Short Instructions

Programat®
CS6

Sintering, crystallization and glazing furnace for the dental field

Making People Smile

ivoclar

Programat® CS6

Short Instructions

Dear Customer

Thank you for having purchased the Programat® CS6. In order to render the setting-up and initial use of the furnace as easy as possible, we have prepared these short instructions.

We hope you enjoy working with the Programat CS6.

These short instructions by no means replace the detailed Operating Instructions. We therefore kindly ask you to thoroughly read the Operating Instructions and follow the notes contained therein. You can find the Operating Instructions in the download section of www.ivoclar.com.

1. Intended use

Intended purpose and use

The Programat CS6 is a sintering, crystallization and glazing furnace for the dental field. It was specifically developed for use in the dental office. The firing chamber may be heated up to max. 1560 °C (2840 °F) by means of a heating element. Furthermore, the firing chamber has been designed in such a way that a vacuum may be created with a vacuum pump. Electronic components with the corresponding software monitor and control the firing programs. Additionally, the set and actual temperatures are continuously compared.
Use the Programat CS6 exclusively for the sintering, crystallization or glazing of dental ceramic materials. Other uses than the ones stipulated, e.g. cooking of food, firing of other materials, etc., are contraindicated. The manufacturer does not assume any liability for damage resulting from misuse. The user is solely responsible for any risk resulting from failure to observe these Instructions.

Further instructions to assure proper use of the furnace:
- The instructions, regulations and notes in these Short Instructions and the comprehensive Operating Instructions must be observed.
- The instructions, regulations and notes in the material's Instructions for Use must be observed.
- The furnace must be operated under the indicated environmental and operating conditions (see Chapter 6).
- The Programat CS6 must be properly maintained.

Additional information

The device has been developed solely for use in dentistry. Start-up 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.

Information on cleaning the furnace can be found in the Operating Instructions. Information about the correct positioning of materials with regard to this furnace can be found in the Operating Instructions of the furnace or the Instructions for Use of the respective material.

Safety notes

Hazardous area	Type of risk
Firing chamber	Burn hazard
Opening/closing mechanism	Risk of crushing
Electrical components (cables and connections)	Risk of electrical shock

Safety information for the 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.
- To prevent damage to the device and a reduction of the device performance, observe the cleaning requirements and cycles.
- 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 work environment is heavily soiled.
- Protect the device against unauthorized access.

Safety notes

This device has been designed according to EN 61010-1 and has been shipped from the manufacturer in excellent condition as far as safety regulations are concerned. To maintain this condition and to ensure risk-free operation, the user must observe the notes and warnings contained in these Operating Instructions.

- The user must especially become familiar with the warnings and operating conditions to prevent injury to personnel or damage to materials. The manufacturer is not responsible for damage resulting from misuse or failure to observe the Operating Instructions. Warranty claims cannot be accepted in such cases.
- Before switching on the furnace, make sure that the voltage indicated on the rating plate complies with your local power supply.
- The mains socket must be equipped with a residual current operated device (FI).
- The power plug acts as a circuit breaker and may only be connected with an easy-to-access power socket with protective contact.
- Use only the power cord supplied with the furnace or a power cord with the same specifications.
- Place the furnace on a fire-proof table. Observe local regulations, (e.g. distance to combustible substances or objects, etc.).
- Always keep the air vents on the sides and at the rear of the furnace free from obstruction.
- Do not touch any parts that become hot during operation of the furnace. Burn hazard!
- When removing hot components from the firing chamber (e.g. firing table, firing tray), make sure to place them on a fire-proof surface.
- Clean the furnace only with a dry, soft cloth. Do not use any solvents! Disconnect power before cleaning and allow the furnace to cool down!
- The furnace must be cool before it is packed for transportation.
- Before calibration, maintenance, repair or change of parts, the power must be disconnected and the furnace must be cool if it needs to be opened.
- If calibration, maintenance or repair has to be carried out with the power connected and furnace open, only qualified personnel who are familiar with the risks and dangers may perform the procedures (certified Service Centre).
- After maintenance, the required safety tests (high voltage resistance, protective conductor, etc.) must be carried out.
- Make sure that only fuses of the indicated type and rated current are used.
- Use only original spare parts.
- If it is assumed that safe operation is no longer possible, the power must be disconnected to avoid accidental operation.
- If the furnace is visibly damaged, the power must be disconnected to avoid accidental operation.
- Check the correct function of the device after storage under unfavourable conditions over an extended period of time.
- If the furnace does not work properly, the power must be disconnected to avoid accidental operation.
- The temperature range for faultless operation is +5°C to + 40°C (41°F to 104°F).
- If the furnace has been stored at very low temperatures or high atmospheric humidity, it must be left to dry or to adjust to room temperature for approx.
  4 hours before it is operated (do not connect the power yet).
- The furnace is tested for use at altitudes of up to 2000 m above sea level.
- The furnace may only be used indoors.
- Before leaving the factory, the furnace functions were tested for several hours. It is therefore possible that these tests have caused slight discolouration of the insulation. Nevertheless, your Programat is still a brand new furnace.

Important points for shipping

- Use original packaging for transportation purposes.
- Remove the object plate from the firing chamber when transporting or shipping the device.

Any disruption of the protective conductor either inside or outside the furnace or any loosening of the protective conductor may lead to danger for the user in case of malfunction. Deliberate interruptions are not admissible.

Materials developing harmful gases must not be fired!

This product contains ceramic fibres and may release fibre dust. Do not raise dust with compressed air. Use a vacuum cleaner with HEPA filter to remove it. The heating elements may only be dismounted by a qualified After Sales Service Centre. Information regarding the Safety Data Sheet is also available from your After Sales Service Centre.

- In the case of serious incidents related to the product, please contact Ivoclar Vivadent AG, Bendererstrasse 2, 9494 Schaan/Liechtenstein, website: www.ivoclar.com, and your responsible competent authority.
- The current Instructions for Use are available in the download section of the Ivoclar Vivadent AG website (www.ivoclar.com).

Warning symbols

Symbol	Note
	Burn hazard
	Risk of crushing
	The Operating Instructions must be read.

2. Installation

Remove the furnace components from their packaging and place them on a suitable table. Please observe the instructions on the outer packaging. Make sure the voltage indicated on the rating plate complies with the local power supply. If this is not the case, the furnace must not be connected.

Ⓐ **Power connection**
Please make sure that the voltage indicated on the rating plate complies with the local power supply. Subsequently, connect the power cord (2) with the power socket of the furnace (1).
The device must only be operated with the supplied original power cord or a replacement cord with the same specifications.

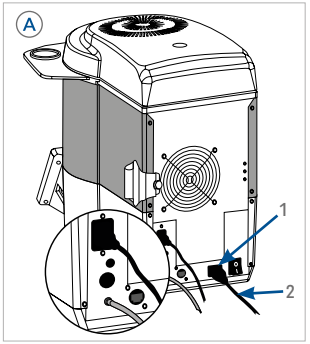
Ⓑ **Vacuum pump connection**
Connect the vacuum pump plug (4) with the vacuum pump socket (3). We recommend using a vacuum pump from Ivoclar Vivadent, since these pumps are especially coordinated with the furnace. If other pumps are used, always observe and do not exceed the maximum power consumption specified on the rating plate at the rear of the device. Connect the vacuum hose (6) with the vacuum hose connection (5).

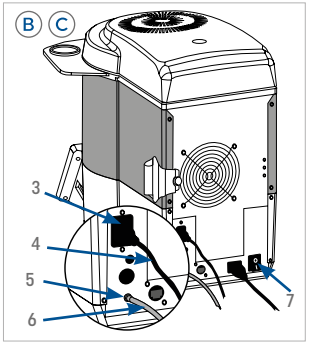
Ⓒ **Switching on**
Connect the power cord with the power supply. Put the On/Off switch (7) at the rear of the device on position "I". After the self test of the device, the program indicator or the last selected program appears on the screen.

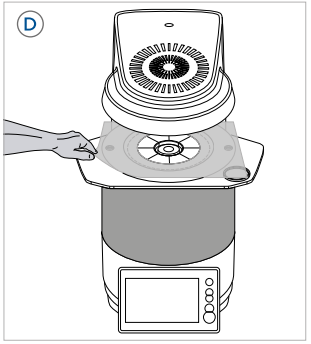
Ⓓ **Removing the transport safety film**
Open the furnace head using the key OPEN FURNACE HEAD. Remove the protective film from the cooling plate.

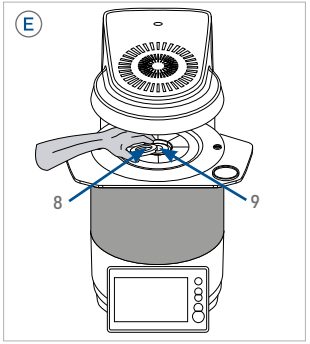
Please check the surfaces for adhesive residue. Any adhesive residue must be removed.

Ⓔ **Placing the object plate**
Place the object plate (8) on the object plate rest in the firing chamber (9).



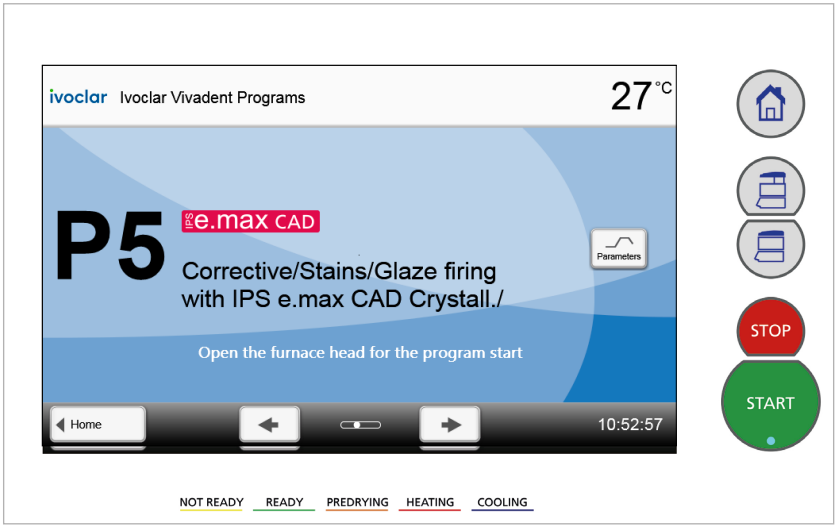






3. User interface

The Programat CS6 is equipped with a widescreen colour display. The furnace can be intuitively operated by means of the membrane-sealed keypad and the touch screen. The touch buttons can be activated by slightly tapping the display with the fingertip. Then the furnace runs the desired function.



Membrane-sealed keys:

Home
Switch to home screen (main menu)

Open furnace head

Close furnace head

STOP
A program in progress can be stopped by pressing the STOP key. The movement of the furnace head can be stopped at any time by pressing STOP. The acoustic signal can be confirmed by pressing the STOP key.

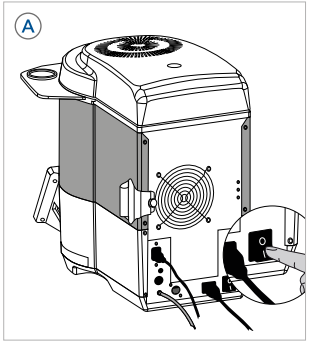
START (Start LED)
Starts the selected program. The green LED indicates that a program is active.

4. Operation

Ⓐ **Switching on**

Connect the power cord with the power supply. Put the On/Off switch at the rear of the device on position "I".

After the self-test of the device, the Home screen appears. All functions of the Programat can be selected via this screen. To change to the Home screen, press the HOME key.

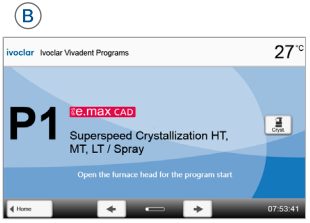


Ⓑ **Selecting the program**

Select the desired program using the **[Arrow]** buttons.

Loading the furnace

Open the furnace head by pressing the OPEN FURNACE HEAD key and place the object to be fired in the furnace.
Detailed information on loading the furnace can be found in Chapter 2.3.1 in the Operating Instructions as well as in the Instructions for Use of the respective material.



Ⓒ **Starting the program**

Press the Start key to start the program. The LED lights up in red. The remaining time of the program is shown in the display.
The furnace head opens automatically at the end of the program.

5. Editing the firing parameters

Ⓐ **Press the [Parameters] button in the program screen.**

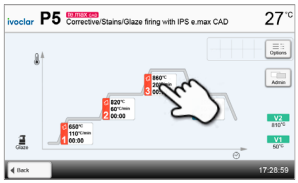
Ⓑ **By pressing the firing curve, you will reach the parameter view.**

Ⓒ **Press the [T] button.**

Ⓓ **Enter the desired holding temperature and confirm with the green button.**
The holding temperature has been successfully changed. All other parameters shown in the firing curve can be changed / edited in the same way.

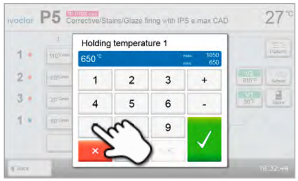
Ⓐ

Ⓑ



Ⓒ

Ⓓ



Predrying

For zirconia:

- "Off" for dry machining or "ZrO_2 wet" for wet machining

For the crystallization program:

- "Cryst." for crystallization alone or in conjunction with the glaze spray
- "Glaze" for spray or paste

Predrying must always be activated for crystallization programs.

Ivoclar Vivadent programs are partially blocked and cannot be edited. Please refer to the Operating Instructions for more comprehensive information about the operation.

6. Technical data and operating conditions

6.1 Technical data

Power supply	110 – 240 V~ / 50/60 Hz
Overvoltage category	II
Protection class	I (The device requires a ground connection via the mains connection)
Pollution degree	2
Acceptable voltage fluctuations	± 10%
Max. power consumption	1650 W
Max. current consumption (informative)	16 A at 110–130 V~ 9 A at 200–240 V~
Acceptable data for pumps of other manufacturers: Max. output, final vacuum	250 W /max. leakage current 0.75 mA < 50 mbar
Values and dimensions of electrical fuses	Heating circuit: T15AH 250 V 6.3 x 32 mm
	Vacuum pump: T5AH 250 V 5 x 20 mm
Dimensions of the closed furnace	Depth: 494 mm Width: 280 mm / 415 mm (without/with cooling tray) Height: 450 mm / 573 mm (closed/open)
Usable size of the firing chamber	Diameter: 55 mm Height: 40 mm
Max. firing temperature	1560°C (2192°F)
Weight	28.5 kg

Applied standards

The furnace was tested in accordance with the following standards:

Device safety	– EN 61010-1:2010/A1:2019 – UL 61010-1:2012/R:2018-11 – CAN/CSA-C22.2 No. 61010-1:2012/A1:2018-11 – IEC 61010-1:2010+AMD1:2016 – EN 61010-2-010:2020 – UL 61010-2-010:2019 – CAN/CSA-C22.2 No. 61010-2-010:2019 – IEC 61010-2-010:2019
Electromagnetic compatibility	– EN 61326-1:2013, group 1, class B – IEC 61326-1:2012, group 1, class B – EN 61000-3-2:2019 – IEC 61000-3-2:2018 – EN 61000-3-3:2013+A1:2019 – IEC 61000-3-3:2013+AMD1:2017 – USA (FCC): 47 CFR, Part 15, Subpart B – Unintentional radiator class B – Canada (IC): ICES-003 – Unintentional radiator class

6.2 Acceptable operating conditions

- Acceptable ambient temperature range: +5°C to +40°C (41°F to 104°F)
- Acceptable humidity range: 80 % maximum relative humidity for temperatures up to 31°C (87.8°F), gradually decreasing to 50 % relative humidity at 40°C (104°F); condensation excluded.
- Acceptable ambient pressure: The furnace is tested for use at altitudes of up to 2000 m above sea level.

6.3 Acceptable transportation and storage conditions

- Acceptable temperature range: -20 °C to +65 °C (-4 to 149°F)
- Acceptable humidity range: Max. 80 % relative humidity
- Acceptable ambient pressure: 500 mbar to 1060 mbar

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

Remove the object plate from the firing chamber for transportation, pack it securely and ship it in the accessories carton with the furnace.

7. Maintenance, cleaning, diagnosis

Chapter 3 of the comprehensive Operating Instructions for this device contains detailed descriptions of the maintenance, cleaning and diagnostic procedures for the device.

Only the tasks listed may be carried out by qualified dental technicians or dental laboratory professionals. All other tasks must be performed by qualified service personnel at a certified Service Centre.

General information on the control and maintenance tasks

The time for these maintenance procedures depends on the frequency of use and the working habits of the users. For that reason, the recommended times are only approximations.

8. Disposal of the device

Chapter 5 of the comprehensive Operating Instructions for this device contains information about the proper and correct disposal of the device.

The device must not be disposed of in the normal domestic waste. Please correctly dispose of old furnaces according to the corresponding EU council directive. Information regarding disposal may also be found on the respective national Ivoclar Vivadent website.