

# VITA V60 i-Line® PLUS

Instructions for use



VITA shade determination

VITA shade communication

VITA shade reproduction

VITA shade control



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Dear Customer,

Congratulations on your purchase of the VITA V60 i-Line PLUS. This device is a modern firing furnace for the dental industry. As a quality manufacturer of dental ceramic materials and devices, VITA Zahnfabrik ensures that only high-quality materials were used in the development and manufacture of the VITA V60 i-Line PLUS. Our experience based on over 30 years of ceramic furnace development is reflected in this product. We hope you enjoy many years of working with the VITA V60 i-Line PLUS.

This device has been designed in accordance with the latest technological benchmarks and complies with all international safety standards. However, hazards may occur with improper handling. Please read these instructions for use and observe the instructions.

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 the VITA V60 i-Line PLUS to be an enjoyable and successful experience.

### Copyright

These operating instructions must be treated as confidential. They should only be used by authorized persons. They may only be transmitted to third parties with the written consent of VITA Zahnfabrik H. Rauter GmbH & Co. KG. All documentation is protected by copyright. The transmission and reproduction of documents, even excerpts, and the use and communication of their content are not permitted without express written authority. Violations are an offense and liable to compensation.

We reserve all rights to exercise intellectual property rights.



<b>Note:</b>	These notes warn of hazardous situations with the risk of personal injury or damage to the device.	
<b>Information:</b>	These notes point to useful advice, explanations and supplements.	

Table 1 – Explanation of notes and information

## 1 Scope of delivery

### 1.1 Contents of the package

#### Complete with

- 1 VITA V60 i-Line PLUS furnace
- 1 Firing platform
- 1 Cable for mains power connection
- 1 Operating Manual
- 1 Connection cable for the vacuum pump
- 1 Vacuum hose
- 2 Firing object storage trays at the side

### 1.2 Accessories for purchase

- Vacuum pump: 230/240 volt, 50/60Hz, 115 volt, 50/60 Hz or 100 volt, 50/60 Hz.
- 2 Firing object storage trays at the side
- VITA USB WiFi modem for VITA furnaces

## 2 Technical information

### 2.1 General description

- High temperature accuracy (+/- 2°C) for optimal firing results
- Time-saving, user-friendly, small footprint
- 2 Firing object storage trays at the side
- Firing chamber equipped with high-quality insulation material
- Quartz firing muffle
- Temperature sensor (platinum/rhodium-platinum)

## 3 Technical data

### 3.1 Dimensions/weights

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

## **4 Electrical data**

### **4.1 Furnace**

- Electrical connection: 230 volt, 50/60 Hz  
or 110 volt, 50/60 Hz
- Power consumption: max. 1500 watt

## **5 Intended use**

### **5.1 Intended purpose and basics of device construction**

The VITA V60 i-Line PLUS is a fully automatic and microprocessor-controlled firing unit for all dental ceramic firing processes.

### **5.2 Unauthorized modes of operation**

The operation of the device with power sources, products, etc., which are subject to hazardous materials regulations, using equipment modified by the user, or operation that could have any negative impact on the health of the operating personnel is not permitted.

### **5.3 Authorized modes of operation**

The operation of the device is only permitted if this operating manual has been completely read and understood and the procedures described in it have been observed. Any other or additional use, e.g., processing of products other than those intended, as well as handling of hazardous materials or substances injurious to health, is considered to be contrary to the recommended use. The manufacturer/supplier will not be liable for any damage resulting from such unauthorized use.

The risk of such use is borne exclusively by the user.

## 6 Safety information

### 6.1 Pictograms




<p><b>Hazardous voltage</b></p>	<p>This pictogram warns the user about hazardous voltage. Before opening the instrument, always disconnect it from the mains current by unplugging the power plug.</p>	
<p><b>Separate disposal</b></p>	<p>Dispose of electrical and electronic equipment separately, not with household waste. The black bar under the "wheeled bin" symbol indicates that the device was placed on the market after August 13, 2005. Please note that the device is subject to European Community Directive 2012/19/EC (WEEE) and the national laws valid in your country, and it must be disposed of accordingly. Contact your dealer, if you need to dispose of the device.</p>	
<p><b>Hot surface</b></p>	<p>This pictogram warns the user about hot surfaces Burns are possible.</p>	

Table 2 – Overview of pictograms

### The manufacturer is not liable for accidents to the user occurring when the device is open!

Never operate the device without the firing base installed.  
In continuous operation (max. final temperature, max. firing time), some parts of the firing chamber may reach high temperatures (above 70°C). Do not reach into the open firing chamber when the device is switched on. There is a risk of electric shock or burns from touching live or hot parts.

### 6.2 Ambient conditions

- Use indoors
- Ambient temperature –10°C to 40°C
- Relative humidity 80% at 40°C
- Max. altitude 3800 m above sea level. NN
- Fluctuations in nominal voltage are not greater than plus 10% and minus 15% of the nominal voltage

### 6.3 Safety functions

The furnace has the following safety and monitoring features:

- Temperature sensor monitoring
- Vacuum monitoring
- Power failure protection
- Obstruction sensor
- In the event of danger or emergencies, the device can be switched off immediately using the mains switch

## 7 Setup and connections

### 7.1 Installation location

- Install the device in a dry, heated room.  
The distance to the closest wall should be at least 25 cm (see also Section 6.2, 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 using it for the first time.
- Ensure that the surface where the device is installed is heat resistant.  
The emissions and heat radiation of the device are within a non-hazardous range. However, heat-sensitive surfaces on furniture and veneers could become somewhat discolored over time due to the constant effects of heat.
- Prevent direct sunlight from coming into contact with the device.
- Do not place any flammable objects in the vicinity of the device.
- Do not set up the device in such a way that makes it difficult to press the main switch and pull out the power supply cord.

### 7.2 Device connections

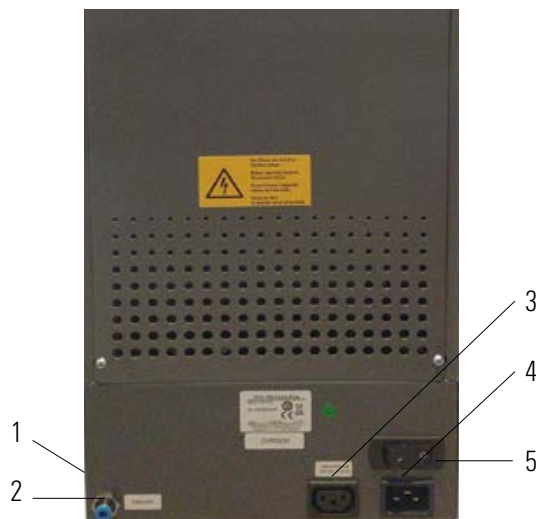


Figure 1 – Device connections

1	USB ports on the side
2	Vacuum tube connection
3	Connection for vacuum pump
4	Mains power supply connection
5	Main switch

Table 3 – Device connections

- \* The identification plates show information about the fuses used in the device.  
Fuses with other ratings must not be used.

230 volt model: T 8 H 250 V

110 volt model: T 15 H 250 V



## 8 First commissioning

**Before the first use, please read the Safety Information in Section 6!**

For information about the device connections, refer to Section 7.2

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

**⚠ Important! Avoid electrical multiway socket outlets with extensions, as there is a risk of fire with overload.**

- Switch on the device at 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 are deposited during transportation of the device).
- Attach the firing base to the lift plate.

**⚠ Important! Never operate the device without the firing base installed.**

### 8.1 Switching off the device, decommissioning

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

## 9 Cleaning the furnace

| **⚠ Important! Before each cleaning operation, remove the power supply plug!**

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

| **⚠ Important! In all cleaning work, you must never use any detergents or flammable liquids.**

### 9.1 Cleaning the touchscreen

Dirt on the display caused by impact, as well as fingerprints can be removed with a microfiber cloth. Cleaning should be performed with the device switched off in order to exclude unintended resetting of functions in the display.

### 9.2 Cleaning firing for the firing chamber

It is recommended to conduct a cleaning firing process regularly, e.g., every 100 operating hours, see 19.3.

### 9.3 Firing chamber insulation

The firing chamber contains ceramic mineral fibers as insulation material (Index No. 650-017-00-08), which is classified as a CAT 2 carcinogen (Annex VI, EC 1272/2008). When working with the firing chamber or exchanging the firing muffle, fiber dust may be discharged. Dust may be carcinogenic if inhaled, irritating the skin, eyes and respiratory system.

When exchanging the firing muffle, please proceed as follows:

- Wear 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 workwear separately from everyday clothing.

## 10 CE mark

With the CE mark, a legally binding declaration is made that the device meets the essential requirements of Directive 2006/42/EC (on machines), Directive 2011/65/EU (RoHS) as well as Directive 2014/30/EU (EMC).

## 11 Mains power supply failure

The instrument is equipped with power supply failure protection. This component prevents a program stop and any incorrect firing in the event of a brief failure of the mains power supply. The power failure protection is activated as soon as the mains power supply fails when a firing program is running.

### **If the temperature in the firing chamber drops by less than approx. 80°C**

The program continues to run after re-establishment of the mains power supply and is not interrupted. The display is out of order during this period. Once the mains power is supplied again, the running program reappears in the display.

### **If the temperature in the firing chamber drops by more than approx. 80°C**

Program is stopped. Display is out of order. After the mains power supply has been established, an alarm tone sounds and the display shows that the firing cannot continue.

### **Once the mains power is supplied again, the time required for switching back on is approx. 30 sec.**

## 12 Warranty and liability

The warranty and liability are based on the terms and conditions stipulated in 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 claims are invalidated.

### 12.1 Spare parts

Spare parts must comply with the technical requirements specified by the manufacturer. This is always ensured 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 as downloads under **Produkte/Brandführung/Brennofen/VITA V60 i-Line PLUS**. A registration option is also provided via Service/VITA Update-Messenger so that the latest information on the device is automatically emailed to you. In case of technical queries regarding the device, as well as repair and warranty provisions, you may contact us at:

**Email: [instruments@vita-zahnfabrik.com](mailto:instruments@vita-zahnfabrik.com)**

**Phone +49 (0) 7761/562 -110**

## 13 Touchscreen operation

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

**ⓘ Press the button lightly with your finger. The action will be performed when you lift your finger. Pressing too heavily or operating with sharp-edged or hot objects causes damage to the touchscreen**



## 14 Switching the device on

Switch the device on with the **main switch** (on the back of the device). After switching on, the display briefly lights up blue. Then a reference run and a self test are carried out.



Figure 2 – Start screen

After another 10 sec., the last used firing program is displayed.



Figure 3 – Last used firing program



Figure 4 – Starting/switching to standby

1	Standby button
2	STOP button
3	START button

Table 4 – Starting/switching to standby

### 14.1 Starting/switching to standby

Press the **Standby** button. The lift moves into the firing chamber, and the firing chamber heats up to the set standby temperature. After reaching the standby temperature and holding it for five minutes, the device is ready for firing processes. The first time standby is started after switching on the firing device, the firing chamber remains slightly open for five minutes in order to remove moisture from the firing chamber (VITA AntiCon).

The Standby button has two temperature values. You can choose between Normal Mode (adjustable standby temperature, e.g. 500°C) and Saving Mode (fixed value, 200°C) (VITA Energy Efficiency).

Temperature changes in Normal Mode can be made via Device Settings/ Standby Temperature (see Section 19.11). The switch between Normal and Saving Mode is done by pressing the button again during active Standby. Active mode is displayed in orange.

Standby is terminated by pressing the green START or red STOP button, the program name button or the program number button.

## 15 Operation and functions

### Program overview

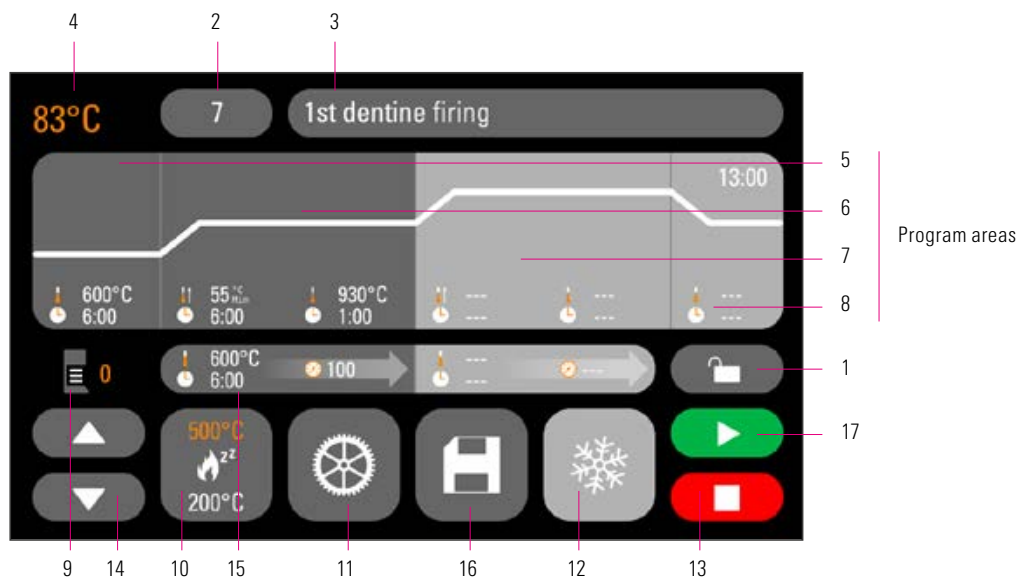


Figure 5 – Overview of operation and functions

No.	Designation	Function	Note
1	Program backup	<b>Lock open</b> , program open - <b>lock closed</b> , program backed up	18.7
2	Program number	Entry field for program number 1 – 200	17
3	Programs	Entry/change of program name, program list	18.8
4	Temperature display	Displays current combustion chamber temperature	
5	Pre-drying	Pre-drying program area	18.1
6	1. Temperature rise/holding time	Program area for first temperature rise and first temperature holding time	18.2
7	2. Temperature rise/holding time	Program area for second temperature rise and second temperature holding time	18.2
8	Cooling	Program area for cooling to lower temperature with holding time	18.3
9	Lift positions	Displays number of lift positions for pre-drying	
10	Standby	Heating to standby temperature (Normal and Saving Modes)	14.1
11	Device settings	Setting/display of language, operating hours, etc.	19
12	Rapid cooling	Rapid cooling of combustion chamber temperature to standby temperature	18.6
13	STOP button	Stop program	17
14	Button for lift	Manual control of the lift	
15	Vacuum	Program area for vacuum settings	18.4
16	Save button	Save changes	18
17	START button	Start program	

Table 5 – Overview of operation and functions

## 16 Keyboard functions

When you touch a program area in the program overview, the associated editing window with keyboard appears. The values of the program area can be changed in the editing window.

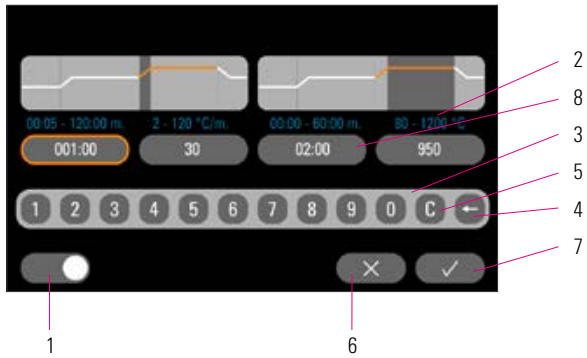


Figure 6 – Example of editing field for vacuum

1	Button for deactivating/activating the function
2	Display field for the program areas (see Section 17)
3	Buttons 0-9 – Entry for program values
4	Delete last digit of the entry in the display field
5	Delete value in the display field
6	Back to program overview without accepting change
7	Back to program overview with accepting change, without saving
8	Select next entry field
9	Direct selection of time/temperature

Table 6 – Editing field for vacuum

## 17 Select/start firing programs

Firing programs for VITA ceramic materials are already preprogrammed in the VITA V60 i-Line PLUS. These correspond to the recommended VITA settings. A firing program is selected by entering the number. The preset assignment of the program numbers can be viewed via the program name (see Section 18.8 Changing the program name). The program is selected by briefly pressing on the program number or the material and program name.

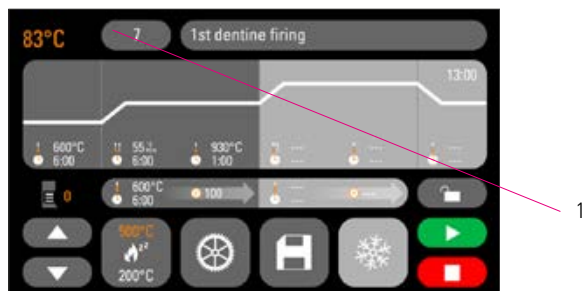


Figure 7 – Pressing the program number button

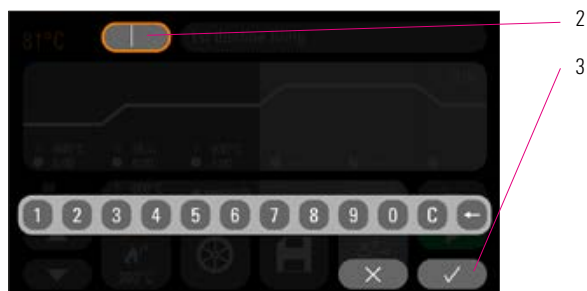


Figure 8 – Entering the program number

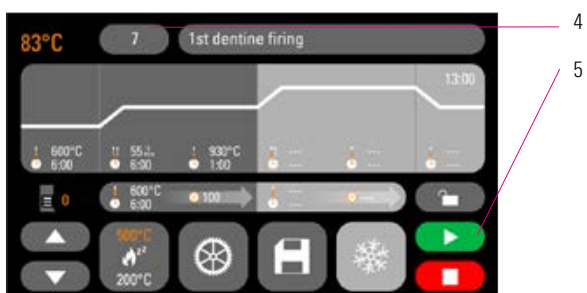


Figure 9 – Starting the program

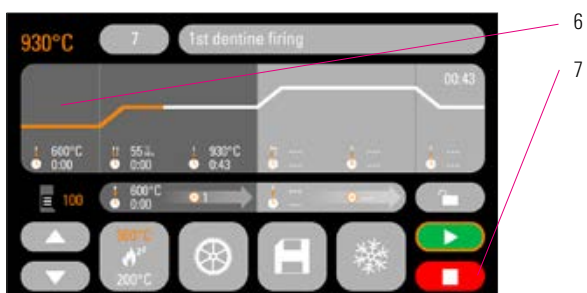


Figure 10 – Program stop

1	Press the program number button
2	Enter the program number (1 –200)
3	Confirm the selected firing program
4	Selected program is displayed
5	Start program with START button
6	Program sequence is shown in color
7	Program stop with STOP button

Table 7 – Selecting the firing program



## 18 Changing program values

To change the program values, touch the specific program area in which the values are to be changed. The associated editing window opens and program changes can be made.

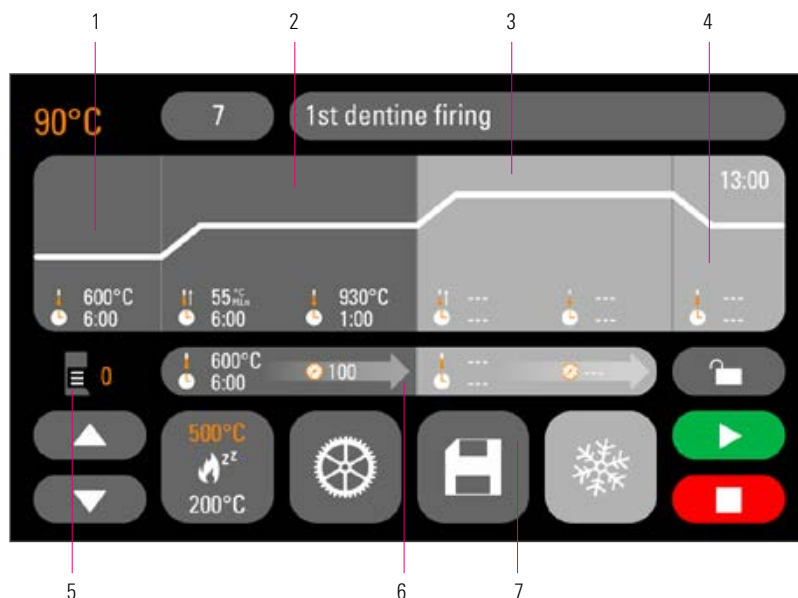


Figure 11 – Changing program values

1	Pre-drying (see Section 18.1)
2	First temperature rise/holding time (see Section 18.2)
3	Second temperature rise/holding time (see Section 18.2)
4	Cooling (see Section 18.3)
5	Display of the current lift position (see Section 18.1)
6	Vacuum settings (see Section 18.4)
7	Save button (see Section 18.5)

Table 8 – Changing program values

Program values displayed in white are saved values.

Program values displayed in orange are valid for a program run until the program changes. After reselecting the program, the last saved values are displayed again.

The **program values displayed in red** can be **permanently backed up with the Save button** if no program backup (lock open) has been set (see Section 18.7). The program is then open for changes and the Save button is actively displayed (see Section 18.5).

One-time changes are possible during active program backup (lock closed). However, the changes can only be saved by entering the PIN in the displayed keyboard after pressing the Save button (see Section 19.8).

## 18.1 Pre-drying

### Times for the individual pre-drying positions

The possible holding times of the individual lift positions depend on the preselected pre-drying time. Therefore set the pre-drying time first and then enter the time at the middle and lower lift position.

The time for the upper lift position is automatically calculated.

If the **pre-drying time is extended**, the time change is assigned to the upper lift position. The lower and middle positions remain the same.

If the **pre-drying time is shortened**, the holding time is shortened for the upper lift position. The lower and middle positions remain the same.

If the selected pre-drying time is less than the total time of the individual lift holding times, one-third of this time is assigned to each of the individual lift positions.

The lift positions (in %) remain the same with a change in holding times and can be freely altered. The factory setting for lift position one is 0%, lift position two is 15% and lift position three is 30%.

Altered program values are displayed as orange in the program overview and can be used for one program sequence or are permanently saved with the Save button in the program overview (see Section 18.5).

**When the pre-drying temperature changes, the switch-on temperature of the vacuum pump changes. If the pre-drying time changes, the holding times of the lift positions change.**

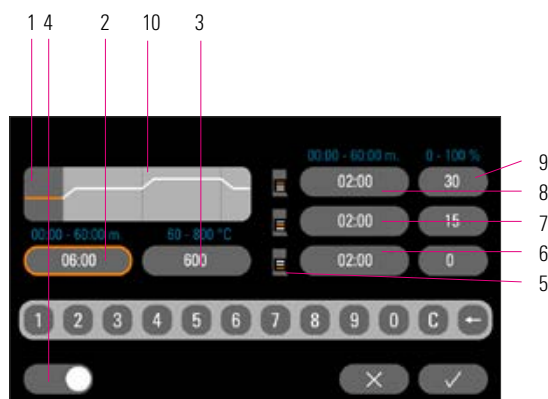


Figure 12 – Pre-drying program area

1	Selected program area, here: pre-drying, is actively displayed
2	Display field for the pre-drying time lights up in light blue and is active. Enter time value using the keyboard. Value entry: 0:00 – 40:00 mins.
3	Display field for pre-drying temperature - enter temperature using keyboard. Value entry: 200°C – 800°C.
4	Deactivate/activate pre-drying
5	Symbols show the lift positions
6	Time setting for lower lift position
7	Time setting for middle lift position
8	Time setting for upper lift position (is automatically calculated)
9	Lift position settings
10	All program areas can be selected and processed in this mode.

Table 9 – Pre-drying

## 18.2 Temperature rise and temperature holding time

The device has two program areas for temperature rise and temperature holding time.

The second temperature rise and the second temperature holding time can each be activated and deactivated. Both areas are operated in the same manner. Activate first or second program area.

The display shows:

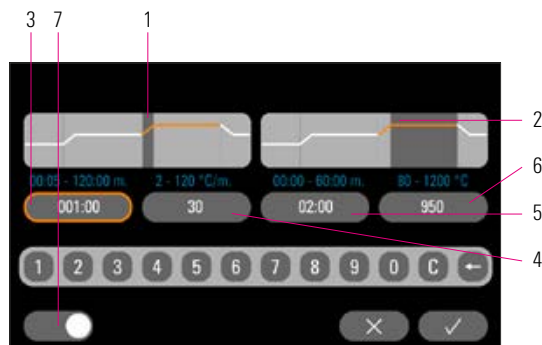


Figure 13 – Temperature rise and temperature holding time

1	Ascending phase
2	Holding phase
3	Entry of the duration of the ascending phase
4	Entry of the temperature gradients
5	Entry of the duration of the holding phase
6	Entry of the temperature in the holding phase
7	Activation of the ascending and holding phase

Table 10 – Ascending phase and holding phase

**Setting values for final temperature:** Minimum and maximum values are dependent on the activated program areas. When changing the final temperature, the heating rate (°C/min) is maintained and the rise time in mins. is adjusted.

**⚠ Attention:** The run time of the vacuum pump is adjusted to the rise time.

**Setting values for the rise time:** Minimum and maximum values are dependent on the activated program areas.

When changing the rise time, the heating rate in °C/min is adjusted.

**⚠ Attention:** The run time of the vacuum pump is adjusted to the rise time. The pump is switched off after the final temperature is reached.

**Setting values for heating rate:** Minimum and maximum values are dependent on the activated program areas. When changing the heating rate °C/min, the rise time is adjusted.

**⚠ Attention:** The run time of the vacuum pump is adjusted to the rise time. The pump is switched off after the final temperature is reached.

Only those values can be set which are displayed via the entry field.

Altered program values are displayed in orange in the program overview and can be used for one program sequence or permanently backed up with the Save button in the program overview (see Section 18.5).

**When changing the rise time, heating rate or final temperature, the values for switching on the vacuum pump are adjusted (see Section 18.4).**

### 18.3 Cooling

The maximum value is dependent on the final holding temperature.  
The cooling temperature must be lower than the final holding temperature.

Only those values can be set which are displayed via the entry field.

Altered program values are displayed in orange in the program overview and can be used for one program sequence, or permanently backed up with the Save button in the program overview (see Section 18.5).

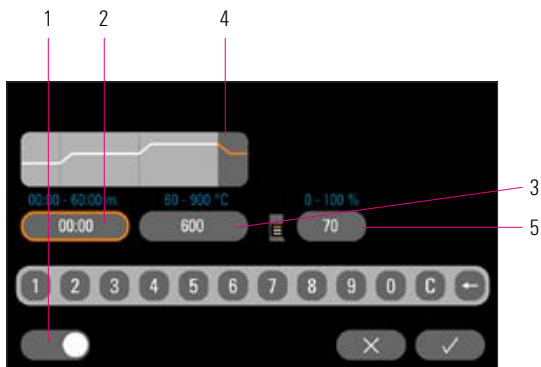


Figure 14 – Cooling phase

1	Deactivate/activate cooling phase
2	Set the temperature holding time
3	Set the cooling temperature
4	Cooling phase
5	Set lift position for cooling

Table 11 – Cooling phase

### 18.4 Vacuum setting

The time and temperature values for switching the vacuum pump on and off are dependent on the abovementioned program values. If the pre-drying temperature or the final temperature is changed, the switch-on temperature of the vacuum pump is set as equal to the pre-drying temperature, and the vacuum time (running time of the vacuum pump) as equal to the rise time.

During a running firing program, the currently running vacuum is displayed in %.

Only those values can be set which are displayed via the entry field.

Altered program values are displayed in orange in the program overview and can be used for one program sequence, or permanently backed up with the Save button in the program overview (see Section 18.5).

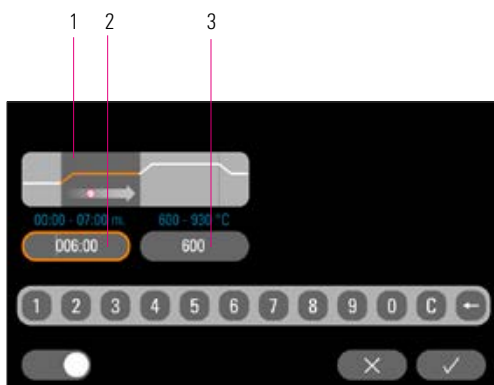


Figure 15 – Vacuum settings

1	Vacuum settings for program area first temperature rise/holding time
2	Setting for vacuum time for first temperature rise/holding time
3	Start temperature of the vacuum pump

Table 12 – Vacuum settings

### 18.5 Saving program values

Altered program values are displayed in orange on the display, and the Save button is active. Pressing the Save button will turn it white. If the program is backed up, the PIN must be entered after pressing the Save button (see Section 19.8).



Figure 16 – Saving program values



Figure 17 – Saved values are displayed in white

1	Altered values are displayed in orange
2	Press the Save button
3	Saved values are displayed in white

Table 13 – Saving program values



Figure 18 – Rapid cooling

### 18.6 Rapid cooling

During rapid cooling, the lift remains in the lower position and the pump is connected. After reaching the standby temperature minus 50°C, the pump is switched off, the lift moves in and the firing chamber is heated to the standby temperature.

1	The button for rapid cooling is only active if the combustion chamber temperature is more than 50°C higher than the standby temperature
---	---

Table 14 – Rapid cooling

### 18.7 Program backup

Two statuses are displayed on the program backup button:

- **Lock open** – Program parameters can be freely altered and can be saved
- **Lock closed** – Program parameters can be freely altered; saving the changes can only be done by entering a PIN

Creating a PIN for locking/unlocking a program (see Section 19.7)



Figure 19 – Program backup

1	Program backup button
---	-----------------------

Table 15 – Program backup button



Figure 20 – Program Name

### 18.8 Administration of the firing programs

To create a new program, press the Program Name button. An overview appears which is divided into the columns Program Number, Material and Program Name. Press the Program Name button. The display now shows the Program Overview, beginning with the last active firing program:

1	Programs
---	----------

Table 16 – Program Name



Figure 21 – Program Overview

1	Material name
2	Sort according to increasing/decreasing program number
3	Sort according to increasing/decreasing material
4	Sort according to increasing/decreasing program name
5	Programs
6	Back to Program Overview
7	Program settings

Table 17 – Program Overview

To create a new program, press the Program Settings button. Then press Create new firing program.

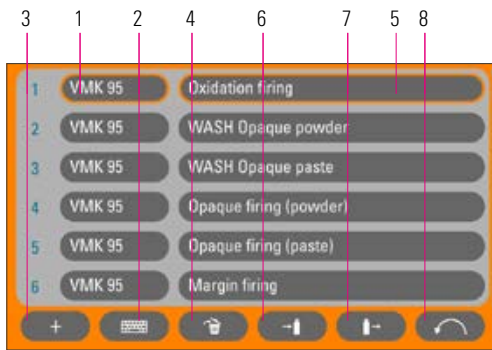


Figure 22 – Program settings

1	Material name
2	Change program name
3	Create new firing program
4	Delete firing program
5	Programs
6	Export firing program to USB stick
7	Import firing program from USB stick
8	Back to Program Overview

Table 18 – Program settings

An input keyboard is displayed. Press the Material or Program Name button to enter the desired text in the corresponding field. Briefly pressing on the program number of the material and program name in the program list allows you to directly select the program.

Entering or changing the program parameters is described under Section 18 "Changing program values."

Altered program values are displayed in orange in the program overview and can be used for one program sequence or permanently saved with the Save button in the program overview (see Section 18.5).

**Importing firing programs:** Firing programs can be imported and exported using a USB stick.

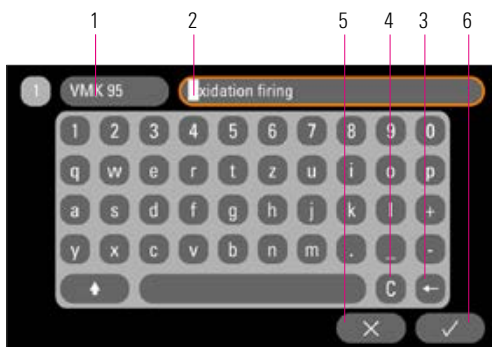


Figure 23 – Confirmation of the change

1	Material name button max. 10 characters
2	Program name button max. 24 characters
3	Delete last character
4	Delete field
5	Back without change
6	Confirm the change and call up the program

Table 19 – Name of program values



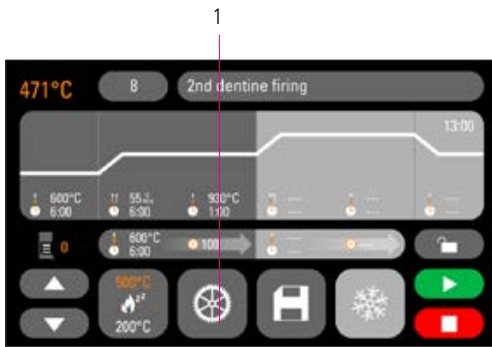


Figure 24 – Device settings

## 19 Device settings

Applying device settings:

1	Device settings
---	-----------------

Table 20 – Device setting

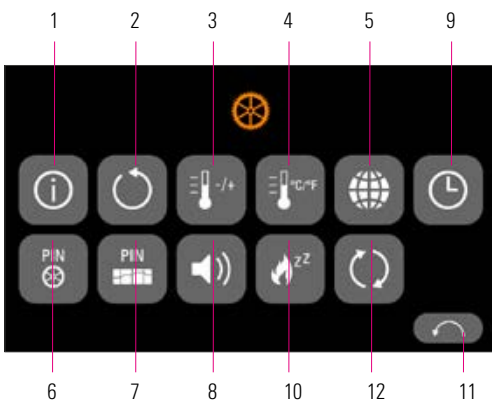


Figure 25 – Setting buttons for device settings

Display shows the following setting buttons:

No.	Designation	Function	Note
1	Device information	Information on the device	19.1
2	Factory settings	Restore basic settings	19.2
3	Temperature setting	Temperature testing with silver test	19.3
4	Temperature display	Select setting of °C or °F	19.4
5	Languages	Select language	19.5
6	PIN device settings	Back up device settings	19.6
7	PIN programs	Back up programs	19.7
8	Loudspeaker	Set tone duration	19.9
9	Date/time settings	Set date/time	19.10
10	Standby temperature	Setting the standby temperature	19.11
11	Back button	Back to Program Overview	
12	Update	Conducting an update	

Table 21 – Overview of device settings

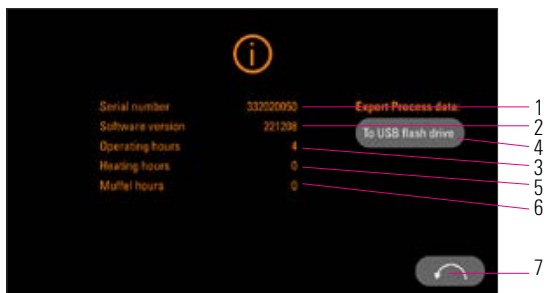


Figure 26 – Device information

### 19.1 Device information

1	Serial number of the device
2	Software version
3	Operating hours, device switched on in time
4	Process data on the USB stick
5	Total firing hours of the device
6	Firing hours of the currently used firing muffle
7	Back to Overview of device settings

Table 22 – Name of program values

**Process data:** The process data are a log of the firing programs conducted.

### 19.2 Factory settings

By pressing the button, the program memory is reset to the factory settings for the default VITA firing programs.

**⚠ Attention:** Programs entered by the user will be deleted.



Figure 27 – Factory settings

1	By pressing the button, the program memory is reset to the factory settings for the default VITA firing programs.
2	By pressing this button, the following values are reset to this factory setting: <ul style="list-style-type: none"> <li>• Loudness: 10</li> <li>• Language: English</li> <li>• Temperature offset: 0°C</li> <li>• Temperature display: °C</li> <li>• Standby: 500°C</li> </ul>

Table 23 – Factory settings

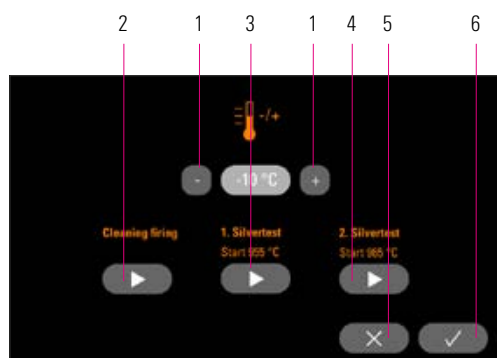


Figure 28 – Temperature settings

1	Change offset temperature
2	Start cleaning firing
3	Start first silver probe
4	Start second silver probe
5	Stop without saving
6	Save values, back to settings

Table 24 – Temperature settings

### 19.3 Temperature setting and cleaning firing

#### Temperature calibration using the silver probe

With this program and the VITA Silver Probe set (VITA Order No. B 230), the temperature in the combustion chamber can be checked and readjusted within the range of +/- 40°C. Care must be taken during calibration that the instructions on performing the silver probe test are strictly observed (see instructions in the Silver Probe set). Deviations lead to false measurements and thus to erroneous settings.

To check the combustion chamber temperature using the silver probe, a program sequence at 955°C and a program sequence at 965°C are necessary.

#### Starting the first silver probe

Press the first silver probe button. Program is displayed. Insert the silver probe and press the Start button. The program starts and the program sequence is displayed.

#### Results from the first silver probe

##### **Silver slightly thickened, but not melted**

The first silver probe was successful. The second silver probe can now be performed.

##### **Silver melted**

The first silver probe was not successful. Enter an estimated correction value with the plus key and repeat the first silver probe.

After the end of the program sequence in the program overview, press the Settings button and then the Temperature Setting button to return to this menu.

#### Starting the second silver probe

Press the second silver probe button. Program is displayed. Insert the silver probe and press the Start button. The program starts and the program sequence is displayed.

#### Results from the second silver probe

##### **Silver melted into a ball**

The second silver probe was successful. The temperature is now correctly set.

##### **Silver not melted**

The second silver probe was not successful. Enter an estimated correction value with the minus button and repeat the second silver probe.

After the end of the program sequence in the program overview, press the Settings button and then the Temperature Setting button to return to this menu.

#### Results from the silver probe

**Temperature too low:** Enter correction value with the minus button

**Temperature too high:** Enter the correction value with the plus button

**Cleaning firing:** It is recommended that a cleaning firing be performed, e.g., every 100 operating hours.

**Changes are automatically saved.**

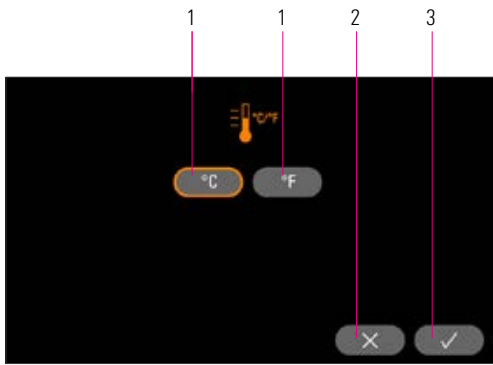


Figure 29 – Temperature display

### 19.4 Temperature display in °C or °F

Select desired display unit.  
Setting is automatically saved.

1	Change temperature unit
2	Stop without saving
3	Save values, back to settings

Table 25 – Temperature display

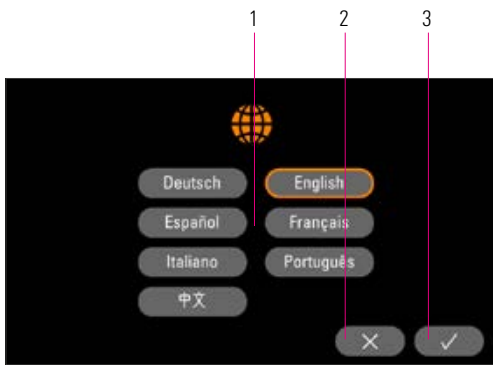


Figure 30 – Language selection

### 19.5 Language

Select desired language.  
Setting is automatically saved.

1	Selecting the desired language
2	Stop without saving
3	Save values, back to settings

Table 26 – Language selection

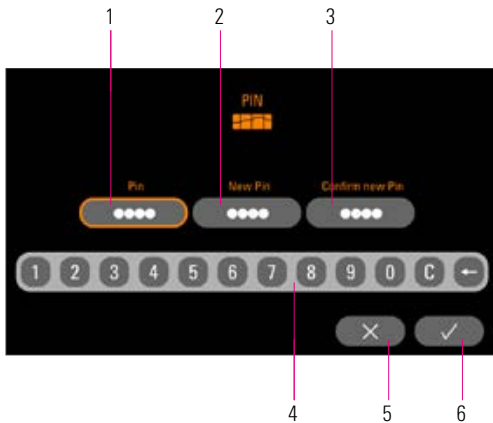


Figure 31 – PIN entry for device settings

### 19.6 Entering a PIN for device settings

Device settings can be protected from changes with a PIN lock. In that case, it is only possible to make changes and view the device settings by first entering a PIN. To access PIN entry, press the Settings button, then press the Device Settings PIN button.

#### Locking device settings

PIN field remains empty  
In the New PIN field – enter new four-digit PIN  
Repeat in the New PIN field – enter new PIN again

#### Unlocking device settings

In the PIN field – enter PIN  
New PIN field remains empty  
Repeat. New PIN field remains empty

1	Enter current PIN
2	Enter new PIN
3	Confirm new PIN
4	Number keyboard
5	Stop without saving
6	Save values, back to Settings

Table 27 – Entering a PIN for device settings

#### Affects the following device settings:

- Brightness of the display
- Duration of loudspeaker tone
- Language
- Temperature setting
- Temperature display
- Standby

**! ⚠ Important!** If the PIN is lost, only the factory can unlock the device!

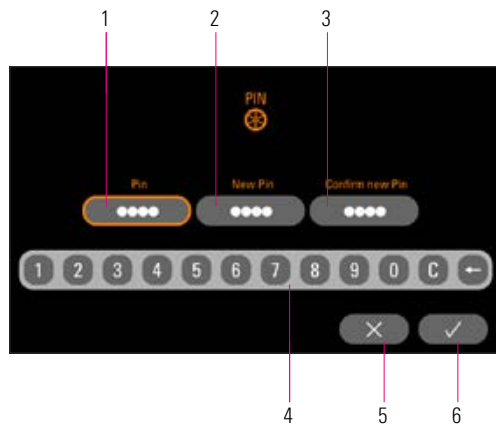


Figure 32 – Entering a PIN for firing programs

1	Enter current PIN
2	Enter new PIN
3	Confirm new PIN
4	Number keyboard
5	Stop without saving
6	Save values, back to Settings

Table 28 – Entering a PIN for firing programs

### 19.7 Entering a PIN for firing programs

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

Protected programs can be used by every user. One-time changes can be made. But the PIN is required to save the changes.

To call up PIN entry, first press the Settings button and then the PIN button for Program Settings.

#### Entering a PIN to lock programs

- Enter "0000" in the PIN field
- Enter a new four-digit PIN in the New PIN field
- Again, enter the new PIN in the New PIN field

#### Entering a PIN to unlock programs

- Enter the PIN in the PIN field
- Enter "0000" in the New PIN field
- Again, enter "0000" in the New PIN field

**! ⚠ Important!** If the PIN is lost, only the factory can unlock the device!



Figure 33 – Program backup

### 19.8 Locking firing programs

To protect firing programs from permanent change by other users, they can be backed up with a PIN.

Select a firing program that should be locked and press the Program Backup button.

1	Program Backup button
---	-----------------------

Table 29 – Program backup

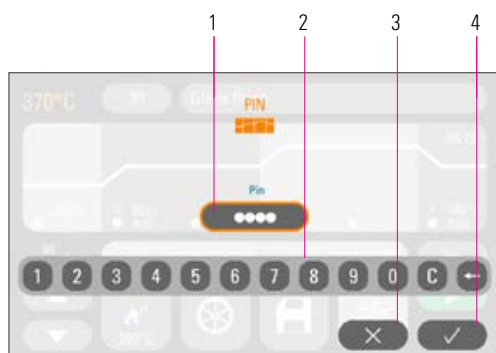


Figure 34 – Program backup with PIN

Enter the PIN via the displayed keyboard and confirm.

If no personal PIN has been entered under Settings/PIN Programs (see Section 19.7), the program can be locked with the factory-set PIN "0000".

1	Enter PIN
2	Number keyboard
3	Stop without saving
4	Save values, back to settings

Table 30 – Program backup with PIN

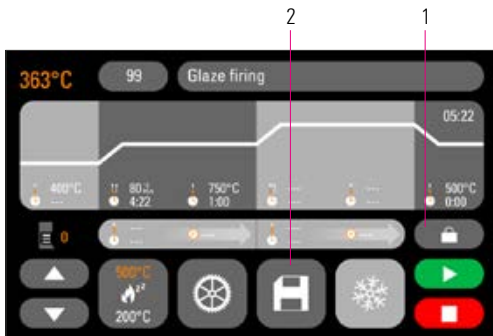


Figure 35 – Program backup active

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

Backed up programs can be used by every user. One-time changes can also be made anyway. But the PIN is required to save the changes.

**! ⚠ Important!** If the PIN is lost, only the factory can unlock the device!

1	Program backup active (lock closed)
2	Press Save button, program backup is saved

Table 31 – Program backup

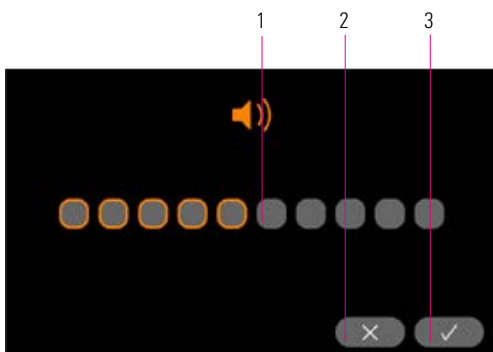


Figure 36 – Loudness setting

### 19.9 Duration of loudspeaker tone

The loudness of the loudspeaker can be set here. To back up the selection, press the Save button.

1	Loudness setting
2	Stop without saving
3	Save values, back to settings

Table 32 – Loudness setting

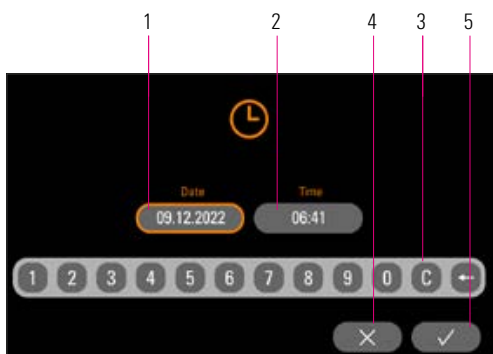


Figure 37 – Date and time settings

### 19.10 Date/time settings

The time and date are logged in the process data of each firing.

1	Enter date (DD.MM.YYYY)
2	Enter time (hh:mm)
3	Number keyboard
4	Stop without saving
5	Save values, back to settings

Table 33 – Date and time settings

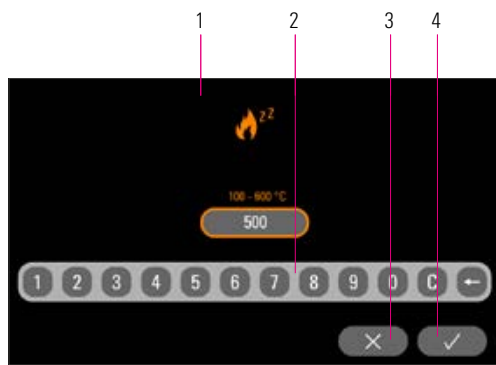


Figure 38 – Entering standby temperature

### 19.11 Setting the standby temperature

Enter the desired standby temperature using the buttons. Possible values to be entered are displayed via the temperature specification.

The altered value is automatically saved.

1	Enter standby temperature
2	Number keyboard
3	Stop without saving
4	Save values, back to settings

Table 34 – Entering standby temperature

## 20 Software update

You can find the current software on the VITA home page, <https://www.vita-zahnfabrik.com/>, under **Documents & Media/Download Center/Product information/Software Updates**

After selecting the type of device, the current software can be selected and copied to a USB stick. Instructions for execution and information about the update can be viewed.

**i** The software version on the USB stick must be more current (higher) than the version installed on the device. The software version installed in the device is displayed in the device under Settings/Information (see Section 19.1).

Installing current software:

- Insert the USB stick in the USB port of the device
- Press the Conduct Update button in the Settings menu (see Section 19)

After completing the update, the system automatically restarts.

## 21 Error messages

Any errors that occur are shown in the display.

Subsequent error messages may occur and can be reset with the confirmation button. However, a permanent reset of the error message is only possible if the error has been eliminated.

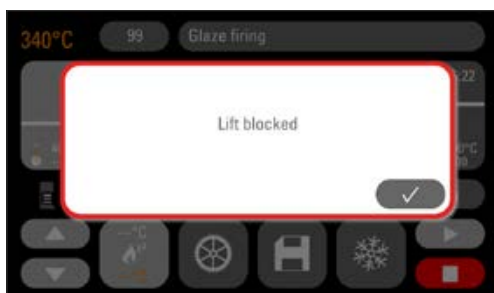


Figure 39 – Example of error message

Display	Recognition	Cause/correction
<b>Temperature sensor is defective</b>	The combustion chamber temperature can no longer be measured and regulated with the temperature sensor.	<ul style="list-style-type: none"> <li>• Test the thermoelement in the firing chamber for mechanical disruption.</li> <li>• Check the connections of the firing chamber.</li> <li>• Check the connections of the electronics.</li> </ul> <p>To test and to replace the temperature sensor, the device must be opened. This should be done by a specialized dealer authorized by VITA.</p>
<b>Vacuum was not achieved</b>	During a running firing program with vacuum, the vacuum is not formed within 30 seconds. The firing program is stopped.	<ul style="list-style-type: none"> <li>• Check the connection of the vacuum pump to the furnace for secure position.</li> <li>• Clean the lift plate seal with a dry cloth.</li> <li>• Check the lift plate seal for damage.</li> </ul>
<b>Lift blocked</b>	During general operation, the lift is automatically stopped in the lower position. This position is not reached due to an error.	<ul style="list-style-type: none"> <li>• Check the lift buttons in the display for reaction (button becomes dark when pressed, see Section 13).</li> <li>• Check the lift for mechanical blockage and remove any objects under the lift plate.</li> </ul>
<b>Defective heating</b>	The quartz firing muffle is heavily stressed due to the high and extended use of temperatures and the constant high temperature changes. The quartz firing muffle is broken by the overuse.	<ul style="list-style-type: none"> <li>• Check the quartz firing muffle and replace if necessary.</li> </ul> <p>To check and replace the quartz firing muffle, the device must be opened. This should be done by a specialized dealer authorized by VITA.</p>
<b>The firing cannot be continued</b>	A failure of the mains power supply that lasts for longer than two minutes during a running program is displayed after re-establishment of the mains power supply. The program is stopped.	<ul style="list-style-type: none"> <li>• No further measures are required for the device.</li> <li>• Please check your firing object to see whether it can be refired or whether it needs to be replaced.</li> </ul>

Table 35 – Overview of error messages



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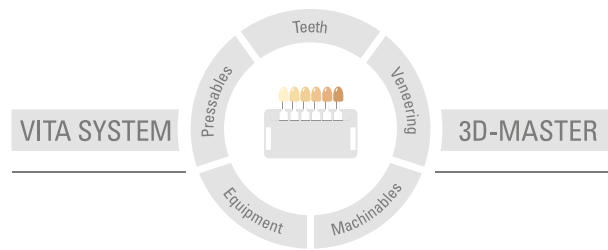
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After the publication of these instructions for use, any previous versions become obsolete. The current version can be found under [www.vita-zahnfabrik.com](http://www.vita-zahnfabrik.com)

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