

VITA - Vacumat 2500 Premium Line

Operating Manual



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1 Technical Data

1.1 General information

- 300 freely programmable firing programs
- Removable keyboard
- Illuminated display
- Clearly structured and controllable firing cycles
- 1 long-time cooling phase can be selected for each program
- Highest temperature accuracy
- Temperature adjustment program
- In case of power cut < 10 sec no abortion of program
- In case of power cut > 10 sec message in display
- Choice of three lift positions in pre-drying phase

1.2 Dimensions

Width: 360 mm
Depth: 335 mm
Height: 560 mm with remote display (accessory) 680 mm

Casing: steel / stainless steel or painted

Weight: 19,0 kg

1.3 Firing chamber

Firing chamber - capacity: Diameter: 96 mm
Height: 70 mm

Firing chamber - temperature: max. 1200°C

1.4 Electrical data

Power supply: 110/230 Volts AC, 50 Hz

Power consumption: max. 1500 Watts

Classification: Safety class 1

1.5 Scope of delivery

Furnace in special shipping carton with:

- 1 Vacumat 2500
- 1 keyboard
- 1 firing tray
- 1 mains power lead
- 1 pair of furnace tweezers
- 1 set of firing trays A + B
- 1 set of firing trays G
- 1 operating manual

Vacuum pump (on request)
230 Volts 50/60Hz
Weight approx. 6.4 kg

2 Installation and starting-up

- When positioning the furnace, the minimum distance of the furnace from any wall should be 25 cm.
- 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. However, 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.
- The unit must only be installed in dry rooms.

2.1 Connecting the furnace to the main supply

(Notice: Observe safety advice, item 3)

- Attach keyboard, draw out (fig. 2). Plug in mains power lead on the side and secure with safety screws.
- Connect vacuum pump (fig. 3).
- Connect furnace to main supply with enclosed mains power lead (fig. 1). Do not connect with multiway socket outlet with extension, in case of overload there is a risk of fire.
- Switch on the furnace (fig. 2), lift will descend into lower position.
- Place the firing tray onto the lift support plate (fig. 2).
- Activate Standby Mode with Start key (for further information see Standby Mode)

Figure 1

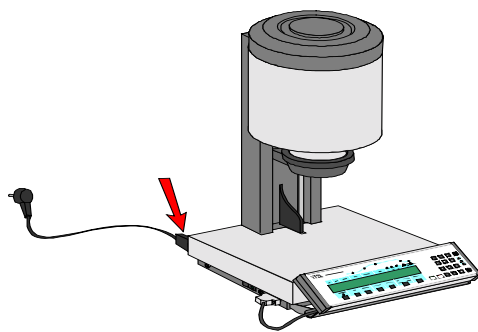


Figure 2

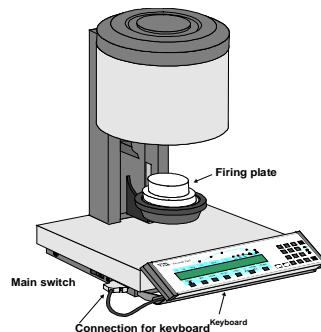
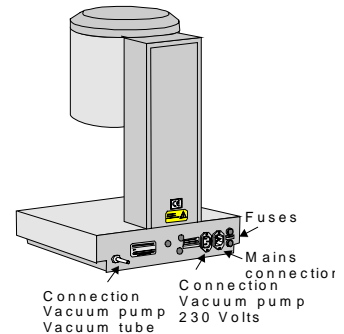


Figure 3



2.2 Furnace out of operation

If the furnace is not used, the lift should be moved into the firing chamber and the furnace should be switched off with the main switch (see fig. 2). Closing the firing chamber will protect the insulation and avoid the absorption of moisture. The lift is moved into the firing chamber with program No. 0, the heating is off.

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 furnace.

3.1 Information of labels

This is a warning symbol about dangerous electrical current. The furnace must be disconnected from the main supply before it is opened.



Caution: If the lower cover is removed, there may be a residual voltage of up to 400 volts on the board if the unit is switched off.

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.

Furnace must not be operated without firing tray placed on (fig. 2). During continuous operation at max. end temperature resp. max. firing time some parts of the firing chamber may reach high temperatures (above 70°C).



If the unit is connected to the main supply, do not reach into the open firing chamber to avoid contact with live and hot components.

3.2 Cleaning of the furnace

Unplug the unit each time before it is cleaned! (fig. 3)

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, especially of the lift drive. Do not use hot objects for the keys of the keyboard, e.g. pair of tweezers. The keyboard should only be cleaned with a dry cloth. Basically, no cleaning agents and no flammable liquids should be used for any type of cleaning work.

3.3 Fuses

In the rear panel 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.

T 8 H 250 V

T 1 H 250 V

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 / EEC (EMV - guideline).

4 Protection against power failure

The Vacumat 2500 furnace features a backup device to protect against power failure. This element avoids program abortion and thus incorrect firing in case of a short failure of the main power supply. This backup device is activated immediately in the event of a main power failure during an active firing program. In case of a failure of less than 10 sec the program continues and is not aborted. Display shows Error 09 (see error messages). Pressing the Stop key deletes the Error message and the data of the program will be shown in the display again. In case of a failure of more than 10 sec the program is aborted and the Display shows Error 08 (see error messages). Pressing the Stop key deletes the Error message.



5 Modes

Basically, there are the following different modes:

- On-Mode** = Furnace switched on, lift in lower position, no active program.
- Set-Mode** = Program selected, check / change program values.
- Run-Mode** = Program started.
- Standby-Mode** = Temperature in the firing chamber is kept on a constant value.
- Service-Mode** = Utilities and unit-specific settings.

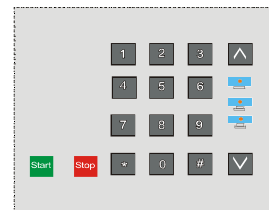
6 Standby - Mode

Switch on furnace with the main switch - *lift* ↓

Press Start *lift* ↑ = Standby - Mode

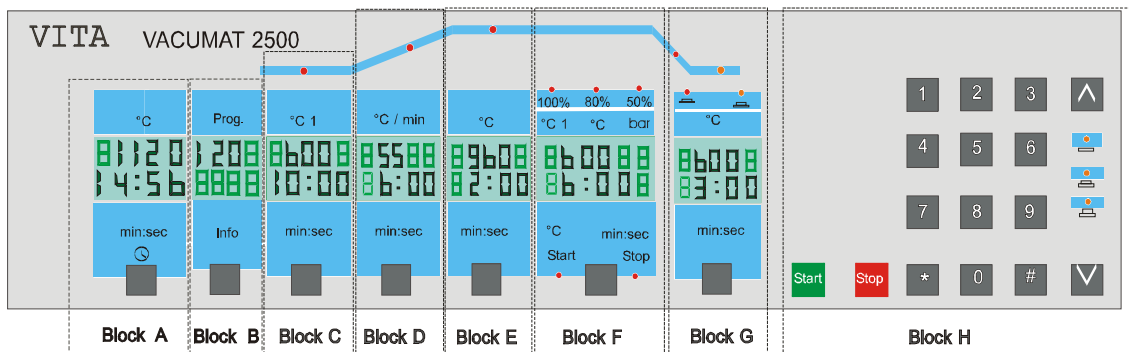
Press Stop *lift* ↓ = Standby – Mode ended

Change standby temperature see utilities.



7 Firing programs

7.1 Keyboard



7.2 Firing program parameters

Firing programs No. (Block B)	No. 1 – 300
Pre-drying temperature (Block C)	200°C - 800°C
Pre-drying time (Block C)	0:00 - 40:00 min (entry in min/sec.)
Lift positions for pre-drying and intervals (Block A/B)	0 - 100 % (100% lift in lower position) 0 – 120 sec.
Temperature rising rate (Block D)	20°C/min - 120°C/min or 3:00 - 40:00 min
Firing temperature (Block E)	200°C - 1190°C
Hold-time for end temperature (Block E)	0:00 - 40:00 min (entry in min/sec.)
Vacuum Start and vacuum value (Block F)	Start simultaneously with temperature rising rate (pre-drying temperature) or selection for start in the temperature range of 200°C - 1100°C After the start of the vacuum pump the vacuum value is displayed in %. (see also item. 8.8 vacuum display)
Vacuum Stop (Block F)	Rising time is automatically taken over as vacuum time or individual selection of Stop in the temperature range of 500°C - 1190°C or time range max. rising time plus
Cooling temperature and time (Block G)	200°C - 900°C / 0:00 - 40: 00 min
Lift position slow cooling (Block G)	0 - 100% (100% lift in lower position)

7.3 Starting a firing program

A firing program that has been selected (Set-Mode) is generally started with the Start key in Block H. The first program time starts running, if the temperature in the firing chamber has reached the time given in Block H (Pre-drying temperature). If the temperature in the firing chamber is higher than the temperature given in Block H, the following options can be selected:

- Press Start key, the firing chamber temperature cools down to the temperature given in Block C and the program starts.

or

- Press Start key two times, the program starts immediately, the current firing chamber temperature is taken over as pre-drying temperature, the times for temperature rising rate and vacuum are corrected correspondingly.

or

- Press Start key and then key in Block G (cooling), vacuum pump is started to cool down firing chamber quickly, if the temperature in the firing chamber is 30 °C lower than the pre-drying temperature the pump is switched off and the program starts.

7.4 Changes in the Set-Mode

Precondition: Firing program selected, activate desired entry area with the key (key in Block A – Block G) enter value with keys of keyboard H, store entered value with key #.

7.5 Change program value without storing

For a program sequence a program value e.g. end temperature can be changed without storing. The recognition of a program with a value that has not been stored is displayed by * in Block A line 1. After the entry of the program value the program can be directly started with the Start key.

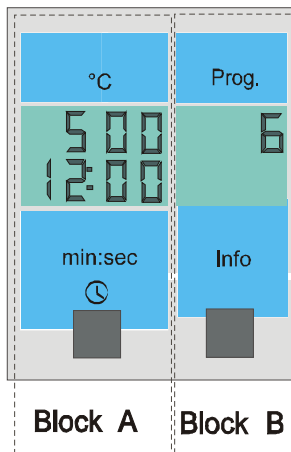
7.6 Rapid cooling of the firing chamber

To ensure that the furnace can be quickly reused for further firing processes, the pump can be activated with the key in Block G (cooling). Precondition: no active program, lift tray in lower position and temperature in the firing chamber higher than standby temperature. After cooling down to 50 °C below the standby temperature, the pump is switched off, the lift is raised into the upper position and the temperature rises up to the standby temperature (standby).

7.7 Copying a program

Precondition: On-Mode – firing program selected

Display shows e.g.



Block A line 1 shows current firing chamber temperature
 Block A line 2 shows the total time of the firing program
 Block B line 1 shows program No.

Copying:

e.g. copy firing program No. 6 to program No. 10

press * key

Block B line 1 shows **CPY**

Block B line 2 shows progr. No. **6**

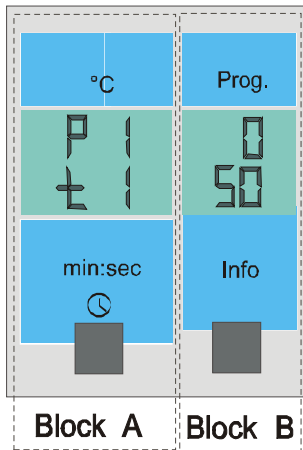
Enter progr. No. 10 with key Block H, store and end with key #

8 Settings for program values

8.1 Lift positions pre-drying

Precondition: Set-Mode – firing program selected

Activate Set: Press key Block B: (Additional function of key B = step through values and end Set, changes are not stored.



Selectable: 3 positions and 3 intervals

Select positions with key Block B P1 / t1 – P2 / t2 – P3 / t3
(t3 automatically from difference pre-drying time minus t1 minus t2).
Corresponding LED in Block for lift positions flashes.

Switching from Pos. to time with key Block B
or
store value with key #

Program is automatically ended by storing of P3.

Possible entries:

P1 = 0 – 30 %.

P2 = 0 – 80 % but not lower than Pos. 1

P3 = 0 – 100 % but not lower than Pos. 2

t1 = 0 – 120 sec.

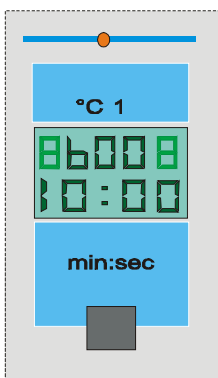
t2 = 0 – 120 sec.

t3 = automatic entry of the remaining pre-drying time.

8.2 Pre-drying time / pre-drying temperature

Precondition: Set-Mode – Firing program selected

Activate Set: Press key Block C: (additional function of key C = step through values and end Set, changes are not stored)



Cursor flashes in line 1: Pre-drying temperature

Selectable: Pre-drying temperature 200°C - 800°C

Store changes: key #

Cursor flashes in line 2: Pre-drying time

Selectable: Pre-drying time 0:00 - 40:00 min

Store changes and end Set: key #

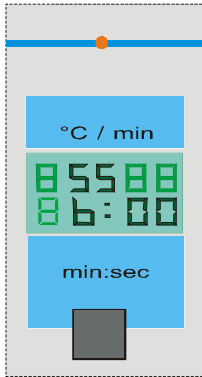
Notice: If the pre-drying temperature is changed (causes change of temperature difference between pre-drying - and end temperature) the temperature rising rate min : sec is retained, the gradient °C/ min is adapted. For a program with vacuum the activation of the vacuum pump is simultaneously set to the newly selected temperature.

8.3 Temperature rising rate

Precondition: Set-Mode – firing program selected

Activate Set: Press key Block D: (Additional function of key D = step through values and end Set, changes are not stored)

Cursor flashes in line 1: Temperature rising rate °C / min



Selectable: 20°C - 120°C

or

switch to lower line with key in Block D,

Cursor flashes in line 2: Temperature rising rate, entry min/sec.

Selectable: 2:00 min - 40:00 min

Values outside the permissible range activate a warning signal and the display shows question marks. If the pre-drying temperature (Block C) or the firing temperature (Block E) is changed after entering the temperature rising rate, the value °C/min is adjusted, the time in min/sec. remains unchanged. In the Run-Mode (program started) the time values min/sec. runs down to zero.

Store changes and end Set: key #

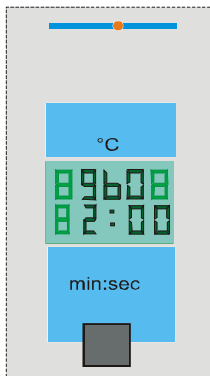
Note: The gradient °C / min is automatically adapted if the pre-drying temperature or the firing temperature is changed, the rising time in min / sec remains unchanged.

8.4 Firing temperature and firing time

Precondition: Set-Mode – firing program selected

Activate Set: Press key Block E: (Additional function of key E = step through values and end Set changes are not stored)

Cursor flashes in line 1: Firing temperature



Selectable: max. 1200°C

Store changes: key #

Cursor flashes in line 2: Firing time

Selectable: 0:00 – 40:00 min

Store changes: key #

8.5 Initial vacuum

With this feature the vacuum of a firing program with vacuum is built up in the firing chamber prior to the start of the temperature rising rate. Initial vacuum is shown in the display in Block B: **+V**

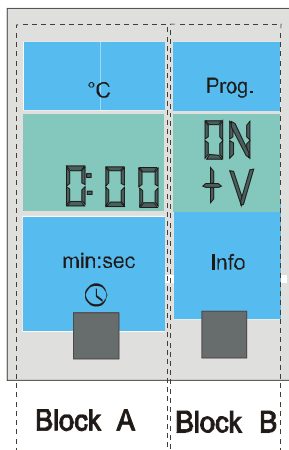
The following programming is possible:

Initial vacuum from 1:00 min – 5:00 min.

The vacuum time selected in Block F starts only when initial vacuum is completed.

Precondition: On-Mode – Firing program with vacuum selected

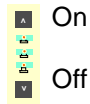
Activate Set: Press key Block A (Additional funktion of key A = step through values and end Set, changes are not stored)



Cursor flashes in line 1

Selectable: Initial vacuum ON / OFF

with the keys:



Off

Use key in Block A to switch to entry of time

Cursor flashes in line 2

Selectable: time for initial vacuum

Possible entries : 1:00 – 5 : 00 min

Store and end Set: key #

The initial vacuum time is displayed in the active program in Block C line 2 and runs down to zero, LED BlockC flashes.

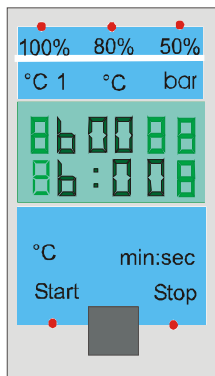
8.6 Select - change vacuum

Precondition: On-Mode – firing program selected

Display shows program values for vacuum in Block F that were stored last
or

no values (display Block F dark)

Activate Set: Press key Block F: (Additional function of key F = check values and end Set, values are not stored)



Cursor in line 1 flashes.

If no value was selected, the pre-drying temperature is recommended as starting value.

Value O.K. then store: key # *Cursor in line 2 flashes*

or

Entry for vacuum start is selected individually: range **200°C – 1100°C**. The selected value can not be lower than the pre-drying temperature and higher than the end temperature minus 100°C.

Store value: key # *Cursor in line 2 flashes for vacuum OFF*

If no value was selected, the rising time is recommended as turn-off value.


Value O.K., then store: key # *LED vacuum value flashes*

or


Select value for Vacuum – Stop anew: Possible entry for **Vacuum – Stop with Time : 1:00 – 40:00 min** (value can not be higher than the rising time plus temperature hold-time)

or

entry for **Vacuum – Stop with temperature** within the temperature rising rate up to the end temperature.

with the keys:  Select entry for Vacuum – Stop with temperature or time

Value O.K. then store: key # *LED 100% vacuum or value that was selected last flashes*

with the keys:  Select vacuum value approx. **80%, 50% or 100%**, corresponding LED in Block F flashes.

store: key #. Set for vacuum completed.

8.7 Delete vacuum

Precondition: On-Mode – firing program with vacuum selected.

Display shows program values for vacuum that were stored last (see figure 1)

Activate Set: Press key Block F

Delete: key *

Store: key # Set for vacuum completed.

8.8 Vacuum display

After switching on the vacuum pump the vacuum value (in %) is displayed in Block F. Starting from the atmospheric pressure on sea level of 1013 mbar:

- 100 % = - 1000 mbar (can not be achieved)
- 95 % = - 950 mbar or 50 mbar absolute
- 90 % = - 900 mbar or 100 mbar absolute

The vacuum value that is achieved depends on the power of the vacuum pump used and ranges between 85 to 95 % (150 mbar – 50 mbar absolute).

If the vacuum value of 30 % is not achieved within 15 sec during a firing program, the firing program is aborted and error message Vacuum is displayed.

8.9 Setting Cooling – Temperature – Time

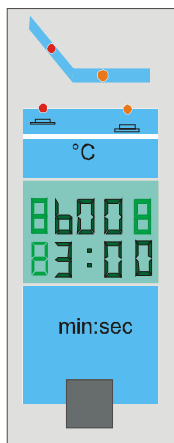
Precondition: On-Mode – firing program selected

Display shows program values for cooling that were stored last

or

no values (display Block G dark)

Activate Set: Press key Block **G**: (Additional function of key G = step through values and end Set, changes are not stored)



Cursor in line 1 flashes for cooling temperature

Selectable: Cooling temperature 200°C - 900 C


Store changes: key #

Cursor flashes in line 2 for pre-drying time

Selectable: Haltezeit 0:00 – 40:00 min

Store changes: key #

LED lift position flashes

with the keys:  select lift position open / closed

if closed lift position is selected then store: key # Set for slow cooling completed.

or

if open lift position is selected, then select value

selectable: lift position 0 – 99 (0 = open, 99 = closed)

Note: Lift position depends on the speed that is set)

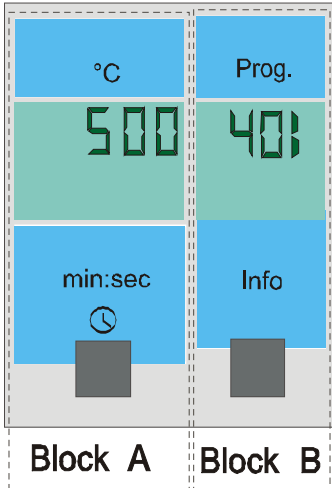
Store: key # Set for cooling completed.

9 Utilities

9.1 Call up service number , change / store values.

Precondition: On-Mode, lift tray in lower position, no active program.

Enter service number with keys of keyboard H and confirm the entry with key #.



Block A line 1 and line 2 shows value.

Select value with key Block A in line 1 or line 2 (cursor flashes)

Enter value with keys Block H.

With key # store value

With key **STOP** end program.

9.2 Service No. 401: Change standby (standby temperature).

Standby temperature can be selected in the range from 200°C to 600°C.

9.3 Service No. 402: Lift speed

The following can be selected for lift speed:

Block A line 1 lowering: approx. 6 – 16 sec.

Block A line 2 raising: approx. 6 – 16 sec.

The value for raising or lowering can be selected with the key in Block A.

Store value with key #,

end program with Stop key.

9.4 Service Nr. 403: Signal time

Setting range 0 – 20 sec. or continuously

Store value with key #,

end program with Stop key.

9.5 Service No. 404: Function Stop key

Selectable 1 = press Stop key 1 x - abortion of firing program

2 = press Stop key 2 x - abortion of firing program

Store value with key #,

end program with Stop key.

9.6 Service No. 405: Total operating hours

Display of total operating hours of the furnace (max. 5 digits)

End program with Stop key.

9.7 Service No. 406: Operating hours of muffle

Display of operating hours of muffle (max. 5 digits)

End program with Stop key.

9.8 Service No. 407: Call up furnace No.

Display of the furnace No. (max. 6 digits)

End program with Stop key.

9.9 Service No. 408: Call up software No.

Core = Software No. of keyboard

CTRL = Software No. main board

End program with Stop key.

9.10 Service No. 409: Service-Hotline

Technical information Tel. ** 49 (0) 7761 562222

End program with Stop key.

9.11 Service No. 410: Temperature adjustment with silver sample

With this program and the VITA silver sample set (VITA – Order No. B 230) the temperature in the firing chamber can be checked and readjusted in the range of plus/minus 20°C. Upon readjusting it must be ensured that the instructions to perform (instructions in the silver sample set) the test with the silver sample are strictly adhered to. Noncompliance leads to incorrect measurements and thus to incorrect adjustment.

The program includes the following values:

Pre-drying temperature	600°C
Predrying time	1:00 min
Temperature rising time	6:00 min
End temperature	955°C
Hold-time for end temperature	3:00 min

Values are changed analogously to the Set-Mode.

press Start key, program starts (**place silver sample on lift tray**)

- ** at the end of the program a signal can be heard,*

Press Stop key: Acoustic signal cancelled

If silver sample is O.K.:

Press Stop key, temperature adjustment – program completed

or

if silver sample is not O.K.

enter temperature value with lift keys up/down (plus 20°C – minus 20°C, display in Block A))

store value with key #,

press Start key and repeat program sequence.

At the end of the program a signal can be heard, see also item ** at end of program signal can be heard,*

With the temperature value that is entered temperature control and thus the temperature in the firing chamber is adjusted.

9.11.1 VITA silver sample set, Order No. B 230

VITA silver sample set for temperature control contains:

- 3 silver rods with a length of 70 mm and a diameter of 1.5 mm
- 6 ceramic trays
- Description

9.12 Service No. 411: Automatic temperature adjustment

Automatic temperature adjustment is activated after switching on the furnace at intervals of 100 operating hours of the muffle. During this process the display shows Temp. Adjust in Block A for approx. 15 sec.

Preconditions are:

- Automatic temperature adjustment ON
- 100 operating hours of the muffle have expired
- Temperature in the firing chamber lower than 50°C

Automatic temperature adjustment considers and corrects any deviation of the electronic components within the temperature measuring circuit. Accordingly, a constant temperature control of +/- 1 °C is ensured even when the furnace is operated over longer periods.

Select program No. 411, select ON or OFF with key in Block A,

store selection with key #,

end with Stop key.

9.13 Service No. 412: Code digit for PC connection

If the firing data of the furnace are recorded with FDS, Firing Data System (special accessory), an identification No. must be activated.

Permissible entry 1 - 16

Store entry with key #,

end program with Stop key.

9.14 Service No. 413: Activate / reactivate data transfer

If data transfer to the FDS (special accessory) is activated, the request to enter the user No. as well as the order No. is displayed in Block A after the start of a firing program. The key in Block A is used to select between user No. (max. 3 digits) and order No. (max. 6 digits). A maximum number of 6 users and 6 different order numbers can be selected with the key in Block B. The keys of keyboard H are used to enter the user No. and the order No. Entries are stored with key #. The firing program is started by pressing the Start key.

Select program No. 413, select ON or OFF with key in Block A,

store selection with key #,

end with Stop key.

9.15 Service No. 414: Brightness of display

Values of 25 / 50 / 75 / 100 % can be selected for the brightness of the display.

Select program No. 414, select value with key in Block A,

store entry with key #,

end with Stop key.

9.16 Service No. 415: Setting of time

The key in Block A is used to select between hours / minutes / seconds / day / month and year.

Selected area displayed in Block A line 1 (cursor flashes); can be changed

Acceptable values:

Hours:	0 - 24
Minutes / sec :	0 - 60
Month :	1 - 12
Day:	1 - 31
Year:	until 2099

Select program No. 415 anwählen, select values with keys in Block H,

store entry with key #,

end with Stop key.

9.17 Service No. 416: Format of time

The key in Block A is used to select between a 12-hour and 24-hour display of time.

Select program No. 416, select value with key in Block A,

store entry with key #,

end with Stop key.

9.18 Service No. 417: Format of date

The key in Block A is used to select between TT:MM or MM:TT.

Select program No. 417, select value with key in Block A,

store entry with key #,

end with Stop key.

9.19 Service No. 418: Enter furnace parameters

Notice: When this program is run, individual values that have been entered will be overwritten with the values recommended by the manufacturer of the furnace.

Pre-stored basic settings for:

Service No. 401	Standby temperature	500°C
Service No. 402	Lift speed,	↑ = 10 ↓ = 14
Service No. 403	Time for buzzer	approx. 5 sec
Service No. 404	Abortion of firing program	press Stop key once
Service No. 410	Temperature adjustment	0
Service No. 411	Automatic temperature adjustment	On
Service No. 412	Code digit for PC connection	1
Service No. 413	Store process data	Off
Service No. 414	Display brightness	75 %

Reading basic furnace setting in the memory:

Select program No. 418,

Display Block A line 1 shows 0

Keep Start key pressed for 5 sec, (countdown in the display), only then basic furnace settings are read in the memory.

Display shows: loaded

End with Stop key.

9.20 Service No. 419: Read firing table in the memory

Notice: When this program is run, individually entered program values will be overwritten with the VITA program values (see firing table).

Select program No. 419,

Display Block A line 1 shows 0

Keep Start key pressed for 5 sec, (countdown in the display), only then the program values are read in the memory.

Display shows: loaded

End with Stop key.

9.21 Service No. 420 Delete process data

Display shows e.g. 16 h = was performed last at operating hours 00016.
50 = 50 data records are stored in the memory

Keep Start key pressed for 5 seconds , (countdown in the display), only then the records contained in the memory will be deleted.

End with Stop key.

Caution: The data records in the memory will be automatically deleted during the transfer with the FDS program to a PC.

9.22 Service No. 421 Firing program – write / read parameters

The data of the firing programs have been stored in the memory of the keyboard. In order not to lose firing programs that have been entered individually when exchanging the keyboard, it is possible to write the values to the memory of the board using the Service program "write". This process should be carried out after any changes of firing programs to avoid loss of data. If required, the firing programs can be read in the memory of the keyboard again using the service program "read".

Display shows: write = write values to memory
 read = read in memory of keyboard

Keep key (Block A) pressed for 5 sec , (countdown in the display), only then the data are transferred.

End with Stop key.

9.23 Service No. 422 Service – write / read parameters

The data Service Parameters (standard values see operating instructions Service Program (No. 418) are stored in the memory of the keyboard. In order not to lose firing programs that have been entered individually when exchanging the keyboard, it is possible to write the values to the memory of the board using the Service program "write". This process should be carried out after any change of service parameters to avoid loss of data. If required, the service parameters can be read in the memory of the keyboard again using the service program "read".

Display shows: write = write parameters in the memory
 read = read in memory of keyboard

keep key (Block A) pressed for 5 sec , (countdown in the display), only then the data will be transferred.

End with Stop key.

10 Error messages

In case of a malfunction Error xx is shown on the display Block B. The message can be reset by pressing the Stop key or by switching the unit on and off. If the malfunction is not eliminated, the message is repeated, the unit, however, can only be operated after the elimination of the malfunction. When one of the error messages listed below is displayed, contact the manufacturer or an authorized service company, see also Service No. 409, Service-Hotline.

In most cases it is necessary to open the furnace in order to detect or to verify an error that has occurred. For this purpose the aspects described under **Safety advice** must be considered.

- Error 0 Vacuum error, 30 % of vacuum not achieved within 15 seconds.
- Error 1 Firing temperature exceeded by more than 20°C or transposition of thermocouple connections.
- Error 2 Firing temperature exceeded by more than 30°C during rising
- Error 3 Break of temperature sensor
- Error 4 Malfunction of limit switch for lower lift position
- Error 5 not assigned
- Error 6 Error resp. failure of lift motor
- Error 7 Error resp. failure of speed measurement
- Error 8 Error voltage supply resp. supply unit (see protection against power failure)
or
Error 9
- Error 10 Fuse or Muffle defective
- Error 11 Memory, memory full, transfer data to PC or delete with Service No. 420
- Error 12 Vacuum Offset, failure within vacuum measurement

Further error messages:

Error messages Error 13 to 29 generally refer to malfunctions of the electronic system as well as communication errors between the keyboard and the main board. When these errors occur, the manufacturer of the furnace or an authorized service company should be contacted.

11 Data transfer

The FDS (**Firing-Data-System**) allows the transfer and administration of firing data to and on a PC to assure the quality of dental ceramic work. The program (software on CD) incl. accessories is not included in the delivery of the unit and can be ordered under the Order No. D 34230.

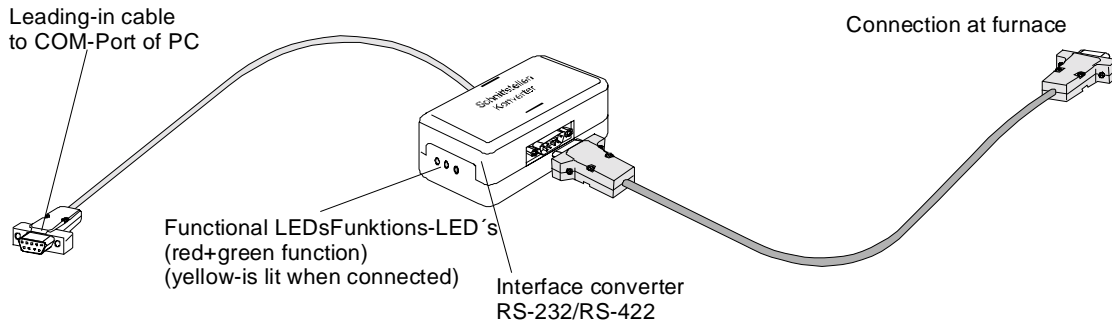
11.1 Activate data storage

To store firing data, "Ein (on)" in the Service Program No. 13 must be selected. This way it is ensured that firing data will be stored in the memory and the data can be transferred to a PC later on using the FDS (**Firing-Data-System**) program. The memory in the furnace stores approx. 300 firing programs and will be automatically deleted after a transfer. The message "memory full" (Error 11- Memory) is displayed early enough to save a running program. If no data are transferred to a PC, the memory can be deleted using the Service Program No. 420.

11.2 Connection to PC for data transfer

The connecting cable (figure 1) required for the transfer of data is included in the accessories of the PC program.

Figure 1



12 Firing Cycle Charts

VITA OMEGA	Progr. no.	Pre-Drying °C	→ min.	↗ min.	→ °C/min.	Temp. approx. °C	→ min.	VAC min.
Oxidation firing	1	Follow manufacturer's instructions !						
1 st opaque firing (powder)	2	600	2.00	3.00	117	950	1.00	3.00
1 st opaque firing (paste)	52	500	6.00	6.00	75	950	1.00	6.00
2 nd opaque firing (powder)	3	600	2.00	3.00	110	930	1.00	3.00
2 nd opaque firing (paste)	53	500	6.00	6.00	72	930	1.00	6.00
Dentine firing	4	600	6.00	6.00	55	930	1.00	6.00
2 nd dentine firing	5	600	6.00	6.00	53	920	1.00	6.00
3 rd dentine firing	6	600	6.00	6.00	52	910	1.00	6.00
Glaze firing	7	600	---	3.00	110	930	1.00	---
Glaze firing with VITA Akzent® Fluid	8	600	4.00	3.00	110	930	1.00	---
Glaze firing with Glaze Akz 25	9	600	4.00	3.00	100	900	1.00	---
Margin porcelain firing "MARGIN"	10	600	6.00	6.00	57	940	1.00	6.00

VITA OMEGA 900	Progr. no.	Pre-Drying °C	→ min.	↗ min.	→ °C/min.	Temp. approx. °C	→ min.	VAC min.
Oxidation firing	41	Follow manufacturer's instructions !						
1 st opaque firing (powder)	42	600	2.00	4.00	75	900	2.00	4.00
1 st opaque firing (paste)	54	500	6.00	6.00	67	900	3.00	6.00
2 nd opaque firing (powder)	43	600	2.00	4.00	75	900	1.00	4.00
2 nd opaque firing (paste)	55	500	6.00	6.00	67	900	2.00	6.00
Dentine firing	44	600	6.00	6.00	50	900	1.00	6.00
2 nd dentine firing	45	600	6.00	6.00	48	890	1.00	6.00
3 rd dentine firing	46	600	6.00	6.00	48	890	1.00	6.00
Correction porcelain firing with COR	*)	600	4.00	6.00	33	800	1.00	---
Glaze firing	47	600	---	4.00	75	900	2.00	---
Glaze firing with VITA Akzent® Fluid	48	600	4.00	4.00	75	900	2.00	---
Glaze firing with Glaze Akz 25	49	600	4.00	4.00	75	900	1.00	---
Margin porcelain firing "MARGIN"	50	600	6.00	6.00	50	900	2.00	6.00

*) Enter program number yourself

VITADUR ALPHA	Progr. no.	Pre-Drying °C	→ min.	↗ min.	↘ min.	Temp. approx. °C	→ min.	VAC min.
Hard core porcelain	31	600	---	6.00	87	1.120	2.00	6.00
Dentine firing	32	600	6.00	6.00	60	960	1.00	6.00
1 st +2 nd correction firing	33	600	6.00	6.00	58	950	1.00	6.00
Glaze firing	34	600	---	4.00	85	940	1.00	---
Glaze firing with VITA Akzent® Fluid	35	600	4.00	4.00	85	940	1.00	---
Glaze firing with Glaze Akz 25	36	600	4.00	4.00	80	920	1.00	---

VITA VMK 95	Progr. no.	Pre-Drying °C	→ min.	↗ min.	↗ °C/min.	Temp. approx. °C	→ min.	VAC min.
Oxidation firing	11	Follow manufacturer's instructions !						
1 st opaque firing (powder)	12	600	2.00	4.00	88	950	1.00	4.00
1 st opaque firing (paste)	52	500	6.00	6.00	75	950	1.00	6.00
2 nd opaque firing (powder)	13	600	2.00	4.00	83	930	1.00	4.00
2 nd opaque firing (paste)	53	500	6.00	6.00	72	930	1.00	6.00
Dentine firing	14	600	6.00	6.00	55	930	1.00	6.00
2 nd dentine firing	15	600	6.00	6.00	55	930	1.00	6.00
3 rd dentine firing	16	600	6.00	6.00	53	920	1.00	6.00
Correction porcelain firing CORRECTIVE	— *)	600	4.00	6.00	50	900	1.00	---
Glaze firing	17	600	---	4.00	83	930	1.00	---
Glaze firing with VITA Akzent® Fluid	18	600	4.00	4.00	83	930	1.00	---
Glaze firing with Glaze Akz 25	19	600	4.00	4.00	75	900	1.00	---
Margin porcelain firing "MARGIN"	20	600	6.00	6.00	755	930	1.00	6.00

*) = Enter program number yourself

Very good results have been obtained for many years with alloys and VITA Metal Ceramics (OMEGA, OMEGA 900, VMK 95) wehn the alloy had thermal expansion coefficient of 14.0 and 14.4 x 10⁻⁶ x K⁻¹ (measured from 25°C – 600°C). However, if the alloy has a higher thermal expansion coefficient, the cooling period from 900°C down to 700°C should not take less than 3 minutes.

Additional programs	Progr. no.	Pre-Drying °C	→ min.	↗ min.	↗ °C/min.	Temp. approx. °C	→ min.	VAC min.
Metall-Corrector	91	600	2.00	6.00	73	1040	1.00	---
Spectra-Gold	92	550	---	3.00	90	820	1.00	---
Furnace soldering 1	93	600	5.00	5.00	40	e.g. 800	3.00	---
Furnace soldering 2	94	600	1.00	3.00	67	e.g. 800	4.00	---

Soldering in the VITA VACUMAT

Method 1

Preheat the restoration, complete with flux and beads of solder, in a preheating furnace for 15 – 20 min. at 400°C.

Program no. 93

Set final temperature by adding 50°C to melting point of solder.

Pre-drying time: 5.00 min
Heating-up time: 5.00 min
Hold time: 3.00 min

Method 2

Preheat the restoration, with flux but yet without solder, in a preheating furnace for 15 – 20 min. at 400°C.

Program no. 94

Set final temperature by adding 50°C to melting point of solder.

Pre-drying time: 1.00 min
Heating-up time: 3.00 min
Hold time: 4.00 min

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: 06/01.



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