fume cupboard must be run continuously (24/7).
2. The device must only be operated in rooms without open flames (Bunsen burners, gas burners or other sources of ignition) (fire hazard).
3. Suitable fire fighting equipment (foam extinguisher, fire blankets) must always be available to fight any possible fire.
4. The device must only be run in good order and excellent technical condition (including seals) so that any protective functions are intact (fire hazard). The overall condition of the device must be regularly examined!
5. The device must exclusively be run with the approved 2-mag magnetic stirrer MIX-1-Ivoclar.
6. The device must only be operated by trained specialists.
7. The cleaning fluid isopropanol must be correctly stored and disposed of (national regulations must be observed!).
8. The general fire protection guidelines must be observed for the handling of isopropanol.
9. Contact with the printing material and cleaning fluid must be avoided.
10. Wear suitable protective clothing and protective equipment.
11. The minimum and maximum fluid levels in the cleaning container must be observed and monitored.
12. Sufficient ventilation must be ensured during filling and draining the cleaning container.

1.6.1 Additional notes and hazards:

Hazard notes for isopropanol:

- ▶ The fluid and vapours are combustible.
- ▶ Causes severe irritation of the eyes.
- ▶ May cause drowsiness and lightheadedness.

Safety instructions:

- ▶ Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.
- ▶ Do not inhale vapours/aerosol.
- ▶ Keep the container tightly sealed.

About this document

- ▶ Wear protective gloves / protective gear / eye protection / face protection. UPON EYE CONTACT: Carefully rinse with water for several minutes. Remove any contact lenses, if possible. Continue rinsing.
- ▶ Dispose of the contents / container according to the local / regional / national / international regulations.

2 Safety

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

Hazard to the user.

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



The device is built according to state-of-the-art technology and recognized safety regulations. Nevertheless, operation bears the risk of injury to the user or third parties. Moreover, impairments of the device and other property are possible.

2.1 Intended use

PrograPrint Clean has been designed for cleaning the dental objects produced by the PrograPrint PR5 in the following materials:

- ProArt Print Wax (burn-out material for the press technique)
- ProArt Print Model (material for the fabrication of the dental working models)
- ProArt Print Splint (material for the fabrication of dental drilling templates and splints)

Use PrograPrint Clean 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.

PrograPrint Clean is for cleaning with isopropanol according to the following properties:

- It must have a purity of at least 99.8 %
- It must be suitable for cleaning medical products

Please note that only the materials and cleaning fluids approved by the manufacturer ensure processing without damage to the machine.



All information regarding material and application extensions corresponds to the state of knowledge at the time of printing. For additional details, go to <http://www.ivoclarvivadent.com>.

It is not recommended to clean materials from other manufacturers as they have different material-specific processing parameters and this can have a negative effect on the precision and material properties of the printed objects.

2.1.1 Potential improper use

The device is not suitable for cleaning 3D printed objects from outside of the dental field.

The following is considered as misuse of the system:

- Non-compliance with the specified intended use, intended user specifications or intended environment
- Modifications, maintenance and repairs without prior authorization by Ivoclar Vivadent
- Operation with inappropriate parameters
- Cleaning with non-approved cleaning materials

Improper use of the devices can lead to the following:

- Danger for patient and operating personnel
- Danger of fire or explosion
- Impairment of the operability of the device
- Impairment of material properties and precision of printed objects

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

Typical misapplications of the device to be avoided:

Improper use	Consequences
Use of non-approved cleaning fluids	<ul style="list-style-type: none"> • Contamination of dental objects and negative health effects in the patient • Danger of fire or explosion • Damage to the printed dental objects
Incorrect cleaning and disposal	<ul style="list-style-type: none"> • Skin irritations and allergic reactions • Environmental damage • Damage to the device
Working with the device without protective equipment	Skin irritations and allergic reactions
Carrying out cleaning work on slippery floor	Danger of falling
Operating the device whilst the lid is open	<ul style="list-style-type: none"> • Evaporation of the cleaning fluid
Blocking the self-closing lid with objects	<ul style="list-style-type: none"> • Leaking of flammable vapours • Skin irritations and allergic reactions • Danger of fire or explosion
Leaking or spilling cleaning material due to the use of unsuitable canisters when refilling cleaning fluid	<ul style="list-style-type: none"> • Skin irritations and allergic reactions • Danger of fire or explosion • Environmental damage • Damage to the device

Improper use	Consequences
Transportation of the device with full cleaning containers	<ul style="list-style-type: none"> • Leaking or spilling the cleaning fluid • Skin irritations and allergic reactions
Removing the cleaning container when it is full	<ul style="list-style-type: none"> • Danger of fire or explosion
Filling the cleaning containers beyond the maximum marked level	<ul style="list-style-type: none"> • Environmental damage • Damage to the device
Use of the device without using a fume hood / extraction cabinet in continuous operation (24 hours a day, 7 days a week)	<ul style="list-style-type: none"> • Evaporation of the cleaning fluid • Leaking of inflammable vapours • Skin irritations and allergic reactions • Danger of fire or explosion

2.1.2 Intended user

The device may only be operated by dental technicians and qualified dental staff for the fabrication of dental objects for dental applications.

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 that are ventilated as specified, within the specified ambient conditions ("Ambient conditions", page 71) and in compliance with the specifications for safe installation ("Choosing the site of operation", page 33).

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 documents of equal applicability, 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 17).
- ▶ 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 be working with the device under the supervision of qualified technical staff.

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 country in which the device is operated must be complied with.
- ▶ Do not wear jewellery such as rings, bracelets or watches when working on the device to prevent cutting injuries or bruising.

2.5 Personal protective equipment

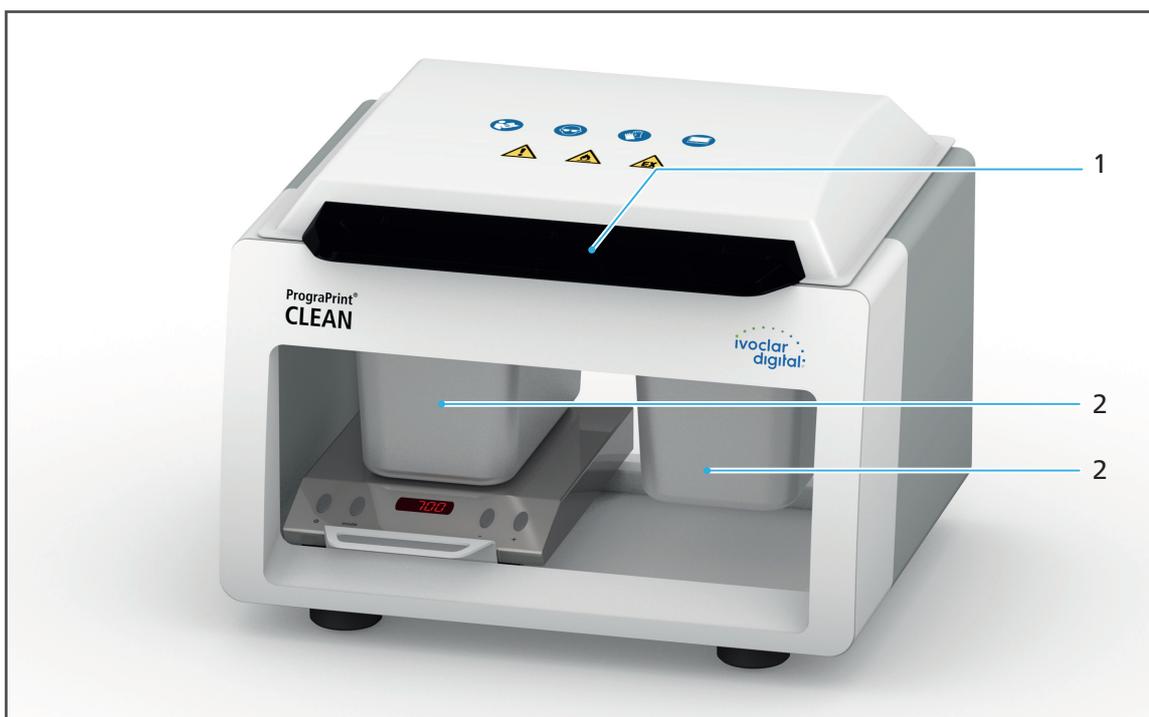
- ▶ For the protection against material and cleaning fluid vapours or other dental material particles, wear a protective mask (half mask with protection class FFP3), gloves and protective gear suitable for the respective material (see also Instructions for Use or the materials and the safety sheet of the cleaning fluid “Documents of equal applicability”, page 10).

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 devices or printed dental objects may become damaged.

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



Safety



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Do not block the self-closing lid with objects which keep it open.
-



CAUTION! Evaporation of cleaning fluid due to damaged seals around lid and cleaning container.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Check seals for damage before using the device.
 - ▶ Do not operate the device if the seals are damaged.
 - ▶ Do not remove the seals.
-

No.	Working area	Tasks / Work	Type of hazard	Safety equipment	Protective effect
1	Self-closing lid	Access to the cleaning containers	<ul style="list-style-type: none"> • Evaporation of cleaning fluid • Leaking of inflammable vapours 	<ul style="list-style-type: none"> • Self-closing lid 	<ul style="list-style-type: none"> • Protection against skin irritation, allergic reactions • Protection against fire or explosion hazard • Protection against environmental damage

No.	Working area	Tasks / Work	Type of hazard	Safety equipment	Protective effect
2	Cleaning containers	<ul style="list-style-type: none"> • Inserting the build platform • Cleaning dental objects • Changing and emptying the cleaning containers 	Leaking, overflowing material spillage due to the build platform falling down into the full cleaning container	Build platform holder	Safe transfer of the build platform from one container to the other
			Leaking, overflowing material during filling or emptying the cleaning containers	Canister to dispose of the cleaning fluid	Safe disposal of the cleaning fluid
			Inadequate printing result due to mix-up of containers for rough and fine cleaning	Empty original containers for the disposal of the cleaning fluid	Safe printing results
			Leakage of cleaning fluid and flammable vapours	Seals between cleaning containers and base (housing)	<ul style="list-style-type: none"> • Protection against skin irritation, allergic reactions • Protection against fire or explosion hazard • Protection against environmental damage

2.6.1 Fume hood / extraction cabinet at the site of use



CAUTION! Evaporation of cleaning fluid during use without fume hood / extraction cabinet.

Respiratory disorders, skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Place and operate the device filled with isopropanol exclusively under an explosion-proof fume hood / explosion-proof extraction cabinet.
 - ▶ Ensure that the explosion-proof fume hood / explosion-proof extraction cabinet is equipped for a minimum level of protection of Zone 2 according to ATEX 137 (Definition Zone 2: A hazardous area classified as an atmosphere where a mixture of air and flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation, but if it does occur, will persist for a short period only).
 - ▶ Use the fume hood / extraction cabinet in continuous operation (24 hours a day, 7 days a week) if the cleaning containers are filled with isopropanol.
 - ▶ Always comply with any additional country-specific standards / stipulations / regulations etc. on the usage / storage / disposal of isopropanol.
-

The fume hood / extraction cabinet must meet the following requirements:

- Explosion-proof equipment
- Suitable for continuous operation (24 hours a day, 7 days a week)
- ATEX approved for each country
- No integrated plug socket, as the magnetic stirrer features a potted cable that must be led through the fume hood towards the outside.
- Measurements (L x W x H): 450 mm x 380 mm x 700 mm
- Air flow: The country-specific standards / regulations / specifications must be complied with.

2.7 Safety instructions for potential hazard areas

2.7.1 Magnetism

The inductive drive of the magnetic stirrer works with magnetism.

- ▶ Keep pacemakers, data carriers, magnetic cards and other devices that may be affected by magnetic fields away from the device.

2.7.2 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. There is a risk of electric shock.

- ▶ 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 (Information on the type plate, see "Identification and labelling", page 27).
- ▶ To avoid injury to the user and for cooling reasons and fire protection, never remove the housing covers.
- ▶ For installation, observe the requirement of the manufacturer for house installation ("Documents of equal applicability", page 10).
- ▶ To prevent the risk of electric shock, connect the device only to a power supply with a protective 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 freely accessible protective 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 device 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.
- ▶ Disconnect power before cleaning and maintenance work approved to be performed by the user.
- ▶ If you need to disconnect the unit from the power supply at a later time: Disconnect the plug from the protective-contact mains socket, not from the device.

2.7.3 Hazardous, inflammable materials

Cleaning fluid (isopropanol)

Depending on the cleaning fluid used, there is a risk of skin irritations, allergic reactions or respiratory diseases without the corresponding safety precautions.

Due to the cleaning fluid vapours, there is a risk of fire or explosion if the device and cleaning fluid are handled incorrectly.

When working with cleaning fluids, observe the following instructions:

- ▶ Observe the cleaning fluid safety data sheet ("Documents of equal applicability", page 10).
- ▶ Store, use and dispose of cleaning fluids in accordance with the applicable national regulations and safety data sheets.
- ▶ Observe applicable fire regulations when handling the cleaning fluid.
- ▶ Wear protective gear ("Personal protective equipment", page 16).
- ▶ To avoid a fire or explosion hazard, do not spill the cleaning fluid.
- ▶ Observe the specifications for the point of installation ("Choosing the site of operation", page 33).
- ▶ In order to avoid a fire or explosion hazard due to a faulty device or defective safety features, operate the device only in perfect technical condition, in particular with fitted, intact seals.

2.8 Safety information for the individual operating phases

2.8.1 Transport

- ▶ Only transport the device according to the description in these Operating Instructions ("Transporting and setting up the device", page 32).
- ▶ 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 71).

2.8.2 Initial operation

- ▶ Ensure that this device is only operated by authorized and 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 at room temperature (without voltage) before initial operation.
- ▶ Before connecting the device, check that the supply voltage and frequency are correct at the point of installation ("Electrical data", page 71).
- ▶ Please comply with the specifications for the point of installation ("Choosing the site of operation", page 33) and the environmental requirements ("Ambient conditions", page 71).

2.8.3 Operation

- ▶ The device may only be operated by authorized and trained technical personnel.
- ▶ Keep unauthorized persons, such as patients, children and animals, away from the device.
- ▶ 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. Inform your authorized service partner.
- ▶ In order to ensure the product reliability and warranty services, the device must be exclusively operated with the accessories from Ivoclar Vivadent, in particular the original power adapter. The user bears the risk when using non-approved accessories.
- ▶ For safety reasons, only use the cleaning fluid approved by Ivoclar Vivadent.
- ▶ Never bypass the safety equipment of the device or set it out of operation ("Working areas, potential hazards and safety measures on the device", page 17).
- ▶ To prevent damage to the device and a reduction of the device performance, observe the cleaning requirements and cycles (see "Cleaning by the user", page 24 and "Cleaning and maintenance work for the user", page 58).
- ▶ Only operate the device unsupervised if the operating conditions for unsupervised operation described below are fulfilled.

Unsupervised operation:

The device 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 cleaning containers are heavily soiled.
- ▶ Protect the device against unauthorized access.

2.8.4 Cleaning by the user

- ▶ Only clean as specified in these Operating Instructions and observe the related safety regulations ("Cleaning and maintenance work for the user", page 58).

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 device and the final products.

Should you carry out any repairs or maintenance of the device or make modifications 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.

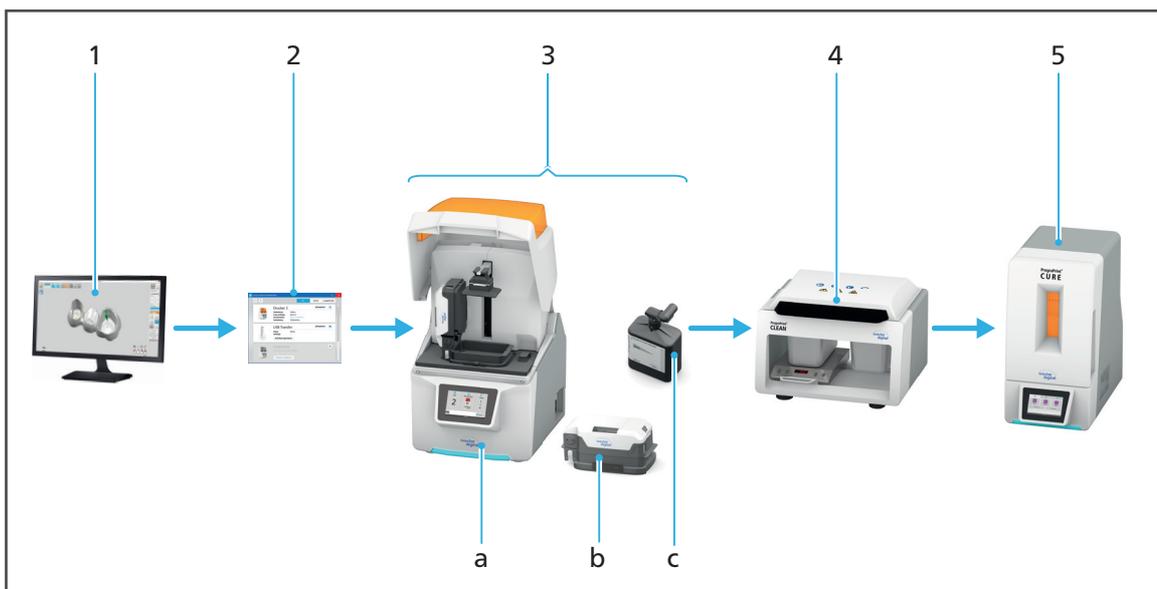
3 Design and function

When the build platform with the dental objects is removed from the 3D printer PrograPrint PR5, the surfaces of the objects will be covered with unpolymerized material, which must be removed. The PrograPrint Clean unit is designed to clean these dental objects.

PrograPrint Clean consists at least of the following components:

- Base with 2 cleaning containers
- 2 magnetic stir bars
- 1 magnetic stirrer
- Handpump to empty the cleaning container
- Identification labels for rough and fine cleaning

PrograPrint Clean is not a stand-alone component but an integral part of the PrograPrint 3D printing system. The process for the fabrication of dental objects for dental applications with the Ivoclar Digital systems solution is divided into several steps:



Step	Component	Task
1	CAM software "CAMbridge"	<ul style="list-style-type: none"> • CAM preparation • Alignment of the dental object on the virtual build platform • If required, support elements are added.
2	Software "PrograPrint Manager"	Transfer of the print job to PrograPrint PR5

Design and function

Step	Component	Task
3	PrograPrint PR5 (a) with cartridge (b) and material bottle (c). All components can be ordered separately.	3D printing of the dental object
	Cartridge (Pos. b, 1 separate cartridge per material)	<ul style="list-style-type: none"> • Holding the material for the printing process • During storage: Protection of the material from harmful environmental influences, such as light or dust
	Material bottle with valve (Pos. c, bottle content 1000 ml)	Provision of the material in the cartridge (b)
4	PrograPrint Clean	Cleaning of the dental object after the printing process
5	PrograPrint Cure (to be ordered separately)	Final polymerization of the dental object after cleaning

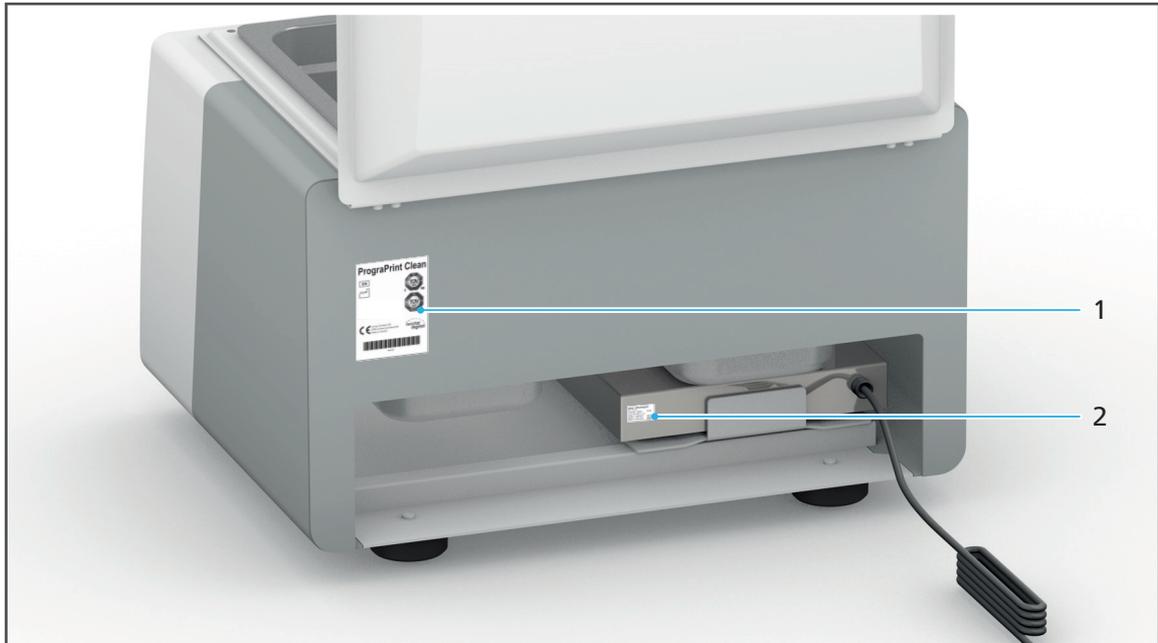


For information on the scope of delivery including the components that can be ordered separately, please refer to the respective Operating Instructions of the component ("Documents of equal applicability", page 10).

3.1 Identification and labelling

PrograPrint Clean has the product name “PrograPrint Clean” and the Ivoclar Digital logo imprinted on the front side.

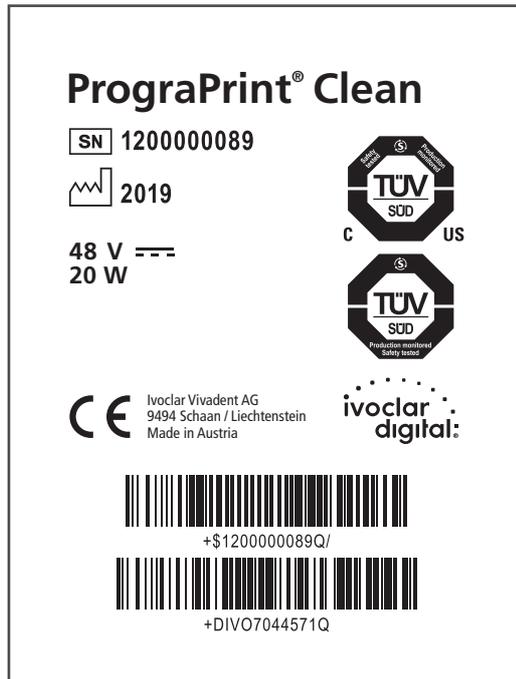
The back of the device and the magnetic stirrer are both labelled with a type plate:



No.	Description
1	Position of the type plate PrograPrint Clean
2	Position of the type plate magnetic stirrer

Design and function

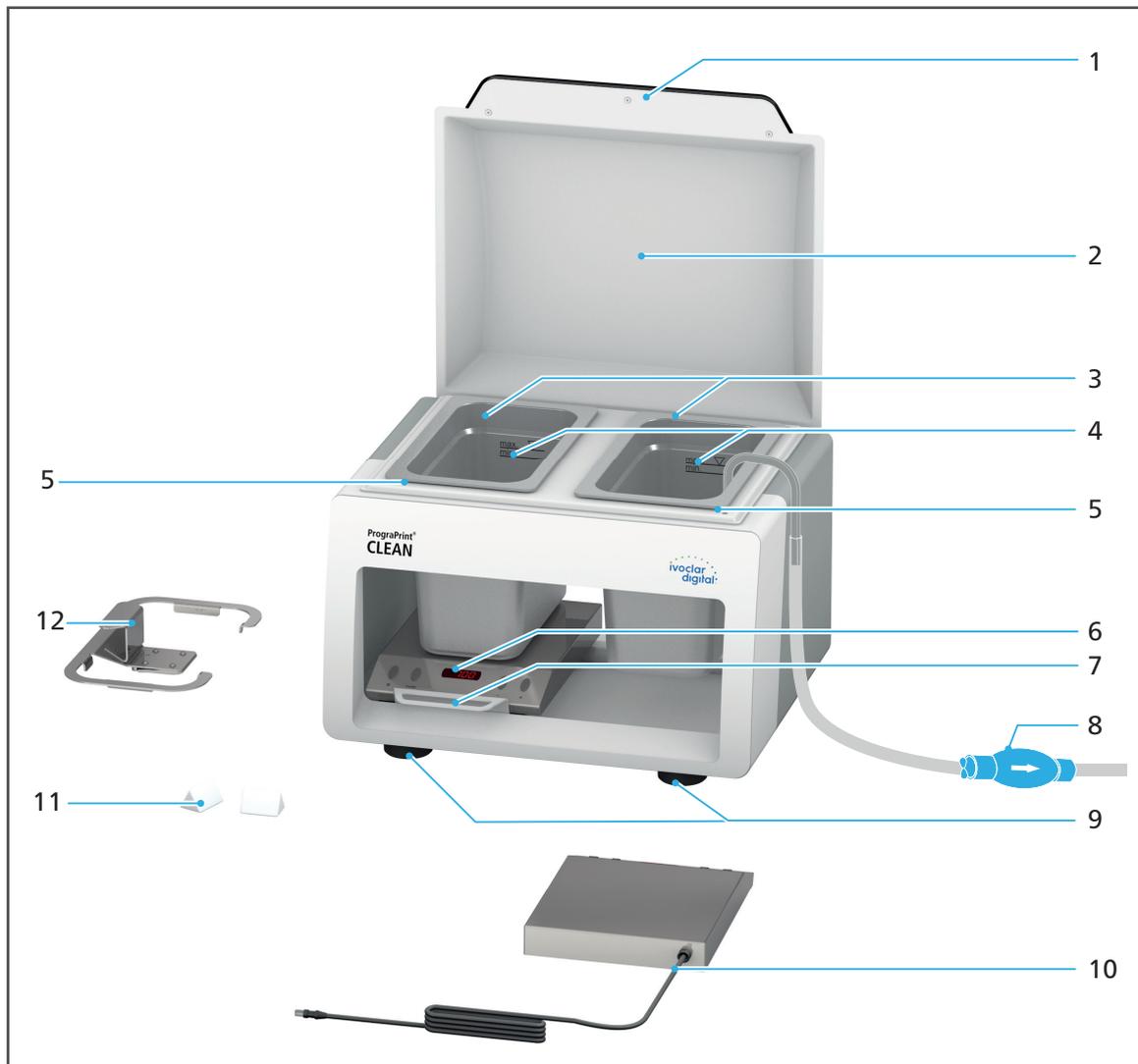
Example for PrograPrint Clean:



Symbols on the type plates:

Symbol	Meaning
	Manufacturer
	Serial number
	Manufacturer / Production date
	This product meets the requirements of the applicable EU directives
	Permitted supply voltage and supply frequency

3.2 Set-up of PrograPrint Clean



No.	Description	Function
1	Handle is in the lid	Open and close the lid
2	Self-closing lid	Cover for the cleaning container
3	Cleaning container for rough or fine cleaning	Cleaning container for the first cleaning sequence (rough cleaning) or the second cleaning sequence (fine cleaning)
4	Fill levels	Minimum and maximum fill level in the cleaning containers
5	Seals	Protection against leakage of cleaning fluid and inflammable vapours
6	Magnetic stirrer with display and keys	<ul style="list-style-type: none"> • Generation of waves • Operation / control of the magnetic stirrer

Design and function

No.	Description	Function
7	Sliding device with guide rail for the magnetic stirrer	Moving the magnetic stirrer from one cleaning container to another
8	Hand pump with suction fitting	Disposal of contaminated cleaning fluid
9	Standing feet (4 x at the base of the unit)	Secure position of the device
10	Mains connection / power supply of the magnetic stirrer	Connection to the power supply
11	Magnetic stir bar (1 magnetic stir bar per cleaning container)	Wave generator in the cleaning container to aid in cleaning the dental object
12	Build platform holder	Stable fixation of the build platform in the cleaning container



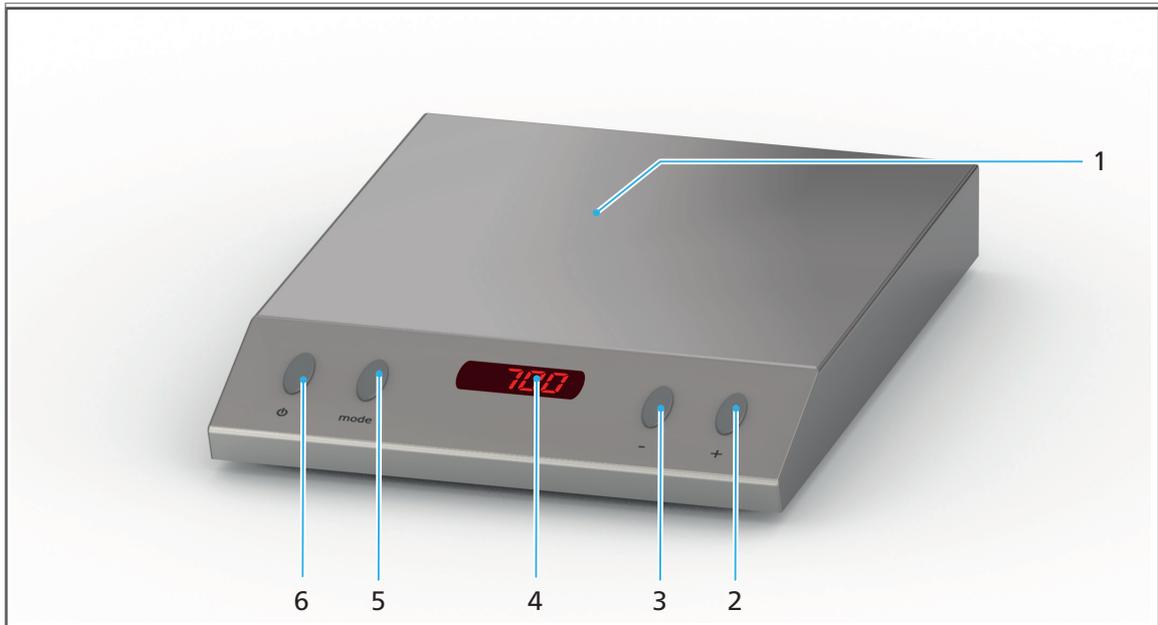
Labels are included within the delivery to show the positioning of the cleaning containers for rough and fine cleaning (No. 1 for rough cleaning, No. 2 for fine cleaning).

Attach them to the device before first use.

3.3 Magnetic stirrer



PrograPrint Clean must only be used with the "2-mag Magnetic stirrer MIX-1 Ivoclar" illustrated here.



No.	Element	Function	Reference
1	Mixing plate	In the PrograPrint construction, without direct function	"Cleaning and maintenance table", page 59
2	Key [+]	According to mode: <ul style="list-style-type: none"> • Increase the cleaning duration • Increase the speed (rpm) 	<ul style="list-style-type: none"> • "Setting the cleaning duration", page 37 • "Setting the speed", page 37
3	Key [-]	<ul style="list-style-type: none"> • Reduce the cleaning duration • Reduce the speed (rpm) 	
4	Display	Display of the current setting for the cleaning duration or speed	-
5	Key [Mode]	Activate the speed mode to adjust the speed via the buttons [+] and [-]	"Setting the speed", page 37
6	Key [On / Off]	<ul style="list-style-type: none"> • Switching the device on/off 	<ul style="list-style-type: none"> • "Switching the magnetic stirrer on", page 36 • "Switching the magnetic stirrer off", page 40

4 Transporting and setting up the device



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

Crushing of extremities.

Damage to the device.

- ▶ Note the weight of the unit (> 18 kg) and if necessary, carry with two persons.
 - ▶ Ensure that the unit is stable and secure at the chosen place of installation.
-



WARNING! Tipping or falling of individual, filled cleaning containers or the filled unit.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Ensure that the cleaning containers are completely empty each time the device is moved after the initial installation ("Disposing of the cleaning fluid", page 65).
 - ▶ Do not move the device or the cleaning containers when they are full.
 - ▶ Remove only empty cleaning containers from the device.
-

4.1 Choosing the site of operation

Before setting up your device, select a suitable site of operation.

Make sure the following requirements are complied with:

- ▶ Make sure that the room is sufficiently ventilated when working with the cleaning fluid (isopropanol).
- ▶ Only operate the unit under an explosion-proof fume hood / explosion-proof extraction cabinet (min. Zone 2 according to ATEX 137, "Fume hood / extraction cabinet at the site of use", page 20).
- ▶ Fume hood / extraction cabinet in continuous operation (24 hours a day, 7 days a week)
- ▶ As shown in these Operating Instructions, only place and operate the unit in a horizontal, non-tilted operating position.
- ▶ Make sure that fire-fighting equipment and extinguishing blankets are accessible and available at the chosen operating site.
- ▶ Do not use in rooms with combustible anaesthetics or other flammable gases and substances.
- ▶ Do not place or operate the device in a potentially explosive environment.
- ▶ Operate the unit only within the permissible temperatures and environmental conditions ("Ambient conditions during operation with cleaning fluid / when filled with cleaning fluid", page 71).
- ▶ Protect the unit against moisture and ignition and heat sources (Bunsen burners, direct sunlight, radiators or other heat sources).
- ▶ Operate the unit under permissible environmental conditions (for specifications, see "Ambient conditions during operation with cleaning fluid / when filled with cleaning fluid", page 71).
- ▶ Operate the device in as clean and dust-free an environment as possible.
- ▶ Risk of slipping due to dripping uncured material or skin contact with dripping, uncured material:
 - a. In order to create an efficient working environment, set up the PrograPrint PR5 and PrograPrint Clean in close proximity to each other.
 - b. Keep cloths and collection containers ready and use in case of contamination.
- ▶ Position the device on a stable, even, non-slip and clean surface (loading capacity at least 95 kg). Note that the unit's feet can leave marks on sensitive surfaces.
- ▶ 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.

4.2 Transporting the device to the place of operation and unpacking



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

Crushing of extremities.

Damage to the device.

- ▶ Note the weight of the unit (> 18 kg) and if necessary, carry with two persons.
 - ▶ Ensure that the unit is stable and secure at the chosen place of installation.
-



WARNING! Tipping or falling of individual, filled cleaning containers or the filled unit.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Ensure that the cleaning containers are completely empty each time the device is moved after the initial installation ("Disposing of the cleaning fluid", page 65).
 - ▶ Do not move the device or the cleaning containers when they are full.
 - ▶ Remove only empty cleaning containers from the device.
-

The place of installation has been chosen ("Choosing the site of operation", page 33).

Location site is freely accessible.

1. Move the device in its original packaging by means of suitable transportation to the defined place of operation.
 2. Unpack the unit.
-



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

4.3 Checking delivery contents and condition

1. Unpack the unit at the place where it is to be operated ("Transporting the device to the place of operation and unpacking", page 34).
2. Check if all contents are complete ("Scope of delivery", page 72).
3. Check all components for transport damage.
4. Report any transport damage or missing components to the transport company immediately.

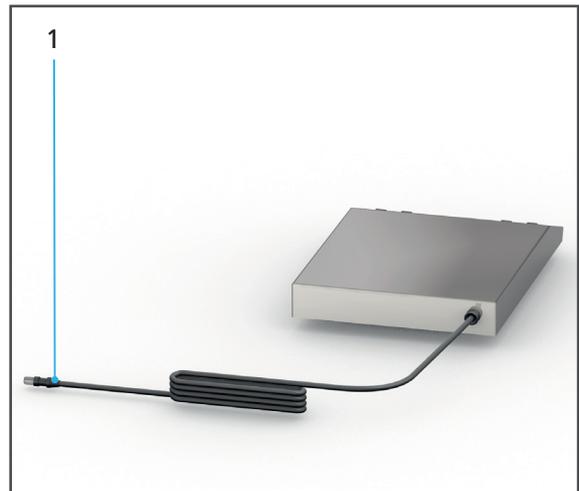
5 Connecting the unit to the power supply



Only use the supplied original power adapter or an equivalent replacement power adapter from Ivoclar Vivadent.

The requirements for the power supply are met ("Electrical data", page 71, "Electrical safety", page 21 and type plate, see "Identification and labelling", page 27).

1. Connect the plug (1) of the power supply to the power adapter (not in the picture, country specific).
2. Connect the plug at the power adapter to the outlet of the power supply.



➔ Mains voltage is present at the stirrer.

6 Operating the magnetic stirrer

In the following sections, the operation of the magnetic stirrer is described in general and without reference to the types of material and their requirements in terms of speed and cleaning time.

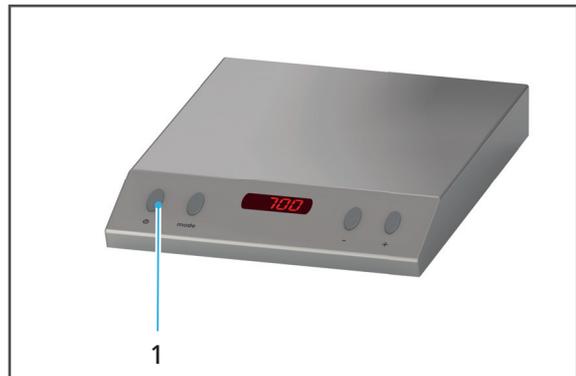


Note that the unit will start stirring directly as soon as the button [On / Off] (1) is activated. Ivoclar Vivadent recommends setting the desired speed before cleaning dental objects for the first time.

The recommended speed and cleaning time for each specific material can be found in the respective cleaning information, "Conducting rough cleaning", page 49 and "Conducting fine cleaning", page 51.

6.1 Switching the magnetic stirrer on

- ☑ The device is connected to the power supply ("Connecting the unit to the power supply", page 35).
- ☑ The magnetic stir bar is in the cleaning container ("Preparing the magnetic stirrer and filling the cleaning containers", page 43).
- ☑ The cleaning containers are filled with cleaning fluid ("Preparing the magnetic stirrer and filling the cleaning containers", page 43).
- ▶ Activate the [On / Off] key (1) at the magnetic stirrer.



- ➔ The magnetic stirrer is activated.
- ➔ The magnetic stir bars are in a central position in the cleaning containers.
- ➔ The magnetic stir bars are slowly accelerated to the set speed. This is indicated by a light on the right hand side of the magnetic stirrer display.

6.2 Setting the cleaning duration

The pre-set cleaning duration of the magnetic stirrer is 20 min. The cleaning time can be set to values between 1 and 90 min. In setting <1 min, the magnetic stirrer is in continual operation.

To set the cleaning duration, proceed as follows:

- ☑ The device is switched on.
- 1. Settings in 1-minute steps: Press the [+] or [-] key repeatedly, until the required cleaning duration has been reached (Pos. 1 + 2 in the picture).
- 2. Accelerated setting: Press the [+] or [-] key and keep it pressed, until the required cleaning duration has been reached (Pos. 1 + 2 in the picture).



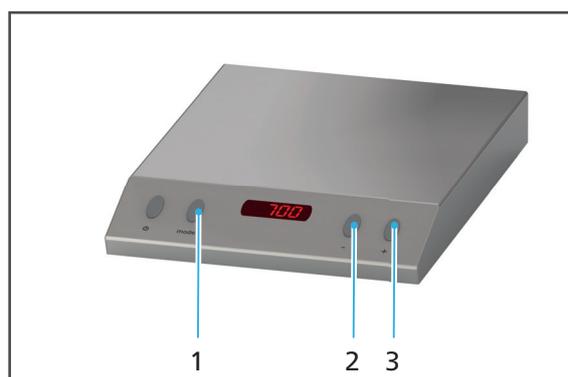
- ➔ The cleaning duration is set.

6.3 Setting the speed

The pre-set speed of the magnetic stirrer is 850 rpm. The speed can be set to values between 100 and 2000 rpm.

To set the speed, proceed as follows:

- ☑ The device is switched on.
- 1. Press the [Mode] key (1).
The speed mode is activated.
- 2. Settings in steps of 10: Press the [+] or [-] key repeatedly, until the required speed has been reached (Pos. 2 + 3 in the picture).
- 3. Accelerated setting: Press the [+] or [-] key and keep it pressed, until the required speed has been reached (Pos. 2 + 3 in the picture).



- ➔ The speed is set.
- ➔ The unit automatically changes the direction of rotation every 60 s. This cannot be switched off.

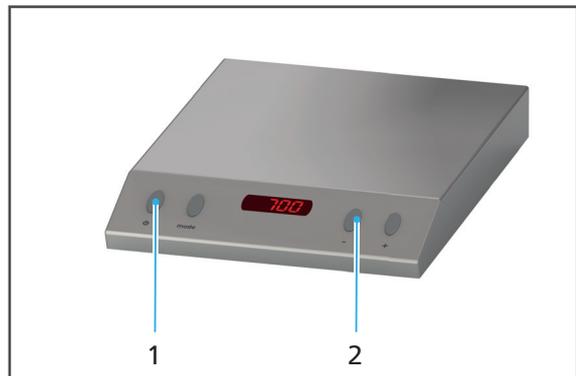
6.4 Using the quick set

With this function, you can set the unit directly to the minimum or maximum cleaning time or speed.

6.4.1 Setting the minimal cleaning duration

To set the cleaning duration to the a minimum of 1 min, proceed as follows:

- ☑ The device is switched on.
- ▶ Keep the [-] key pressed (2) and press the [On / Off] key (1) quickly.



- ➔ The minimal cleaning duration is set.

6.4.2 Setting the maximum cleaning duration

To set the cleaning duration to the a maximum of 90 min, proceed as follows:

- ☑ The device is switched on.
- ▶ Keep the [+] key pressed (2) and press the [On / Off] key (1) quickly.

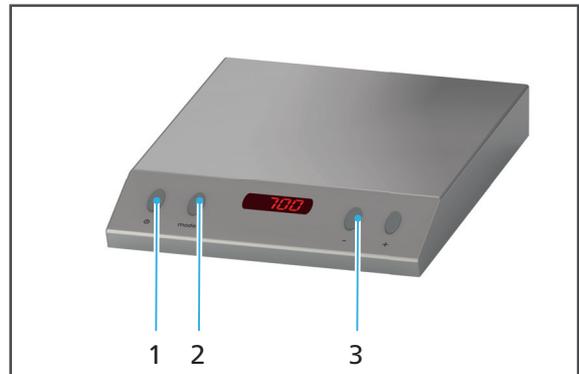


- ➔ The maximum cleaning duration is set.

6.4.3 Setting the minimal speed

To set the speed to the a minimum of 100 rpm, proceed as follows:

- ☑ The device is switched on.
- 1. Press the [Mode] key (2).
The speed mode is activated.
- 2. Keep the [-] key pressed (3) and press the [On / Off] (1) key quickly.

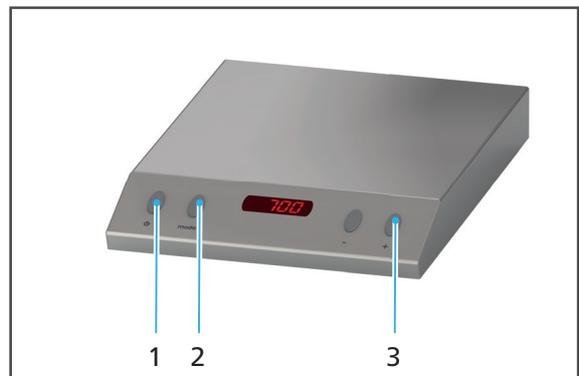


➔ The minimal speed is set.

6.4.4 Setting the maximum speed

To set the speed to the a maximum of 2000 rpm, proceed as follows:

- ☑ The device is switched on.
- 1. Press the [Mode] key (2).
The speed mode is activated.
- 2. Keep the [+] key pressed (3) and press the [On / Off] key (1) quickly.



➔ The maximum speed is set.

6.5 Switching the magnetic stirrer off

- ☑ The device is switched on.
- ▶ Activate the [On / Off] key (1) at the magnetic stirrer.



- ➔ The magnetic stirrer is switched off.

7 Cleaning the dental object

When the build platform with the dental objects is removed from the 3D printer, the surfaces of the objects will be covered with uncured material, which must be removed in the PrograPrint Clean unit.

The cleaning process is carried out in two stages:

- Rough cleaning:
The first cleaning container removes the rough contamination.
- Fine cleaning:
After the rough cleaning procedure, the final impurities are removed in the second cleaning container.

Use the same cleaning fluid in both cleaning containers and always fill both containers up to the fill level marked inside (min. / max. fill level).



Ivoclar Vivadent recommends cleaning medical devices (e.g. splints and drilling templates) in a separate bath and not to clean in a bath where non-medical products have previously been cleaned. Risk of contamination!



WARNING! Insufficient cleaning of the dental objects. Residues of uncured material are still on the dental objects. The patient absorbs the residues.

Nausea or allergic reactions.

Poor precision and material properties.

- ▶ As described, clean the dental object with the PrograPrint Clean before further processing.
-



WARNING! Skin or eye contact with the cleaning fluid.

Skin irritation, allergic reactions or eye irritation.

- ▶ Always wear suitable protective equipment when working with the cleaning fluid ("Personal protective equipment", page 16).
-



WARNING! Evaporation of cleaning fluid due to prolonged storage in the cleaning containers or improperly closed lids.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Make sure the lid is closed when not in use.
 - ▶ Dispose of cleaning fluid in the cleaning containers which has not been used for a long period of time.
-

7.1 Labelling the cleaning containers

PrograPrint Clean is equipped with two cleaning containers. One cleaning container is for rough cleaning and the other is for fine cleaning. Ivoclar Vivadent recommends that the cleaning containers are marked with the labels supplied in order to avoid any mix-up.

If the cleaning fluid in the cleaning container for fine cleaning is visibly dirty after repeated use, you can continue to use this container in future for rough cleaning. In this case, change the labels on the cleaning containers. If the labels are no longer sufficiently adhesive, you can reorder new labels as accessories.



WARNING! Tipping or falling of individual, filled cleaning containers or the filled unit.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Ensure that the cleaning containers are completely empty each time the device is moved after the initial installation ("Disposing of the cleaning fluid", page 65).
- ▶ Do not move the device or the cleaning containers when they are full.
- ▶ Remove only empty cleaning containers from the device.



Numbered labels are included within the delivery to show the positioning of the cleaning containers for rough and fine cleaning (No. 1 for rough cleaning, No. 2 for fine cleaning).

-
- ▶ Attach the labels for rough and fine cleaning to the unit.
 - ➔ The cleaning containers are labelled.

7.2 Preparing the magnetic stirrer and filling the cleaning containers



DANGER! Spilling, leaking or overflowing of cleaning fluid when filling the cleaning containers.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Carefully fill the cleaning fluid into the cleaning containers without spilling.
 - ▶ Do not fill the containers too quickly.
 - ▶ Ensure that the cleaning fluid does not swirl around in the canister too heavily.
 - ▶ Observe the maximum fill level of the cleaning containers and do not exceed it.
 - ▶ Fill cleaning containers with cleaning fluid up to at least the lower fill level mark and at the most to the upper fill level mark (min. / max. fill level).
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
-



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when filling the cleaning container.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Fill the cleaning containers evenly and quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-



DANGER! Tipping the full cleaning fluid canister.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Use a stable canister.
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
 - ▶ Keep canister tightly closed when not in use.
-

Cleaning the dental object

- ☑ The cleaning containers are labelled (“Labelling the cleaning containers”, page 42).
- ☑ The cleaning containers are inserted into the unit.

1. Magnetic stirrer is inserted into the guide rail.



⚠ WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.

! Magnetic stir bar with a damaged coating through wear and tear will have a negative effect on the cleaning result and generate noise (see “Device messages and troubleshooting”, page 57).

⚠ DANGER! Spark formation generated by worn magnetic stir bar.

Danger of fire or explosion.

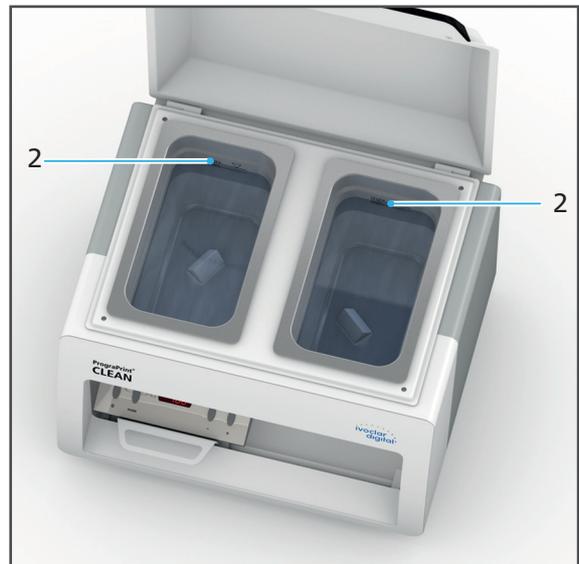
Poor precision and material properties.

- ▶ Check the coating of the magnetic stir bar for wear and tear before use.
 - ▶ Replace magnetic stir bars with worn coating.
-

2. Keep the lid open and insert one magnetic stir bar (1) into each cleaning container.



3. Keep the lid open and fill both cleaning containers with cleaning fluid up to at least the lower fill level mark and at the most to the upper fill level mark (2) (min. / max. fill level).
4. Close the lid.



- ➔ The magnetic stirrer is ready for the cleaning process and the cleaning containers are filled.

7.3 Inserting the build platform into the unit

⚠ CAUTION! Contamination from uncured material dripping down when attaching the build platform to the build platform holder.

Skin irritation, allergic reactions or eye irritation.

- ▶ Always wear suitable protective equipment when working with the build platform ("Personal protective equipment", page 16).

⚠ CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when inserting the build platform.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Insert the build platform quickly.
- ▶ Do not block the self-closing lid with objects which keep it open.

⚠ WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.

The dental object was created with the 3D printer.

1. Keep the lid open.
2. Remove the build platform holder (1) from the unit.
3. Close the lid.



⚠ CAUTION! Contact with the material upon removal of the build platform.

Spilling or slopping of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger to the environment.

Damage to the device and the cartridge.

- ▶ Let the printed object drain for approximately 10 minutes before you remove the build platform.

⚠ CAUTION! Careless handling of the build platform.

Damage to the printed dental object.

- ▶ Handle the build platform with care.
- ▶ Do not knock the dental object against the build platform holder or container edge.

⚠ CAUTION! Removal of dental objects before the cleaning and post-curing phase has been completed.

Damage to the printed dental object.

Distorted dental objects.

Insufficient processing (cleaning or curing).

- ▶ Only remove the objects from the build platform once post-processing has been completed (cleaning and post-curing).
- ▶ Please follow the specifications in the PrograPrint PR5 Operating Instructions ("Documents of equal applicability", page 10).

4. Push the build platform into the holder until it stops.

The build platform is inserted into the build platform holder.



Cleaning the dental object

5. Keep the lid open.
6. Place the build platform holder with the inserted build platform into the cleaning container for rough cleaning.
7. Close the lid.



- ➔ The build platform is inserted into the unit.

7.4 Conducting rough cleaning

⚠ WARNING! Skin or eye contact with the cleaning fluid.

Skin irritation, allergic reactions or eye irritation.

- ▶ Always wear suitable protective equipment when working with the cleaning fluid ("Personal protective equipment", page 16).

NOTICE! Incorrect positioning of the magnetic stirrer under the cleaning container.

Reduced cleaning performance.

- ▶ Make sure that the magnetic stirrer is located in the centre, underneath the cleaning container.

- ☑ Magnetic stirrer and cleaning containers are prepared ("Preparing the magnetic stirrer and filling the cleaning containers", page 43).
- ☑ The build platform is inserted into the unit ("Inserting the build platform into the unit", page 46).

1. Push the magnetic stirrer (1) under the cleaning container for rough cleaning (2).



2. Switch the magnetic stirrer on ("Switching the magnetic stirrer on", page 36).

Observe the following material-specific specifications for cleaning time and speed:

Parameter		Rough cleaning	Fine cleaning
Cleaning duration:	ProArt Print Splint	10 min	5 min
	ProArt Print Model	5 min	5 min
	ProArt Print Wax	2 min	2 min
Speed:		850 rpm	850 rpm

Cleaning the dental object



WARNING! Insufficient cleaning of the dental objects due to low speed or reduced cleaning duration. Residues of uncured material are still on the dental objects. The patient absorbs the residues.

Nausea or allergic reactions.

Poor precision and material properties.

- ▶ Maintain the speed and cleaning time requirements.
-

NOTICE! Damage to the dental object caused by cleaning for too long or leaving the dental object in the cleaning fluid for too long.

Poor precision and material properties.

- ▶ Maintain the speed and cleaning time requirements.
-

3. Set material-specific speed and cleaning time ("Setting the speed", page 37 and "Setting the cleaning duration", page 37).
 4. Wait during the total cleaning time.
 5. Switch the magnetic stirrer off ("Switching the magnetic stirrer off", page 40).
- ➔ Rough cleaning is completed.
 - ➔ You can now start the fine cleaning procedure ("Conducting fine cleaning", page 51).

7.5 Conducting fine cleaning



WARNING! Skin or eye contact with the cleaning fluid.

Skin irritation, allergic reactions or eye irritation.

- ▶ Always wear suitable protective equipment when working with the cleaning fluid ("Personal protective equipment", page 16).
-



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when inserting the build platform.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Insert the build platform quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-



WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.
-

Rough cleaning has been completed ("Conducting rough cleaning", page 49).

1. Keep the lid open.
-



WARNING! Contact with cleaning fluid when removing the build platform.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Drain the build platform containing the dental objects for a few seconds before removal.
-

Cleaning the dental object

2. Remove the build platform holder with the inserted platform from the rough cleaning container.



! Do not change the position of the rough and fine cleaning containers during different printing procedures. Ivoclar Vivadent recommends labelling with the supplied identification labels.

! Ivoclar Vivadent recommends cleaning medical devices (e.g. splints and drilling templates) in a separate bath and not to clean in a bath where non-medical products have previously been cleaned. Risk of contamination!

! **CAUTION!** Careless handling of the build platform.

Damage to the printed dental object.

- ▶ Handle the build platform with care.
 - ▶ Do not knock the dental object against the build platform holder or container edge.
-

3. Place the build platform holder with the inserted build platform into the cleaning container for fine cleaning.
4. Close the lid.



NOTICE! Incorrect positioning of the magnetic stirrer under the cleaning container.

Reduced cleaning performance.

- ▶ Make sure that the magnetic stirrer is located in the centre, underneath the cleaning container.

5. Push the magnetic stirrer (1) under the cleaning container for fine cleaning (2).



6. Switch the magnetic stirrer on ("Switching the magnetic stirrer on", page 36).

Observe the following material-specific specifications for cleaning time and speed:

Parameter		Rough cleaning	Fine cleaning
Cleaning duration:	ProArt Print Splint	10 min	5 min
	ProArt Print Model	5 min	5 min
	ProArt Print Wax	2 min	2 min
Speed:		850 rpm	850 rpm



WARNING! Insufficient cleaning of the dental objects due to low speed or reduced cleaning duration. Residues of uncured material are still on the dental objects. The patient absorbs the residues.

Nausea or allergic reactions.

Poor precision and material properties.

- ▶ Maintain the speed and cleaning time requirements.

NOTICE! Damage to the dental object caused by cleaning for too long or leaving the dental object in the cleaning fluid for too long.

Poor precision and material properties.

- ▶ Maintain the speed and cleaning time requirements.

7. Set material-specific speed and cleaning time ("Setting the speed", page 37 and "Setting the cleaning duration", page 37).

Cleaning the dental object

8. Wait during the total cleaning time.
9. Switch the magnetic stirrer off ("Switching the magnetic stirrer off", page 40).
 - ➔ Fine cleaning has been completed.
 - ➔ You can now remove the build platform with the dental objects from the unit and dry with compressed air ("Removing the build platform and drying the object", page 54).

7.6 Removing the build platform and drying the object



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when removing the build platform.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Remove the build platform quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-



WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.
-

Fine cleaning has been completed ("Conducting fine cleaning", page 51).

1. Keep the lid open.
-



WARNING! Contact with cleaning fluid when removing the build platform.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Drain the build platform containing the dental objects for a few seconds before removal.
-

2. Remove the build platform holder (1) with the inserted build platform from the cleaning container for fine cleaning.
3. Close the lid.



CAUTION! Careless handling of the build platform.

Damage to printed dental object.

- ▶ Handle the build platform with care.
- ▶ Do not knock the dental object against the build platform holder or container edge.

4. Remove the build platform from the platform holder.



Cleaning the dental object



CAUTION! Inhalation of harmful material particles stirred up by compressed air.

Respiratory disorders and allergic reactions.

- ▶ Never point the compressed air in the direction of a person.
 - ▶ Carry out drying procedure away from people.
-

NOTICE! Point the compressed air directly at the dental object.

Damage to printed dental object.

- ▶ Do not blow the compressed air directly at the finely detailed support structures on the dental object.
-

5. Carefully dry the build platform with compressed air.
 6. If there is still a sticky layer on the surface of the dental object after drying, remove the film using a cloth dipped in isopropanol and then dry the dental object once again with compressed air.
- ➔ The printed dental object has been cleaned.
-



The dental object must be post-cured after cleaning.

Observe the Operating Instructions of PrograPrint Cure ("Documents of equal applicability", page 10).

8 Device messages and troubleshooting



If you cannot solve possibly occurring problems with the help of the following table, please contact your authorized service partner.

Error	Possible reason(s)	Solution
Magnetic stirrer is not stirring	No magnetic stir bar inserted	<ul style="list-style-type: none"> Place the magnetic stir bar into the cleaning container.
	Technical defect	<ul style="list-style-type: none"> Check that the magnetic stir bar is inserted in the cleaning container. Check power supply and restore if necessary. Switch the magnetic stirrer off and on again (page 36). If the problem continues: Contact your authorized service partner.
Loud noise during cleaning	Magnetic stir bar is worn out	<ul style="list-style-type: none"> Replace magnetic stir bar.
Magnetic stir bar rotates unevenly	Magnetic stir bar is worn out	<ul style="list-style-type: none"> Replace magnetic stir bar.
	Speed is too low	<ul style="list-style-type: none"> Increase speed (page 37).
	Magnetic stirrer is not positioned in the centre underneath the cleaning container	<ul style="list-style-type: none"> Make sure that the magnetic stirrer is located in the centre, underneath the cleaning container.
Magnetic stir bar is not in the centre in the cleaning container	Speed is too high	<ul style="list-style-type: none"> Reduce speed (page 37).
	Magnetic stirrer is not positioned in the centre underneath the cleaning container	<ul style="list-style-type: none"> Make sure that the magnetic stirrer is located in the centre, underneath the cleaning container.
Poor precision or material properties	Insufficient cleaning result due to inadequate cleaning performance	<ul style="list-style-type: none"> Maintain the material-specific specifications for cleaning time and speed.
	Cleaning times exceeded.	<ul style="list-style-type: none"> Only leave the objects in the cleaning fluid for the specified time, under no circumstances longer.

9 Cleaning and maintenance work for the user



This chapter deals exclusively with the cleaning of the device.

For information on cleaning the other system components, such as the PrograPrint PR5 or PrograPrint Cure, refer to the Operating Instructions of the relevant components ("Documents of equal applicability", page 10).



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

Risk to the patient and the user.

Damage to the device.

- ▶ Only carry out work on the device described in this chapter and assigned to the user.
 - ▶ Do not use any cleaning agents for components, for which no explicit cleaning agents are mentioned.
 - ▶ Always carry out the cleaning tasks at the specified intervals.
-



CAUTION! Cleaning fluid enters the water cycle.

Danger to the environment.

- ▶ Separately collect cleaning fluid or water mixed with cleaning fluid and dispose of according to country-specific specifications.
-

NOTICE! Improper cleaning of the device with unsuitable equipment and cleaning agents.

Damage to sensitive components.

Damage to / scratches on the device.

- ▶ Do not use any brushes, tools, sponges with metal components or cleaning equipment other than those specified in this chapter.
 - ▶ Only use soft towels, paint brushes, brushes or small brooms.
 - ▶ Do not use sharp, chlorine-containing cleaners. Only use mild, pH neutral cleaning agents.
 - ▶ To avoid scratching the magnetic stirrer and the display, only clean with a soft cloth dampened with tap water and a mild, pH-neutral cleaning agent.
 - ▶ To avoid damaging the magnetic stirrer, avoid strong pressure, scrubbing, rubbing and wiping.
 - ▶ Do not wear jewellery such as rings, bracelets or watches when working on the device.
-

9.1 Cleaning and maintenance table



Compliance with the following cleaning and maintenance intervals is the sole responsibility of the operator!

Duties	Responsible person	Interval	Reference
Cleaning the base and magnetic stirrer	User/operator	Upon contamination of the base or mixing plate of the magnetic stirrer	<ul style="list-style-type: none"> • "Cleaning the base and the magnetic stirrer", page 60
Refilling the cleaning fluid	User/operator	As required	<ul style="list-style-type: none"> • "Refilling the cleaning fluid", page 61
Using the cleaning container for fine cleaning as the cleaning container for rough cleaning	User/operator	<ul style="list-style-type: none"> • Upon visible contamination of the cleaning container • After cleaning 10 printed objects 	<ul style="list-style-type: none"> • "Replacing the cleaning fluid", page 63
Replacing the magnetic stir bar	User/operator	<ul style="list-style-type: none"> • Loud noise during cleaning • Magnetic stir bar is worn out 	-
Disposing of cleaning fluid	User/operator	As required	<ul style="list-style-type: none"> • "Disposing of the cleaning fluid", page 65
Checking the lid and seals of the lid for tightness to prevent leaking vapours or liquids	User/operator	As required	-

9.2 Cleaning the base and the magnetic stirrer



DANGER! Cleaning work during operation. Contact with voltage-carrying components.

Danger of electric shock.

Damage to the device.

- ▶ Perform cleaning work only when the device is switched off and disconnected from the power supply.
-



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

Danger of electric shock.

Damage to the device.

- ▶ Never remove the housing covers.
 - ▶ Ensure that no liquids or objects enter into the interior of the unit.
-

The magnetic stirrer is switched off ("Switching the magnetic stirrer off", page 40) and disconnected from the power supply.

- ▶ Clean the base and magnetic stirrer with a soft cloth dampened with tap water and a mild, pH neutral cleaning agent.

9.3 Refilling the cleaning fluid



DANGER! Spilling, leaking or overflowing of cleaning fluid when filling the cleaning containers.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Carefully fill the cleaning fluid into the cleaning containers without spilling.
 - ▶ Do not fill the containers too quickly.
 - ▶ Ensure that the cleaning fluid does not swirl around in the canister too heavily.
 - ▶ Observe the maximum fill level of the cleaning containers and do not exceed it.
 - ▶ Fill cleaning containers with cleaning fluid up to at least the lower fill level mark and at the most to the upper fill level mark (min. / max. fill level).
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
-



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when refilling the cleaning container.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Fill the cleaning containers evenly and quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-



DANGER! Tipping the full cleaning fluid canister.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Use a stable canister.
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
 - ▶ Keep canister tightly closed when not in use.
-



WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.
-

Cleaning and maintenance work for the user

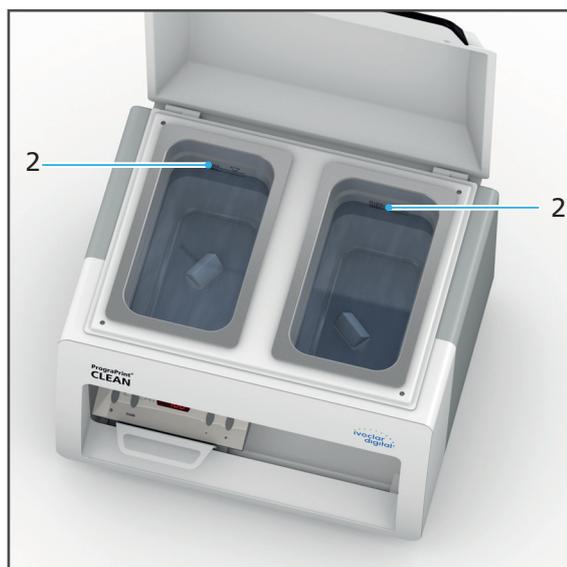
NOTICE! Level of cleaning fluid in the cleaning container is too low.

Reduced cleaning performance.

- ▶ Ensure that the cleaning containers are filled with cleaning fluid according to the fill level marking in the cleaning containers (min. and max. level).

-
- ☑ The magnetic stirrer is switched off ("Switching the magnetic stirrer off", page 40).
 - ☑ No build platform holders are in the cleaning containers.

1. Keep the lid open and fill both cleaning containers with cleaning fluid up to at least the lower fill level mark and at the most to the upper fill level mark (2) (min. / max. fill level).
2. Close the lid.



- ➔ The cleaning fluid is refilled.

9.4 Replacing the cleaning fluid



CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when changing the cleaning container.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Change the cleaning container quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-

If the cleaning fluid for the fine cleaning procedure is visibly dirty or if the cleaning results are insufficient, Ivoclar Vivadent recommends to continue using the fine cleaning container for rough cleaning. Empty and clean the previous rough cleaning container and use it as a new cleaning container for fine cleaning, with fresh, newly filled cleaning fluid.

To change the containers, proceed as follows:

- The magnetic stirrer is switched off ("Switching the magnetic stirrer off", page 40).
 - No build platform holders are in the cleaning containers.
1. Pump the cleaning fluid out of the rough cleaning container ("Disposing of the cleaning fluid", page 65).
-



WARNING! Tipping or falling of individual, filled cleaning containers or the filled unit.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Do not move the device or the cleaning containers when they are full.
 - ▶ Ensure that the cleaning containers are completely empty before removing or transportation ("Disposing of the cleaning fluid", page 65).
 - ▶ Remove only empty cleaning containers from the device.
-

2. Exchange identification labels and mark the former fine cleaning container now as the rough cleaning container and vice versa.

Cleaning and maintenance work for the user

DANGER! Spilling, leaking or overflowing of cleaning fluid when filling the cleaning containers.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Carefully fill the cleaning fluid into the cleaning containers without spilling.
 - ▶ Do not fill the containers too quickly.
 - ▶ Ensure that the cleaning fluid does not swirl around in the canister too heavily.
 - ▶ Observe the maximum fill level of the cleaning containers and do not exceed it.
 - ▶ Fill cleaning containers with cleaning fluid up to at least the lower fill level mark and at the most to the upper fill level mark (min. / max. fill level).
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
-

CAUTION! Evaporation of cleaning fluid due to the lid having been open for too long when refilling the cleaning container.

Skin irritations and allergic reactions.

Danger of fire or explosion.

- ▶ Fill the cleaning containers evenly and quickly.
 - ▶ Do not block the self-closing lid with objects which keep it open.
-

DANGER! Tipping the full cleaning fluid canister.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Use a stable canister.
 - ▶ Ideally use canisters with a filling volume of 1-2 L (max. 4 L).
 - ▶ Keep canister tightly closed when not in use.
-

WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.
-

3. Fill the former rough cleaning container (now the fine cleaning container) with fresh cleaning fluid ("Preparing the magnetic stirrer and filling the cleaning containers", page 43).

- ➔ The cleaning fluid is refilled.

9.5 Disposing of the cleaning fluid

The unit comes with a hand pump, two hose ends and a suction nozzle. Using this equipment, you can pump the used, dirty cleaning fluid out of the cleaning containers and into empty cleaning canisters for appropriate disposal according to country-specific regulations. Ivoclar Vivadent recommends storing and using the canisters which the cleaning fluid was delivered in.



WARNING! Tipping the full cleaning fluid canister.

Leaking of material harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Use sturdy canisters, e.g. empty cleaning fluid canisters.
 - ▶ Keep canister tightly closed when not in use.
-



WARNING! Leaking cleaning fluid when emptying the cleaning container.

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Fix the hose end of the hand pump with the suction nozzle securely to the cleaning container.
 - ▶ If required, fix the other end of the hose to the cleaning canister.
-



WARNING! The lid falls shut unintentionally.

Risk of crushing.

- ▶ Hold the lid open by the handle when working inside the unit.
-



CAUTION! Cleaning fluids or uncured material residues enter the water cycle.

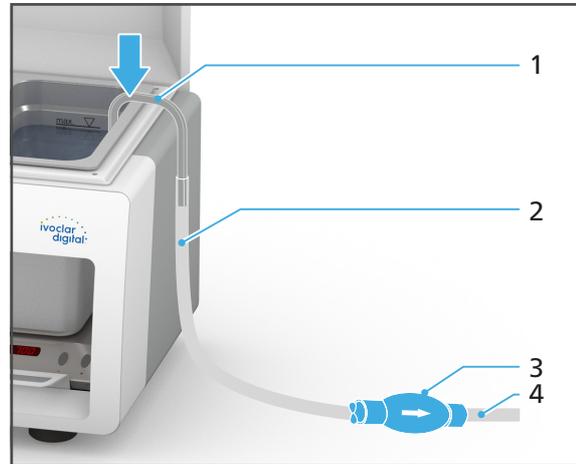
Danger to the environment.

- ▶ When cleaning, fill the cleaning fluid into canisters suitable for disposal – ideally into the canisters which the cleaning fluid was delivered in.
 - ▶ When transferring into the canisters, make sure that neither cleaning fluids nor uncured material residues (ProArt Print) enter into the environment or drains.
 - ▶ Dispose of canisters with cleaning fluid according to country-specific regulations.
-

Cleaning and maintenance work for the user

- ☑ The magnetic stirrer is switched off ("Switching the magnetic stirrer off", page 40).
- ☑ No build platform holders are in the cleaning containers.

1. Place the suction nozzle (1) over the edge of the cleaning container and the base as shown. Attach the suction nozzle securely (1) so that it cannot become loose or tip.
2. Connect the hose end with the hose nozzle (2) to the suction nozzle (1). Note the pump direction indicated on the hand pump (3).
3. Insert the other end of the hose (4) into a suitable, sturdy canister and if necessary, fix it in place. Fix the hose end to the canister in such a way that it cannot slip out.



CAUTION! Spilling, leaking, overflowing or evaporating of cleaning fluid.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Pump the cleaning fluid out of the cleaning container evenly and quickly.

-
4. Carefully pump the cleaning fluid out of the cleaning container and into the canister with the help of the hand pump (3).
 5. Dispose of canisters with cleaning fluid according to country-specific regulations.
- ➔ The cleaning fluid has been disposed of.

10 Decommissioning

**WARNING! Tipping or falling of individual, filled cleaning containers or the filled unit.**

Leaking of material is harmful to health and the environment.

Skin irritations and allergic reactions.

Danger of fire or explosion.

Danger to the environment.

- ▶ Ensure that the cleaning containers are completely empty each time the device is moved after the initial installation ("Disposing of the cleaning fluid", page 65).
 - ▶ Do not move the device or the cleaning containers when they are full.
 - ▶ Remove only empty cleaning containers from the device.
-

If you want to decommission the device for a longer period time, send it in for maintenance and repair purposes or dispose of it, prepare the device as follows:

1. Clean the cleaning container and dispose of the cleaning fluid ("Disposing of the cleaning fluid", page 65).
2. Clean the unit ("Cleaning and maintenance table", page 59).
3. Switch off the device and disconnect it from the power supply: Carry out the steps in reverse order as described in: "Connecting the unit to the power supply", page 35.
4. Remove all cables.
5. Pack the device in the original packaging.

10.1 Storing the device

1. Ensure that the storage space meets the following requirements:
 - dry
 - vibration free
2. Ensure that the storage requirements are met ("Ambient conditions for storage and transportation without cleaning fluid", page 71).

10.2 Disposal of the device and materials



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/maintenance work.

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



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



Use only the original packaging for transportation.

1. Take the device out of service before returning it to the authorized service partner ("Decommissioning", page 67).
2. Send the device to the authorized service partner in its original packaging.

12 Technical data



The following technical data refer exclusively to PrograPrint Clean.

For information on the technical data of the accessories or other components, please refer to the respective Operating Instructions ("Documents of equal applicability", page 10).

12.1 Classifications

Characteristics	Value
Test standards	<ul style="list-style-type: none">• IEC 61010-1:2010• EN 61010-1:2010• UL 61010-1:2012-05• CAN/CSA-C22.2 No. 61010-1:2012-05
Radio protection / electromagnetic compatibility	EMC (electromagnetic compatibility) certified
Noise emission	(Measurement conditions): 70 dB(A) All other operating conditions: 70 dB (in 1 m distance) Measurement conditions: <ul style="list-style-type: none">• Measuring distance to the sound source 1 m• Measurement according to ISO 3746, accuracy class 3

12.2 Measurements, weight

PrograPrint Clean:

Characteristics	Value
Width x depth x height	450 mm x 380 mm x 330 mm
Weight	18.5 kg (empty weight)

12.3 Ambient conditions

12.3.1 Ambient conditions for storage and transportation without cleaning fluid

Characteristics	Value
Acceptable ambient temperature	-20 °C bis +65 °C

12.3.2 Ambient conditions during operation with cleaning fluid / when filled with cleaning fluid

Characteristics	Value
Acceptable ambient temperature	+20 °C to +30 °C

12.4 Electrical data

Characteristics	Value
Network connection	100 to 240 V / 50/60 Hz

12.5 Power supply

Only power supplies that meet the following requirements may be used:

Energy-limited circuits equivalent to IEC/EN/UL/CSA 61010-1 or equal to e.g. LPS (Limited Power Source) / NEC Class 2.

13 Appendix

13.1 Scope of delivery

Item description	Number
Base (housing with self-closing lid)	1
Cleaning container	2
Magnetic stirrer incl. power adapter	1
Magnetic stir bar	2
Build platform holder	1
Hand pump with suction fitting	1
Short instructions	1

13.2 Ordering spare parts

1. When ordering spare parts, keep the following information ready:
 - Serial number
2. Contact your authorized service partner.



For safety reasons, only spare parts from Ivoclar Vivadent are permitted and therefore only these should be used without exception.

13.3 Recommended additional accessories

Item description	Number
PrograPrint PR5	1
PrograPrint Cure	1
CAM software "CAMbridge"	1

13.4 Approved cleaning fluid

For all ProArt Print materials: Isopropanol

NOTICE! Use of unsuitable cleaning materials.

Damage to the device.

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

13.5 CE certification / declaration of conformity

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Translation of the original operating instructions

Version: 2

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This device has been developed solely for use in dentistry. Setup and operation should be carried out strictly according to the Operating Instructions. Liability cannot be accepted for damages resulting from misuse or failure to observe the Instructions. The user is solely responsible for testing the apparatus for its suitability for any purpose not explicitly stated in the Instructions.