

VITA vPad comfort / VITA vPad excellence

Operating manual



VITA shade determination

VITA shade communication

VITA shade reproduction

VITA shade control

Date of issue: 08.16



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VITA

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1 Welcome

1.1 General notes

Dear Customer,

Congratulations and thank you for your decision to purchase a VITA vPad comfort / VITA vPad excellence control pad for the operation and control of the VITA VACUMAT 6000 M ceramic firing furnace, VITA VACUMAT 6000 MP combination pressing furnace or the VITA ZYRCOMAT 6000 MS high-speed sintering furnace.

With the VITA vPad comfort, you can immediately operate up to two VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP and VITA ZYRCOMAT 6000 MS, with the VITA vPad excellence up to four VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP and VITA ZYRCOMAT 6000 MS.

The VITA vPad uses the latest state of the art technologies and meets all international safety standards. However, improper handling may cause problems. Please read this operating manual carefully and observe the following instructions.

This operating manual will help you to use your VITA instrument properly and avoid possible problems, reduce repair costs and down times and increase the reliability and service life of the instrument. 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 should always be kept close to the instrument. It should be read and followed by all persons responsible for performing tasks such as operation, troubleshooting during operation, cleaning and servicing (maintenance, inspection, repairs), either with or on the instrument.

We wish you much success working with this VITA instrument.

VITA Zahnfabrik, Bad Säckingen, Germany

1.2 Copyright

Important notes concerning copyrights:

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2 Scope of delivery

Device supplied in a special box with:

- 1 VITA vPad comfort 7" LED Color Touch Display **or**
- 1 VITA vPad excellence 8.5" LED Color Touch Display
- 1 Operating Manual

i To operate two to four VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP or VITA ZYRCOMAT 6000 MS units with the VITA vPad comfort / VITA vPad excellence control unit, you also need a VITA Switchbox with connection cable (VITA Art. No. D47009).

3 Technical Information

VITA vPad comfort control unit with 7" LED Color Touch Display, memory capacity of 500 programs with 1 GB photoviewer and control of up to two sintering, firing or combination pressing units.

VITA vPad excellence control unit with 8.5" LED Color Touch Display, memory capacity of 1000 programs, 2 GB photoviewer and control of up to four sintering, firing or combination pressing units.

4 Technical Data

4.1 Dimensions / weights

VITA vPad comfort / VITA vPad excellence

- Width: 235 mm
- Depth: 156 mm
- Height: 150 mm
- Weight: 0.7 kg
- Housing: resin

4.2 Electrical data

The 48 volt DC power supply comes through the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP or VITA ZYRCOMAT 6000 MS connection cable

4.3 Ambient conditions

- Use indoors
- Ambient temperature 2 °C to 40 °C
- Relative humidity: max. 80% at 31 °C

5 Intended use

Basic information on the instrument design

The instrument is designed according to state of the art technology and recognized safety standards.

However, if it is used inappropriately, hazards for the health and safety of the user or third parties, as well as the risk of damaging the instrument and other material property, may arise.

Unauthorized modes of operation

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

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 Operation and cleaning of the control unit

Do not operate the control unit **with sharp-edged or hot** objects. This causes damage to the touch screen.

Clean the display at regular intervals with a screen cleaner. This cleaner does not cause any scratches, has an antistatic effect and prevents re-soiling.

Damage to the display resulting from improper use during operation or cleaning is excluded from the warranty.

6.1 Warranty and liability

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

i 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.

6.2 Spare parts

Spare parts must comply with the technical requirements specified by the manufacturer. This is only ensured when using original VITA spare parts.

6.3 Safety information

Please observe the safety instructions for the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP (see Operating Manual for the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP Safety Instructions) or VITA ZYRCOMAT 6000 MS (see Operating Manual for the VITA ZYRCOMAT 6000 MS Safety Instructions) before starting the instrument up.

7 Safety functions

If the furnace is operated with a VITA vPad comfort / VITA vPad excellence control unit, it is equipped with the following safety and monitoring functions:

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

Additional functions while operating the VITA VACUMAT 6000 MP:

- Pellet detection for VITA press pellets
- Press path detection

7.1 Mains power supply failure

The instrument is equipped with power supply failure protection. This component prevents a program cancellation and hence 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.

Failure of the mains power supply for a period shorter than approximately 15 sec.

The firing program is not cancelled; the display does not work for this period. Once mains power is supplied again, the starting image is displayed; after activating the **Material** button, the running program reappears in the display.

Failure of the mains power supply for a period greater than approximately 15 sec.

The program is cancelled and the display is out of order. Once mains power is supplied again, the starting image is displayed again.

 **Once mains power is supplied again, the time required for the control unit to switch back on again is approximately 20 seconds.**

8 Automatic temperature calibration

The temperature is automatically calibrated each time the furnace is switched on.

This temperature calibration takes into consideration and corrects all deviations occurring in the electronic components for temperature measurement and temperature regulation.

Therefore, a constant temperature control of $\pm 1\text{ }^{\circ}\text{C}$ is achieved even with a long operating time of the instrument.

8.1 Service

Further information on this device is available on our homepage:

<http://www.vita-zahnfabrik.com>

Software updates are available as a download on the website of the supplier, VITA Zahnfabrik.

An option to register so that the latest information on the device is automatically emailed to you is also provided at **<http://www.vita-zahnfabrik.com/update-messenger>**.

In case of technical queries regarding the instrument or regarding repair services and warranty provisions, contact us at:

Email: instruments-service@vita-zahnfabrik.com

Tel. +49 (0) 7761 / 562-105, -106, -101



9 First commissioning

Please also refer to the installation and commissioning instructions in the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP or VITA ZYRCOMAT 6000 MS Operating Manual.

- Plug the control unit with accompanying connection cable into the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP or VITA ZYRCOMAT 6000 MS and into the VITA vPad comfort / VITA vPad excellence
- Plug in the VITA vacuum pump (VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP only)
- Insert the vacuum hose for the VITA vacuum pump (VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP only)
- Plug in the power cable
- Switch on the instrument using the main switch
- The lift goes down to the low position, up to the high position and down again to the low position (lift path measurement)

In addition, for the VITA VACUMAT 6000 MP:

- Insert the pressurized air connection (max. 5 bar) into the pressure regulator of the VITA vacuum pump. Attach the enclosed hose clamps to the compressed air hose: 1x at the exit from the laboratory compressed air line and 1x at the pump access.

For information about the connections, see Sections 9.1, 9.2 and 9.4

⚠ Attach the VITA firing socket to the lift plate.

Operation without the firing socket causes damage to the instrument from high heat exposure.

When operating two or more firing devices with one VITA vPad comfort / VITA vPad excellence control unit and the VITA Switchbox, pay attention to the numerically identified connections of the VITA Switchbox.

⚠ One firing device must always be connected to connection no. 1.

To supply up to four firing devices (VITA VACUMAT® 6000 M or VITA VACUMAT® 6000 MP) simultaneously with a vacuum with only one VITA vacuum pump, use the VITA MultiPump (VITA Art. No. D61000).

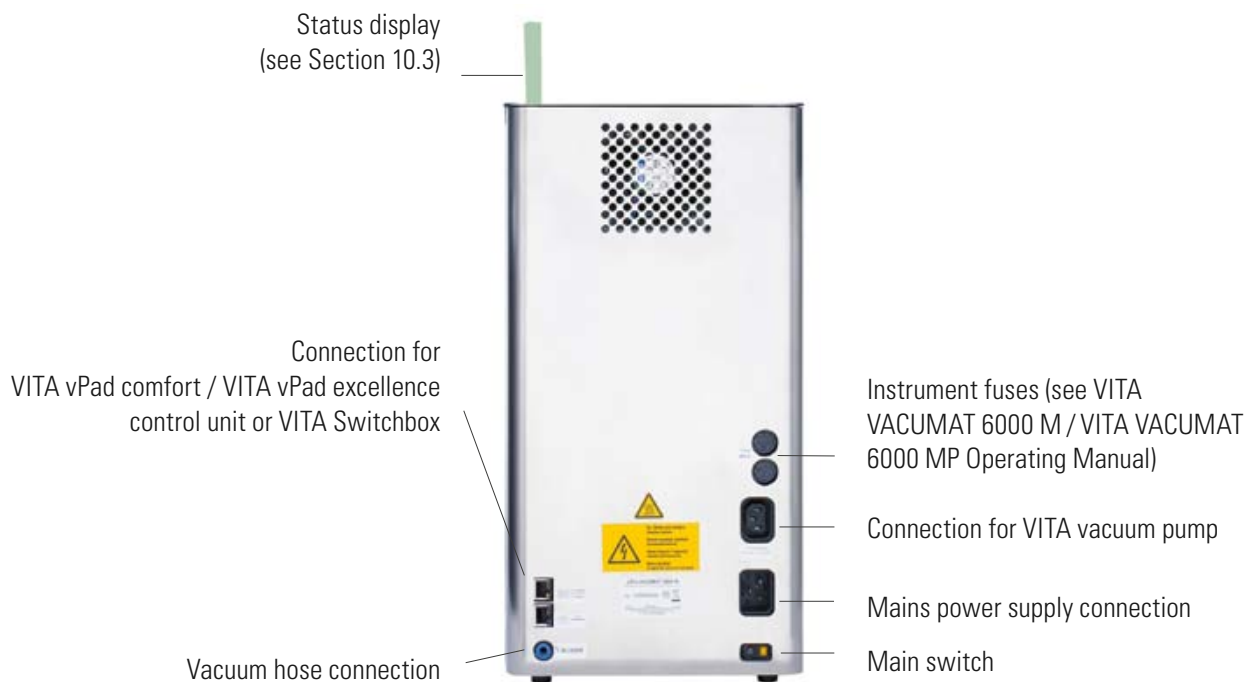


VITA Switchbox

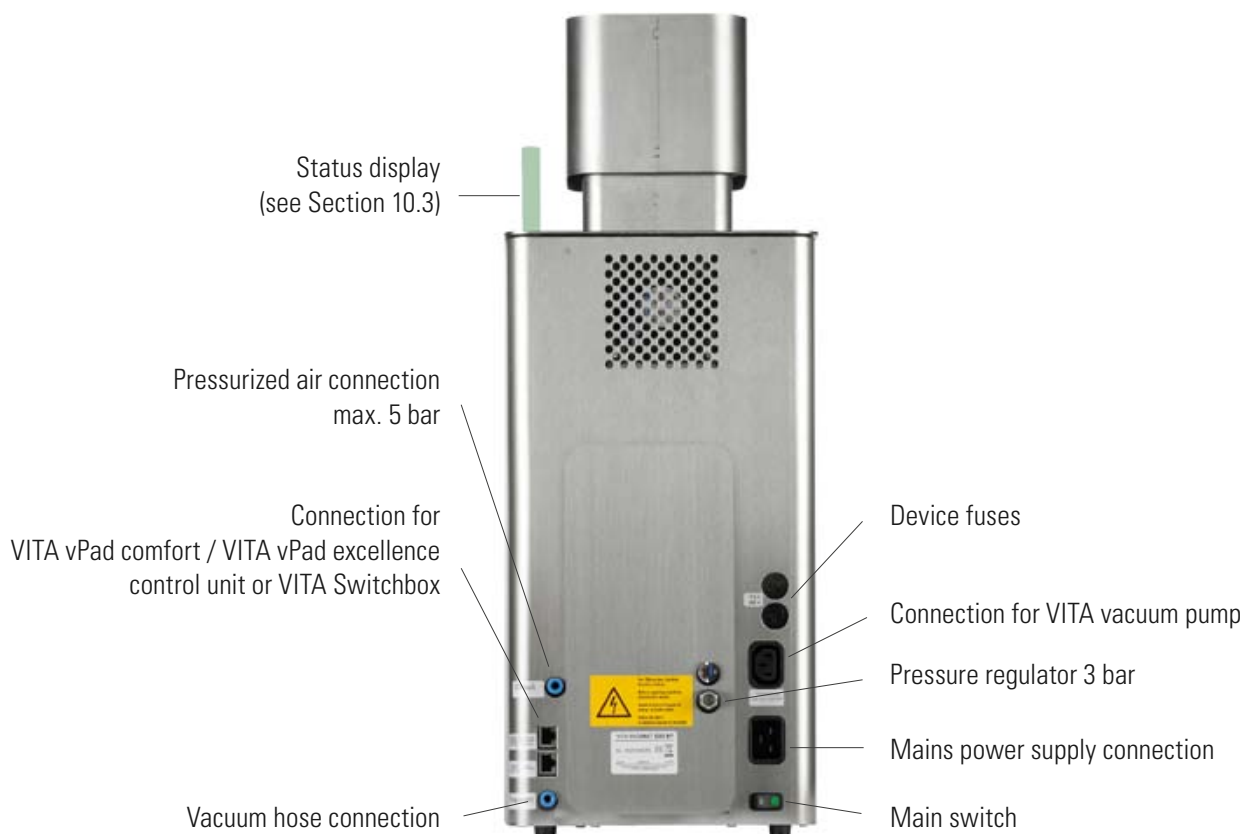


VITA MultiPump

9.1 Connections of the VITA VACUMAT® 6000 M ceramic furnace (see also the VITA VACUMAT 6000 M Operating Manual)



9.2 Connections of the VITA VACUMAT® 6000 MP combination pressing furnace (see also the VITA VACUMAT 6000 MP Operating Manual)





VITA vacuum pump for VITA VACUMAT 6000 M and
VITA VACUMAT 6000 MP

9.3 Pressurized air connection

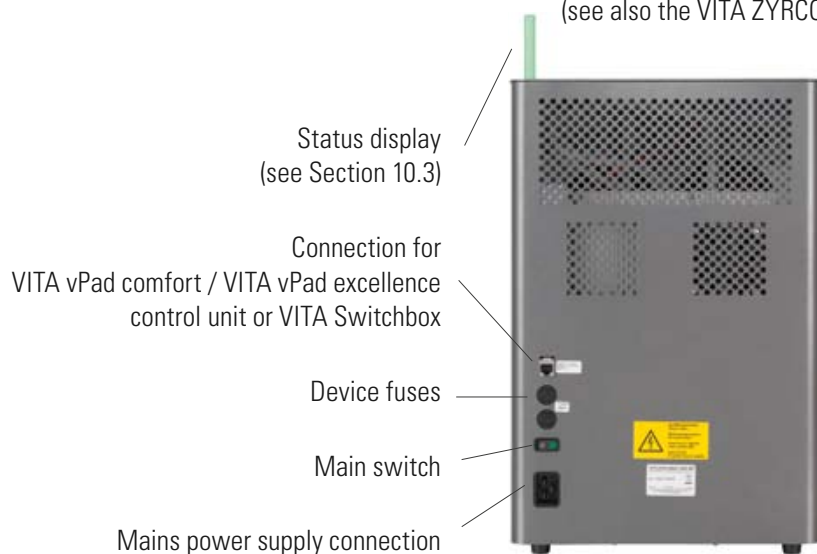
The input pressure on the VITA VACUMAT 6000 MP is controlled by a pressure regulator (supplied with the VITA VACUMAT 6000 MP only). This can be attached to the VITA vacuum pump.

The input pressure from the laboratory pressurized air network should be a maximum of 6 bar.

Set the pressure output of the device to a maximum of 5 bar on the pressure regulator.

See Section 21.3 regarding the settings for the pressing pressure.

9.4 Connections of the VITA ZYRCOMAT® 6000 MS sintering furnace (see also the VITA ZYRCOMAT 6000 MS Operating Manual)



Status display
(see Section 10.3)

Connection for
VITA vPad comfort / VITA vPad excellence
control unit or VITA Switchbox

Device fuses

Main switch

Mains power supply connection

10 Switching the device on

Switch the device on at the **main switch** (see Sections 9.1, Pkt. 9.2, Pkt. 9.4). The lift goes down to the lower position, software is loaded, devices are displayed.

Once the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP, VITA ZYRCOMAT 6000 MS is connected, the display shows:

VITA vPad comfort / VITA vPad excellence with 1 device.



Image 1 Display with one connected device



Image 2 Display with two connected devices

VITA vPad comfort / VITA vPad excellence with 2 devices.

10.1 Standby

10.1.1 Activate standby

1 Device:

Press the **Standby**  button.

2 device:

Select the device you want using the **Furnace 1** or **Furnace 2** button by touch.

Press the **Standby**  button.

The lift moves into the firing chamber, the combustion chamber temperature climbs to the set standby temperature (pre-set to 500 °C). After reaching the standby temperature and holding it for 10 minutes, the device is ready for firing processes.

The **Rapid Cooling** button is only visible then if the combustion chamber temperature of 50°C is higher than the Standby temperature.

If Standby Mode is active when the furnace is turned off, Auto Standby is activated after turning the equipment back on so that the unit automatically goes into the last activated standby.

10.1.2 Deactivating Standby


Standby Mode is deactivated by pressing the Standby button again.

If Standby Mode is deactivated when the furnace is turned off, Auto Standby also remains deactivated. Standby must be manually switched on after turning the unit on again.

10.2 VITA Energy Efficiency Standby

To activate the special energy-saving mode (200°C), the VITA Energy Efficiency button  is selected.

By pressing the button again, the energy-saving mode is deactivated.

By pressing the Standby button  the unit is switched over to normal Standby Mode.

10.3 Status display


The status display shows the following operating modes:

- Green – device in standby operation
- Blue – program active
- Red – error

10.4 Prevention of condensation (VITA AntiCon)

If the device is switched on with the main switch and Standby is started, the lift moves into the upper position, but the firing chamber does not close completely so that condensation can evaporate from the insulation.

After reaching the Standby temperature and holding for about 5 minutes, the firing chamber is closed completely and the device is ready for operation.

With the **Standby** button  the lift moves out and the heat is switched off.

The function is also available in the VITA Energy Efficiency Standby. This function is only activated if the device has been switched off for at least 5 minutes using the main switch.

11 Operations and functions for VITA vPad comfort / excellence



Image 1 VITA vPad comfort /vPad excellence with 1 firing unit



Image 2 VITA vPad comfort /vPad excellence with 2 firing units

1. VITA Energy Efficiency Standby
2. Standby
3. Combustion chamber temperature
4. Time / Date
5. Device control
6. Materials / programs
7. Settings
8. User – individual material and program settings
9. Photoviewer
10. Help
11. automatic lift up
12. automatic lift down
13. manual lift up
14. manual lift down
15. Number of selected devices / user name / password protection status:
Password is activated – lock symbol is closed,
Password protection is not activated – lock symbol is open
16. Switch display off
17. Information field with remaining run time / user / temperature
18. Single device switched off in multiple furnace operation

11.1 Lift buttons



Lift moves automatically down / up.




Lift moves down / up as long as the button is pressed.

11.2 Program start with too high a temperature

If the combustion chamber temperature at the start of a firing program is higher than the predrying temperature or the starting temperature of the program, the program start options at too high a temperature are shown.

With a **program start at too high a temperature**, the following options can be selected:

- **Slow cooling off** to starting temperature without connection to the VITA vacuum pump
- **Rapid cooling off** to the starting temperature by connecting to the VITA vacuum pump
- **Quick Start** program start at current combustion chamber temperature

When **Quick Start** is selected, the rise temperature (°C/min) is maintained and the rise time adjusted. Likewise, the vacuum time is adjusted to the temperature rise time in a program with vacuum. The adjusted values are shown and must be confirmed with the **OK**  button.

11.3 Rapid cooling on standby



Cooling

The **Cooldown** button is then only visible / active if the combustion chamber temperature is 50°C higher than the Standby-temperature.

The lift remains in the lower position, the VITA vacuum pump is connected after reaching the Standby temperature minus 50 °C, and the lift moves in and the firing chamber is heated to the Standby temperature.

11.4 Switching off



Switch off

When operating several furnaces, each device can be switched off individually in the unit control tab.

After pressing the **Switch Off** button, the lift moves in and the heating is switched off.

The display can, after all furnaces are switched off on the display and subsequently no longer displayed are switched off with the Display Off button. The display is black.

12 Select firing program

Programs can be selected with the **Material** tab or the **User** tab.

Material



By pressing the **Material** tab, the saved materials are displayed. The programs of the last selected profile are shown by default in the Material tab.

User



When activating the **User** tab, the stored user profiles are displayed, and after selection of a user profile, the saved materials are displayed.

All firing programs can be opened with the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP. The pressing programs can only be opened with the VITA VACUMAT 6000 MP and the sintering programs only with the VITA ZYRCOMAT 6000 MS.

Perform the following steps to select and start a firing program:

1. Select material



Image 1 Selecting the material

2. Select program



Image 2 Selecting the program

3. Start program with the Start button

The firing curve is colored red according to the program sequence. The time elapsed is displayed in the individual buttons of the program phases. The total program time is displayed in red (see clock symbol upper right).

When operating a furnace, the firing program is displayed during the entire program sequence.

After the program sequence, it continues to be displayed until the program sequence is manually quit.

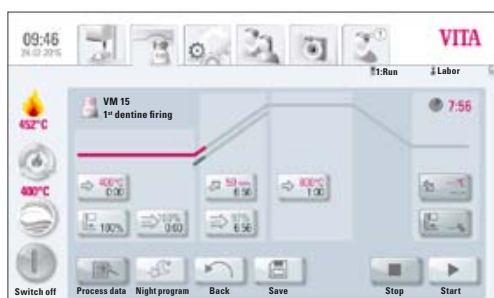



Image 3 Program status and course of the firing curve

When operating several furnaces, the **Device Control** tab is displayed again approximately 20 seconds after program start (see Section 10 Image 2).

Then the next free device can be selected and used for firing. The firing program of a device that is currently running can be called up again at any time using the **Material** tab.

At the end of the program, a signal tone sounds. See Section 21.2 for the settings for these.

The running program can be cancelled at any time with the **Stop**  button.

Information on additional function buttons

12.1 Process data



Process data

Press the **Process data** button, display shows:

Entry field for process data for quality assurance and traceability

The following data can be entered in the dialog field:

Activate entry field:

- Order number:
- Name of the respective client (dentist, patient) or operator
- Notes / comments on the firing object

Accept the input with **OK** button **or** keep the last entry with the **Cancel** button and return to the firing program.

The following data is automatically saved:

- User profile
- Material name
- Firing program name
- Firing program data target and actual values
- Device type
- Device serial number
- Date and time of the firing process

This information is stored in the memory of the control unit. The dates can be exported at a later time to a USB stick and then transferred to the firing data administration program FDS (Firing Data System) on the PC (see Section 21.4).

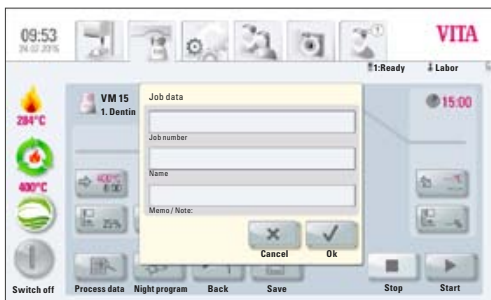


Image 4 Description of the process data

The firing data administration program enables a display of the firing curve, the archiving of all firing data and a later locating and printing out of individual orders.

 **Note: Enter process data prior to the program start since, otherwise, it is not saved.**

12.2 Night program



Night program

Pressing the button activates the night program, i.e., after a firing program runs, the lift moves back in after the combustion chamber temperatures sink to 200 °C, and the display and heating are switched off.

To switch the device back on, the main switch must be switched off and then on again.

The night program must be activated before starting a firing program.

12.3 Back button



Back

The **Back** button is used to display the previously selected screen.

12.4 Saving



Save

Saving program values – see Section 13.

12.5 Program buttons



Functions of the program buttons – see Section 13.1, section on entering / changing program values.

13 Entering / changing / saving program values

13.1 Description of function buttons

1. Predrying temperature and predrying time (see Section 13.2)
2. Lift positions for predrying (see Section 13.3)
3. Prevacuum (see Section 13.4)
4. Rise time / rise temperature (see Section 13.5)
5. Main vacuum (see Section 13.7)
6. Firing temperature and holding time (see Section 13.6)
7. Cooling temperature and holding time (see Section 13.8)
8. Lift position for cooling (see Section 13.9)
9. Saving process data (see Section 12.1)
10. Night program (see Section 12.2)
11. Back to previous operating level (see Section 12.3)
12. Save button (see Section 12.4)
13. Program stop
14. Program start
15. 1st Rise time / -temperature
16. 1st Firing temperature and holding time
17. Vacuum for 1st temperature rise and holding time
18. 2nd rise time / -temperature
19. 2nd firing temperature and holding time
20. Vacuum for 2nd temperature rise and holding time



Image 1 Selection of the user profile

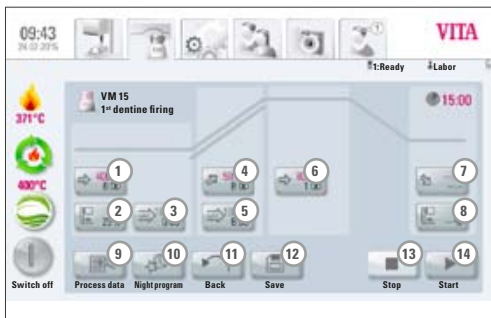


Image 2 View of firing program

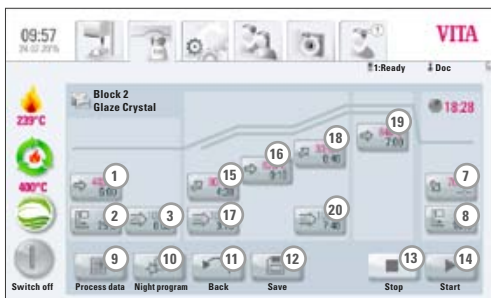


Image 3 View of firing program with 2nd temperature rise

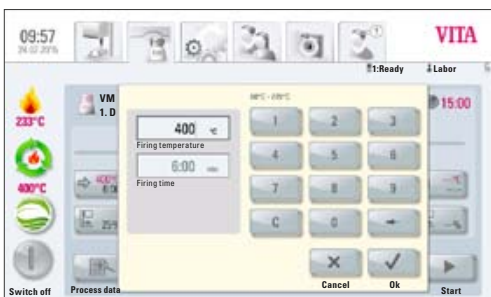


Image 4 Entry of predrying temperature and predrying time

13.2 Predrying temperature / predrying time



Press the **Predrying** button, display shows:

Entering / changing values

- Press the **Predrying temperature or Predrying time** field
- Enter **value**

Entry options:

Temperature 60 °C – 800 °C

Time 0 – 40:00 min/sec.

The possible values to enter are displayed above the number field.

Accept the value with the **OK** button **or** retain the last value with the **Cancel** button and return to the firing curve.

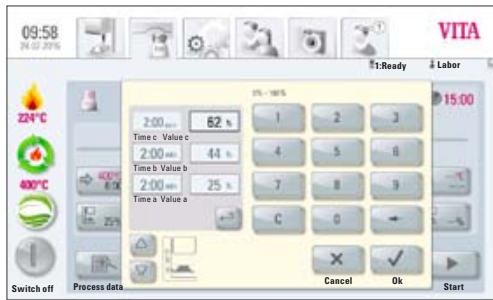


Image 5 Entering the lift positions and the corresponding holding times

13.3 Lift positions for predrying




Press the **Lift position** button, display shows:

Entering / changing values

Dialog is divided into entry for the lift position in % (value a, b and c) and entry of the duration of the respective lift position (time a, b and c).

Enter lift position in % and accept with **OK** button

or

Move the lift into the desired position with the **Lift button** and accept value with the arrow button .

3 lift positions are available for the predrying phase.

Value a – lower position entered value 0 – max. value **b**

Value b – middle position entered value 0 – max. value **c**

Value c – upper position entered value max. 100%

Duration in the positions:

Value for time **c** is automatically calculated.

Set time value for position **a** or **b**

- Activate entry field for time **a** or **b**
- Enter **Time**

The possible entry values are displayed.

Accept the value with the **OK** button **or** retain the last value with the **Cancel** button and return to the firing curve.

Time values of the individual positions are dependent on the predrying time. The time value for **Time c** is automatically calculated.

When the predrying time is changed by **more** than 3:00 min., the time for **Value a** and **Value b** is retained and the time for **Value c** is adjusted.

When a predrying time is **less** than 3:00 min., the predrying in **Value b** is performed with the lift position at 50%.

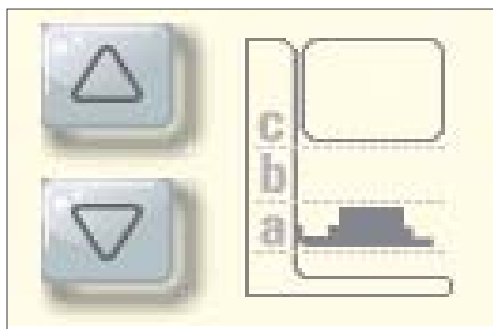


Image 6 Defining the 3rd holding positions a, b, c

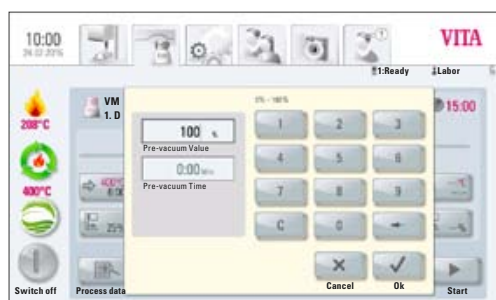
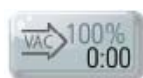


Image 7 Individual setting of the prevacuum

13.4 Prevacuum



Press the **Prevacuum** button, display shows:

Entering / changing values



- Activate the **Time** or **Value %**
- Enter **value**

Entry options:

Time 0 – 30:00 min/sec.

Value % 0 – 100%

The possible entry values are displayed.

Accept the value with the **OK**  button or retain the last value with the **Cancel**  button and return to the firing curve.

Setting the **Prevacuum** enables the vacuum in the firing chamber to be built up before the temperature rise is active. By **entering the time 0:00**, the prevacuum is switched off.

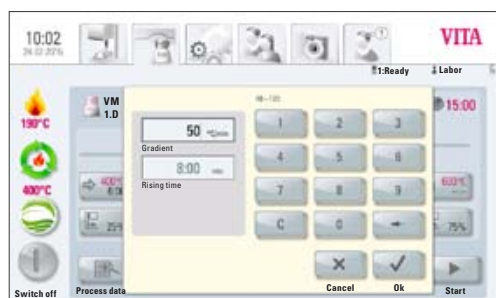


Image 8 Entering the rise time and rise temperature

13.5 Rising time / Rising temperature



Press the **Rise** button, display shows:



Entering / changing values

- Activate firing temperature field **°C/min** or firing time **Min**
- Enter **value**

Entry value °C/min 10 °C to 120 °C

Entry value min/sec. 01:30 to 40:00 min/sec.

The possible entry values are displayed.

Accept the value with the **OK**  button or retain the last value with the **Cancel**  button and return to the firing curve image.

After entering a °C/min or Min. value, the 2nd value is automatically calculated and displayed.

If, on the basis of the entry of a value for the temperature rise in min/sec., the calculated temperature rise is lower by 10 °C/min or exceeds the max. value of 120 °C, a message is displayed.

If, after entering the temperature rise, the predrying temperature or the firing temperature changes, the value °C/min is retained and the time in min/sec. is adjusted appropriately.

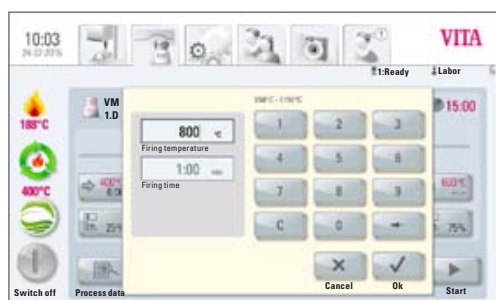


Image 9 Entry of the firing temperature and holding time

13.6 Firing temperature and holding time



Press the **Firing temperature** button, display shows:



Entering / changing values

- Activate the firing temperature field **°C** or firing time field **Min**
- Enter value

Entered value Predrying temperature plus 50°C – max. 1190 °C

Entered value 0 – max. 40:00 min/sec.

The possible entry values are displayed.

Accept the value with the **OK**  button or retain the last value with the **Cancel**  button and return to the firing curve (see Section 13, Image 2/ Image 3).

- i** The same procedure for entering and changing of values applies for the program values in the 2nd temperature rise and 2nd holding time.

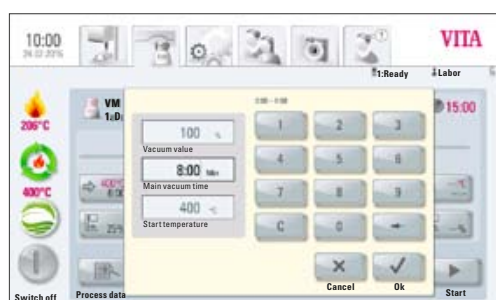


Image 10 Entering the parameters of the main vacuum

13.7 Main vacuum



Press the **Main vacuum** button, display shows:

Entering / changing values

- Activate the **Time** or **Value** % or °C field
- Enter **value**



Entry options:

Value % 3 – 100%

Time 0 – 80:00 min/sec.

Temperature °C min. Predrying temperature – max. holding temperature

The possible entry values are displayed.

Accept the value with the **OK**  button or retain the last value with the **Cancel**  button and return to the firing curve.

The time values for switching the vacuum pump on and off are dependent on the indicated program values. If the final temperature or the predrying temperature changes, the vacuum time is then adjusted to the rise time.

The max. vacuum time is calculated from the rise time plus the holding time at the final temperature.

- i Note:** Setting the rise and holding time 13.5/13.6

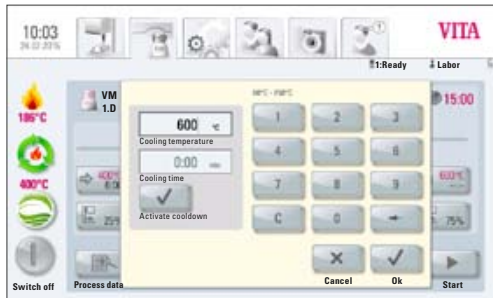


Image 11 Entering the cooling parameters

13.8 Cooling temperature and holding time



Press the **Cooling temperature** button, display shows:

Entering / changing values

- Activate the firing temperature field **°C** or firing time field **Min**
- Enter **value**

Entered value 60 °C – 900 °C



Entered value 0 – 40:00 min/sec.

The possible entry values are displayed.

- ❗ The **Activate Cooldown** field is automatically activated by entering the temperature or time – button with confirmation of switching on.

Deactivate cooling

Press the **Activate Cooldown** button – Confirmation of switching on is removed from the button.

Accept value with the **OK**  button or retain the last value with the **Cancel**  button and return to the firing curve (see Section 13, Image 2/Image 3)

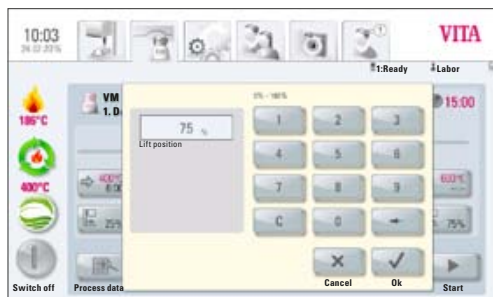


Image 12 Entering the cooling parameters for the respective lift position

13.9 Lift position for cooling





Press **Lift Position** button, display shows:

Entering / changing values

- Activate the **% entry field**
- Enter **value**

The possible values to enter are displayed in the dialog field.

Accept the value with the **OK**  button or retain the last value with the **Cancel**  button and return to the image of the firing curve (Section 13, Image 2/Image 3).

13.10 Changes after starting a firing program

Changes of program values are possible after starting a firing program. To avoid misfires, changes which automatically impact other program areas are not allowed, such as changing the rise time, which causes an automatic adjustment of the vacuum time.

The password request is deactivated here. Saving is not possible, and the change is only temporary.

Basically, **only a non-active** program area can be changed. The program areas that are still possible to change can be recognized by the button display (button dark). If a program area that is still available is selected for changing and it becomes active in the meantime, the display switches to the image of the firing curve and the program continues to run with the previously contained value.

The dialog field shows the time that is still available for a change.

The following values can be changed:

- Firing temperature
- Holding time for the firing temperature
- Cooling temperature
- Holding time for the cooling temperature

If the final temperature is changed, the °C/min gradient is always retained, and the rise time and vacuum time are correspondingly adjusted.



Image 1 Material overview

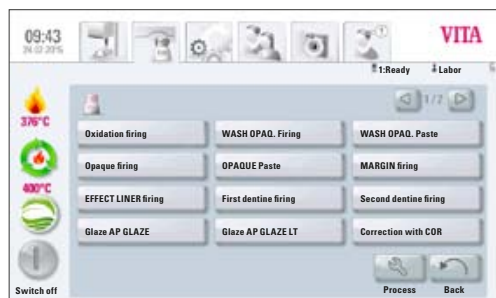


Image 2 Programs view

14 Administration of materials, programs

All programs and program values can be freely changed, except for the programs in the **VITA** user profile.

All VITA original programs which serve as a safety copy of the factory settings are contained under the user **VITA**.


The user **Laboratory** is a copy of the user **VITA** and can likewise be changed, except for changes to the material name (see Section 14). Programs of the user **Doc** are not included.


The user **Doc** already has all the materials and programs preset for the CAD/CAM practice included.

When creating a new user profile, a copy of all VITA Laboratory and Doc materials and programs is created automatically. These programs can be freely altered and saved by the user according to his individual needs. Excluded are changes to the material name and material symbol.

To enter new materials, various symbols are available, each of which call up a certain firing curve type which can also be changed (see Section 14.1).

Value changes are saved with the **Save**  button.

If a program is started directly with changed values with the **Confirm**  button, the change is only valid for the active program sequence. After quitting the finished program, the value is reset to the last saved value.

If password protection is activated, the password is queried after pressing the **Save**  button. After entering the valid password, the entered value can be saved.

For changing values after the start of the program, see Section 13.10.



Image 3 User profile view

In the display, in the **Material** und **User** tabs and in the program overview, the **Edit** button is visible.



Edit

With this button, the yellow editing level is shown with the following options:

- Create **New** material, programs
- **Change** material, programs
- **Duplicate** material, programs
- **Delete** material, programs
- **Position** material, programs
- **Import** material, programs – from the USB stick to the control unit
- **Export** material, programs – from the control unit to the USB stick

i Materials and programs in the VITA user profile cannot be changed.

14.1 Creating new material

Materials can be newly created under **Material** or under **User**.

Material



When the **Material** tab is activated, the saved materials are directly displayed.

User



If you click on the **User** tab, the created user profile and, after selecting a user, the saved materials are displayed.

1. Press Material

- Press **Edit** button
- Press **New** button



Image 4 Materials editing level

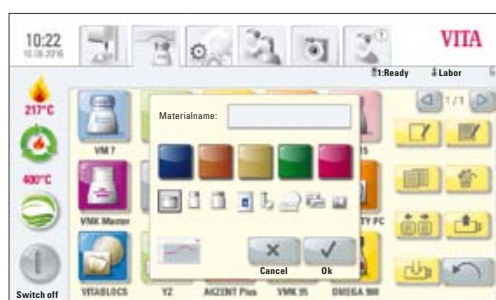


Image 5 Entries for materials

2. Material Name (max. 12 characters)

- Activate **Materialname** label field – keypad is shown
- Enter name
- Press **OK** button
- **Select container symbol for firing program** (3 options)



or

- Select symbol for pressing program (see pressing programs for this)



or

- Select the 2-step program symbol for crystallization firings (see 2-step programs for this)



or

- Select program symbol for blocks





or

- Program symbol for sintered ceramics



or

- Select the predrying curve
- **Select color** (5 options)
- accept with the **OK**  button or go back to Image 2 Editing Level with the **Cancel** button 




Each program symbol generates the accompanying firing / pressing or sintering curve. Only one curve type is ever contained in a newly created material.





14.2 Changing material



VITA

The materials created under the **VITA** user cannot be changed.

When the **Edit**  button is pressed, the message "The user 'VITA' cannot be changed" is displayed.




- In the material overview (Image 1), press the **Edit**  button – a yellow editing level is displayed
- Select **Material** to change
- Press the **Change**  button
- Enter or select the desired changes (name, color and container) (see Image 5)
- Accept with the  **OK** button or go back to Image 1 with the **Cancel**  button.

Display shows changed material.

Press the **Back**  button – display shows material overview (Image 1).






Attention: All program values and program descriptions for VITA materials can be changed. It is not possible to change the VITA material description and VITA container.

14.3 Duplicating (copying) material

- In the material overview (Image 1), press the **Edit**  button – editing level is displayed
- select one or more **materials** to duplicate
- Press the **Duplicate**  button
- Materials with accompanying programs are shown and identified for recognition with an additional character (e.g., VITA VM 13 (2))
- Press **Back**  button – Display shows image of material overview (Image 1)




The material name can be changed using the **Change** mode (see Section 14.2).

14.4 Deleting material




- In the material overview (Image 1), press the **Edit**  button – a yellow editing level is displayed
- select one or more **Materials** to delete
- Press the **Delete**  button
- Accept with the **OK**  button **or** go back with the **Cancel**  button
- Press **Back**  button – Display shows material overview (Image 1)

 **Important! If a material is deleted, the programs associated with the material are also deleted.**

14.5 Positioning material

- In the material overview (Image 1), press the **Edit**  button – Editing level is displayed
- select one or more **materials** for position change
- Press the **Position**  button – then select the material in front of which the selected materials are to be moved.
- Press **Back**  button – Display shows material overview (Image 1)

14.6 Importing material

- Insert USB stick
- In the material overview (Image 1), press the **Edit**  button – yellow editing level is displayed
- Select the **Import**  button
- Select the **material file** from the USB stick
- Press the **Import** button – the data are transferred to the control unit
- Press the **Back**  button – display shows material overview (Image 1)

14.7 Export material

- Insert USB stick
- In the material overview (Image 1), press the **Edit**  button – a yellow editing level is displayed
- select one or more **materials** to export
- Press the **Export**  button – View switches to the USB stick content
- Press the **Save**  button **or Cancel**  button
- **Back** button  – display shows material overview (Image 1)

14.8 Creating new programs

Programs can be newly created under **Material** or under **User**.

Material



By clicking on the **Material** tab, the saved materials are directly displayed.

User



Clicking on the **User** tab shows the created user profile. After selecting a user profile, the materials saved in the user profile are displayed.

Confirm the 1st material in which a program is to be changed.

Press the **Edit**  button – display shows yellow editing level, Image 6.

When selecting a user with a password, the keypad for entering the password is displayed after pressing the **Edit** button.



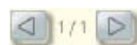
After entering the password, the editing level (Image 6) is released.







Image 6 Editing level





Image 7 Entering the program names

- Press the **New**  button – keypad is shown (see Image 7)
- Enter name – max. 20 characters
- Press the **OK**  button - display shows newly created program. New program is created with already fully populated page on a new page.
- Change page with the button 
- The program values are entered and saved after selecting the program in the firing curve view (see Section 13).

14.9 Changing programs

- Select material in the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – yellow editing level is displayed
- Select **program** to change
- Press the **Change**  button
- Enter name change using the keypad
- Press the **OK**  button or go back with the **Cancel**  button

14.10 Duplicating programs





- Select the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – the editing level is displayed
- select one or more **programs** to duplicate
- Press the **Duplicate**  button

Programs are displayed and identified with an additional character. If the page is fully populated, the program is shown on a new page.



To change name, see Section 14.9

If several programs are selected, the entire selection is duplicated.



14.11 Deleting programs

- Select the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – yellow editing level is displayed
- select one or more **programs** to delete
- Press the **Delete**  button
- Press the **OK**  button to delete **or** go back with the **Cancel**  button





14.12 Positioning programs

- Select the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – yellow editing level is displayed
- select one or more **programs** for repositioning
- Press the **Position**  button – then select the program in front of which the selected programs are to be moved.

14.13 Importing a program

- Insert USB stick
- Select the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – yellow editing level is displayed
- Press the **Import**  button
- Select the **program** to import from the USB stick
- Press the **Import or Cancel**  button

14.14 Exporting programs

- Insert USB stick
- Select the material overview (Image 1)
- In the firing programs view (Image 2), press the **Edit**  button – yellow editing level is displayed
- select one or more **programs** to export
- Press the **Export**  button
- Press the **Save**  **or Cancel**  button

15 Administering the user profile

A maximum of 6 users can be created in the **VITA vPad comfort** control unit.
A maximum of 14 users can be created in the **VITA vPad excellence** control unit.

User



Click on the **User** tab - display shows all created users.


The **VITA** user profile is created and contains all VITA materials. These programs can be used, but cannot be changed.

The **Labor** user profile is a copy of the **VITA** user. The **Doc** user contains the programs for the CAD/CAM practice. These programs can be changed by the user according to his needs. Only changes to the VITA material names and VITA containers are not possible.

New program values of created user profiles can be freely changed.

For already created user profiles with password protection, pressing the Change button will cause a request to enter the password to be displayed.

If a new user profile is created, it automatically contains a copy of the original VITA programs.

Press the **Edit**  button – display shows the editing levels (Image 2) of the user.

With this button, the yellow editing level is shown with the following options.

- Create **New** user profile
- **Change** user profile
- **Duplicate** user profile
- **Delete** user profile
- **Position** user profile
- **Import** user profile – from the USB stick to the control unit
- **Export** user profile – from the control unit to the USB stick

Materials and programs in the VITA user profile cannot be changed.



Image 1 User profile view

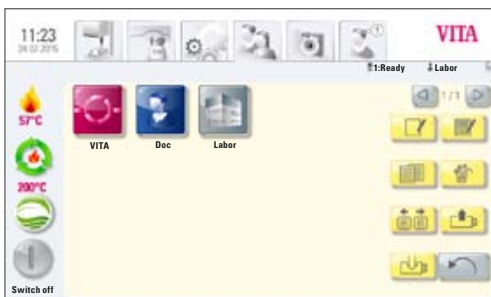




Image 2 Editing level







Image 3 Entry for new user

Press the **New**  button; the display shows Image 3

Create a new user profile





- Activate the **Label field** – keypad is shown
- Enter **user name** – max. of 12 characters
- Press **OK** button
- Select **symbol** (10 options)
- Accept with the **OK**  button **or** activate **password protection or** go back to the editing level with the **Cancel**  button
- Select a background color after OK or entering password protection, confirm by saving.
With Cancel, no selection is made and the VITA standard background is set.

15.1 Activating / entering a password:




- Edit , then select profile
- Press **password**  button – the **keypad** is shown
- Enter **password**
- Press the **OK**  button
- Repeat **password**
- Press **OK** button **or** **Cancel**  button –
The keypad is shown

Password protected programs can be used for all operators, changes in a running program are possible, but cannot be saved.

15.2 Deleting a password



- Select **Edit**  button
- Select **profile**
- Press the **Change**  button
- Press the **Password**  button – the keypad is shown
- Activate empty password field 2x with the **OK**  button –
password is deleted

15.3 Changing a user profile

- In the User tab (Image 1), press the **Edit**  button –
yellow editing level is displayed
- Select the **user profile** to change
- Press the **Change**  button.
For a password-protected user, the **keypad** is displayed for entering the password
- Enter **password**
- Press the **OK**  button
- Select the **Label field** – the keypad is shown
- Change the **user name** – maximum of 12 characters
- Press **OK** button
- Change **symbol** (10 options)





- Press the **OK or Cancel** button
- Select a background color after OK or entering password protection, confirm by saving.
With Cancel, no selection is made and the VITA standard background is set.

15.4 Duplicating a user profile



- In the User tab (Image 1), press the **Edit**  button
- select one or more **user profile** to duplicate
- Press the **Duplicate**  button

User profiles are shown and identified for recognition with an additional character, e.g., Laboratory (2).




15.5 Deleting a user profile

- In the User tab (Image 1), press the **Edit**  button
- select one or more **user profiles** to delete.
For a password-protected user, the keypad for entering the password is displayed (if deleting several profiles with a password, individual deletion is recommended)
- Enter **password**
- Press the **OK**  button
- Press the **Delete**  button
- Press the **OK or Cancel**  button




15.6 Positioning a user profile

- In the User tab (Image 1), press the **Edit**  button
- select one or more **user profiles** for positioning
- Press the **Position**  button – then select the user profile in front of which the selected profiles are to be moved.

15.7 Importing a user profile

- Insert USB stick
- In the User tab (Image 1), press the **Edit**  button
- Press the **Import**  button
- Select the **user profile** for import from the USB stick
- Press the **Import or Cancel**  button

15.8 Exporting a user profile

- Insert USB stick
- In the User tab (Image 1), press the **Edit**  button
- select one or more **user profiles** to export
- Press the **Export**  button
- Press the **Save** button or go back with the **Cancel**  button

16 Pressing programs



PM 9

The programs stored under this material button are VITA pressing programs. To create materials from other manufacturers, see Section 14.1 Creating new material.

Entering/changing values

Press the **Pressing material** button, display shows available pressing programs (Image 1).

1. Select desired press program

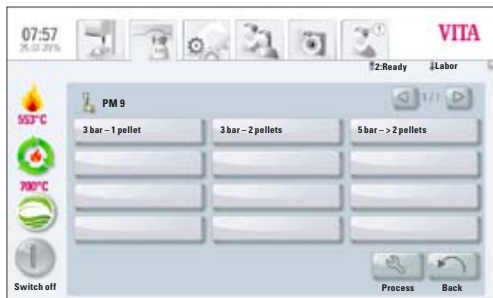


Image 1 Pressing programs

2. Selected press program is displayed

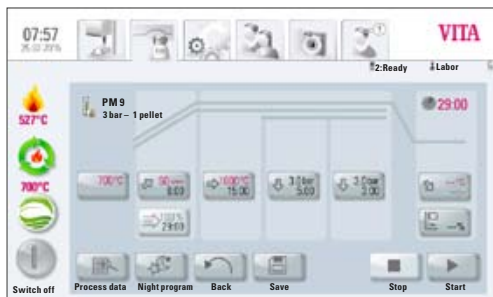


Image 2 Program view / firing curve

16.1 Start temperature for press program




Press the **700°C with start temperature** button, display shows:

Enter / change start values

- Press **700°C** field
- Enter **value**

Entered value 60 °C – 800 °C

The possible entry values are displayed.

- Accept the value with the **OK**  button **or** retain the last value with the **Cancel**  button and go back to the firing curve (Image 2).

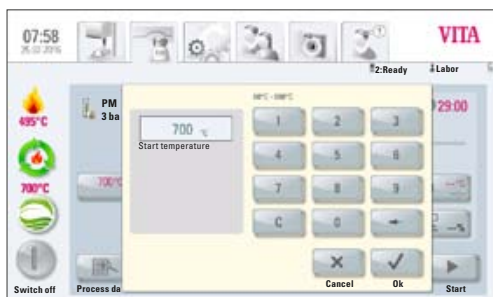
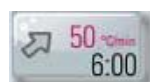


Image 3 Entry option for the starting temperature

16.2 Rising time / Rising temperature



Press the **Rising** button.

To **enter / change values**, see Section 13.5 Entering / changing values.

16.3 Vacuum time



The vacuum time cannot be set or changed for the pressing program.
The vacuum is automatically controlled over the entire pressing time.

16.4 Press temperature / Press time



Press the **Press temperature / Press time** button.

Enter / change values

For this, see Section 13.7 Entering / changing values.

16.5 Pressing time 1 and pressing pressure

Press **Pressing time 1 / pressing pressure** button, display shows:



Enter / change values

- Activate **Min** field
- Enter **value**

Entered value 0 – 40:00 min/sec.

The possible entry values are displayed.

The pressing pressure is changed with the **Change pressure** button.
For setting the pressing pressure, see Section 21.3.

- Accept the value with the **OK**  button **or** retain the last value with the **Cancel**  button and return to the firing curve (Image 2), see Section 16.

16.6 Pressing time 2 and pressing pressure

Press the **Pressing time 2 / pressing pressure** button.

Entering / changing values

see Section 16.5.

The indicated pressing time 1 is automatically ended if the pressing stamp has reached its final position and there is no more measurable path change. If no path change is measured, the device switches automatically to pressing time 2. The pressing time runs according to the setting, the pressing process is then completed and the lift moves to the lower position.

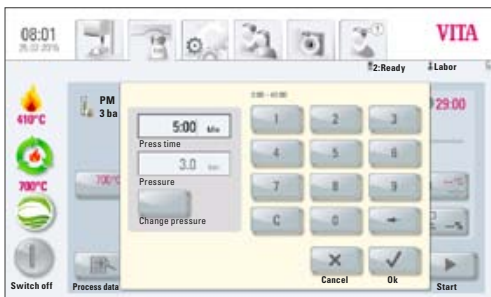


Image 4 Entry option for the press time and press pressure

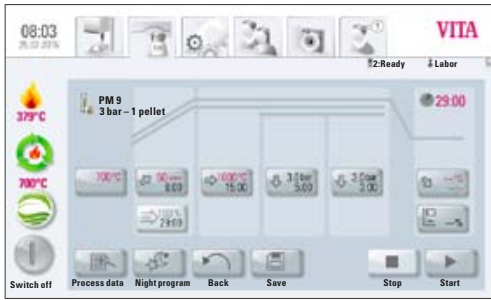


Image 5 Display before reaching the starting temperature

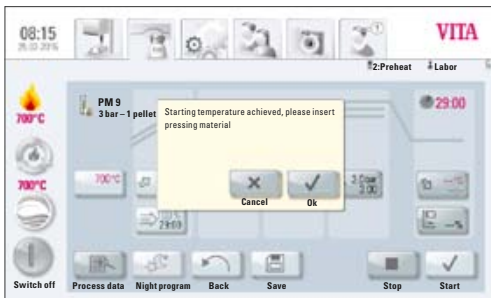


Image 6 Display once the starting temperature has been achieved

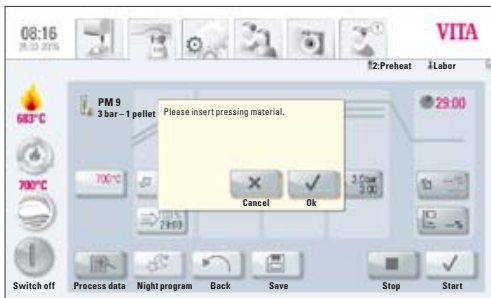


Image 7 Insert pressing material

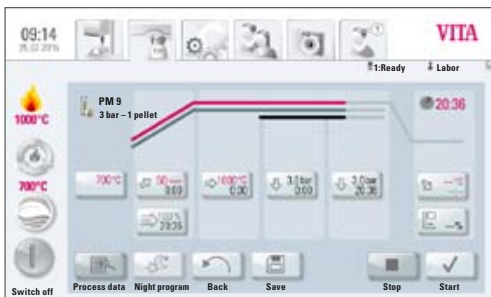


Image 8 Program sequence


16.7 Starting the pressing program

⚠ Important! The pressing object is first introduced after the starting temperature is achieved.



After selecting the pressing program, the display shows Image 5:

- Press the **Start**  button – lift moves in
- Combustion chamber temperature rises to the starting temperature

After reaching the starting temperature, the display shows Image 6:

- Press **OK**  button – lift moves into the lower position
- Display shows Image 6 "Please enter pressing material"
- Insert pellet
- Press **OK** button – lift moves in.

While the pellet is moving in, the pressure cylinder will move temporarily in and out.

- After moving in, a message is displayed in case of wrong pellet count.
- Confirm this message with the **OK**  button or the **Cancel**  button.

During the program sequence, the display shows Image 8:

- red curve – temperature course
- light gray curve – vacuum course
- black curve – pressure course

⚠ To attain a correct pressing process, it is necessary that the pressing object be placed in the middle of the lift plate. The appropriate pressing base is to be used, according to the size of the pressing muffle, with the inserted pressing plate. Care must be taken that the surface is level. With 100 g- and 200 g muffles, use the universal pressing base. For a 300 g muffle, use the 300 g pressing base.

17 Sintering programs



The programs stored under this material button are sintering programs. In order to use materials from other manufacturers, please follow the instructions under 14.1.

Image 1 shows:

Display upon connection of the VITA ZYRCOMAT 6000 MS

VITA vPad comfort / VITA vPad excellence with 1 device

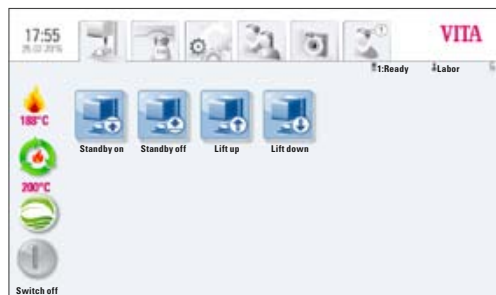


Image 1 Display upon connection of a VITA ZYRCOMAT 6000 MS

Image 2 shows:

Display upon connection of the VITA ZYRCOMAT 6000 MS and VITA VACUMAT 6000 M

For the description of the individual buttons, see Section 17.2



Image 2 Display with 2 connected VITA New Generation devices

17.1 Selecting a sintering program

1. Select material YZ

The material can only be selected then if the device VITA ZYRCOMAT 6000 MS is connected.



Image 3 Selecting material

2. Select sintering program

- Select the YZ T Universal or YZ HT Universal Program to sinter conventionally in 4h 40 min (incl. cooling).
- Select the YZ T Speed or YZ HT Speed Program to sinter HighSpeed in 80 min (incl. cooling).
- Select YZ T Speed Pre-Dry CL or YZ HT Speed Pre-Dry SL to sinter manually shaded YZ and YZ-HT according to VITA instructions in the HighSpeed.
- Select the Pre-Dry YZ T Liquid or Pre-Dry YZ HT Liquid program to manually predry shaded YZ (without sintering process).

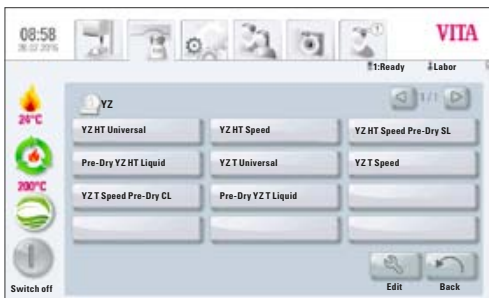


Image 4 Selecting the program

3. The selected sintering program is displayed

Time elapsed, temperatures and lift positions are displayed in the individual buttons of the program phases. The total time elapsed is displayed in red (see clock symbol at upper right). Only the individual holding phases of the cooling phase are contained in the total time.

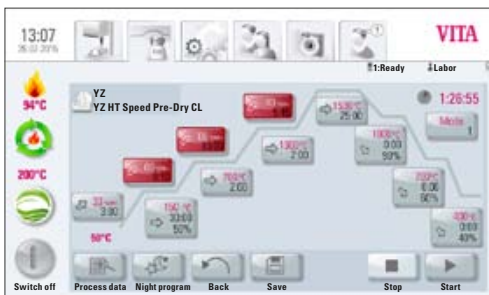


Image 5 VITA YZ Speed Program

When operating a firing device, the sintering program is displayed during the entire program sequence.

When operating firing devices, about 20 seconds after the program start, the device control tab is displayed (see Section 17). Therefore, the next free device can be selected and used for firing. At the end of the program, a signal tone sounds. See Section 21.2 for the settings for these.

The running program can be stopped at any time with the **Stop** button.

Pre-installed sintering programs can be individually adjusted.

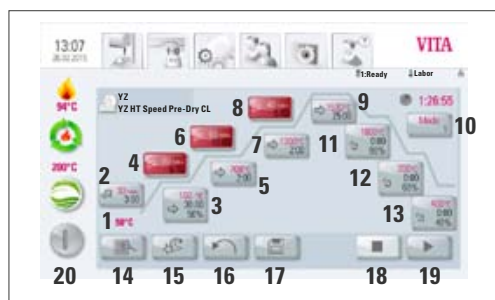


Image 6 Sintering program description

17.2 Sintering program description

1. Starting temperature (sintering program begins below)
2. 1st temperature – rise / PreDry
3. 1st temperature – holding phase/PreDry
4. 2nd temperature – rise
5. 2nd temperature – holding phase
6. 3rd temperature – rise
7. 3rd temperature – holding phase
8. 4th temperature – rise
9. 4th temperature – holding phase
10. Selection of cooling mode 1-3
11. 1st cooling phase
12. 2nd cooling phase
13. 3rd cooling phase
14. Process data
15. Night program
16. Back button
17. Save program values
18. STOP program
19. START program
20. Switch off control unit

17.3 HighSpeed Mode

Red-marked buttons mean that the HighSpeed Mode is activated for the temperature rise. In HighSpeed Mode, a temperature rise of more than 20 °C/min is realized. The heating elements are very heavily stressed in HighSpeed Mode, and a shortened service life is to be expected. The YZ Speed and YZ-HT Speed program enables the sintering of up to 14-element bridges in 80 minutes.

18 Predrying (VITA PreDry)



18.1 Rise 1 / VITA PreDry



Press **Rise 1 / VITA PreDry** button



Enter / change values

- Activate firing temperature °C/**Min** or firing time **Min** field
- Enter **value**

Entered value for firing temperature: 1 °C/min to 40 °C/min

Entered value for firing time: 02:30 to 100:00 min/sec.

The possible entry values are displayed via the numeric field.

Accept with the **OK**  button or retain the last value with the **Cancel**  button and return to the sintering curve.

After entering a °C/min or min. value, the 2nd value is automatically calculated and displayed.

If the minimum/ maximum value that can be set is fallen below / exceeded, a warning is shown.

18.2 Holding time 1 / VITA PreDry



Press **Holding time 1 / VITA PreDry** button

Enter / change values



- Activate firing temperature °C, firing time **Min** or lift position % field
- Enter **value**
- By pressing the **Activate sintering curve** button, a sintering curve can be activated or deactivated

Entry value for temperature: 70°C – 200 °C

Entry value for firing time: 0 – 300:00 min/sec.

Entry value for lift: 0 – 100%

The possible entry values are displayed via the numeric field.

Accept with the **OK**  button or retain the last value with the **Cancel**  button and return to the sintering curve.

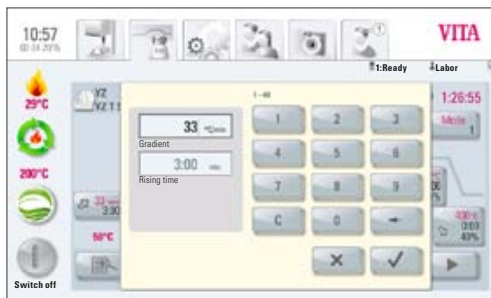


Image 1 Enter rise 1

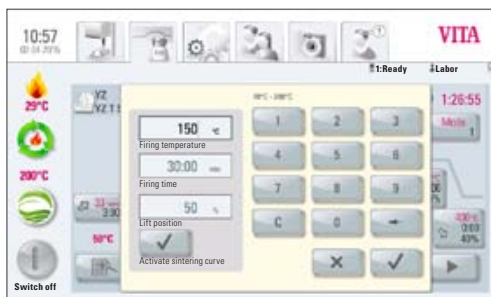


Image 2 Enter holding time 1



Image 3 Activating / deactivating VITA PreDry

18.3 Activating / deactivating predrying (VITA PreDry) in the sintering process

In the sintering program, VITA PreDry can be activated/deactivated by selecting the **Holding time 4** button.

Select the **Activate PreDry** button. A checkmark appears.

Confirm at the lower right with **OK**  or select **Cancel** .

In the sintering program, VITA PreDry is also displayed.

Deactivate VITA PreDry by selecting **Holding time 4**, remove the checkmark by **Activate PreDry** and confirm with **OK**.

18.4 Individually creating the predrying program (VITA PreDry)

The predrying process is integrated in the HighSpeed Mode (program can only be selected if a VITA ZYRCOMAT 6000 MS is connected).

If individual predrying is to be conducted in the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP or VITA ZYRCOMAT 6000 MS, a predrying program can be created via "Create new material" (max. predrying time 5h, temperature range 70°C – 200°C).

19 Changing sintering programs

19.1 Rise time 2 – Holding time 2



Gray button color: HighSpeed mode deactivated
Red button color: HighSpeed mode activated

Press button, display shows dialog field.

Enter / change **values**

- Activate temperature rise field °C/min or firing time field min
- Enter value

The possible entry values are displayed via the numeric field. Accept the value with the **OK** button or retain the last value with the **Cancel** button and return to the sintering curve.

With this button, the HighSpeed mode can be activated or deactivated.



HighSpeed mode activated

Activate Turbo Mode

With this button, Rise 2 can be activated or deactivated



Activate first phase

Entry options for rise time 2:

HighSpeed button active – temperature rise of 1°C/min – 90°C/min
HighSpeed button not active – temperature rise of 1°C/min – 19°C/min.

⚠ Important! If, during the entry of a value for the temperature rise in °C/min or the rise time in min., a value is not automatically entered in each 2nd field, the entered value is outside of the possible values that can be entered.

Entry options for Holding time 2:

0 min – 300 min

The possible entry values are displayed.

Accept the value with the **OK** button or retain the last value with the **Cancel** button and return to the firing curve.

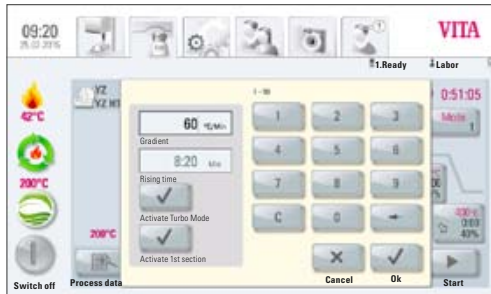


Image 1 Entering the temperature rise and firing time

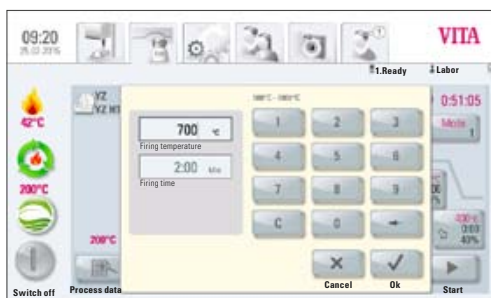


Image 2 Entry of firing temperature and firing time for Holding time 1

19.2 Rise time 3 and 4 – Holding time 3 and 4

Entered values for temperature rise and for temperature holding time are identical with the program sequence described under Section 19.1.

19.3 Cooling program

Three (3) different cooling programs are available.



The cooling programs can be selected with the **Mode 1-3** button:

Press button, display shows the selected cooling program, e.g., Mode 1

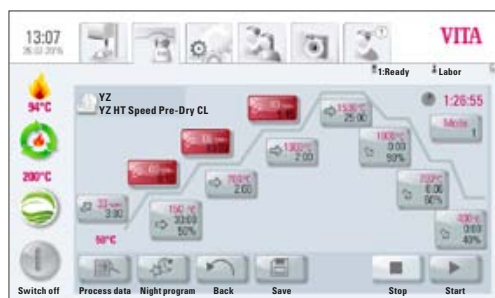


Image 3 VITA YZ Speed Program

19.4 Mode 1 User defined:

The entire cooling phase can be individually set. Controlled cooling within the range of 1°C/min - 50°C/min is possible.

This always takes place with a closed combustion chamber.

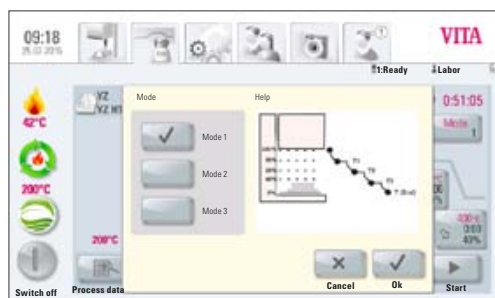


Image 4 Selection of Cooling Mode 1

Changing program values

Press the Cooling Level button. The display shows the setting options according to the selected cooling mode:

- Controlled Cooling button, activate/deactivate
- Setting the gradient (temperature rise in °C per min)
- Setting the lift position
- Setting the cooling temperature
- Setting the holding time for the cooling temperature

The possible entry values are displayed via the numeric field.

The individual program values can be selected and changed, one after the other.

Accept values with the OK button or retain the last values with the Cancel button and return to the firing curve.

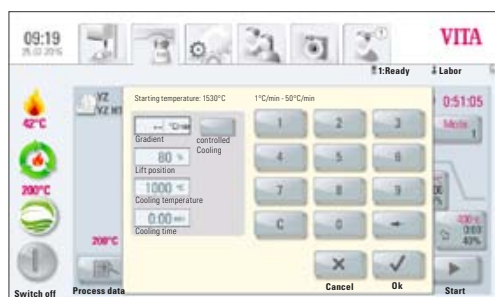


Image 5 Entry of the parameters for a user-defined cooling

19.5 Mode 2 VITA HighSpeed:

Three fixed cooling positions

Lift position with the following temperatures:

larger 1200 °C lift position 80%
smaller 1200 °C lift position 60%
smaller 900 °C lift position 40%
smaller 400 °C lift in lower position 0%

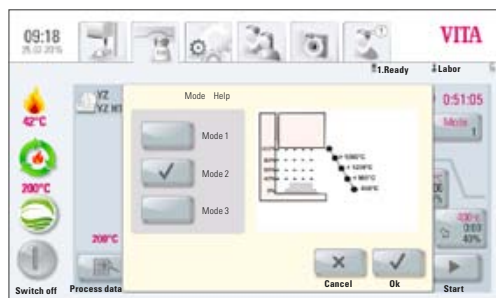


Image 6 Selection of Cooling Mode 2

19.6 Mode 3 conventional:

Lift remains in the upper position and moves to the lower position after cooling to 400 °C.

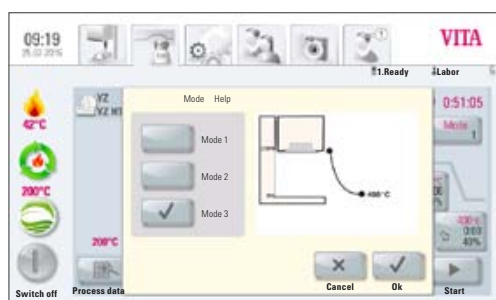



Image 7 Selection of Cooling Mode 3

20 Photoviewer

Photoviewer



Clicking on the **Photoviewer** tab opens the folder with the saved images in the control unit.

By activating the name field, the image is selected and opened with the **Open**  button.

The memory capacity of the VITA vPad comfort control unit is 1 GB, the memory capacity of the VITA vPad excellence control unit is 2 GB. The images can be displayed and saved. Images are opened in the following formats: JPEG and PNG.



Image 1 Internal memory of the photoviewer



Image source

The **Image source** button enables the user to alternate between the internal memory in the control unit and a USB stick.



Export

Import

The **Export** and **Import** buttons allow the user to copy images from the internal memory in the control unit to the USB stick or from the USB stick to the control unit.



Open

With the **Open** button, the selected image is displayed.



Image 2 Image processing with the photoviewer

20.1 Image settings

The following options are given for display:

-  Contrast
-  Brightness
-  Zoom
-  black / white
-  Full image
-  Move
-  Back

21 Settings

Settings



Activate the **Settings** tab

Display shows:

Settings without combination pressing furnace (Image 1)

or

Settings with combination pressing furnace (Image 2)



Image 1 Display of settings without combination pressing furnace



Image 2 Display of settings for combination pressing furnace

21.1 Multifurnace



Multifurnace

Enables the identification of the connected furnaces. It is possible to provide the devices with individual names (10 characters long).

The control unit saves the names of all furnaces.

VITA vPad comfort – connection option for a maximum of 2 devices.

VITA vPad excellence – connection option for a maximum of 4 devices.


Image 3 shows the control unit vPad excellence with 1 VITA VACUMAT 6000 MP (combination pressing furnace) and 2 VITA VACUMAT 6000 M (ceramic firing furnace).





Image 3 Display of vPad excellence with 3 devices



Image 4 Selection of a device for changing the name

- Press the **Multifurnace** button under Settings –
Display shows the connected devices (see Image 4)
- Desired **device** for naming – make entry
- Display shows **keypad** for entry –
Enter name and confirm with **OK**  button

To compare the furnace position in the display with the actual furnace position, select the individual furnace using the query  button. The control light on the selected furnace flashes twice.

To change the position of a furnace in the display, press the **Edit** button. Select desired furnace and select the Positioning  button (e.g., here, Furnace No. 1). The selected furnace is moved by one position to the left. Repeat the process until the furnace is at the desired position.

After repositioning the furnaces, press the OK button. Then all furnaces are separated for a short time from the vPad and reconnected. In doing so, all furnaces are briefly displayed as not present.

By pressing the Cancel button, the repositioning is not accepted.

21.2 Settings



Settings

Press the Furnace settings button, display shows:

- Lift speed
- Temperature adjustment via the silver probe
- Standby temperature
- Cleaning firing
- Sound

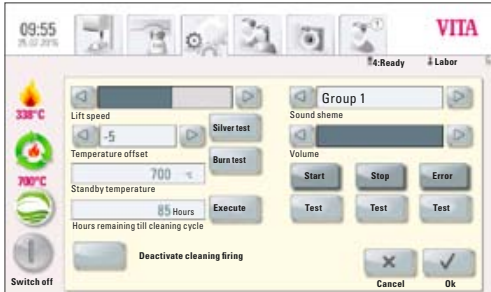


Image 5 Display of the furnace settings

Lift speed

The lift speed can be infinitely set with the scroll bar.

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 plus / minus 40 °C. Care must be taken during a calibration that the instructions on performance (instructions in the Silver Probe set) of the test with the Silver Probe are followed exactly. Deviations lead to false measurements and erroneous settings.

A preset program is available for the calibration of the combustion chamber temperature. To check the combustion chamber temperature using the Silver Probe, 2 program sequences are necessary.

The 1st program sequence must be conducted at 955 °C (preset in the program). The silver must not be melted after that.

The 2nd program sequence must be conducted at 965 °C. This temperature must be entered. After this program sequence, the silver must be melted into a ball.

Deviations within the range of plus / minus 40 °C may be entered.

Result of the silver probe:

Temperature too low: Enter the correction value with a minus sign.




Temperature too high: Enter the correction value without a mathematical sign (automatically plus).

The correction value corresponds to about 1°C and is entered in the input field for temperature adjustment.

Checking the temperature of the VITA ZYRCOMAT 6000 MS

To calibrate the temperature, please speak with your responsible service partner.

Cleaning firing in the VITA VACUMAT 6000 M / VITA VACUMAT 6000 MP

The conducting of a cleaning firing is shown in the display after the set time has elapsed. With this program, the firing chamber is heated up and contaminants can evaporate from the slightly opened firing chamber. It is recommended, in every case, to conduct this firing regularly. The cleaning firing can also be stopped each time. The cleaning firing can also be started manually. Select under **Settings** , **Furnace settings** , **Time to cleaning firing** and then **Execute** and then **confirm** .

Cleaning firing for VITA ZYRCOMAT 6000 MS

After about 300 operating hours, the message to conduct a cleaning firing is displayed. By pressing the button – **Execute** – the program is displayed and can be activated with the button – **Start**.

Conducting the cleaning program is absolutely necessary if the oxide layer of the heating elements show flaking. This firing also serves as a regeneration firing for the heating elements since, here, the protective glass layer is rebuilt, if necessary.

Please also observe the section "Cleaning program of the sintering chamber" in the operating instructions for the sintering furnace.

If the oxide layer shows very severe flaking, or still shows flaking after a cleaning firing, the cleaning firing must be repeated.

Continuous visual inspection of the heating elements for flaking is recommended. If needed, the cleaning program should be conducted before the 300 hours of operation have elapsed.

Please confirm that the configuration has been saved.

The program can be called up under **Settings / Furnace settings** using the **Execute** button along with the indication of the time to the next automatic cleaning firing.

Sound

In the Sound program, various sound signals can be set: program start, program end, alarm / service notice.

VITA vPad comfort and VITA vPad excellence have 6 freely selectable sound groups. Each sound group consists of 3 signals for program start, program end and alarm.

With the **Test** button, the individual sounds are played.

21.3 Setting the pressing pressure

The pressing pressure can be set for the different pressing materials.



Pressing pressure

Press the **Pressing pressure** button. The display shows the settings for the pressing pressure.

The VITA VACUMAT 6000 MP is provided with an automatic ventilation function. This means that, when setting the pressing pressure, the device ventilates automatically so that the residual pressure in the system is released and the correct pressure is always displayed. By activating the field 5.0 bar or 3.0 bar, ventilation can be carried out manually.

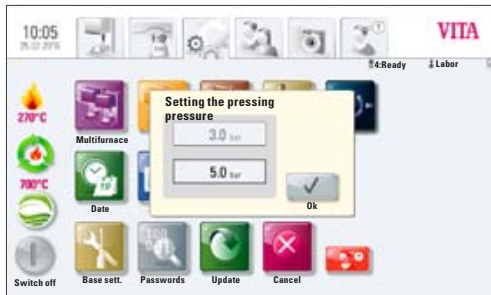


Image 6 Setting the pressing pressure

- Activating the 5.0 bar field
- sets the higher pressing pressure (5 bar) with the built in pressure regulator on the VITA vacuum pump
- Activating the 3.0 bar field
- sets the lower pressing pressure (3 bar) with pressure regulator 2 (see Section 9.2) on the back of the device.

Conduct pressure regulation slowly. When ending the pressure setting, wait at least 4 seconds until the final pressure value has been set. Readjust slowly.

i Note! Please observe the following in case of a software version older than 131204:

When setting the pressing pressure, care must be taken that the pressure is first set to zero and then slowly set to the desired value of 3 bar, for example.

This is necessary in order to vent the residual pressure in the system from the 5 bar setting.

The respective setting field is activated by pressing the **OK**  button.

- i** If the 3.0 bar and 5.0 bar fields are reactivated, the display in the 3.0 bar field will always show values deviating from 3.0 bar since the residual pressure in the system falsifies the value. Therefore, it is necessary, when setting 3.0 bar, to first reset the pressure setting to 0 and then again to 3.0 bar.

If the pressure has been set once in this manner, no further action is necessary (even if the display deviates!).

A pressure setting that deviates too much is displayed in the program. In this case, the message can be confirmed with the **OK** button, and the pressing process is continued.

The pressure can be regulated again during the ongoing pressing program with the pressure regulator.

21.4 Device data

Click on the **Device data** tab. Display shows:



Device data

Device data:

- Furnace revision – information on software version
- Furnace series no. – Device no.
- Furnace name – Name of the device
- vPad series no. – Series no. of the control unit
- Hotline no. for Service
- vPad Revision – Information on the software version
- Device operating hours
- Firing hours
- Muffle operating hours
- Number of firing programs started
- Age of firing muffle in %

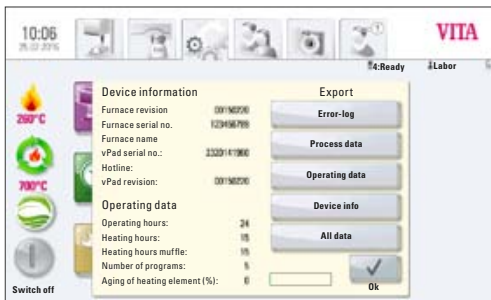


Image 7 Device information

Exporting firing and process data

Saving the firing data and process data for quality assurance:

- Saving the process data (see Section 12.1 Process data)

The firing and process data are saved in the control unit and can be exported with the "Process data" button to a USB stick. With the USB stick, the data can be exported to the firing data administration program (FDS - Firing Data System) on the PC, where it can be viewed, printed out and archived.

i The firing data administration program FDS is a special accessory and can be ordered under Art. No. D34230NG.

Export of operating data / device information / all files

All program sequences and operating data are automatically saved in the control unit.

If, for example, after a finished firing program, there is an unsatisfactory firing result or an error has occurred in the program sequence, the operating data, the device information or even all data from all devices can be exported to a USB stick and sent by email for evaluation to **instruments-service@vita-zahnfabrik.com**.

21.5 Date



Date

Settings:

- Date and time

The date and time can be set here.

21.6 vPad



vPad

Press the **vPad** button, display shows:



Image 8 Calibration and brightness setting of the displays

Calibrating the control unit –

The vPad should be calibrated whenever the display does not react precisely to activation.

Press the **Calibration** button – the display becomes dark – press the flashing circle in the display. Press the last circle in the middle 2x. The display switches back on.

Brightness of the display –

Set the desired brightness with the regulator, and press the **OK** or the **Cancel** button.

21.7 Start profile



Start profile

Select the **user profile** which is immediately displayed after switching on the device. With new devices, the control unit is started with the user profile Laboratory.

Press the **Start profile** button. The display shows all available user profiles.

Select the desired user profile.

The new start profile is first displayed when restarting the device.



Image 9 Selection of user profiles

21.8 Languages



Languages

- Selection of the language
- Selection of temperature display in °C or °F

21.9 Basic settings – factory settings:



Base sett.

The following settings are reset to the factory settings:

- Start profile is set to the VITA user profile
- Display brightness
- Program stop
- Lift speed
- Language
- Date and time format
- in-house program settings and individual user profiles are deleted

21.10 Passwords

By entering a password, the settings of the device system can be protected. The password may consist of symbols, letters or numbers and may be between 1 and a maximum of 8 characters long.



Passwords

Setting a password for the system:

When activating the system password, no changes can be made in the system (parameter changes, various settings, etc.) without entering the password.

An existing password is deleted in the password entry image by pressing the **OK** button 2x (see Section 15.2).

21.11 Update



Update

Software updates are loaded by USB stick to the control unit.

Current software updates are published on the homepage:
<http://www.vita-zahnfabrik.com>.

If you would like to be informed via email about new software updates, subscribe free of charge at **<http://www.vita-zahnfabrik.com/update-messenger>** to an **"Update Messenger for VITA devices"**.

The update is copied to a USB stick and inserted into the control unit. After pressing the **Update** button, the new software is recognized and installed.

⚠ Important! During the update, leave the USB stick in the control unit and do not press any other buttons.



21.12 Stopping a firing program



Cancel

With this button, a confirmation query can be activated and deactivated with the message "Should the firing be stopped?" if you want to stop a firing program. After activation, a firing cannot be prematurely stopped until the message is confirmed.

22 VITA Help




Under the **Help** tab, you will find all the working instructions for the VITA veneering materials and devices integrated in the software.

By pressing the Help button  in the Material overview or in the Settings, Help opens with a listing of VITA operating instructions.

In the Material overview, Help shows all working instructions for VITA materials.

Help in the Settings tab shows all operating instructions for VITA devices.

Confirmation of working instructions or an operating manual by typing the View button  causes the corresponding instructions to open.

Navigation in the Help tab:



= Navigate 1 page up/down



= Navigate 1/3 page up/down



= Navigate about 1/10 page up/down



= Navigate about 1/10 page to the left/right



= Zoom smaller/larger



= Leave document

23 Error messages

Display	Recognition	Cause / correction
Vacuum is not achieved	Program with vacuum is stopped if a value of at least 30% is not reached within 30 seconds.	<ul style="list-style-type: none"> Cleaning / testing / replacing lift plate seal Clean the edge seal on the firing chamber floor. For cleaning work, see the VITA VACUMAT 6000 M or VITA VACUMAT 6000 MP Operating Manual. Inspect the vacuum pump separately from the device. Inspect the vacuum system of the firing device.
Ventilator is not functioning.	Running firing program is stopped.	<ul style="list-style-type: none"> Inspect the ventilator connection to the circuit board. Clean / replace ventilator.
The lift is blocked.	Lift moves too far down.	<ul style="list-style-type: none"> Sensor for lower position does not work. The installed LED must light up when the sensor is activated. Inspect / adjust / replace the sensor.
The temperature in the firing chamber is more than 1200 °C	Display shows more than 1200 °C.	<ul style="list-style-type: none"> This error can be triggered by several causes. Recognizing / correcting these errors requires specialized knowledge and technical measuring equipment. Replace CPU circuit board.
Temperature sensor is defective	Program is stopped.	<ul style="list-style-type: none"> Inspect the connection of the thermoelement to the circuit board. Inspect the connection of the thermoelement to the firing chamber. Inspect the connection of the thermoelement in the firing chamber. Replace thermoelement.
The target temperature in the firing chamber has fallen short / been exceeded for longer than 5 minutes.	Temperature rise does not correspond to the set time.	<ul style="list-style-type: none"> Defective heating Defective triac Control of defective triac
The temperature regulation has caused an error.	No temperature rise.	<ul style="list-style-type: none"> Firing muffle or triac is defective
The heating cannot be properly activated.	No or too fast a temperature rise.	<ul style="list-style-type: none"> Firing muffle is defective, replace.
Continuous tone of about 6 seconds	Continuous tone	<ul style="list-style-type: none"> Fuses defective Replace defective fuse Inspect plug for connecting the heating to the circuit board – replace CPU circuit board

Additional error messages from the VITA ZYRCOMAT 6000 MS

Display	Recognition	Cause / correction
Ventilator for power circuit board is defective	Running program is stopped, heating off	<ul style="list-style-type: none">• Inspect connections to the circuit board• Inspect/replace ventilator
Temperature sensor is defective	Running program is stopped, heating off	<ul style="list-style-type: none">• Inspect connections to the circuit board• Inspect/replace ventilator
Relay error	Running program is stopped, heating off	<ul style="list-style-type: none">• Replace power circuit board

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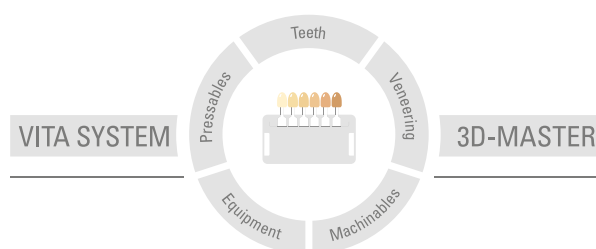
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With the unique VITA SYSTEM 3D-MASTER, all natural tooth shades can be systematically determined and perfectly reproduced.



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After the publication of these working instructions any previous versions become obsolete. The current version can be found under www.vita-zahnfabrik.com

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