HORINON
HORINON PRESS

INSTRUCTION MANUAL

Horizon porcelain firing furnace
Horizon porcelain press furnace

Dental Servis
Serdar Ayısıt
0555 274 05 51

Warning

ATTENTION!

You have available one of the most precise dental ceramic furnaces on the market equipped with a ATC heating muffle from the original manufacturer of this technology with an experience of more than 25 years.

IN ORDER TO PRESERVE THIS PRECISION AT ALL TIMES, PLEASE BE SURE TO ATTENTIVELY READ THE FOLLOWING INSTRUCTIONS PRIOR TO USING THE FURNACE!

- Prior to carrying out maintenance work on the furnace or in case of mechanical failure, be sure to first completely shut down the device. To do so, switch OFF the main switch (POWER) on the back of the furnace and pull the power-supply plug out of the socket.
- Only qualified persons and experts recommended by the furnace supplier should open the furnace.
- All pumps that are connected to the furnace and those which may have been supplied by the manufacturer or by other suppliers must be provided with the CE symbol. In case of doubt, consult your furnace supplier.
- Be sure to only use ceramics and alloys that are provided for being used in dental furnaces.
- Certain parts of the furnace may run very hot during operation. Be sure to use the supplied tweezers.
- Do not attempt to open the furnace without authorization since this will void the guarantee. For any necessary repair and maintenance work, consult your Shenpaz device servicing center.

- In case of a necessary replacement of fuses, proceed as follows:

  1) Pull the power-supply plug.

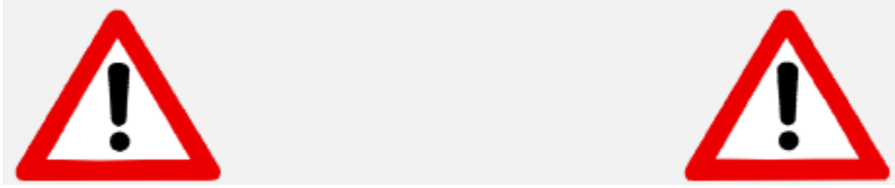
  2) Replace the fuse.

  3) Be sure the correct safety fuse parameter is indicated on the spare fuse.

- In case of an external power failure when the furnace is in operation, proceed as follows:

  1) Pull the power-supply plug.

  2) Lower the support. To do so, insert the supplied crank into the hexagonal screw on the back of the furnace.



ATTENTION!

When operating the furnace a Ceramic table or pressure table must always be on the lift tray!

ATTENTION!

Take out the furnace with both hands. To do so, hold the bottom of the furnace with one hand and the top side with the other hand.

ATTENTION!

Do not pull out the furnace by its support in order to avoid damages.

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Installation

1. Unpacking:

- Check the contents of the shipping carton, compare with the enclosed list.
- Take out the accessories and check the contents:
-
    - Electrical Main cable
    - Firing table
    - Tweezers
    - Fuses
    - Emergency wrench
    - Vacuum hose
    - User manual

- Remove carefully the polyethylene foam.
- Lift out the furnace carefully, and positioning it on its base. DO NOT lift the furnace by the lift shaft.
- Store the carton and the polyethylene foam for future use.

<u>Additional Components of Horizon Press II:</u>

- Press Table
- Cylinder press system, including 2 dies Plungers
- E.base cylinder kit for pressing e.max
- Compressor quick connector

POINTS TO NOTE:

- When positioning the furnace on the working bench, please place at safe distances from the surrounding walls (approx. 20cm).

- Do not place the furnace near the open window or any source of direct airflow (like ventilator). This will eliminate the possibility of wrong temperature reading when the firing table is in its lower position.

- Placing the furnace according to the above mentioned instruction will guarantee proper temperature stabilizing, heating and cooling.

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2. Power Supply:

Connect the furnace to a grounded power socket. Be sure the parameters are in conformity with the electrical specifications of the Horizon /Horizon Press model.

- Check and ensure that the MAIN POWER switch at the rear of the furnace is turned off.
- Connect the electrical power cord into the furnace power inlet. Plug the electrical power cord into the wall power outlet.
- Switch the MAIN POWER switch ON (located on the rear panel). You will hear a single beep. The furnace logo will appear indicating that the furnace is in Stand-by mode.
- Press the ON/OFF key on the front panel. The furnace is now in Idle mode and the temperature will increase to 300°C.
- Press the [STOP/LIFT] key - the platform will descend automatically.

POINTS TO NOTE:

Your furnace is equipped with the latest software recovery system. In case of electrical shut down, your cycle will fully be recovered within a temperature decrease not exceeding 150ºC degrees. For a temperature decrease more than this value, the cycle will be aborted to avoid unnecessary firing.

3. Vacuum Pump:

For best performance, we recommend a dry double step air pump, -720 mmhg/ 960 MMbar/9.6 Hp

- Using the rubber vacuum tube and the band supplied:
- Connect the nozzle of the vacuum pump to the rubber vacuum tube.
- Connect the nozzle of the furnace to the other end of the rubber tube.
- Check the band is well secured.
- Plug the electrical power cord of the vacuum pump, into the electrical power outlet of the vacuum pump, located on the rear panel of the furnace.
- Check the position of the pump so that the vacuum tube will have an undisturbed air flow.

4. Compressed Air:

Connect the furnace to a compressed-air system by means of a compressed-air tube. The maximum in-feed pressure should not exceed 8-10 bar. In order to avoid damages on the furnace, the compressed air must be absolutely dry.

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Switches and Keys

1. Front Panel

The furnace controls are located on the front panel and are divided into 4 sections:

- Data keys
- Control keys
- Programming keys
- LCD color screen

2. Rear Panel

The main switch and the furnace connections are located on the rear panel.

- Power switch
- Emergency wrench inlet
- Muffle fuse
- RS 232 /USB Inlet for Software uploading
- Calibration inlet
- Vacuum pump inlet
- Vacuum pump fuse
- Power cord outlet
- Power muffle fuse

3. Key Descriptions

Master Switch:

The master switch is on the back of the furnace. Put the switch on "ON". An acoustic signal will be heard.

Stand By/ On/Off

Press Stand By to switch on the furnace. The program overview display window appears.

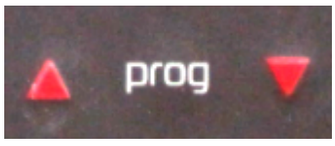
IMPORTANT NOTE:

The furnace must never be heated without its programs stand or pressure stand, respectively!

Alphanumeric Keys

Press these keys to enter parameters, the program numbers to be selected, the program names and to directly select single menu sub-entries.

Arrow Keys



● Control of lift	*(press long, or release only after peep sound, respectively)*
● In the program overview or edit program display window:	Selection of parameters to be entered or to be modified *(press short)*
● On the display, “Program List”:	Selection of desired program
● In Menus:	Selection of sub-entries

MENU Key

Press this key to go to the main menu.

START Key

Press this key to start the selected program.

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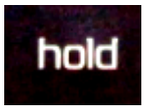
STOP Key

Press this key twice to abort the currently running program (safety query). The programs chamber opens up.

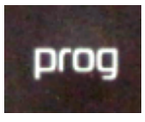
A quick double pressure will close the door.

HoldKey



- Press this key to intervene in a currently running program. This function („Hold“ key) is used to modify a currently running program. The parameters imminent in the current program will be changed once. The saved program remains unchanged. Proceed as follows:
  1. Press the key (the program is interrupted)
  2. Press the arrow and numeric keys to modify the program parameters.
  3. Press ENTER to confirm.
  4. Press this key again to resume the program.
- Press this key in the operation mode to call up the Name Editor.
- In idle state, before stating the program you may edit the name of the program. Follow the instruction on the screen

Program Key



After pressing this key, a program number can directly be selected; to do so, press the numeric key/ENTER.

Switching to Graphic Representation and back

Press this key to switch the display into a graphic representation in cycle. Press this key again to display the parameters screen.In most of the screen

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F2 – Special Function

- Press this key in standby mode to activate the diagnosis mode.

F1 – Help Key

Press this key to call up a help text with reference to the current program within cycle.

The parameters limit will also appear in "yellow text" while editing a cycle.

Key for Subsequent Programs

Press this special key to:

- activate the automatic pressing mode, while pressed the cycle stop automaticaly while the cylinder is full.

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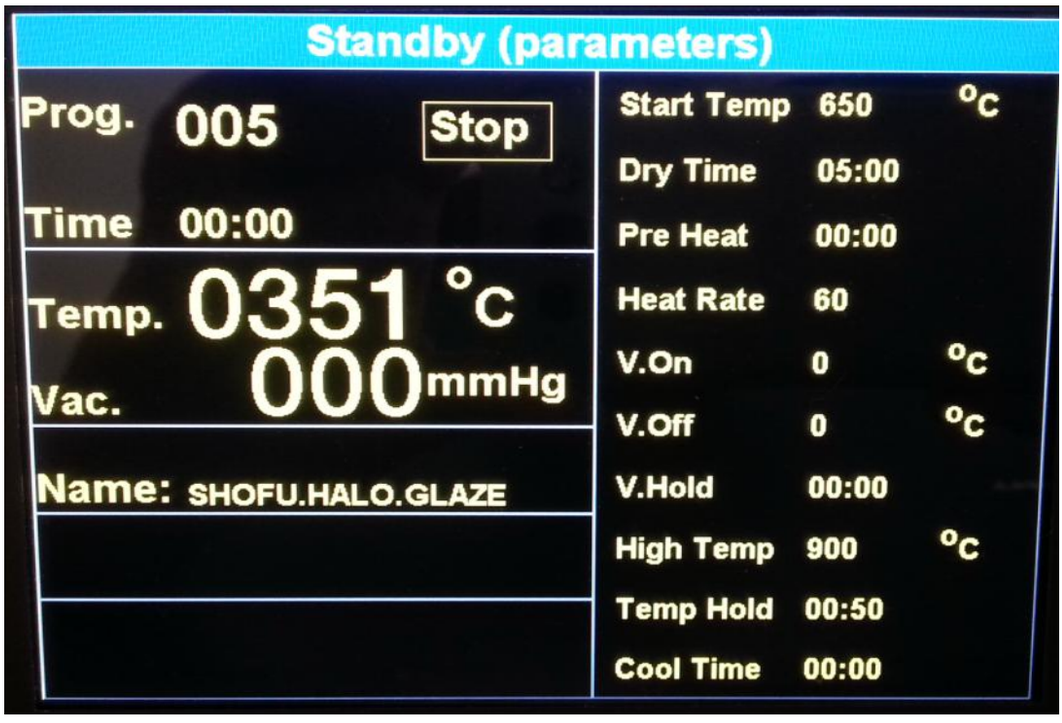
Functions and Displays

1. Program Overview Display Window

This display is divided up in different sections:

The status section is on the left side of the display and shows the respectively current status.	All parameters of the program are displayed on the right display page.



The vacuum parameters are displayed between two horizontal lines and in the center of the display with the Temperature.

2. Graphic Representation

This picture shows a graphic representation of the currently running program and its parameters. When selecting a pressing program (Horizon Press), the pressure level will be indicated here as well.

3. Program modes

- On Horizon, the program digits 1 – 199 are available for the „programs” mode.
- Unlike the above, the program digits 200 – 245 on Horizon Press are configured in advance for the „pressing" mode.

4. Choice of Programs and Starting the Program

Press the PROG key and select the program numbers by means of the numeric keys. Press ENTER to confirm your selection. Press the START key to start the program now. The current work progress "Cycle" when the program is running and the graphic display will appear after the preset time of the. Once the program is completed, the programs chamber opens up and gives off an acoustic sound. The current programs program will end a few seconds later.

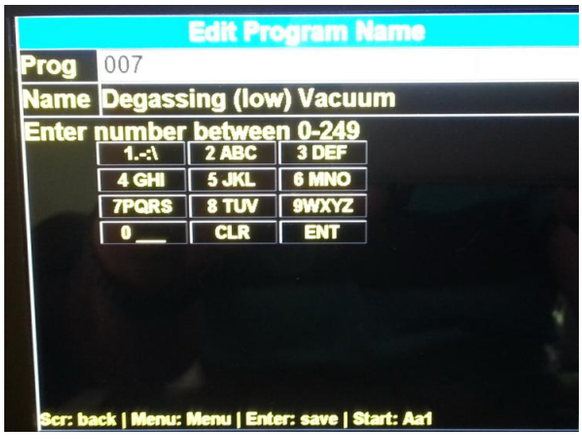
You may also chose a program from the list of the programs press "PROG" then " ENT" on the chosen program press enter the program will be upload automatically and ready to use, from this screen you may activate the program by pressing the start button or modified the parameter before the Start of the program

5. Pre-heating Program

Important note:

During transportation, storage and non-use, the isolation may absorb humidity. In order to avoid damages on the vacuum and heating system and in order to always obtain reproducible programs results, the user should always run the pre-heating program (program digit 01) at first and in the beginning. This is always recommended if the furnace has been completely cooled down after operation.

6. Editing the Program Name



In order to edit the program name, press Hold in the program overview display window. Press the Program number+arrow down. Then enter the program name by means of the alphanumeric keys. The cursor will be shifted by way of pressing the arrow keys (up/down). Press the START key to shift between the upper and lower case and number.

7. Editing the Program Contents

1. Press the arrow keys to select the parameters.
2. Press the numeric keys to enter the parameters.
3. To edit further parameters, follow the steps 1 and 2 above.
4. Press ENTER to confirm.

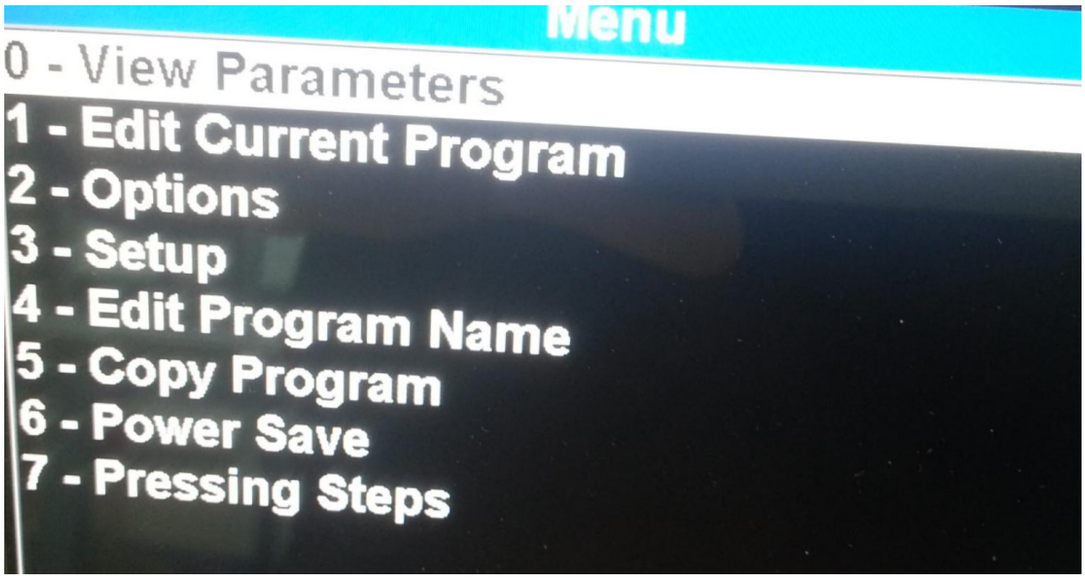
The vacuum can be preset into the option of the furnace detail in paragraph "options"

Vacuum → values up to -730 mmHg = pump is running when needed → -760 mmHg = permanent operation of pump.

8. Menu

Press the MENU key to go to the main menu with its three sub- menu entries:

Options/ Diagnostics/ setup



Press the equivalent numeric keys and follow with "ENT" directly make your selection or use the arrows to toggle between options.

<u>0/ View parameters</u>

This functions show the full cycle parameters in one screen (informational only)

This list shows an overview over all programs/pressing programs.

Press the arrow keys to scroll through the list. You may also directly select a program through pressing the numeric keys.

The program highlighted through this can optionally be started directly by way of pressing the START key or be called up by way of pressing the ENTER key for viewing/editing.

The program digits 200-249 are provided for entering the pressing programs (only Horizon Press).

<u>1/ Edit program parameters</u>

This function allows you to edit also the program parameter, one by one in addition to the direct access to the parameters from the main screen with the arrow down and up.

<u>2/ Options/ with his sub menu (see pict attached)</u>

Allow you to configure your furnace default parameters,: C°/F°; mmHg/Mbar/HPa; calibration adjustment; pump cooling; language; time to graph; 11 parameters or 13 parameters; press vacuum level preset.

* if the value of the vacuum are preset they will not appear on the parameters screen.

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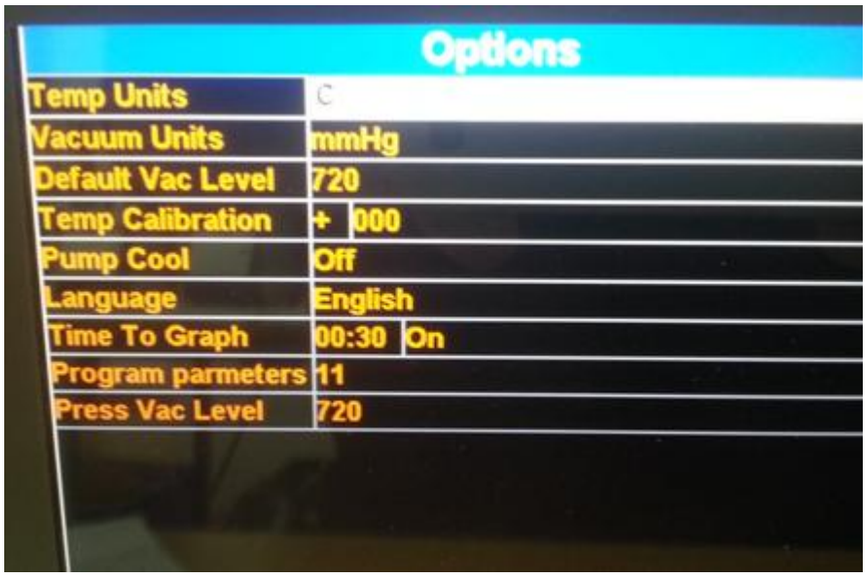


3/ Setup menu

In the Setup option, you can modify the : Final temp; heat rate; and preset closing and opening of lift position for every program. You just need to follow the directions on the screen. Navigate with the arrows, enter the new value within the limit and save.

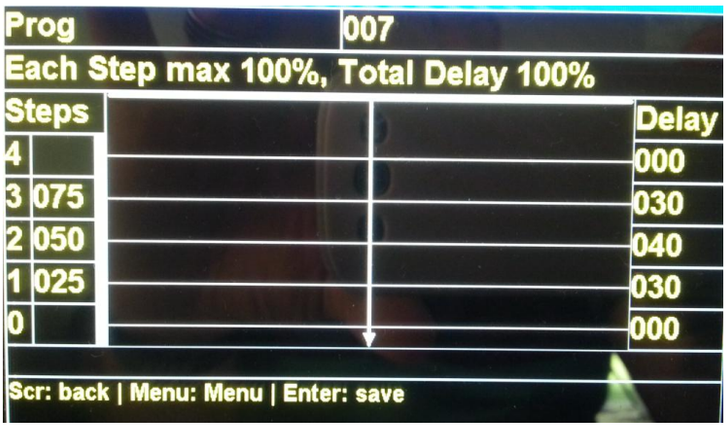
Sub menu of setup screen:

0-final ramp:

In this screen a second Ramp of temperature can be set. This parameter is working with the 13 parameters

1-Lift Positions – Closing (program-specific)

Lift up time

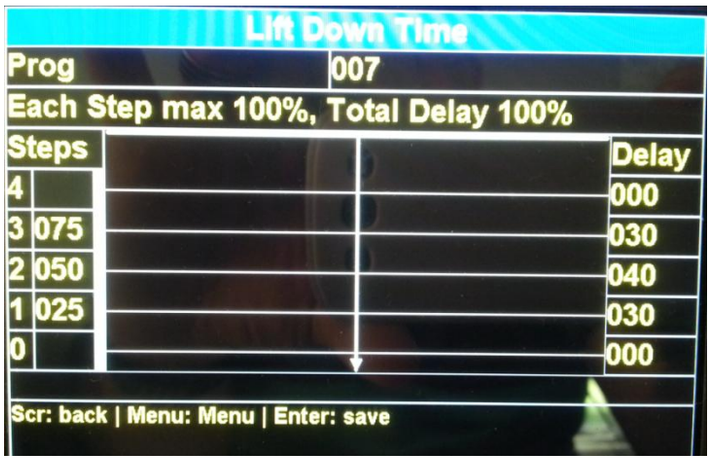


Selection of lift parameters when closing.

Press the arrow keys, numeric keys and ENTER to edit. The respective lift path is edited in the left column, whereas the halt periods are edited in % in the right column (relative to the complete "lift closed" time of the respective program).

1. *Lift Positions – Closing* (program-specific)

2- Lift Position -opening position setup



Selection of lift parameters when opening.

Press the arrow keys, numeric keys and ENTER to edit. The respective lift path is edited in the left column, whereas the halt periods are edited in % in the right column (relative to the complete "lift open" time of the respective program).

3-Tempering:

In this screen define the opening distance for tempering you work

Follow the instruction on the screen in % from close door position

POINTS TO NOTE:

Tempering function: opening of the table for every cycle the setup of the distance is done in the setup tempering menu.

<u>4/ edit program name:</u>

Allow the user to edit the name of the program

5/ copy program:

Press 5 +"ENT" to copy a program to another position – follow the instruction on the screen.

6/Power save:

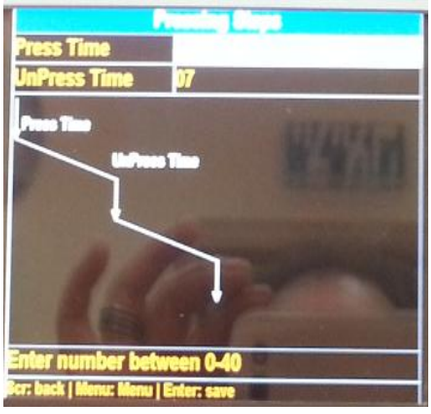
This function define after how many minutes and at which temperature will remain in stand by mode.

Press version:

In the press version an additional menu appears:
Pressing steps:

7-Pressing Steps

In the parameter screen, when the Press delay is high light and a program is chosen, you can enter this setup automatically by pressing the menu Key.



Unlike numerous ceramic pressing furnaces, Gemini LT Press uses a pressure method that heightens the homogeneity of compressed ceramics and which minimizes the risk of muffle bursting.

The amount of pressure applied is reduced and subsequently increased in regular intervals during the pressing procedure.

Press the arrow keys and numeric keys to individually define these interval steps, if needed.

The Press version of the Gemini LT allow you to program press programs from number 200 to 249:

The press parameters:

Start Temp: the start temperature for pressing

Ramp: The heating spead in degrees / minutes

High temp: The high temperature to reach

Temp delay: The heat soaking temperature before press

Press delay: The pressing time preset-

Note – if the PF function appear in the name row this mean that the press function is activate and when the cylinder is full the pressure will stop automatically. Else the full pressing time will be performed.

To send a press cycle, Program the program by pressing "PROG"+ "2XX" ENT, change if needed your parameters and press "Cycle"

Following arriving to the start temp (muffle close), bring the cylinder with ingot and plunger and press a second time on "cycle " to open the door

A Third pressing on "CYCLE" when cylinder is ready will entrance the furnace to the press phase.

If the PF is activate the cycle will finished automatically else at the end of the pressing time the door will open and finished the cycle

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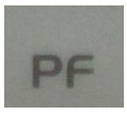
Special Functions

1. F1 - Help Mode

Press the F1 key to call up the relevant HELP sub-menu with reference to the current display.

2. Automatic Pressure Mode (Horizon Press)



Press this key to activate / deactivate the automatic pressure mode before launching cycle once the pressing program has been called up. In this mode, the pressing system monitors the filling density of the pressing muffle during different pressing intervals. If the pressing muffle is completely filled, the pressing program will be terminated earlier, which will distinctly shorten the entire procedure. The letter "PF" will appear in the program name when activate.

POINTS TO NOTE:

Note that the default is PF activated.

3. Night Mode

In order to considerably extend the life of the heating, keep a constant temperature of 100°C. There are two methods to start the night mode:

1. Start the program „0“ to activate the „normal Night Mode“.
2. The „automatic Night Mode“ will be started only when the program is running, if the ON/OFF key is pressed when said program is running. Press the ON/OFF key again to deactivate the „automatic Night Mode“.

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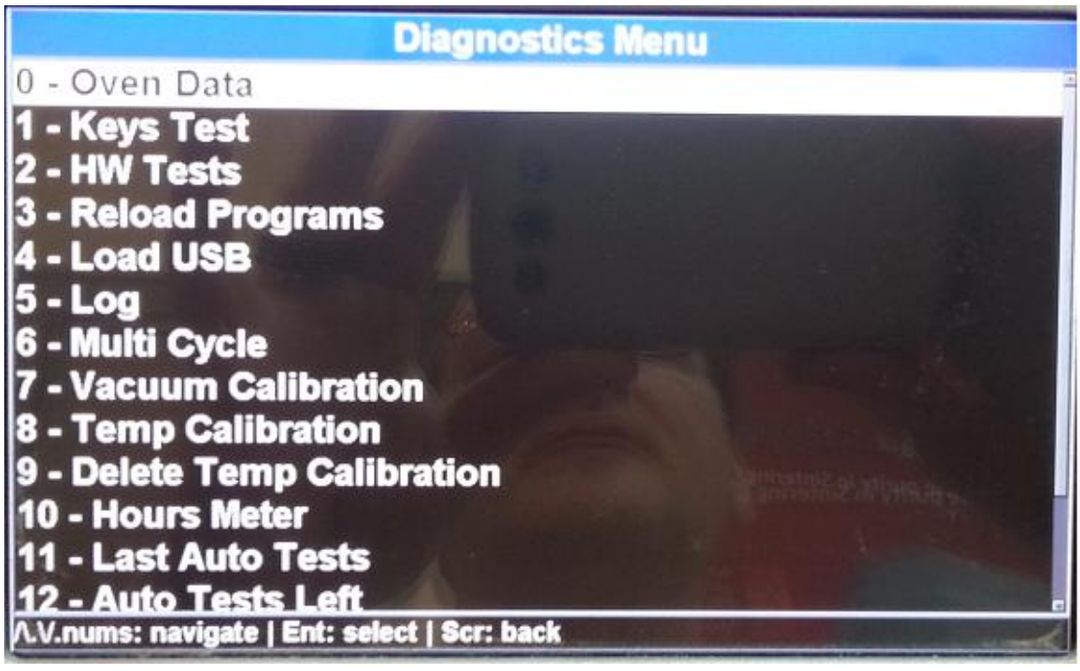
Diagnostics Menu

The Diagnostic Menu is accessible in two places: It is listed under MENU or it can be accessed by pressing the F2 key when the standby mode of the furnace has been activated (the furnace name is shown in the display).

Press the respective numeric key + "ENT" to call up the desired function.



0/ Device Data

This is to show the basic data of the furnace. These data show important notes in case of a possible failure or error. Moreover, the software version as well as the calibration values will appear.

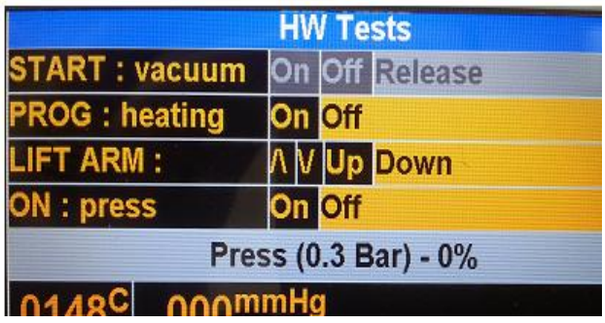
1- Keyboard Test

This diagnosis function is used to check the keyboard and to determine the proper functioning of all keys.

The keyboard is shown on the display.

To carry out the test, press each key once and check whether the respective symbol appears on the display.

2/ Hardware Test



3/ Restoring all Programs

The programs and setting data including the lift parameters set by the manufacturer will be restored again, if they have been changed during operation. To do so, press the numeric key 1+ENT in the diagnosis menu. The preset default programs will be restored after a few minutes.

Warning! ***This operation will erase the program into the furnace***

3/ Multi cycle: only for technician purpose

4/ Load USB: only for technician purpose

5/ Log: only for technician purpose.

6/ multi cycle: : only for technician purpose.

7/ Vacuum Calibration

This is a servicing function which should exclusively be carried out by a device expert only.

Warning! ***This operation will erase the program into the furnace***

8/ Temperature Calibration

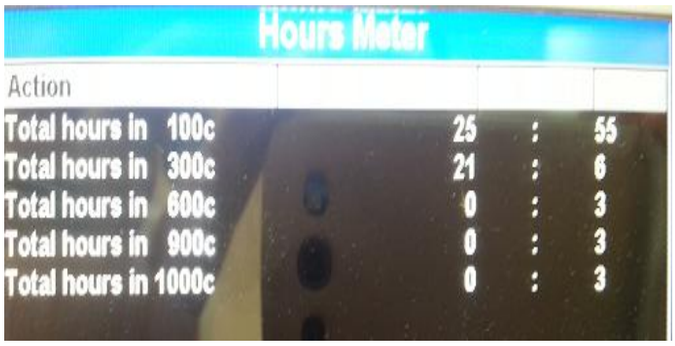
This is a servicing function which should exclusively be carried out by a device expert only.

Warning! ***This operation will erase the program into the furnace***

9/ Delete Temp calibration: only for technician purpose

Warning! ***This operation will erase the program into the furnace***

10/ Hours meters



In this screen you can follow the utilization of your muffle. It is recommended to replace your muffle every 3000 Hour working cycle above 600 degrees.

11/ Last auto test: only for technician purpose

12/ Auto test: only for technician purpose

Technical Data

General:

Dimensions	
Muffle chamber	Dia.95 mm x 60 mm
Combustion Table	Dia. 90 mm
Net Weight	26 Kg
Heating Speed	230 V from 10 to 100 ° C 115V from 10 to 100 °C
Pump capacity	230 5 A
Mains voltage	230 V 1750 W 50/60 Hz 115V 1400 W 50/60 Hz
Temperature Pickup	
Vacuum Level	Up to 980 mbar Up to 740 mmHg
Time	In Min and Sec mm:ss
Temperature	Range 100 ° to 1180 ° Centigrade

Transportation and storing conditions

Temperature	0°C to 40°C
Relative air humidity	Less than 100 % rel. humidity

Operating condition

Temperature	10°C to 40°C
Air Humidity	80 rel. Humidity up to 31 °C

Putting out of Commission and Disposal

For an environmental-friendly disposal, please bring this device to a recycling collection point for metal and electronic products or return it to the manufacturer.

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Notes

Distribution and Technical Service

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Technical and visual amendments reserved. Shenpaz 04/2013

Drawing up of Instruction Manual:
09/2013

This device has been developed for its use in the dental scope and should be used as described in the instruction manual. The manufacturer will not accept any liability for damages resulting from any other use than described in this manual or resulting from misuse or abuse. Moreover, it is the user's responsibility to check the device on his own responsibility on its suitability and its possible use for the intended purposes prior to its use, above all if said purposes are not described in the instruction manual. This will also apply if the device will be used in combination with products from competitors.