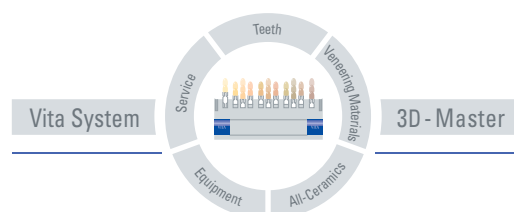


VITA ZYrcomat



Operating manual

Date of issue: 01-05



VITA

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1 Technical information

1.1 General description

- Casing consisting of painted sheet steel and stainless steel
- Firing chamber lined with high-quality insulating material
- Molybdenum disilicide heating elements

1.2 Temperature controller

- Temperature controller with default program for sintering firing VITA In-Ceram® YZ CUBES for CEREC®
- Temperature display for actual and set value
- Display of time for firing time

1.3 Safety features

- Temperature sensor monitoring
- Current monitoring
- Protection against power failure

1.4 Technical data

Dimensions:	Firing unit: w x h x d	360 mm x 810 mm x 490 mm
	Power unit: w x h x d	500 mm x 210 mm x 350 mm
Weight:	Firing unit:	32 kg
	Casing with power unit:	27.5 kg
Firing chamber - capacity:	Diameter: 84 mm	Height: 90 mm
Firing chamber - temperature:	max. 1600°C	

1.5 Electrical data

Power supply:	230 Volt AC 50 Hz
Power consumption:	max. 1500 Watts
Classification:	Safety class 1

1.6 Scope of delivery

Furnace in special shipping carton with:

- 1 firing unit (furnace)
- 1 casing with power unit
- 1 mains power lead for heating devices type HO5RR-FG1.0 mm²
- 1 high-current connecting cable power unit - firing unit 4 x10 mm²
- 1 control connecting cable power unit - firing unit -
- 1 firing tray (2 elements)
- 1 sintering crucible
- 1 pair of furnace tweezers
- 1 operating manual
- 1 Allen key 2.5 mm
- 1 Allen key 4.0 mm

2 Installation and starting-up

2.1 *Important information*

Read this operating manual before starting-up the unit.

Keep the operating manual at a place which can be accessed by all users at any time.

If problems should occur when starting-up the unit, we ask you not to perform any impermissible manipulations.

Do not change any settings of the internal electronics of the unit; this may put your warranty in danger.

When performing any interference inside the unit, the regulations according to DIN EN 100 015 "Schutz von elektrostatisch gefährdeten Bauelementen (protection of components exposed to electrostatic hazards)" must be adhered to.

Please note that no liability will be assumed for any damage caused by ESD.

ESD = electrostatic discharge.

The unit may exclusively be used for sintering firing of VITA In-Ceram® YZ CUBES for CEREC®.

When processing different materials, the insulating material of the firing chamber and the molybdenum disilicide heating elements may be damaged; in this case the warranty shall be void.

The insulation of the firing chamber and the firing trays consist of high-quality insulating material.

Formation of cracks due to exposure to high temperatures can not be excluded. This crack formation must be attributed to materials used and does not affect the function of the unit or the quality of the firing objects.

In this case warranty claims can not be submitted.

2.2 *Transport safety cover*

To ensure safe transport, the heating elements feature a cover.

This cover must be removed before starting up the unit.

(see Starting-up the unit)

2.3 *Installation of the firing unit (furnace)*

- When positioning the furnace, the minimum distance of the furnace and any wall is at least 30 cm. The furnace must be placed into a dry, heated room.
- The air escaping in the rear upper area of the firing chamber must not be inhibited.
- At temperatures of less than 15 °C (e.g. after transport) leave the unit for approx. 30 min. before starting-up. Make sure that the unit is placed on a heat-resistant surface. Heat radiation and heating up of the unit are within a harmless range if the unit is operated according to the instructions. However it can not be excluded that sensitive furniture surfaces and veneerings may exhibit slight discoloration due to continuous exposure to heat.
- The unit must not be exposed to direct sunlight.
- Do not place any combustible objects near the furnace.

2.4 *Installation of the power unit*

- Basically, the same information applies as under 2.2
- Place the power unit close to the firing unit (furnace) at a minimum distance of 50 cm. Place the power unit in a way to ensure that air that is sucked in at the air grille of the fan can escape freely. The air that is sucked in by the fan must not exceed a supply air temperature of 35 °C. The clearance of the power unit to ground surfaces should be 10 cm.

2.5 Starting-up the unit

Note: Prior to starting up, please adhere to **item 3** Safety advice!

- **Note:** Remove the transport safety cover at the top of the firing unit. Loosen screw of the device with the enclosed Allen key 2.5 mm and remove the cover (Fig. 1) Lift the transport safety cover and remove it, place the cover on again and fasten it with screws.
- Plug the high-current connecting cable into the power unit and the furnace and fasten it with screws using the enclosed 4,0 mm Allen key (Fig. 2 + 3)
Caution! The cable is laid out in such a way as to avoid damage or wedging of the cable. While the furnace is operated, the cable will reach a temperature of Approx. 40 °C due to the high current consumption of the heating elements.
- Plug control cable into power unit and furnace and fasten it with securing screws (Fig. 2 + 3)
- Connect power unit to mains supply with the enclosed mains power lead. (Fig. 2)

Caution: The unit must not be connected to multiway outlet sockets with extension cable, overload may result in a fire.

Fig. 1

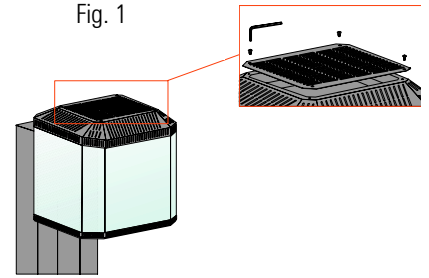


Fig. 2

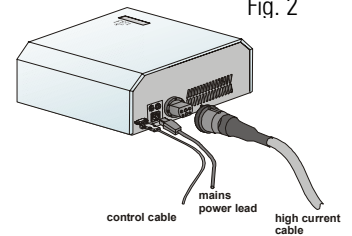


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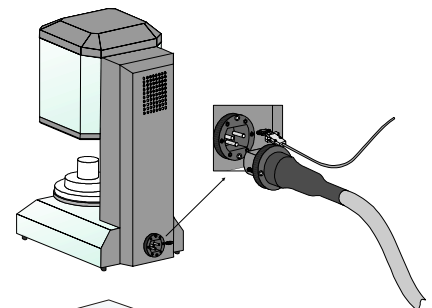
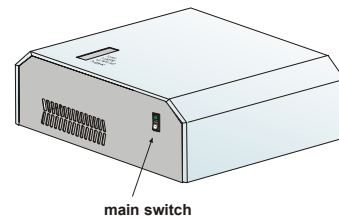
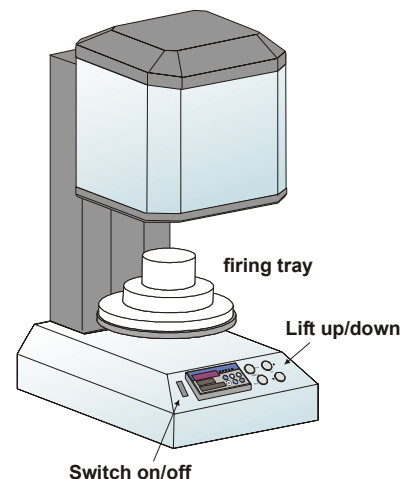


Fig. 4



- Switch on main switch at the power unit (see Fig. 4)
- Switch on the On/Off switch at the furnace (see Fig. 5)
- Press Lift down key (Fig. 5) and lift will descend to its lower position. (due to vibrations during transport particles of the firing chamber insulation will accumulate on the firing tray platform. They must be removed with a dry cloth)
- Function of LED, see section LEDs of power unit.
- Place firing tray on the firing tray platform. (Fig. 5)
Caution: Furnace must not be operated without firing tray placed on, there is an increased risk of fire and injury due to considerable heating of the casing components.

Fig. 5



2.6 Switching off the unit

If the furnace is not used, the lift should be moved into the firing chamber. Closing of the firing chamber will protect the insulation and avoid the absorption of moisture. After the lift tray platform has been moved into the firing chamber, switch the furnace (switch to Off) and the power unit off (main switch).

3 Safety advice

For your personal safety we would like to ask you to read the following safety-relevant Information completely before starting-up the unit.

3.1 Information of labels

This is a warning label about dangerous electrical current. Disconnect the unit (pull off plug at power unit) before Opening it (Fig. 6).

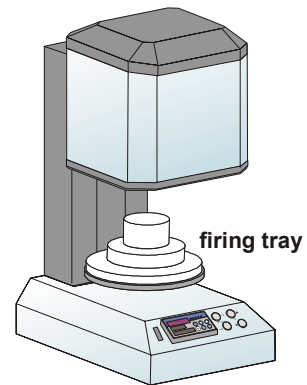
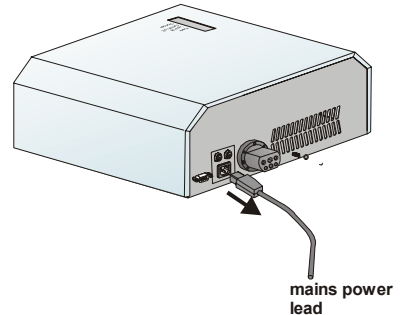
The manufacturer disclaims any liability for accidents of the user if the furnace is not closed.

Caution: Do not place any objects near the lift tray.



Furnaces must not be operated without firing trays placed on. (Fig. 7)
 During continuous operation (max. end temperature, max. firing time) some parts of the firing chamber may reach high temperatures (above 70°C).

If the unit is connected to the mains supply, do not reach into the open firing chamber to avoid contact with live and hot components. When working at the open furnace safety goggles must be worn.



3.2 Cleaning the furnace

Pull the plug from the power unit each time before the furnace is cleaned !! (Fig. 6)

It is not necessary to clean the interior of the firing chamber, cleaning of the casing with a wet cloth within regular intervals will ensure operational reliability.. Standard cleaning agents can be used for the stainless steel casing.

Basically, no flammable liquids must be used for any type of cleaning work.

3.3 Fuses

At the rear of the power unit there are two fuses for the unit. The labels provide information on the fuses used in the unit. Fuses with different values must not be used.

(Fig. 4 item 1)



3.4 CE - mark



The use of the CE-mark entails the legally binding statement that the unit complies with the basic requirements of guideline 73 / 23 / EEC (Low Voltage Guideline) as well as guideline 89 336 / EWG (EMV-guideline).

4 Technical equipment

4.1 *Cooling fan in the firing unit (furnace)*

The furnace has been equipped with a cooling fan which will be switched on at a temperature of 25 °C in the firing chamber. When the LED (LED 7 see section 5) is lit during a program, this indicates the failure of the cooling fan.

The cooling fan is switched on during the entire process time and is switched off again when the temperature in the firing chamber is reduced to 25 °C.

For safety reasons the unit must not be operated in case of failure of the cooling fan.

4.2 *Cooling fan in the power unit*

The power unit has also been equipped with a cooling fan which is switched on or off as soon as the main switch of the power unit is pressed.

The cooling fan avoids excessive heating of electrical and electronic components and contributes to ensure general operational reliability.

Failure of the cooling fan is displayed at the furnace (see section Light emitting diodes (LEDs) of power unit).

For safety reasons the unit must not be operated in case of failure of the cooling fan.

4.3 *Mains power failure*

The unit features a power failure safety device.

This element avoids program abortion and thus incorrect firing during short-time breakdown of the mains voltage supply.

This backup device is activated in the event of a mains power failure during an active firing program.

If mains voltage is supplied again, the program is continued if the difference between the set and the actual value is not larger than 30 %.

4.4 *Program values (parameters)*

The firing program has been preset and includes the following values:

Rising time 1 h

End temperature 1530°C

Hold-time for end temperature 2 hrs

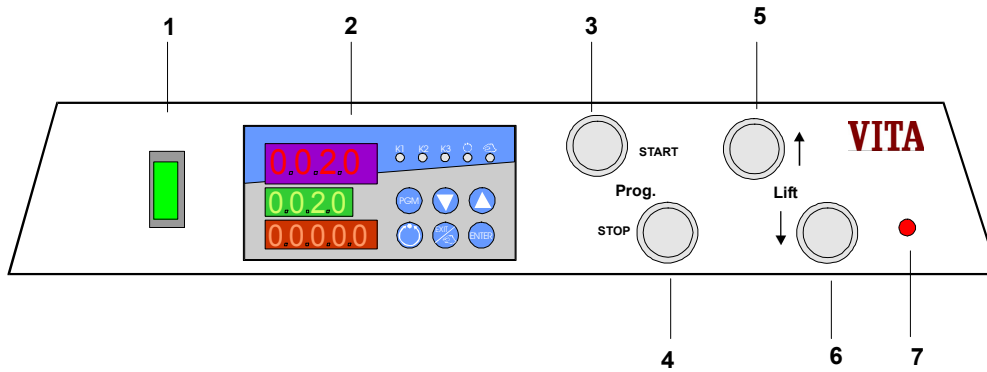
Cooling down to 400 °C with furnace chamber being closed (lift key can only be used for opening at 400 °C)

4.5 *Lift control*

To lower or raise the lift, the lift key is pressed until the corresponding position has been reached and the lift motor is switched off.

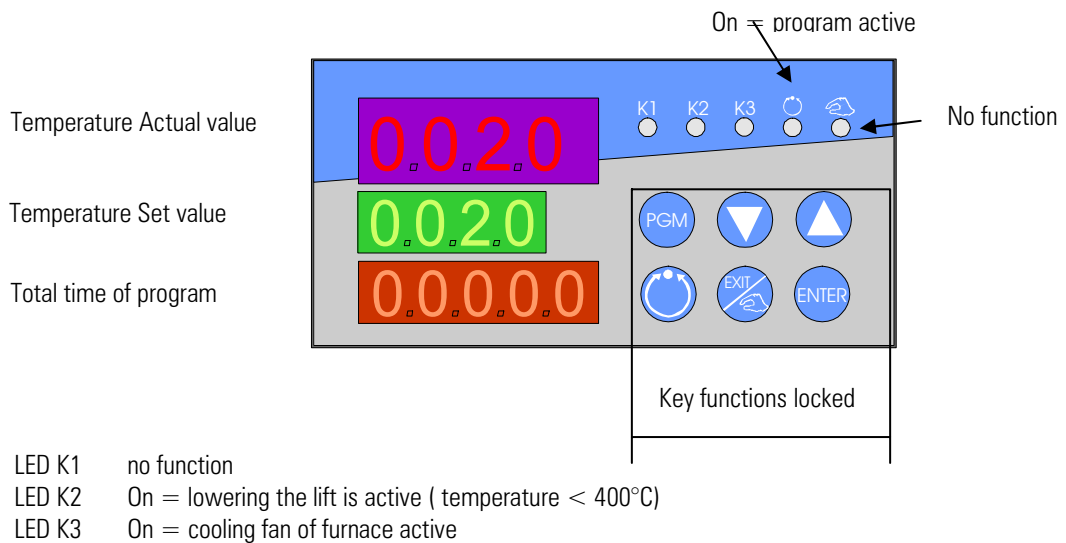
Lowering the lift out of the chamber is only possible at a firing chamber temperature below 400 °C; LED K2 in the controller is lit.

5 Control elements of the firing unit (furnace)



- 1 Main switch – firing unit On/Off
- 2 Temperature controller
- 3 Program Start key
- 4 Program Stop key
- 5 Lift up key
- 6 Lift down key
- 7 LED cooling fan (see item 4.1)

5.1 Information displayed in the temperature controller

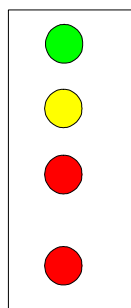


5.2 Starting the firing program

- Main switch of power unit On – control lamp in main switch is lit
- Main switch of furnace On – displays in the temperature controller active
- Raising lift into chamber with lift key
- Press Start key – lower display of the controller shows duration of the program in hrs-min-sec

5.3 LEDs of power unit

The LEDs of the power unit indicate the following function:



green = unit switched on

yellow = load file overload/ failure of heating element

red = current limit current-limit control active

red = overheat operating temperature in the power unit exceeded

6 Transport of the unit

The unit may only be shipped in the original packing. Therefore we recommend to save the transport packing and the transportation safety elements in the upper area of the firing chamber.

If the original packing is no longer available, please contact your service agent or the manufacturer.

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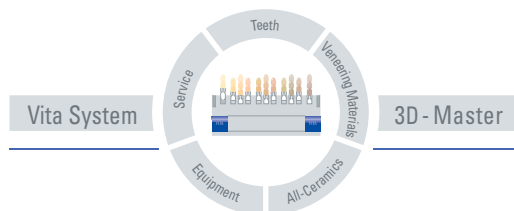
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