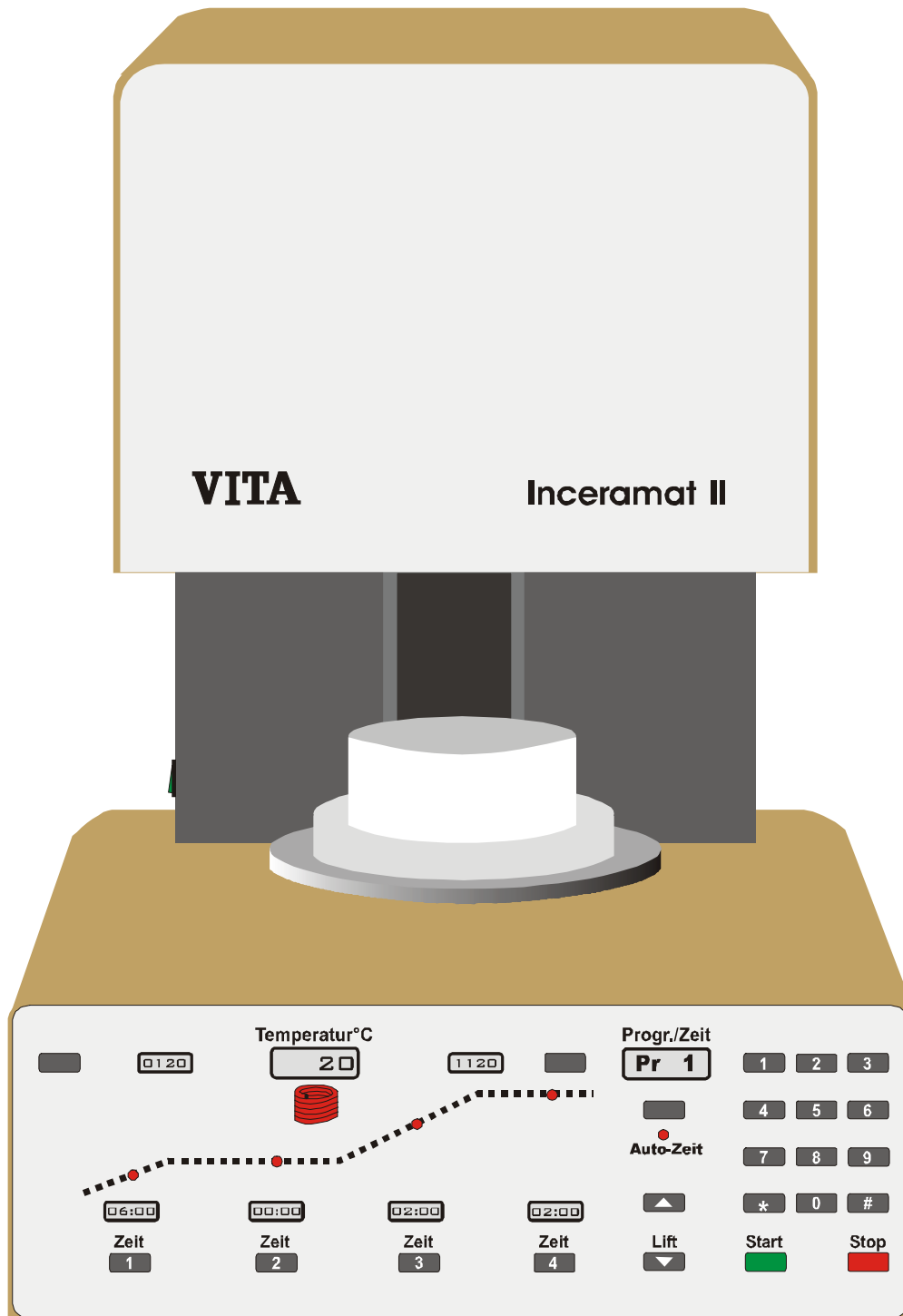


VITA – Inceramat 2

Operating Manual



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1 Technical specification

Dimensions and weight:

Height: 600 mm
Width: 370 mm
Depth: 410 mm

Interior dimensions of firing chamber:

Diameter: 110 mm
Height: 80 mm

Weight: 24.8 kg

Power supply: 110 V / 230 V 50/60 Hz

Max. power consumption: 110 V max 2.0 KW
230 V max 1.5 KW

Classification: Safety class I

Max. firing chamber temperature: max. 1200°C

Presentation:

1 carton contains:

- 1 VITA INCERAMAT II
- 1 spare muffle
- 1 firing tray
- 1 mains power lead
- 1 pair of furnace tweezers
- 1 operating instruction

2 Safety advice

This furnace may only be operated with the supplied mains power lead!

Prior to making the electrical connection, make sure that

- the furnace power switch is OFF
- the furnace voltage matches your power supply. Confirm the line voltage for your furnace by checking the line voltage designation on the rating plate on the back of furnace.
- the protection fuse and the wiring system in your laboratory are suitable to carry the total electric load of the furnace (see rating plate and/or technical specification on page 1).
- the wiring system in your laboratory has an efficient earth connection in compliance with rules and laws in force.
- the plug is inserted into a suitable wall socket which can easily be reached.
- the mains power lead is laid out in such a way as to ensure that it does not come into contact with any hot surfaces or objects and that it does not obstruct any passageway.

The Manufacturer disclaims any liability in case these accident-preventing rules are not observed.



This is a warning symbol about dangerous electrical current. Disconnect furnace from the mains power supply before opening it for maintenance or repair work. Contact your VITA dealer or a qualified service technician if your furnace needs to be repaired or serviced.

**T8H 250 V – 230 V
or 2 Amp. – 110 V**

This plate indicates the type of fuse used in this appliance. Differently rated fuses must not be used.



The interior of the firing chamber does not require cleaning. It is sufficient to wipe the firing tray platform and lower edge of the firing chamber with a damp cloth at regular intervals.

Under no circumstances should cleaning agents or inflammable liquids be used for cleaning.

3 Installation and starting up

(see also „Safety advice“)

1. When positioning the furnace, the minimum distance between all sides of the furnace and any wall must be at least 25 cm.
2. Make sure the furnace power switch is OFF. Connect the furnace to the mains outlet, using the supplied mains power lead.
3. Switch the furnace on with the mains switch
The temperature display (3) indicates the actual temperature in the firing chamber, the cycle / time display (1) indicates the time of day.
4. Press button (I) to lower the firing tray platform.
5. Place the firing tray on the firing tray platform.
The furnace must never be operated without the firing tray on the firing tray platform.
6. Use the keyboard (K) to select a firing cycle, confirm with key # and press the Start key (A).
The firing tray ascends into the firing chamber, the firing cycle runs using the times and temperatures programmed.
The firing cycle can be interrupted at any time by pressing the Stop key (B).

Caution: Should the firing tray platform be lowered with the Lift key (I) whilst a programme is running, the Lift will be raised into the firing chamber again automatically.

The heating only functions when the firing tray is in the firing chamber.

4 Loss of power

This appliance is protected against power cuts. The power cut protection is activated if the power supply of the furnace fails whilst a programme is running.

If the power stays off for less than 10 minutes, the firing cycle continues running.

If the power is cut for more than 10 minutes, the programme is interrupted and the displays show the following:

Display 1 shows „9999“

Display 3 shows „Err“.

Display 5 and 6 show the time at which the power was cut off.

Display 7 shows the programme phase during which the power was cut off.

P1 1st heating-up

P2 1st temperature hold time

P3 2nd heating-up

P4 2nd temperature hold time

Display 8 shows the temperature in the firing chamber at the time the power was cut off.

LD 1 – LD 5 flash.

To delete all error messages after a power cut, press any key – the furnace is ready for use again.

5 Temperature and time settings for firing cycles

The VITA INCERAMAT II has 20 firing programmes which can be selected as required.

The correct firing programmes for VITA materials have been factory-set but can be changed at any time.

The following temperatures and times can be selected for all firing cycles:

First firing temperature, range of settings:	100°C – 300°C	
Second firing temperature, range of settings:	500°C – 1200°C	
First heating-up phase, range of settings:	0 – 6 hours	(in hours and minutes)
First temperature hold time, range of settings:	0 – 6 hours	(in hours and minutes)
Second heating-up phase, range of settings:	3 minutes – 6 hours	(in hours and minutes)
Second temperature hold time, range of settings:	0 – 6 hours	(in hours and minutes)

Any times or temperatures which are not within the permitted range of settings are shown by „Err“ on the display and indicated acoustically. The correct value entered last is displayed again.

6 Selecting and starting a firing cycle

1. Select the firing programme (Nos. 1 – 20) by pressing the appropriate key on keyboard (K) and enter it with the # key. All the temperature and times stored will be shown on the displays.
2. Press the Start key (A) to activate the firing cycle. If the firing cycle is started whilst the firing chamber temperature is below 23 °C, LD 1 will flash faster. This indicates that the firing chamber temperature is first being raised to approximately 23 °C before the first temperature heating-up phase starts and runs. Once the temperature heating-up phase has started, LD 1 flashes at a lower rate. Whilst the programme is running, the display (5, 6, 7 and 8) show the remaining time for the active programme phase. The active programme phase is indicated by flashing LD. The key corresponding to the time display can be pressed to check and display the memorized time value. The value is displayed as long as the key is pressed down, then the time remaining for this programme phase appears. The Progr./Time display (1) shows the time of day whilst the cycle is running. The Start button (a) can be pressed to display the programme number, the display then returns automatically to the time of day.
3. The Stop key (B) can be pressed to interrupt a firing cycle at any time.

Once a firing programme is completed, a buzzer sounds.

Even once a programme has been started, any programme phases which have not yet been activated can still be changed (see „Entering and altering temperature and time settings“ on page 7).

7 Entering and altering temperature and time settings

Once a firing programme has been selected, all of the individual values can be changed. Even once a programme has been started, any programme phases which have not yet been activated can still be changed.

To change the time or temperature, press the key corresponding to the display. The display will show „- : - : -“ and the new value can be typed in with the keyboard (K) and confirmed with the # key. The display then shows the new value as entered. Should the value not be within the range of permitted settings, the display shows „Err“, a buzzer indicates the error and the value entered last is displayed. A new value can now be entered. Incorrect values can be deleted with the * key.

This procedure for entering / changing times or temperatures also applies whilst a programme is running. Active programme phases can no longer be changed.

8 Automatic starting time:

Once selected and confirmed with the # key, a programme can be started at a pre-set time of day.

Once the programme has been selected, key „J“ is pressed to activate display 1 for entering the starting time. Once key „J“ has been pressed, the display indicates the time of day again and the programme starts automatically.

Key (J) can be pressed to display the programmed starting time.

The programme values can be changed once the automatic timer has been activated (see above „Entering and altering temperature and time settings“). Once the programme has started, the firing tray is raised automatically into the firing chamber.

9 Utilities

All programmes listed in the table are selected by pressing the number shown in „Programme no.“ and confirmed with the # key. Once selected, a programme can be interrupted with the Stop key (B).

Caution: Before starting these programmes, read the notes

Prog No.	Programme	Description	Display	
70	Entering time	hours / minutes	During programming, display 3 Once programmed, display 1	★
71	Entering date	Day / Month Format: DD:MM	During programming, display 3 Once programmed, display 1 only when key „D“ is pressed	★
72	Entering year	Year	During programming, display 3 Once programmed, display 5 only when key „D“ is pressed	★
79	Sound level	Settings: 0 – 7 Type in desired value with keyboard (K) and confirm with # key	Display 3 shows the set value with 2 digits	
83	Temperature adjustment	+/- 20°C using keyboard (K) Key „C“ is used to select „plus“ (no symbol) or minus („-“)	Display 3	★★
89	Lift speed	Speed „S up“, settings: 80-220 Speed „S dn“, settings: 50-200 Motor cut off „L up“, settings: 80-220 Motor cut off „L dn“, settings: 80-200 Key „C“ is used to select the desired range	Display 2 shows „S up“ or „S dn“. Display 3 shows the corresponding value	★★★
91	Initialization	All time and temperature values in the VITA firing chart are read into the memory	Display 3	★★★★
96	Operating time meter	Exit with Stop key (B)	Display 3 shows hours Display 4 shows min./secs.	

Legend:

★ The current time, and year can be displayed by pressing button „D“ with the furnace switched on and without running a programme. Display 5 indicates the year, display 6 the month and display 7 the time of day. If the furnace is switched on, display 1 shows the time of day.

★★ The temperature in the firing chamber can be changed within a range of +/- 20°C. This adjustment changes the entire temperature range for all programmes by the amount entered, i.e. after entering + 20°C, the furnace fires to a higher degree and after entering -20 °C, it fires to a lower degree.

★★★ This programme changes the speed of the lift motor (speed, Sup, Sdn). „Lup“ and „Ldn“ are used to set the motor cut off. If the tray does not enter the firing chamber fully, „L2up“ should be increased. If the platform does not quite reach the lowermost position, „Ldn“ should be increased.

★★★★ Activating this programme reads all parameters for VITA materials into the memory. Thus, once a firing programme is selected according to the VITA firing chart all temperature and time values are stored. When this is carried out, all custom firing programmes are deleted.

10 Changing the muffle

- Only to be carried out by a qualified service technician!
- Contact your VITA dealer or authorized service personnel!

1. Switch off furnace and disconnect from the mains power supply!
2. Unscrew the countersunk screws on the sides of the top casing of the furnace
3. Remove top casing of the furnace.
4. Disconnect earthed conductor wire from top casing of furnace.
5. Unscrew and remove top cover of firing chamber.
6. Disconnect all wires from the thermocouple.
7. Lift out insulation stone complete with thermocouple.
8. Disconnect the wires from the defective muffle and then lift it out.
9. Place new muffle into position, then reassemble the furnace in reverse order to that given above.

CAUTION: Do not forget to reconnect the earthed conductor wire to the furnace top casing!

11 Error messages

Error messages shut down the firing programme.

To run the furnace again, switch it off at the power switch and then on again.

Error code	Cause	Remedy
Error 01	Desired temperature exceeded by more than 80°C	Performance defect, replace PCB
Error 02	Thermocouple defect	Check connections on thermocouple, replace if necessary

Should you have any questions regarding equipment servicing, please contact the service department of your local VITA distributor!

12 Firing chart

Firing	Progr. Nr.	Time 1	Time 2	Time 3	Time 4 hrs : min	Temp. 1 approx. °C	Temp. 2 approx. °C
Sintering firing for ALUMINA	1	6:00	0:00	2:00	2:00	120	1120
Glass infiltration firing for single crowns	2	0:00	0:00	0:30	4:00	200	1100
Glass infiltration firing for bridge substructures	3	0:00	0:00	0:30	6:00	200	1100
Sintering firing for SPINELL Inlays	4	0:00	0:00	2:00	2:00	120	1180
1 st Sintering firing for SPINELL anterior crowns	1	6:00	0:00	2:00	2:00	120	1120
2 nd Sintering firing for SPINELL anterior crowns	5	0:00	0:00	1:00	2:00	120	1180
1 st Sintering firing for ZIRCONIA posterior bridges	1	6:00	0:00	2:00	2:00	120	1120
2 nd Sintering firing for ZIRCONIA posterior bridges	5	0:00	0:00	1:00	2:00	120	1180

13 Operating Controls and Displays

Display:

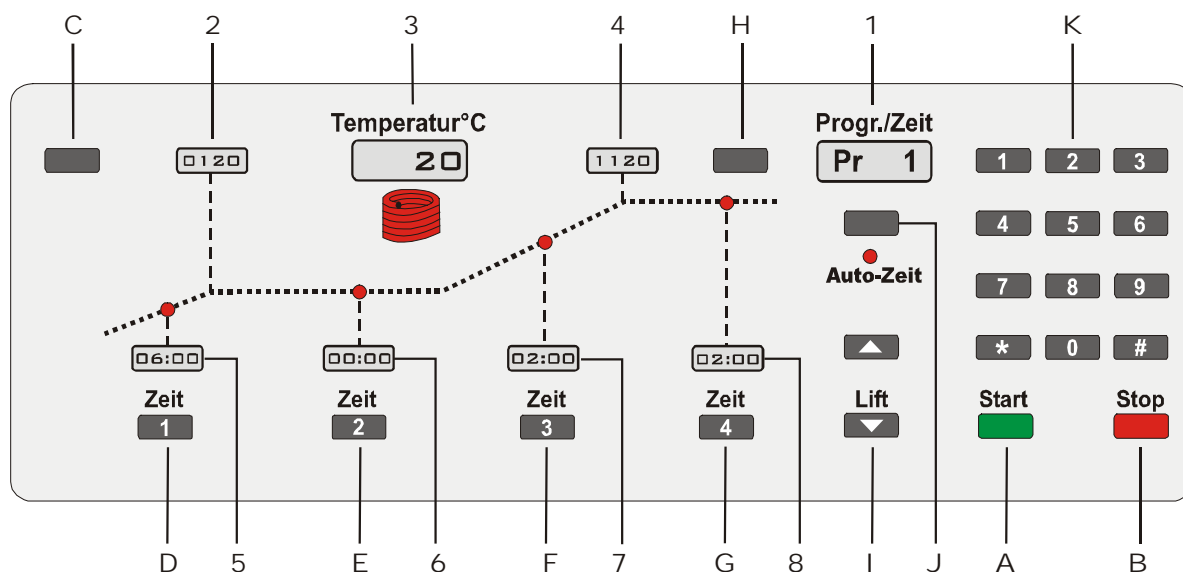
1. Programme number and time of day
2. First firing temperature
3. Firing chamber temperature (current temperature)
4. Second firing temperature (end temperature)
5. First heating-up time
6. First hold time
7. Second heating-up time
8. Second hold time

Keys:

- A. Start key
- B. Stop key
- C. Set key - first firing temperature
- D. Set key - first heating-up time
- E. Set key - hold time, first firing temperature
- F. Set key - second heating-up time
- G. Set key - hold time, second firing temperature (end temperature)
- H. Set key - second firing temperature (end temperature)
- I. Firing tray keys - up/down
- J. Set key – automatic start
- K. Enter key

LED indicators:

- LD 1 Programme segment – 1st heating-up
- LD 2 Programme segment – 1st temperature hold time
- LD 3 Programme segment – 2nd heating-up
- LD 4 Programme segment – 2nd temperature hold time
- LD 5 Automatically timed programme start



Please note: Our products should be used according to the working instructions. We cannot be held liable for damages resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers which are not compatible or not authorized for use with our product. Furthermore, our liability for the correctness of this information is independent of the legal ground and, in as far as legally permissible, is limited to the invoiced value of the goods supplied excluding turnover tax. In particular, as far as legally permissible, we do not assume any liability for profit loss, for indirect damages, for consequential damages or for claims of third parties against purchaser. Claims for damages based on fault liability (culpa in contrahendo, breach of contract, tort liability, etc.) can only be made in the case of intent or gross negligence. Date of issue of these instructions for use: 11/97.



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