New as of:

06.2009



inFire HTC

Operating Instructions



Contents

| 1 | Dear | customer, | 4 |
|---|---------------------------|--|--------------------|
| 2 | Gene 2.1 2.2 | eral information Structure of the documents Warranty | 5 5 6 |
| 3 | Safet | y information | 7 |
| 4 | Tech | nical description | 9 |
| | 4.1 | Description of the furnace | 9 |
| | 4.2 | Certification | 9 |
| | 4.3 | Intended use | 9 |
| | 4.4 | Technical data | 10 |
| 5 | Setup | D | 11 |
| | 5.1 | Installation site | 11 |
| | 5.2 | Electrical connection | 11 |
| 6 | Opera | ation | 13 |
| | 6.1 | Controls and displays | 13 |
| | | 6.1.1 Key functions | 14 |
| | | 6.1.2 Description of the standby display | 14 |
| | 6.2 | Switching on the unit | 15 |
| | 6.3 | Practical use | 16 |
| | | 6.3.1 Filling the sintering tray | 16 |
| | | 6.3.2 Loading the sintering furnace | 16 |
| | | 6.3.3 Program selection | 16 |
| | | 6.3.4 Loading a program | 16 |
| | | 6.3.5 Starting the program | 17 |
| | | 6.3.6 Lifting the sintering tray out of the furnace | 17 |
| | 6.4 | Programs | 17 |
| | | 6.4.1 Fixed programs | 1/ |
| | | 6.4.2 Select program number/load program | 10 |
| | | 6.4.4 Starting a program with the Casting Time function | 10 19 |
| | | 6.4.5 Freely programmable programs | 10 10 |
| | | | 13 |
| 7 | Defa | ult settings | 22 |

| | .1 Display and acoustic signal 22 | 2 |
|----|--|---|
| | .2 Adjustment of the start time (casting time function) 23 | 3 |
| 8 | 24 Regular care | 4 |
| 9 | alfunctions 2 | 5 |
| | .1 Error messages from electronic components | 5 |
| | .2 Miscellaneous errors and their causes | 6 |
| 10 | laintenance 21 | 7 |
| | 0.1 Changing fuses F1/F2 27 | 7 |
| 11 | Disposal | B |
| | ndex | 9 |

Dear customer,

1

Thank you for purchasing your inFire HTC from Sirona.

It will support you with your work for many years, as it was developed and built with state-of-the-art technology.

Nevertheless, improper use and handling can cause damage and hazards. Please read and follow these operating instructions carefully and always keep them within easy reach.

To prevent personal injury or material damage it is important to observe all safety information.

To safeguard your warranty claims, please complete the attached **Installation Report / Warranty Passport** when the system is handed over and send it to the indicated fax number.

Your inFire HTC Team

2 General information

Be sure to observe all warnings!

Please observe the warning and safety information provided to prevent personal injury and material damage. Any such information is highlighted by a signal word, i.e. WARNING, CAUTION or NOTE.

Please read these operating instructions completely and follow them exactly. Always keep them within easy reach.

2.1 Structure of the documents

Structure of the documents

The symbols and character formats used in the present manual have the following meaning:

🚹 WARNING

Identifies warnings where a medium risk of injury to persons exists if they are not observed.

Identifies safety information where the following hazards exist if they are not observed: Slight risk of injury to persons, risk of property damage or damage to the product.

NOTICE

Assistance

Identifies additional information, hints and tips.

| ✓ | Prerequisite | Requests you to do something. |
|---|--------------|---|
| > Action | | |
| | or | |
| | > 1., 2., … | |
| ę, | Result | |
| See chapter on "General information". [閨 5] | | Identifies a reference to another text passage. |
| • List | | Identifies a list. |
| <i>"Text between quotation marks"</i> | | Identifies commands, menu items or quotations. |

2.2 Warranty

To safeguard your warranty claims, please complete the attached Installation Report / Warranty Passport when the system is handed over. Then fax it to the specified fax no.

3 Safety information

Perform connection by following the directions given in the present operating instructions.

As manufacturers of dental and laboratory equipment and in the interest of the operational safety of your system, we stress the importance of having maintenance and repairs performed exclusively by our own personnel or through our authorized representatives. Furthermore, safety-critical system components must always be replaced with original spare parts.

We suggest that you request a certificate, showing the nature and extent of the work performed, from those who carry out such work, and specify that the certificate show any changes in rated parameters or working ranges, as well as the date, the name of the firm and a signature.

Modifications to this system which may affect the safety of the operator or third parties are prohibited by law.

For reasons of product safety, this product may be operated only with original Sirona accessories or third-party accessories expressly approved by Sirona. The user assumes the risk of using non-approved accessories.

If any equipment not approved by Sirona is connected, it must comply with the applicable standards:

- EN 60 950 for information technology equipment, and
- EN 61 010-1 for laboratory equipment.

Liability exclusion for any other use

The inFire HTC high-temperature furnace is exclusively intended for sintering oxide ceramics in dental technology. We are not liable for damages due to any other use.

Risk due to improper operation

The inFire HTC high-temperature furnace may only be operated by employees who are familiar with the content of these operating instructions. Signs and labels on the laboratory furnace must be kept in legible condition at all times. They may not be removed.

Risk due to incorrect setup

The inFire HTC high-temperature furnace may only be set up in dry rooms and must never be in contact with any liquids. Furniture items and other equipment in the vicinity of the furnace must not contain any explosive, flammable or easily ignitable materials. It is prohibited to keep or store ignitable or flammable gases or liquids in the room where the furnace is set up.

7

Damage resulting from unauthorized alterations

The inFire HTC high-temperature furnace may only be altered with our express prior approval. We are not liable for unauthorized alterations of any kind.

Switch the unit off and disconnect the power plug prior to performing maintenance tasks.

🔨 DANGER

Separate circuit

The inFire HTC high-temperature furnace must always be connected to a separate circuit with at least a 15 A fuse. The fuses must be of the **slow blow** type.

DANGER

Risk of burns due to hot surfaces

The inFire HTC high-temperature furnace may develop hot surfaces in some areas after extended use. Use the necessary caution around the unit, especially when the furnace is operated for extended periods.

Never touch the hot surfaces.

🔨 DANGER

Risk of burns due to hot surfaces

Once the program has ended and the furnace has shut down, the cooling fan will run until the interior temperature of the furnace has been reduced to normal. The power plug may not be disconnected prior to this point.

Note on the prevention, recognition and elimination of unintended electromagnetic effects

This device is a piece of electrical equipment with a supply voltage below 1000 VAC and is intended for commercial use. It is to be installed in dental laboratories or other areas with a controlled electromagnetic environment. The applicable EMC requirements comply with EN 61326: 1997 + A1: 1998 + A2: 2001.

4 Technical description

4.1 Description of the furnace

The heating system consists of six high-quality $MoSi_2$ heating elements. Thanks to the excellent interior insulation, the energy consumption of the unit is low.

The furnace is equipped with a safety feature that prevents the uncontrolled opening of the furnace.

The HT sensor is equipped with a thermocouple burn-off device which prevents the furnace from accidental overheating in the case of a sensor defect.

Please refer to the rating plate at the rear of the device for information about the model.

4.2 Certification

CE mark

This product bears the CE mark in accordance with the provisions of the Council Directive 73/23/EEC ¹ of February 19, 1973 concerning electrical equipment designed for use within certain voltage limits.

We declare conformity for the inFire HTC ceramic sintering furnace on the basis of the following standards:

- Safety: IEC 61010-1:2001 2nd edition and IEC 61010-2-010:2003 2nd edition
- EMC: EN 61326:1997 + A1:1998 + A2:2001

4.3 Intended use

The inFire HTC high-temperature furnace is exclusively intended for sintering oxide ceramics at temperatures up to 1600 $^\circ\text{C}.$

4.4 Technical data

| Rated line voltage: | 200VAC - 240VAC |
|--|--|
| Rated power frequency: | 50/60Hz |
| Rated current consumption: | 12A |
| Type of protection against electric shock: | Protection Class I device |
| Degree of protection against ingress of water: | Ordinary device (without protection against ingress of water) |
| Setup location: | Indoors in dry area |
| Altitude | up to 2000m |
| Temperature range: | 5°C to 40°C |
| Relative humidity | 80% up to 31°C, above this decreasing linearly to 50% at 40°C, no condensation |
| Overvoltage category: | П |
| Pollution degree: | 2 |
| Operating mode: | Continuous operation |
| Dimensions of unit (W x H x D in mm): | 500 x 802 x 565 |
| Dimensions of packaged unit (W x H x D in mm): | 630 x 1300 x 730 |
| Furnace chamber: | Diameter 130 mm x 80 mm height |
| Maximum sintering temperature: | 1600°C |
| Approx. weight without packaging: | 80 kg |
| Approx. weight including packaging: | 96 kg |

5 Setup

5.1 Installation site

The unit is designed for desktop use and requires a level footprint of approx. 500 x 600 mm with a loading capacity of 80 kg.

The unit must not be installed at sites with a high level of humidity or dust!

Always set up the unit in a dry location, as specified in the safety information.

CAUTION Risk of overheating If the unit overheats, the electronics switch off.

- > The Never obstruct the ventilation slots!
- > Provide ventilation clearance on all sides.

5.2 Electrical connection



Building installation

Unit

The following requirements must be met for electrical installation of the inFire HTC ceramic sintering furnace:

- The furnace requires a separate electric circuit.
- The electrical building installation must be protected by a **slow-blow** fuse with a rating of at least 15A.
- If an additional circuit breaker is used, it must be designed for a tripping current of at least 30mA.
- The furnace requires the connection of a protective ground wire to the electric outlet for safe electrical operation.
- The distance between the electric outlet and the furnace must be selected so that the 2.5 m long power cord supplied with the furnace is sufficiently long (extension cords are not allowed!).
- The supply voltage must lie within the nominal voltage range of 200VAC to 240VAC. A separate building installation must be installed to meet this requirement in the USA and Japan. In the USA, the 240V outlet must be designed for connecting a NEMA 6-15 type plug, in Japan the 200V the outlet must be designed for connecting a NEMA L6 (L6-20J) type plug.

Do not adjust the line voltage!

The unit automatically adjusts to the line voltage.

A type RS232 serial interface (A) is located on the rear side of the unit. The use of this interface is restricted to the service engineer and is described in the service manual.



6 Operation

6.1 Controls and displays

The controller is equipped with state-of-the-art microprocessor technology, which allows for processing a great variety of heating curves with utmost precision. The operation of the unit is menu-driven via a membrane keyboard and an LCD display. The following control elements are shown on the controller:



| А | LCD display |
|---|----------------------|
| В | Stage keys |
| С | Numeric keys |
| D | Memory key |
| E | Load program key |
| F | Casting time key |
| G | Main switch (ON/OFF) |
| Н | START/STOP key |
| 1 | Lift key |
| J | Function key |
| к | Stage LEDs |

| Symbol | Designation | Function |
|---------------|------------------|---|
| START STOP | Start/Stop key | starts/stops the selected program |
| Û | Load program key | loads the program from memory |
| | Memory key | saves a program to memory |
| (\cdot) | Casting time key | For setting the casting time; the switch-on time for the unit is calculated automatically |
| F | Function key | for setting parameters |
| 1 9 | Numeric keys | for entering values |
| S1 S4 | Stage keys | for enabling the entry cursor |

6.1.1 Key functions

6.1.2 Description of the standby display

Design

| l /min | min | - S4 |
|-------------------|------------|------------|
| SIRONA inCoris | ISTNDBY11 | S 3 |
| ZI | IMO 12:13 | S2 |
| | 1110 10-01 | - S1 |

Left side

| Program No. | Description |
|-----------------------|----------------------------------|
| 1 to 5 | Name of milling program |
| (Fixed programs) | (Material name) |
| 11 to 30 | Lines "S1" to "S4" correspond to |
| (Freely programmable) | programmable steps 1 - 4. |

Right side

| Line | Description | |
|------|---|--|
| S4 | Status of furnace (e.g. <i>READY</i>) incl. number of furnace program entered (e.g. <i>11</i>). | |
| S3 | Current temperature of furnace chamber. | |
| S2 | Current Day of week and time. | |
| S1 | Day of week and estimated time for end of program | |

Description of the columns on the left side with the freely programmed furnace programs (11 to 30)

| Column | Designation | Description |
|--------|--------------------------------|--|
| /min | Heating and cooling down speed | The heating and cooling down speed of the corresponding level is set up/displayed in this column. The heating and cooling down speed can range from 1 °C/min to 30 °C/min. |
| l | Holding temperature | The the corresponding step is set/displayed in this column. |
| min | Holding time | The holding time of the corresponding step is set/displayed in this column. |

The laboratory furnace heats up and cools down in up to four temperature steps. It is possible to heat or cool down within the program run.

6.2 Switching on the unit

✓ The unit has been properly set up and connected to a power outlet.

- > Turn on the main switch.
- The main switch is illuminated and the LCD screen shows a status display for 3 seconds before the standby display is shown.

Status display

Switch-on

| | | _ |
|-------------|----------|------------|
| l/min l min | | S 4 |
| Model No: | D 3497 | 53 |
| REF: | 6119874 | 33 |
| Serial No: | 1 | S 2 |
| HW:86 2M: | D05D0122 | |
| | | S1 |

| | Line 1 (S4) | Model number |
|--|-------------|---|
| | Line 2 (S3) | Order number (REF:) |
| Line 3 (S2) Serial number of electronics | | Serial number of electronics (Serial No.:) |
| | Line 4 (S1) | Hardware version (HW:) and software version (SW:) |

6.3 Practical use

The furnace can be used immediately after entering the required program. It is not necessary to preheat the furnace.

CAUTION

Risk of breaking

The sintering trays to be used are fragile. They break with strong temperature fluctuations and under mechanical stress.

6.3.1 Filling the sintering tray

- 1. Place the sintering tray onto the crucible rack.
- 2. Fill the sintering tray with two layers of zirconium oxide or aluminum oxide beads.
- 3. Place the parts to be sintered in the sintering tray.
- 4. Cover the sintering tray with the supplied cover.

6.3.2 Loading the sintering furnace

✓ The furnace door is open.

6.3.3 Program selection 1. Press the Load Program key.

the right side.

2.

- 1. Use the crucible fork to lift the sintering tray off of the crucible rack.
- 2. Use the crucible fork to place the sintering tray on the shelf in the furnace and remove the crucible fork again.

Solution The LOAD PROGRAM screen is displayed. The program name is displayed on the left side and the corresponding program number on

Enter the desired program number via the numeric keys or press the "S4"



| I /min | min | | | Г | s |
|-------------------|-----|------------|-----------|---|---|
| SIRONA inCoris | | ILOAD I | 02 | | s |
| ZI | | 1 | YES NO | | s |
| | | | . 10 | | s |

| I /min | min | S4 |
|-------------------|-----------|------------|
| SIRONA inCoris | | S 3 |
| AL | IMO 12:13 | S2 |
| | IMU 18:32 | S1 |

6.3.4 Loading a program

> Press the "S2" key (= YES) to confirm the loading process.

key repeatedly until the desired program number appears.

- Solution Standby display is shown.
- To guit the menu immediately, press the "S1" key (=NO).





6.3.5 Starting the program

- > Start the program with the Start/Stop key.
- The furnace door closes automatically. The furnace door automatically opens at the end of the program.

6.3.6 Lifting the sintering tray out of the furnace

- ✓ The furnace door is open.
- 1. Use the crucible fork to lift the sintering tray off of the rack.
- 2. Place the sintering tray on the crucible rack with the crucible fork.

6.4 Programs

With the inFire HTC sintering furnace, sintering is controlled via callable programs [\blacksquare 18].

- inFire has fixed programs for sintering certain dental oxide ceramics.
- There are freely programmable programs for other dental oxide ceramics.

Overview

inFire features the following programs:

- 5 fixed programs [
 17] (01-05)
- 5 reserved programs (06-10)
- 20 freely programmable programs [
 19] (11-30)

The programs can be started either directly [B 18] or time-controlled via the casting time function [B 18].

6.4.1 Fixed programs

inFire HTC features fixed programs for various materials and manufacturers.

| Program No. | Designation |
|----------------|-------------|
| 01 | SIRONA |
| | inCoris ZI |
| 02 | SIRONA |
| | inCoris AL |
| 03 | VITA |
| | In-Ceram YZ |
| 04 | VITA |
| | In-Ceram AL |

Explanation

Starting the program

Explanation

Overview

Select program number

Л

/mir

| Program No. | Designation |
|----------------|-------------|
| 05 | IVOCLAR |
| | VIVADENT |
| | IPS e.max |
| | ZirCAD |

6.4.2 Select program number/load program

- 1. Press the Load Program key.
 - Solution The LOAD PROGRAM screen is displayed. The cursor is on the program number.
- 2. Enter the desired program number with the numeric keys or press key "S4" repeatedly until the desired program number appears.
- > Press the "S2" key (= YES) to confirm the loading process.
- ✤ The standby display is shown.

To quit the menu immediately, press the "S1" key (=NO).

6.4.3 Starting the program

- > Press the START/STOP key to start the process.
- The LCD displays shows the stand-by screen. In the top line, the status READY changes to RUN. Blinking or illumination of the stage LCD indicates that a process is running. Passed program stages are no longer lit when they are completed.

You can pause the current program by pressing the START/STOP button again.

6.4.4 Starting a program with the Casting-Time function

- 1. Select the desired program with the Load Program [1] 18] key.
- 2. Press the Casting-Time key.
- ✤ The LCD display shows the following screen:
- 1. Press the S1 key to set the desired casting time of the program.
- 2. Enter the day of the week with the numeric keys (MO=1, TUE =2, WED=3 ..., SUN=7)
- 3. Enter the desired casting time (hh:mm) with the numeric keys.
- 4. Press the START/STOP key.
- The LCD display now indicates the program start in line "S1." The The casting time function is now activated; there is no need to press any further key for confirmation.

To quit the program press the Casting-Time key again.

↓/min ↓ min AUTO5T11 _ _ _ 54 22° C _ _ _ 53 TH 12:13 _ _ 52 FR 01:25 FR 18:32 _ _ 51



ILOAD

11

S4

S3

Programming step S1

Programming steps S2 to S4

6.4.5 Freely programmable programs

This section explains the freely programmable settings (11-30).

6.4.5.1 Entering program values

1. Press the S1 key (S1 key for step S1).

♥ The cursor will blink in the "Heating and cooling down speed" column.

- 2. Enter the heating velocity with the numeric keys. It can range between 1 °C/min and 30 °C/min. If the heating velocity is 30 °C/min, the furnace will heat up at maximum power.
- **3.** The cursor now switches to the "holding temperature" column. Enter the four digits of the holding temperature in °C (e.g. 1540).

NOTICE

Entries with less than four digits

If the entry consists of only three digits (or less), the cursor must be moved to the "Holding time" column by pressing the corresponding S key.

- 4. Enter the holding time in minutes.
- Follow the same procedure as described for step S1 to program steps S2 to S4 (S2 key for step S2, etc.).

NOTICE

Unrequired steps

If a step is not required, set all values of this step except the heating speed to "0". It is not possible to set the heating and cooling-down speeds to "0", but this is of no importance for the program run. While steps S1 through S3 may be set to 0, a temperature setting must be entered for step S4.

Step S4 always specifies the cooling parameters.

6.4.5.1.1 Programming example

| | Heating velocity | Temperature | Holding time |
|--------|------------------|-------------|--------------|
| | °C/min | °C | min |
| Step 4 | 12 | 300 | 0 |
| Step 3 | 12 | 1540 | 120 |
| Step 2 | 10 | 0 | 0 |
| Step 1 | 10 | 0 | 0 |



Graphical representation

This example describes the programming of program number 11 with the values of the table shown above.

- 1. Press the Load Program key.
- 2. Enter the program number 11.
- 3. Press the S2 key (= YES) to confirm the loading procedure.

Programming step S3

- 1. Press the S3 key. The cursor will blink in the "Heating velocity" column of line S3.
- 2. Enter the value 12. The cursor will blink in the "Temperature" column.
- 3. Enter the value 1540. The cursor will blink in the "Holding time" column.
- 4. Enter the value 120.

Programming step S4

> Enter the values for step 4 as shown in the table.

NOTICE

Entries with less than four digits

If you did not enter the temperature as *0300* and used *300* instead, the cursor must be manually moved to the "Holding time" column by pressing the S1 key.

Steps S1 and S2

Since steps S1 and S2 are not needed in this example, you can leave their values at 0 with the exception of the heating velocity.

Activation

Storing the program

- **1.** Press the Memory key.
- 2. Press the S2 key (= YES).
- Solution The program is now stored under the number 01.

6.4.5.2 Storing program values

This section describes the procedure for storing changed program values of freely programmable settings (11-30).

- ✓ Once program values have been entered with the keys S1 to S4, they can be saved.
- ➢ Press the Memory key.

S4

S3

S2

S1

Solution The LCD displays shows the following menu:

Entering a program title (optional)

min

ISTORE 11

YES

NO

Program titles can be entered on the left side of the display in four lines (the cursor flashes at the entry position).

Moving the cursor

Use the "S4" key to move the cursor one space to the right.

Numeric entry

Use the numeric keys (0-9) for entering numbers.

Text entry

Repeatedly pressing function key $"\ensuremath{\mathsf{F}}"$ displays the letters of the alphabet in succession.

Once the desired letter is reached, press the "**S4**" key to insert this letter in the display.

Deleting a character

You can delete characters by entering a blank space.

Once you have reached the blank space, press "S4" to insert it.

- 1. Press the "S4" key until you reach the character you want to delete.
- Press function key "F" until the blank space appears (it comes after the letter "Z").
- 3. Press the "S4" key.
- The character has been deleted and the cursor has now moved one space to the right.
- > Press the "S2" key (= YES).

The program is stored under the number that was used for loading (e.g. 13).

To quit the menu immediately, press the "S1" key (=NO). The standby screen is shown.

Save

| 61 30 459 D 3497 | |
|---------------------|---------|
| D 3497.201.01.04.02 | 06.2009 |

Activation

/min

Dialog box 1

1

7 Default settings

7.1 Display and acoustic signal

The display and the acoustic signal can be configured via two dialog boxes.

Press function key "F".

Key assignment

S4 key:

S4

S3

S2

S1

ENGLISH

SOUND ON

MO 14:22

NEXT

You can use this key to change the language of the LCD display.

• S3 key:

You can use this key to switch the acoustic signal that sounds at the end of the program on and off.

S2 key:

This key sets the current time with the numeric keys (Monday = 1, Tuesday = 2... Sunday = 7).

The current time always must be reset following the changeover from summer to winter time and vice versa.

• S1 key: This key switches to Dialog 2.

| Dialog DON E |
|--------------|
|--------------|

| /min | min | | Г | S 4 |
|-------|-------|--------|---|------------|
| LIFT | TEMP | 300° C | | 62 |
| CLOCK | MODE | 24h | | 23 |
| TEMP. | SCALE | • C | | S 2 |
| | | NEXT | | |
| | | | L | S 1 |

Key assignment

• S4 key:

This key sets the temperature at which the furnace door should open (maximum 300°C).

S3 key:

You can use this key to switch the clock mode back and forth between the 24-hour and 12-hour display mode.

S2 key:

You can use this key to switch the temperature scale on.

- "°**C**" = Celsius
- "F" = Fahrenheit
- S1 key:

This key quits the dialog.

The changes are saved in the memory.

Correction program

Activation

7.2 Adjustment of the start time (casting time function)

For calculation of the start time (when using the casting time function), the furnace controller assumes an average voltage of 230 V.

The local voltage may significantly differ from this value according to local circumstances.

Accordingly, the calculation of the start and end time of the controller may be incorrect.

Substantial variations (of more than 30 minutes) may be adjusted by means of the correction program.

The correction program compares the values in a test run and automatically corrects them.

This correction also remains intact even after the furnace is switched off.

Furnace empty?

No sintering trays may be located in the furnace during the correction program run.

- 1. Load program *00*.
- 2. Start the program.
- The program automatically switches off following the correction measurement.

NOTICE

Long program run

This program takes about 3-4 hours to run.

You can quit the program by pressing the START/STOP key if necessary.

8 Regular care

The high-temperature furnace does not require any special care. The casing may be cleaned with a mild detergent.

Damage to the heating unit

Avoid all contamination in the heating room to prevent damage to the heating unit.

9 Malfunctions

9.1 Error messages from electronic components

Error messages are displayed on the LCD screen. They are accompanied by an acoustic signal.

| Error message | Cause | Elimination | |
|---------------------------------------|--|---|--|
| SENSOR DEFECT | Thermocouple not functioning properly. | Call customer service. | |
| Sensor + <-> - | Furnace interior considerably colder than room temperature or | Open door and wait until the heating chamber has reached room temperature | |
| | thermocouple not functioning properly. | Call customer service. | |
| SECURITY TURN OFF(safety shutdown) | Furnace temperature exceeds 1650°C | Switch the furnace off and let it cool down. Call customer service. | |
| SENSOR SHORT CIRCUIT | Temperature sensor defect | Call customer service. | |
| THYRISTOR SHORTED | Defect in electronics | Call customer service. | |
| RPL. STR. BATT. | End of storage battery service life reached | Call customer service. | |

9.2 Miscellaneous errors and their causes

| Error | Cause | Elimination |
|---|--|--|
| Wrong time displayed | Wrong time in the controller | Correct time settings (see function key "F" [|
| Furnace does not heat up although autostart program is running | Power was out for a long time during the autostart program | Check the power connection. Make sure power connection is not switched with a timer. |
| Controller LED indicates heating, but the furnace does not heat | Heating defective | Call customer service. |
| Furnace "forgets" the stored programs | Defective controller | Call customer service. |
| Furnace "forgets" the time | Defective controller | Call customer service. |
| No display. Yellow light of ON/OFF switch is on. The LEDs flash briefly after the unit is switched on. | Controller display is defective. | Call customer service. |
| No display. Yellow pilot lamp of ON/OFF switch is on. The LEDs do not flash briefly after the unit is switched on. | Protection fuse of the furnace is defective. | Switch the furnace off, wait for 30 seconds and then switch it back on. If this produces no results: Replace fuses F1 and F2. [1 27]. Call customer service. |
| No display. Yellow pilot lamp of ON/OFF switch is off. | No line voltage | Check the fuses in the fuse box, check electrical connection. Call customer service. |
| Furnace triggers circuit breaker. | Unsuitable circuit breaker | Check the circuit breakers as specified. |
| | | Call customer service. |
| Furnace triggers the circuit breaker in the fuse box. | FI is too sensitive or heating is defective | Check whether FI is \geq 30 mA. Call customer service if necessary. |

Replacement fuse

Required tools

Position

Changing a fuse

10 Maintenance

10.1 Changing fuses F1/F2

The order number for the replacement fuse is 61 30 681.

1x (flat) screwdriver

Fuses F1 and F2 are located at the bottom left on the rear side.

✓ The unit is switched off and its power plug is disconnected.



- 1. Unlock the cover of the fuse holder (S) with a screwdriver (press the cover slightly and turn it counterclockwise).
- 2. Pull the cover with the fuse out of the fuse holder.
- 3. Pull the fuse out of the cover.
- 4. Insert a replacement fuse in the cover.
- 5. Place the cover with the replacement fuse back in the fuse holder.
- 6. Lock the cover (S) again using a screwdriver (press the cover slightly and turn it clockwise).
- ♥ The fuse replacement process is now finished.





11 Disposal

Your product is marked with the adjacent symbol. Within the European Economic Area, this product is subject to Directive 2002/96/EC as well as the corresponding national laws. This directive requires environmentally sound recycling/disposal of the product. The product must not be disposed of as domestic refuse!

Please observe the disposal regulations applicable in your country.

Disposal procedure

We advise that this product is subject to the stipulations in the EC guideline 2002/96 governing waste electrical and electronic equipment and must be disposed of in line with the these special requirements within the European Union (EU).

Prior to disassembly / disposal of the product, it must be fully prepared (cleaned / disinfected / sterilized).

When disposing of equipment permanently, please proceed as follows:

In Germany:

To initiate return of the electrical device, please send a disposal request to "enretec GmbH".

- You can find a form for placing a disposal order on the company's homepage (www.enretec.de) under the menu item "Entsorgung elektrischer und elektronischer Geräte" (Disposal of electric and electronic devices). The form can either be downloaded or completed online.
- Fill out the form with the corresponding details and send it either as an online order or fax it to enretec GmbH at +49(0)3304 3919 590. You can also get in touch with the following contacts for disposal orders and any questions relating to this you may have: Tel: +49(0)3304 3919 500; By e-mail: pickup@eomRECYCLING.com Mailing address: enretec GmbH, Geschäftsbereich eomRECYCLING Kanalstraße 17, 16727 Velten

Any fixed installation equipment will be collected from its installation location in the practice, while loose equipment will be collected at the street curb at your address at the agreed time and date.

All disassembly, transport and packaging costs are to be borne by the owner/ operator of the equipment. The disposal itself is free of charge.

Worldwide (outside Germany):

Please contact your local dental equipment specialist for country-specific information on disposal.

Index

Numerics

| controller | 13 |
|-------------------|----|
| day of week | 15 |
| temperature steps | 15 |
| time | 15 |

Α

| Acoustic signal 22 |
|--------------------|
|--------------------|

С

| Casting time function | |
|-----------------------|----|
| Casting time key | 14 |
| Celsius | |
| Clock mode | |
| Controls | 13 |
| Correction program | 23 |
| Current temperature | 15 |
| CE mark | 9 |
| | |

D

| Display |
|--|
| Disposal |
| Disposal of electronic and electrical equipment 28 |

F

| Fahrenheit | |
|----------------|----|
| Fixed programs | 14 |
| Function key | 14 |
| Fuse | |

Н

| Hardware version | 15 |
|--------------------------------|----|
| Heating and cooling down speed | 15 |
| Holding temperature | 15 |
| Holding time | 15 |

L

| Language | 22 |
|------------------|----|
| Load program key | 14 |

М

| Memory key 1 | 4 |
|--------------|---|
|--------------|---|

| Numeric keys | .14, | 16, | 18 |
|--------------|------|-----|----|
| 5 | , | , | |

0

| Dperation 13 | 3 |
|--------------|---|
| | |

R

| Replacement fuse | 27 |
|---------------------|----|
| Risk of breaking | 16 |
| Risk of overheating | 11 |
| RPL. STR. BATT | 25 |

S

| Sintering temperature | 10 |
|-----------------------------------|----|
| Sintering tray | 16 |
| Software version | 15 |
| Stage keys | 14 |
| Start/Stop key | 14 |
| Status display | 15 |
| Summer and winter time changeover | 22 |
| SECURITY TURN OFF | 25 |
| SENSOR + | 25 |
| SENSOR DEFECT | 25 |
| SENSOR SHORT CIRCUIT | 25 |

Т

| Temperature | 15 |
|-------------------|----|
| Temperature scale | 22 |
| THYRISTOR SHORTED | 25 |

V

```
Ventilation slots......11
```

W

| Warranty 6 |
|------------|
|------------|

We reserve the right to make any alterations which may be required due to technical improvements.

© Sirona Dental Systems GmbH 2009 D 3497.201.01.04.02 06.2009 Sprache: englisch Ä.-Nr.: 111 529

Printed in Germany

Sirona Dental Systems GmbH

Fabrikstraße 31 64625 Bensheim Germany www.sirona.com in the USA: Sirona Dental Systems LLC 4835 Sirona Drive, Suite 100 Charlotte, NC 28273 USA

Order No 61 30 459 D 3497