VITA V60 i-Line®

Operating manual

VITA shade determination | VITA shade communication | VITA shade reproduction | VITA shade control

Date of issue 02.15

VITA shade, VITA made.

VITA

1 Table of contents

2 Foreword

2.1 Dear Customer,

Congratulations on your decision to purchase VITA V60 i-Line, a modern furnace system for dental use. As a quality manufacturer of ceramic dental materials and devices, VITA Zahnfabrik can assure you that only materials of superior quality have been used in the development and manufacture of VITA V60 i-Line. Thirty years of experience in developing ceramic furnaces are reflected in this product, which will make it a pleasure to work with for many years to come.

This device has been designed in accordance with the latest technological benchmarks and complies with all international safety standards. Nevertheless, incorrect use can be dangerous – please read this operating manual and bear in mind the information provided.

Reading and understanding this operating manual will help you maintain safety, reduce expenses as a result of repairs and downtime, and increase the reliability and service life of the device. All of the illustrations and drawings in this operating manual are intended for general explanatory purposes and are not authoritative for the detailed construction of the device.

The operating manual must always be kept close to the device. It must be read and followed by all persons responsible for performing tasks such as operation, troubleshooting during operation, and cleaning and servicing (maintenance, inspection, repairs), either with or on the device.

We hope that you will find using VITA V60 i-Line to be an enjoyable and successful experience.

Copyright

Note:	This note warns of dangerous situations that may result in personal injury or damage to the device.	⚠
Information:	This note highlights useful advice, explanations and supplementary information.	ℹ

3 Scope of delivery

3.1 Device supplied in a special box with:

- 1 furnace: **VITA V60 i-Line**
- 1 firing socket
- 1 power supply cable
- 1 operating manual
- 1 connection cable for the vacuum pump
- 1 vacuum tube
- 2 firing object storage trays at the side

3.2 Accessories (can be purchased separately):

- Vacuum pump: 230 / 240 V, 50 / 60 Hz, 115 V, 50 / 60 Hz or 100 V, 50 / 60 Hz.
- FDS (firing data system) firing data administration program for PC use
- 2 firing object storage trays at the side

4 Technical information

4.1 General description

- Maximum temperature accuracy (plus / minus 2 °C) for optimum firing results
- Convenient operation that saves you time, modest space requirements
- 2 firing object storage trays at the side
- Firing chamber fitted with high quality insulation material
- Quartz firing muffle
- Temperature sensor (platinum / rhodium-platinum)
- Automatic temperature calibration

5 Technical data

5.1 Dimensions / weights

- Width: 260 mm
- Depth: 420 mm
- Height: 570 mm
- Weight: 18 kg
- Effective dimensions of the firing chamber: diameter: 90 mm, height: 55 mm
- Firing chamber temperature: max. 1200 °C

6 Electrical specifications

6.1 Furnace

- Electrical connection: 230 VAC, 50 Hz
  or 100 / 110 VAC, 50 / 60 Hz
- Power consumption: max. 1500 W

6.2 VITA vacuum pump

- Electrical connection: 230 V, 50 / 60 Hz
  or 100 / 110 V, 50 / 60 Hz
- Power consumption: max. 200 W
- End vacuum: < 960 mbar
- Dimensions: 320 x 110 x 220 mm
- Weight: approx. 6.4 kg

7 Intended use

7.1 Basis for the construction of the device

The device has been engineered in accordance with the latest technological benchmarks and established safety regulations. Nevertheless, incorrect use can endanger the health and safety of the user or third parties, and result in damage to the device and other property.

7.2 Prohibited modes of operation

The operation of the device using power sources, products, etc. that are subject to legislation governing hazardous substances or that affect the health of the operating personnel in any way is prohibited, as is the use of equipment modified by the operator.

7.3 Permitted modes of operation

The operation of the device is only permitted if this operating manual has been read and understood thoroughly and the procedures described in it have been observed. Any other use or use beyond what is specified, e.g. the processing of products other than those intended as well as the handling of hazardous materials or substances harmful to health does not constitute intended use. The manufacturer / supplier is not liable for any damage resulting from such use. The risk is borne exclusively by the user.

8 Safety information

8.1 Symbols

Hazardous voltage	This symbol warns of hazardous voltage. Before opening the device, it must be disconnected from the mains power supply by pulling out the mains plug.	
Separate disposal	Ensure that electrical/electronic devices are disposed of separately, and not together with household waste. The black bar under the bin symbol means that the device was sold after 13.08.2005. Please note that the device is subject to directive 2002/96/EC (WEEE) and the applicable national law in your country, and must be disposed of accordingly. Contact your dealer when device disposal is required.	
Hot surface	This symbol warns of hot surfaces. Risk of burns.	

The manufacturer is not liable for accidents involving the user when the device is open!

Never start up devices without the firing socket attached. In continuous operation (max. end temperature, max. firing time), parts of the firing chamber may reach increased temperatures (above 70 °C).
Do not reach into the open firing chamber when the device is connected. There is a risk when touching electrically live or hot parts of burns or of electric shock.

8.2 Ambient conditions

- Indoor use
- Ambient temperature: -10 °C to 40 °C
- Relative humidity: 80% at 40 °C
- Max. altitude 3800 m
- Rated voltage fluctuations must not exceed plus 10% and minus 15% of the rated voltage.

8.3 Safety features

The furnace is fitted with the following safety and monitoring features:

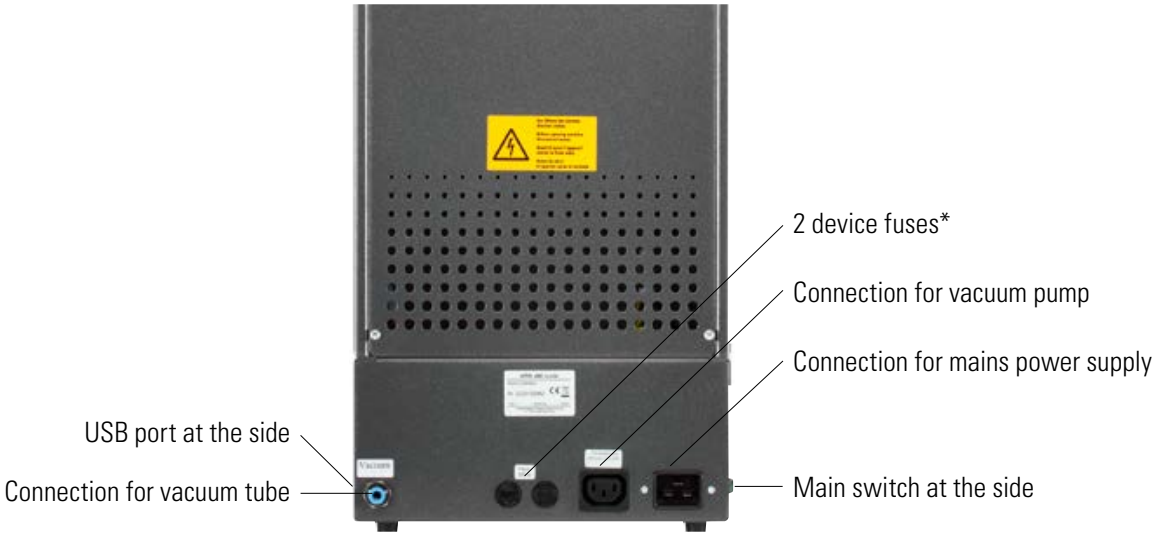
- Temperature sensor monitoring
- Temperature monitoring
- Vacuum monitoring
- Power failure protection

9 Installation and connections

9.1 Installation location

- Install the device in a dry, heated room so that the distance to the closest wall is at least 25 cm (see section 8.2 Ambient conditions).
- When the temperature is below 15 °C (e.g. after transport), leave the device to stand for approx. 30 minutes at room temperature before startup.
- Ensure that the device is installed on a heat-resistant surface.
  The radiation and heat development of the device is within a non-hazardous range. However, it cannot be completely ruled out that furniture surfaces and veneers sensitive to heat may show slight discoloration over time due to the continuous exposure to heat.
- Avoid exposing the device to direct sunlight.
- Do not place any flammable objects near the device.
- Do not install the device in such a way that it becomes difficult to press the main switch and pull out the power supply cable.

9.2 Device connections



* The identification plates provide information about the fuses used in the device. Fuses with other ratings may not be used.

230 V model: T 8 H 250 V
100 / 110 V model: T 15 H 250 V

10 Startup

Before startup, note the safety information in section 1.10!

For information about the connections provided by the device, see section 9.2

- Connect the vacuum pump to the device with the electrical connection and tube connection.
- Connect the device to the mains power supply using the power supply cable provided.

⚠ Important: Avoid electrical connections with multiple socket outlets using extension leads, as there is a risk of fire in the event of an overload.

- Switch on the device using the main switch. The lift moves to the lower position.
- Clean or wipe the lift plate and the lift plate gasket (dust particles from the insulation during transportation of the device).
- Attach the firing socket to the lift plate.

⚠ Important: Never start up the device without the firing socket attached.

10.1 Switching off the device, ending operation

When the device is not in operation, retract the lift into the firing chamber and switch off the device using the main switch. Closing the firing chamber protects the insulation and prevents the absorption of moisture.

11 Cleaning the furnace

⚠ Important: Always pull out the mains plug before cleaning!

It is not necessary to clean the inside of the firing chamber.
Cleaning the casing at regular intervals with a damp cloth contributes to operational reliability.

⚠ Important: Never use detergents or flammable liquids during cleaning.

11.1 Cleaning the touchscreen

Dirt on the display as a result of dust or fingerprints can be removed using a microfiber cloth. Cleaning should be carried out with the device switched off in order to prevent functions from being adjusted inadvertently on the display.

11.2 Cleaning firing for the firing chamber

The firing chamber only requires cleaning firing in the event of non-compliance with the permitted modes of operation (see section 7.3).
If cleaning firing nevertheless becomes necessary, this can be performed using the standby program (see section 16.1)
To do so, set the standby temperature to 800 °C using the device settings/ standby temperature (see section 21.11).
Start the standby program and move the closed lift downwards by approx. 5 cm to allow the particles of dirt to evaporate. Cleaning firing should be performed for approx. 20 minutes.

11.3 Firing chamber insulation

The firing chamber contains insulating material comprised of ceramic mineral fibers (index no. 650-017-00-08) that have been classified as category 2 carcinogens (Annex VI, EC 1272/2008). When working with the firing chamber or replacing the firing muffle, fiber dust may be discharged. Exposure to this dust can potentially be carcinogenic on inhalation, as well as result in irritation of the skin, eyes and respiratory organs.

When replacing the firing muffle, proceed as follows:
- Long-sleeved protective clothing
- Wear safety goggles as well as protective gloves
- Use a dust vacuum system or wear a FFP 2 respirator

Once work has been completed, rinse dust from unprotected skin using cold water. Wash the workwear used separately from everyday clothing.

12 CE marking

With the CE mark, a legally binding declaration is made to the effect that the device corresponds to the fundamental requirements of directive 2006/95/EC (Low Voltage Directive) and directive 2004/108/EC/EWG (EMC Directive).

13 Mains power supply failure

The device is equipped with power failure protection. This component prevents program interruption and therefore any misfiring in the event of a brief failure of the mains power supply. The power failure protection becomes effective as soon as the mains power supply fails when a firing program is running.

Failure of the mains power supply for less than approx. 1 minute 30 seconds:
The program continues to run when the mains power supply returns and is not interrupted. The display does not operate during this time. The display shows the current program again when the mains power supply returns.

Failure of the mains power supply for more than approx.1 minute 30 seconds:
The program is interrupted. The display is no longer in operation. When the mains power supply returns, a signal tone is emitted for 3 seconds and the display indicates that firing cannot be continued.

When the mains power supply returns, restart takes approx. 1 minute 30 seconds.

14 Warranty and liability

Warranty and liability are regulated in accordance with the terms and conditions of the contract. In the event of software modifications without the knowledge and approval of VITA Zahnfabrik H. Rauter GmbH & Co. KG, all liability and warranty entitlements are invalidated.

14.1 Spare parts

Spare parts must comply with the technical requirements stipulated by the manufacturer. This is always assured when using original VITA spare parts.

Further information on this device is available on our homepage:
http://www.vita-zahnfabrik.com

Software updates are available to download under **Products / Ovens / Furnaces / New furnaces**.
An option to register is also provided under **Newsroom / Update Messenger** so that the latest information on the device is automatically emailed to you by the Update Messenger. In case of technical queries regarding the device or regarding repair services and warranty provisions, contact us at:

E-Mail: instruments-service@vita-zahnfabrik.com
Tel. +49 (0) 7761 / 562 -105, -106, -101

15 Touchscreen operation

The touchscreen is operated using the touch-sensitive surface of the screen. In order to activate a function, press the corresponding button with your finger. Pressing a button lightly with your finger will first cause the button to change color (the button goes dark). Lifting your finger from the button then activates the selected function.

Buttons should only be pressed lightly with your finger. The function is activated when you lift your finger. Applying too much pressure, or pressing using sharp or hot objects will damage the touchscreen.

16 Switching on the device

Switch on the device using the **main switch** (on the left of the device). The red and green LEDs next to the display light up. If the firing chamber temperature is less than 200 °C, the lift performs a reference run.

Start screen

After approx. 30 seconds, the start screen is displayed on the control unit and the red LED goes out. A self-test is carried out during this time.

Last firing program selected

After a further 60 seconds, the last firing program used is displayed.

16.1 Starting/switching to standby

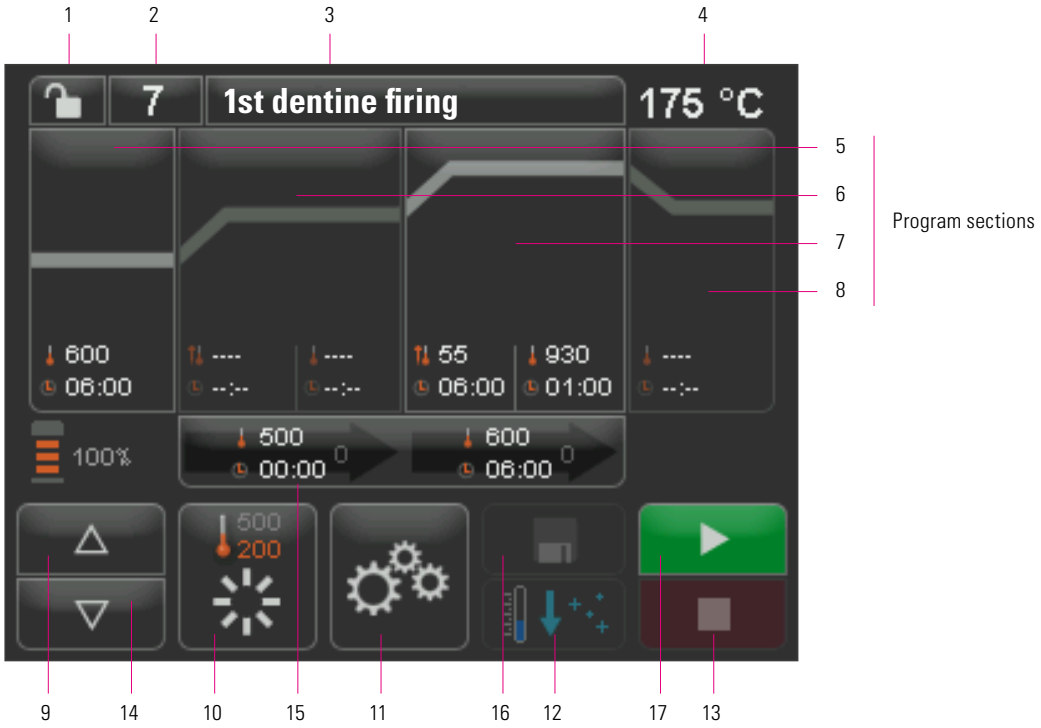
Press the **standby** button. The lift is retracted into the firing chamber and the firing chamber heated to the standby temperature as set. Once the standby temperature has been reached and maintained for 5 minutes, the device is ready for firing. When standby is started for the first time after the furnace is switched on, the firing chamber remains slightly open for 5 minutes in order to remove moisture from the firing chamber.

The standby button shows two temperature values. You can choose between normal mode (standby temperature can be set to, e.g., 500 °C) and power-save mode (fixed value of 200 °C). The temperature during normal mode can be adjusted using the device settings/standby temperature. (See section 21.11.) Pressing the button again while standby is active allows you to switch between normal and power-save mode. The active mode is shown in red.

Standby is exited when the green START or red STOP button, the program name button, or the program number button are pressed.

17 Operation and functions

Program overview

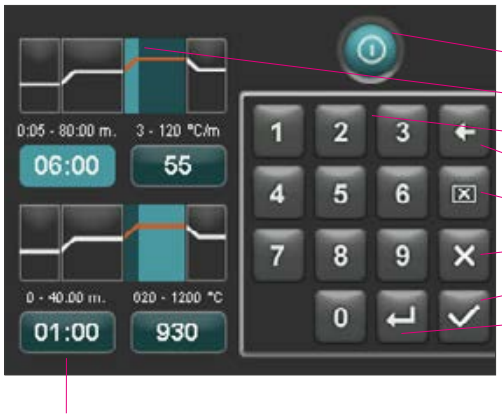


No.	Name	Function	Reference
1	Program lock	**Lock is open**, program is freely accessible – **Lock is closed**, program is locked	20.7
2	Program number	Input field for program numbers 1 - 200	19
3	Program name	Input / modification of program names, program list	20.8
4	Temperature display	Shows the current temperature in the firing chamber	
5	Pre-drying	Pre-drying program area	20.1
6	1st increase in temperature / hold time	Program area for 1st increase in temperature and 1st temperature hold time	20.2
7	2nd increase in temperature / hold time	Program area for 2nd increase in temperature and 2nd temperature hold time	20.2
8	Cooling	Program area for cooling to a lower temperature with hold time	20.3
9	Lift positions	Shows the number of lift positions for pre-drying	
10	Standby	Heats to standby temperature (normal and power-save mode)	16.1
11	Device settings	Setting / display of the language, operating hours, etc.	21
12	Fast cooling	Fast cooling of firing chamber temperature to standby temperature	20.6
13	STOP button	Cancels the program	19
14	Buttons for lift	Manual lift control	
15	Vacuum	Program area for vacuum settings	20.4
16	Save button	Saves changes	20
17	START button	Starts the program	

18 Keypad functions

Touching a program area in the program overview displays the corresponding editing window with a keypad. The values set in the program sections can be modified in the editing window.

Example: Vacuum editing



Button for deactivating / activating the function

Display fields for the program sections (see section 17)

Buttons 0-9 – program value input

Deletes the last digit entered in the display field

Deletes the value in the display field

Returns to the program overview without adopting the change

Returns to the program overview and adopts a change without saving

Selects the next input field

The time / temperature input fields can also be selected directly from within each function.

19 Starting/selecting firing programs

In VITA V60 i-Line, firing programs are already pre-programmed for VITA ceramic materials. These correspond to the settings recommended by VITA. A firing program is selected by entering the number. The preset program number assignment can be viewed via the program names (see section 20.8 on program name modification).
Pressing the program number or the material or program name briefly results in selection of the program.

1. Press the program number button

2. Enter the program number (1-200)

3. Confirm the selected firing program

4. The selected program is displayed.

5. Start the program using the START button

7. The sequence of the program is shown in color

8. The program can be cancelled using the STOP button

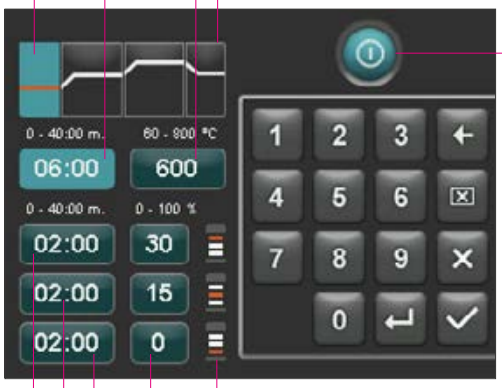
20 Modifying program values

To modify program values, touch the relevant program area in which the values are to be changed. The corresponding editing window opens and modifications can be made to the program.

Program values shown in white are saved values. Program values shown in red apply for a program sequence until a program change is implemented. When the program is reselected, the previously-stored values are displayed again.

The **program values shown in red** can be **saved permanently using the save button** if a program lock (see section 20.7) has not been set (lock is open). The program is then available for editing and the save button is shown as active (see section 20.5).

If the program lock is active (lock is closed), changes can be made once. However, it is only possible to save the changes by entering the PIN using the keypad shown once the save button is pressed (see section 21.8).



Selected program area, here: pre-drying, is shown as active

The display field for the pre-drying time lights up in light blue and is active. Enter the value for the time using the keypad. Input value: 0:00-40:00 min / sec.

Display field for the pre-drying temperature. Enter the temperature using the keypad. Input value: 200 °C - 800 °C.

In this mode, all program areas can be selected and edited.

Activates / deactivates pre-drying

Icons indicate the lift positions

Lift position settings

Time settings for the lower lift position

Time setting for the middle lift position

Time for the upper lift position (calculated automatically)

20.1 Pre-drying

Press the pre-drying program area.

The display shows:

Times for the individual pre-drying positions:

The hold times possible for the individual lift positions depend on the pre-drying time that has already been selected. For this reason, set the pre-drying time first before entering the time for the middle and lower lift position. The time for the upper lift position is calculated automatically.

If the **pre-drying time is extended**, the change in time is allocated to the upper lift position. The lower and middle positions are retained.

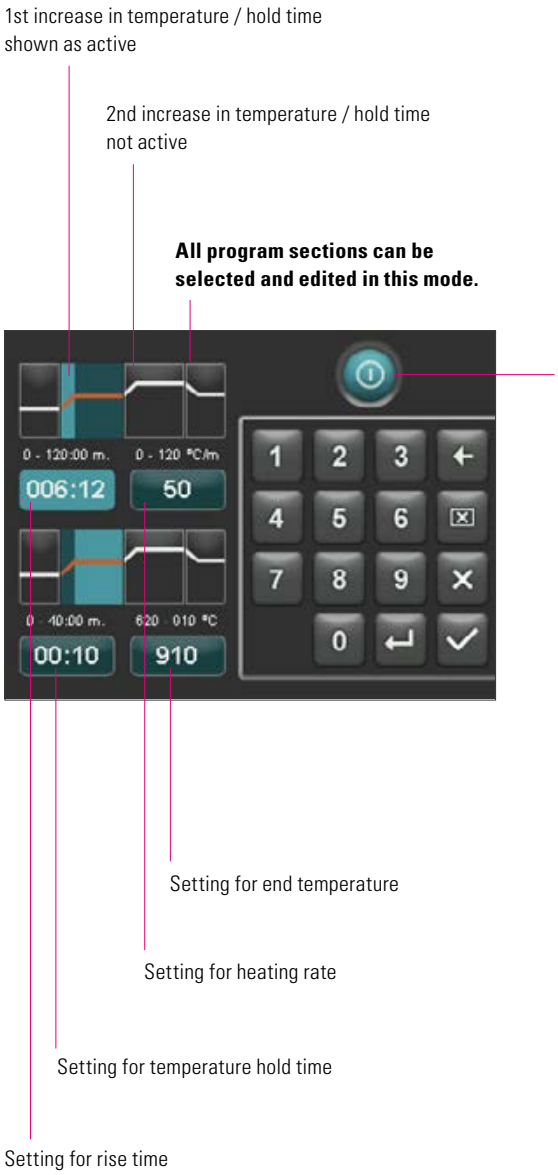
If the **pre-drying time is shortened**, the hold time is shortened for the upper lift position. The lower and middle positions are retained.

If the selected pre-drying time is less than the total time of the individual lift hold times, this is allocated at 1/3 each to the individual lift positions.

The lift positions (in %) are retained if the hold times are changed and can be modified as required. The factory defaults are set as follows: lift position 1 at 0%, lift position 2 at 15% and lift position 3 at 30%.

Program values that have been modified are shown in red in the program overview and can be used for a program sequence or saved permanently using the save button in the program overview (see section 20.5).

Changes to the pre-drying temperature result in changes to the activation temperature of the vacuum pump. Changes to the pre-drying temperature result in changes to the hold times of the lift positions.



20.2 Increase in temperature and temperature hold time

The device is fitted with two program sections for increases in temperature and temperature hold time.
The 1st increase in temperature / hold time and 2nd increase in temperature / hold time can each be activated or deactivated. Both sections are operated in the same way.

Press the first or second program sections.

The display shows:

Settings (values) for end temperature: Min. and max. values depend on the activated program sections. If the end temperature is modified, the heating rate in °C / min. is retained and the rise time in min / sec. adapted.

⚠ **Important:** The operating time of the vacuum pump is adapted to the rise time.

Settings (values) for rise time: Min. and max. values depend on the activated program sections.

If the rise time is modified, the heating rate in °C / min is adapted.

⚠ **Important:** The operating time of the vacuum pump is adapted to the rise time. The pump is switched off once the end temperature has been reached.

Settings (values) for heating rate: Min. and max. values depend on the activated program sections. If the heating rate in °C / min is modified, the rise time is adapted.

⚠ **Important:** The operating time of the vacuum pump is adapted to the rise time. The pump is switched off once the end temperature has been reached.

Only values shown in the input field can be set.

Program values that have been modified are shown in red in the program overview and can be used for a program sequence or saved permanently using the save button in the program overview (see section 20.5).

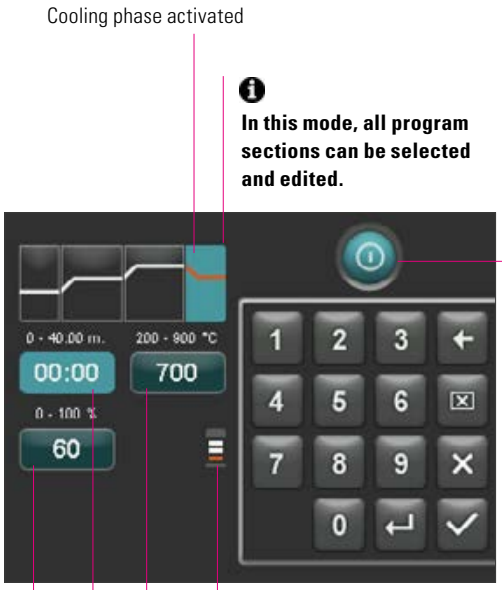
If the rise time, heating rate or end temperature is modified, the values for activating the vacuum pump are adapted (see section 20.4).

20.3 Cooling

The max. value depends on the end hold temperature. The cooling temperature must be lower than the end hold temperature.

Only values shown in the input field can be set.

Program values that have been modified are shown in red in the program overview and can be used for a program sequence or saved permanently using the save button in the program overview. (See section 20.5.)



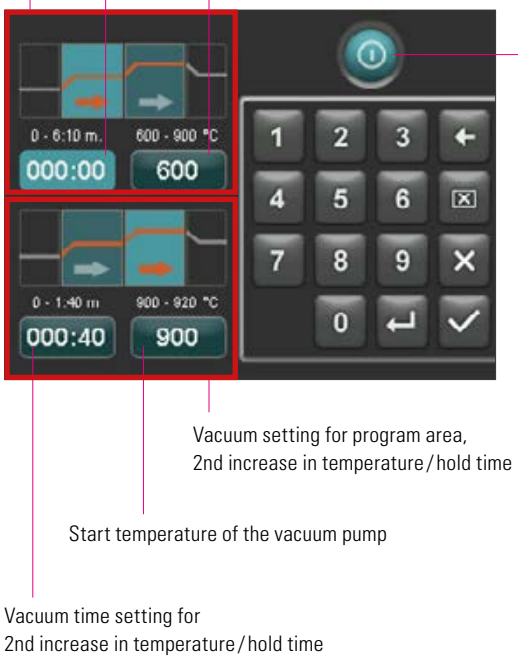
20.4 Vacuum setting

The time and temperature values for switching the vacuum pump on and off depend on the program values already defined. If the pre-drying temperature or the end temperature are changed, the activation temperature of the vacuum pump is set to the pre-drying temperature and the vacuum time (operating time of the vacuum pump) to the rise time.

When a firing program is in progress, the vacuum currently in operation is shown in %.

Only values shown in the input field can be set.

Program values that have been modified are shown in red in the program overview and can be used for a program sequence or saved permanently using the save button in the program overview (see section 20.5)



20.5 Saving program values

Program values that have been modified are shown in red on the display and the save button is active. By pressing the save button, they are shown in white. In the case of locked programs, the PIN must be entered once the save button has been pressed. (See section 21.8.)

Modified values are shown in red

Press the save button

Saved values are shown in white

20.6 Fast cooling

With fast cooling, the lift remains in the lower position and the pump is connected. Once the standby temperature minus 50 °C has been reached, the pump is switched off, the lift retracted and the firing chamber heated to standby temperature.

The **button for fast cooling** is only active when the firing chamber temperature is more than 50 °C higher than the standby temperature

Program lock button

20.7 Program lock

Two modes are shown on the program lock button:

- **Lock is open** – program parameters can be modified and saved as required
- **Lock is closed** – program parameters can be modified as required, changes can only be saved by entering the PIN

To create a PIN to lock/unlock programs, see section 21.7.

20.8 Program names – creating/modifying material names

To create a new program, press the program name button. An overview is shown that is divided into columns containing the program number, material and program name for more than one second.

Press the program name button.

The display now shows the program overview, starting with the last active firing program:

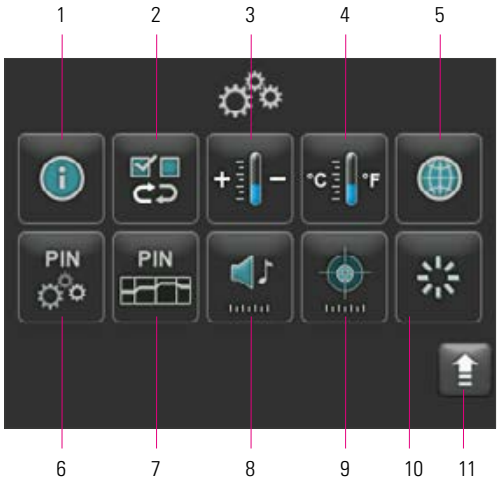
To create a new program, press the material or program name button for more than two seconds. An input keypad is shown. Press the material button or program name button to enter the required text in the corresponding field. Pressing the program number or the material or program name briefly in the program list results in direct selection of the program.

Entering or changing the program parameters is described in section 20 "Modifying program values".

Program values that have been modified are shown in red in the program overview and can be used for a program sequence or saved permanently using the save button in the program overview (see section 20.5).

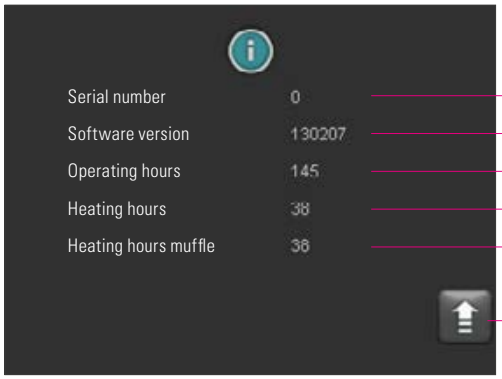
21 Device settings

Press the device settings:



Display shows the following configuration buttons:

No.	Name	Function	Reference
1	Device information	Information on the device	21.1
2	Factory defaults	Restores the basic settings	21.2
3	Temperature setting	Temperature verification using the silver test function	21.3
4	Temperature display	Allows °C or °F to be set	21.4
5	Languages	Allows the language to be selected	21.5
6	PIN-device settings	Locks device settings	21.6
7	PIN-programs	Locks programs	21.7
8	Speaker	Sets the duration of the tone	21.9
9	Display	Sets the brightness / touch calibration	21.10
10	Standby temperature	Sets the standby temperature	21.11
11	Back button	Returns to the program overview	



21.1 Device information

Serial number of the device

Software version

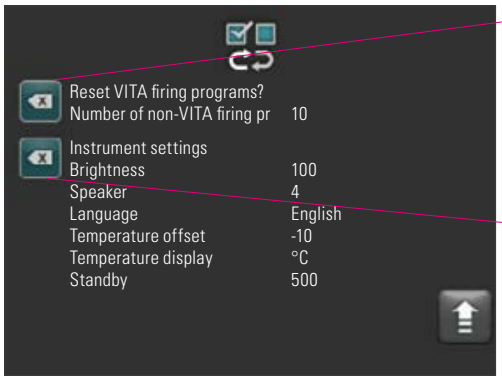
Operating hours, device switched on during this time

Total heating hours (firing hours) of the device

Heating hours (firing hours) of the firing muffle currently in use

Returns to the overview of the device settings

21.2 Factory defaults



Pressing this button sets the program memory back to the default VITA firing programs set in the factory.

Important: Programs entered by the user will be deleted.

Pressing this button sets the following values back to the factory default:

- Brightness: 90%
- Speaker: 3 sec.
- Language: English
- Temperature setting: 0°C
- Temperature display: °C
- Standby: 500°C

21.3 Temperature setting

Temperature calibration using the silver test function

Using this program together with the VITA Silver Test Set (VITA order no. B 230), the temperature in the firing chamber can be verified and readjusted within a range of plus / minus 40 °C. During calibration, ensure that the instructions for carrying out the silver test are strictly observed (see instructions provided with the silver test set). Deviations can result in incorrect measurements, and as a result, incorrect settings.

To verify the temperature in the firing chamber using the silver test function, a program must be run at 955 °C and at 963 °C.

Starting the first silver test:
Press the "1. Silvertest" button, the program is displayed. Place the silver test inside, press the start button. The program is started and the program sequence is shown.

Result of the first silver test:
Silver has thickened slightly, but has not melted
The first silver test was successful. The second silver test can now be carried out.

Silver has melted
The first silver test was not successful. Enter an estimated correction value using the + button and repeat the first silver test.

Once the program sequence has been completed, press the settings button in the program overview followed by the temperature setting button to return to this menu.

Starting the second silver test:
Press the "2. Silvertest" button, the program is displayed. Place the silver test inside, press the start button. The program is started and the program sequence is shown.

Result of the second silver test:
The silver has melted to a ball shape
The second silver test was successful. The temperature has now been correctly set.

The silver has not melted
The second silver test was not successful. Enter an estimated correction value using the - button and repeat the second silver test.

The second silver test was not successful. Enter an estimated correction value using the - button and repeat the second silver test.

Result of the silver test:
Temperature too low: Enter the correction value using the minus button
Temperature too high: Enter the correction value using the plus button

Modifications are saved automatically.

21.4 Temperature display °C or °F

Select the required display unit.
The setting is saved automatically.

21.5 Language

Select the required language.
The setting is saved automatically.

21.6 PIN-input for device settings

The device settings can be protected against changes using a PIN lock.
The device settings can then only be viewed and modified by entering a PIN.
To call up the PIN input area, press the settings button followed by the PIN button for device settings.

Locking device settings:
PIN field remains empty
In the "New PIN" field – enter a new 4-digit PIN
In the "Repeat new PIN" field – enter the new PIN again

Unlocking device settings:
In the "PIN" field – enter the PIN
The "New PIN" field remains empty
The "Repeat new PIN" field remains empty

Valid for the following device settings:
- Display brightness
- Speaker tone duration
- Language
- Temperature setting
- Temperature display
- Standby

⚠ **Important!** If the PIN is mislaid, unlocking can only be performed in the factory!

21.7 PIN-input for firing programs

Firing programs can be protected against changes by entering a PIN.
The PIN entered here is then used to protect individual firing programs.

Protected programs can be used by any operator. Changes can be made once. However, the PIN is required in order to save the changes.

To call up the PIN input area, press the settings button followed by the PIN button for program settings.

PIN-locking input for programs:
- In the "PIN" field, enter "0000"
- In the "New PIN" field – enter a new 4-digit PIN
- In the "Repeat new PIN" field – enter the new PIN again

PIN-unlocking input for programs:
- In the "PIN" field – enter the PIN
- In the "New PIN" field – enter "0000"
- In the "Repeat new PIN" field – enter "0000"

⚠ **Important!** If the PIN is mislaid, unlocking can only be performed in the factory!

21.8 Locking firing programs

In order to protect firing programs against permanent changes by other users, they can be locked using a PIN.

Program lock button

Set the firing program that is to be locked and press the program lock button.

Enter the PIN using the keypad shown and confirm. If a personal PIN has not been entered via the settings / program PIN (see section 27.1), the program can be locked using the factory default PIN "0000".

Program lock active (lock is closed)

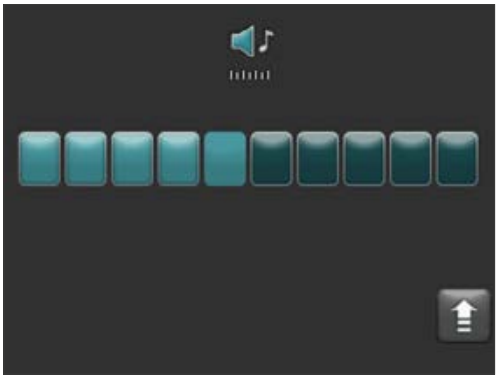
Press the save button,
Program lock is saved

The program is now locked until a program change is implemented.
To save the program lock permanently, press the save button and enter the PIN again.

Locked programs can be used by any operator. Changes can also be made once. However, the PIN is required in order to save the changes.

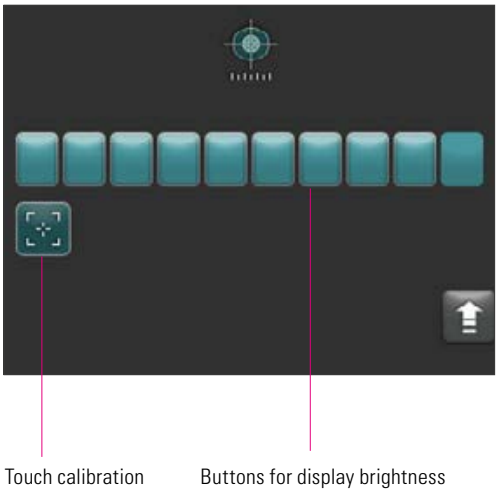
⚠ **Important!** If the PIN is mislaid, unlocking can only be performed in the factory!

21.9 Tone duration for the speaker



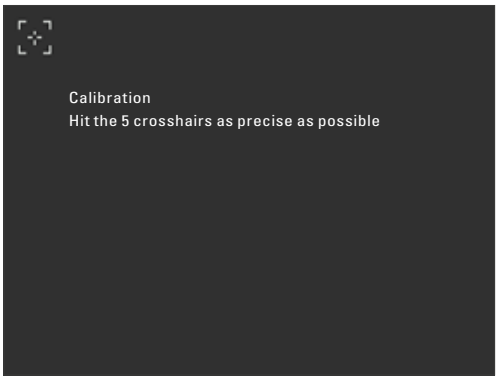
The tone duration for the speaker can be set to between 0 and 10 seconds by activating / deactivating a particular number of buttons.
The setting is saved automatically.

21.10 Display settings



The **brightness** of the display can be set by activating / deactivating a particular number of buttons. A change is saved automatically.

Touch calibration can be necessary when the touchscreen no longer reacts properly to touch. To calibrate the touch response of the touchscreen, press the touch calibration button. Follow the instructions on the calibration display.



Once the touch calibration button has been pressed, the following calibration display is shown:

21.11 Setting the standby temperature

Enter the required standby temperature using the buttons.
Possible input values are indicated above the temperature shown.

The modified value is saved automatically.

22 Recording process data / firing data system (FDS)

In order to view firing curves in the FDS, the corresponding process data must be exported from the furnace. Create a folder called "processdata" on any USB flash drive. With the device switched off, insert this USB flash drive into the USB port of the device. Switch on and start up the device.
After startup, the process data from the last 19 firing cycles is stored in the "processdata" folder.

ℹ The firing data is only saved to the USB flash drive when it is inserted before the device has been switched on using the main switch!

The firing data is then managed on the PC using the firing data administration program FDS (firing data system) for PC use (accessories). This enables traceability by ensuring that completed firing programs are allocated to the device.

Using the FDS, the most recently completed firing cycles can be investigated in the event of problems.

22.1 Exporting / importing programs

In order to export all 200 programs (individual export is not possible), create a folder named "programs" on any USB flash drive and connect this to the furnace while the furnace is switched off. Once the furnace has been switched on and started up, all programs are copied to the USB flash drive.

To import the programs to a furnace, connect the USB flash drive with the "programs" folder (including the programs) to the furnace while the furnace is switched off.
Once the furnace has been switched on and started up, all programs are copied to the furnace.

In brief:
Empty "programs" folder = programs are copied from the furnace to the flash drive
Full "programs" folder = programs are copied from the flash drive to the furnace

Please note that all previous programs are deleted when the new programs are copied to the furnace.

23 Software update

The latest software is available on the VITA homepage at **https://www.vita-zahnfabrik.com/** , under **Documents & Media / Download center / Product information / Software Updates.**

Once the device type has been selected, the latest software can be selected and copied to a USB flash drive. Instructions for use and information on the update can be viewed.

The software version on the USB flash drive must be newer (higher) than the version installed on the device. The software version installed on the device is shown under settings / information (see section 21.1).

Installing the latest software:

- Switch off the device using the main switch
- Insert the USB flash drive into the USB port of the device
- Switch on the device using the main switch

During installation of the update, the red LED flashes. Once the update has been completed, the system is automatically restarted.

24 Error messages

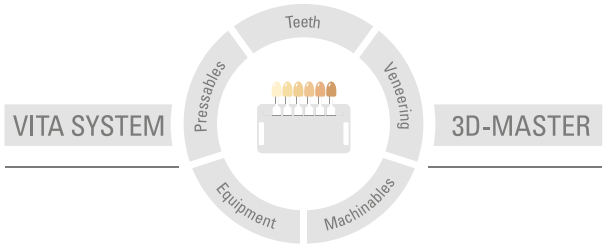
When errors occur, these are shown on the display.

The following error messages may appear. They can be reset using the confirmation button. However, the error message can only be permanently reset when the fault has been rectified.

Display text	Explanation	Correction
Temperature sensor damaged	The temperature of the firing chamber can no longer be measured and regulated using the temperature sensor.	• Check the thermocouple in the firing chamber for mechanical problems. • Check the connections at the firing chamber. • Check the connections at the electronic system. To check and replace the temperature sensor, the device must be opened. This should be performed by a specialist dealer authorized by VITA.
Vacuum has not been achieved	When the vacuum for a current firing program (with a vacuum) is not achieved within 30 seconds, the firing program is interrupted.	• Check that the connection is secure between the vacuum pump and the furnace. • Wipe the lift plate gasket with a dry cloth. • Check the lift plate gasket for damage.
Lift blocked	During general operation, the lift is automatically stopped in the lower position. This position is not reached due to an error.	• Check whether the lift buttons on the display respond (button goes dark when pressed, see section 15) • Check the lift route for mechanical blockages, remove any objects from beneath the lift plate.
Heating damaged	The quartz firing muffle is subject to significant wear due to the long exposure to high temperatures and the constant high changes in temperature. The quartz firing muffle is broken as a result of excessive wear.	• Check the quartz firing muffle and replace if required. To check and replace the quartz firing muffle, the device must be opened. This should be performed by a specialist dealer authorized by VITA.
Firing cannot be continued	A mains power supply failure of more than 2 minutes while a program is running is displayed when the mains power supply returns. The program is interrupted.	• No measures are required on the device. • Check whether the firing object can be refired or whether it must be replaced.

25 Alphabetical index

With the unique VITA SYSTEM 3D-MASTER all natural tooth shades can be systematically determined and completely reproduced.



Please note: Our products must be used in accordance with the instructions for use. We accept no liability for any damage resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of application. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers that are not compatible or not authorized for use with our product. Furthermore, our liability for the accuracy of this information is independent of the legal basis and, in as far as legally permissible, shall always be limited to the value as invoiced of the goods supplied, excluding value-added tax. In particular, as far as legally permissible, we do not assume any liability for loss of earnings, indirect damages, ensuing damages or for third-party claims against the purchaser. Claims for damages based on fault liability (culpa in contrahendo, breach of contract, unlawful acts, etc.) can only be made in the case of intent or gross negligence. The VITA Modulbox is not necessarily a component of the product.
Date of issue of these working instructions: 07.13

CE

VITA

VITA Zahnfabrik H. Rauter GmbH & Co.KG
Spitalgasse 3 · D-79713 Bad Säckingen · Germany
Tel. +49 (0) 7761 / 562-0 · Fax +49 (0) 7761 / 562-299
Hotline: Tel. +49 (0) 7761 / 562-222 · Fax +49 (0) 7761 / 562-446
www.vita-zahnfabrik.com · info@vita-zahnfabrik.com
facebook.com/vita.zahnfabrik

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