DENTSPLY
NEYTECH

CERAMPRESS® Qex

Owner & Operator's Manual

Model No	Voltage
9494310	100-120V 50/60Hz
9494311	230V 50/60Hz

DENTSPLY
NEYTECH

SAFETY: ⚠

- Never operate furnace in close proximity to combustible materials or place materials on top of the furnace.
- The furnace must be electrically grounded to a three wire electrical outlet or receptacle. The electrical service provided must be a dedicated line of the proper size according to local electrical codes.
- Disconnect the line cord before attempting to service the furnace.
- Do not attempt to service the furnace until you read and understand the service manual. (See Manual under Accessories on page 15)
- Do not operate the furnace controls with tongs or other tools; the tongs will damage the control switches.
- Do not use solvents or liquid cleaners on the control panel; they will enter the panel and damage it.
- Do not place firing trays or other hot objects directly in front of the furnace; they will melt the graphic overlay.
- Allowable vacuum pump load is 300 Watts maximum.
- ⚠ If the furnace is not used in the manner as specified in this manual, the protection provided by the furnace may be impaired.

OSHA AND CALIFORNIA PROPOSITION 65:
MUFFLE DUST EXPOSURE

In keeping with the policy of DENTSPLY NeyTech to build safe products, comply with all National and State statutes and keep you, the valued customer informed; the services of a Certified Industrial Hygienist firm were employed to test and evaluate the lab operator's exposure to respirable refractory ceramic fiber (RCF) and crystobalite (a form of crystalline silica) present in the furnace muffle.

When it becomes necessary to replace the muffle, the person doing this work is recommended to wear a HEPA filter respirator and protective gloves as a precautionary matter.

Seal used muffle in a plastic bag and dispose of in accordance with local, state and Federal regulations.

Because this product and many similar products on the market today contain crystalline silica and ceramic fibers, it is necessary under the statutes of California Proposition 65 that DENTSPLY NeyTech include the following statement:

"This product contains substance(s) known to the State of California to cause cancer."

Material Safety Data Sheets for RCF materials supplied upon request.

SYMBOL TABLE	
∿ - Alternating current	Courant alternatif
I - On (Supply)	Marche (alimentation)
O - Off (Supply)	Arrêt (alimentation)
⚠ - Caution, Hot Surface	Attention, surface chaude
⏚ - Protective Conductor Terminal	Borne de masse, châssis
⚠ - Caution	Attention

FEATURES:

- 100 User Programs
- Memory Card Operation
- Special Programming Operation
- High Performance Quartz Lined Muffle Produces Superior Porcelain with Long Life Characteristics.

- 1200°C (2192°F) Maximum; 50°C (122°F) Minimum Temperature
- Ultra Smooth Muffle Movement with Stationary Work Support
- Programmable Muffle Dry and Cooling Positions

- Fast Cool Down for Short Times Between Loads Gives Maximum Productivity
- Vacuum Release Programmable in Temperature or Time
- Fast Heat Rates of up to 200°C/minute (392°F/minute)

- Full Program Flexibility; Parameters Changeable During Firing Cycle
- Power Outage Return; Short Power Outages (<30seconds) Will Not Interrupt Firing Cycle Or Cause Loss of Vacuum

- Ultra Friendly User Interface; Manual Not Required In Most Applications

- Energy Saver "Idle Down Time"; Muffle closes but maintains Lo Temp
- NITE MODE: Closes muffle after firing cycle when temperature reaches the programmed Nite Temp to prevent moisture absorption

- Easy temperature adjustment; operator reads out and adjusts calibrations from control panel
- Agency Approvals: ETL (230V, ETL &CE)
- 8 line Graphic LCD Display With Improved Backlighting For Better Visibility
- LCD Display contrast adjustment

INSTALLATION INSTRUCTIONS:

UNPACKING:

Carefully unpack and remove the furnace from its shipping carton. **Save the carton and other packing material for future use in transporting the furnace.**

Shipping damage should be reported to the carrier as soon as detected.

LIFTING AND CARRYING:

- Get a firm footing. Keep your feet shoulder width apart for a stable base.

- Bend your knees. Don't bend at the waist.

- Grip the base of the furnace and lift with your legs.
     DO NOT LIFT FURNACE BY THE TOP MUFFLE ASSEMBLY!

- Keep the load close to your body and carry the unit to the destination. Keep your back upright during lifting.

The shipping carton contains the following:

- One furnace complete with power cord
- Owner & Operator's Manual (this document)
- Vacuum tubing, connections, and fuses
- Pressure regulator/filter (1 each)
- Door insulation/positioning ring (1 each)
- Tongs (1 each), ring plungers (2 each)
- Ring Former Kit, 100 & 200 grams
- Honeycomb Firing Tray
- Card Holder with Backup and Special Memory Card

INSTALLATION:

- Remove all packing material from in and around the furnace. The furnace should be located at least 15cm (6") away from walls, shelves and heat sensitive materials.
- The furnace should not be located directly under shelves or other airflow restrictions.
- Furnace Connections:

Electrical Supply: Connect the furnace to a power circuit or receptacle with an overcurrent protection (circuit breaker or fuse) rating of 15 Amps (10A for 230V model). This circuit should be a 3 wire circuit containing a ground wire and only supply the furnace.
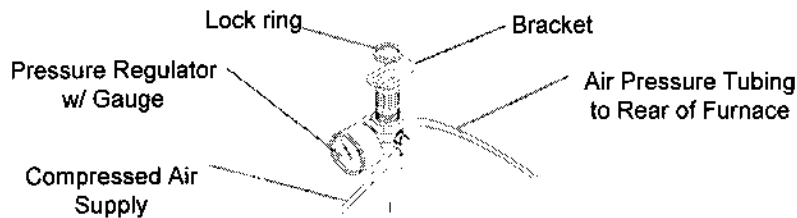
COMPRESSED AIR CONNECTIONS:

- Mount the regulator/filter assembly on the rear left side of the furnace using bracket and screws provided as illustrated below.

Compressed Air Supply: The pressing furnaces require a minimum of 5Bar (72psi) to operate properly; 8Bar (116psi) maximum.

Bracket

Rear view
of furnace

- Use lock ring to secure regulator/filter to the bracket.

Lock ring — Bracket

Pressure Regulator
w/ Gauge

Air Pressure Tubing
to Rear of Furnace

Compressed Air
Supply

- Attach air pressure tubing from regulator to connection marked "Pressure".
- Connect compressed air line to air supply. Turn on compressed air. The pressure regulator gauge should be pre-adjusted to read 4.5 Bar. Adjust if required. If the pressure can not be adjusted to 4.5 Bar, verify that air supply is between 5 and 8 Bar.

ELECTRIC VACUUM PUMP CONNECTIONS:

- Plug the external electric vacuum pump into the socket located directly above the furnace power cord.
- Customers with old 230V vacuum pumps may require an adapter which can be obtained from DENTSPLY NeyTech product service.
- Connect vacuum pump hose to barbed fitting.

Vacuum Pump
Socket (120V)

Rear of Furnace

Air Pressure Supply

Barb Fitting

Air Pressure
Tubing

Vacuum Pump
Hose

Furnace Power
Cord (120V)
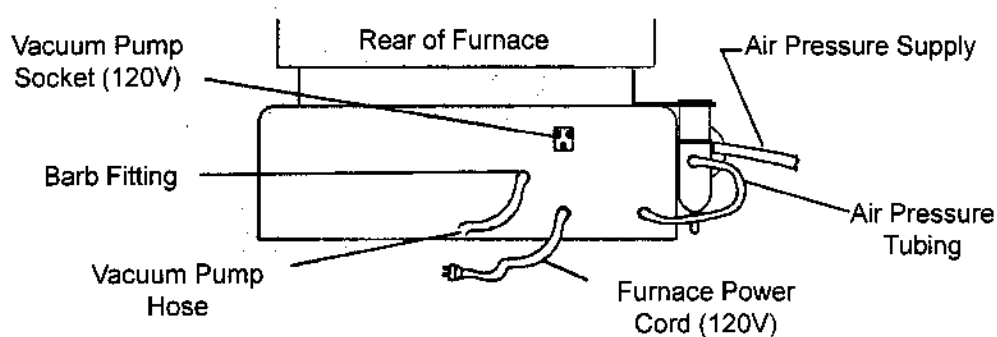
CONTROL PANEL DESCRIPTION:

On/Off key changes furnace from active to standby mode and back. In the off or standby mode the muffle and display are turned off.

LCD displays program names and parameters along with user interface information.

ESC Reverts the display back one stage. Cancels programming.

Adjusting wheel selects and changes parameters, push to select or save.

Memory Card Slot Insert memory card in slot. Card loads and save programs.

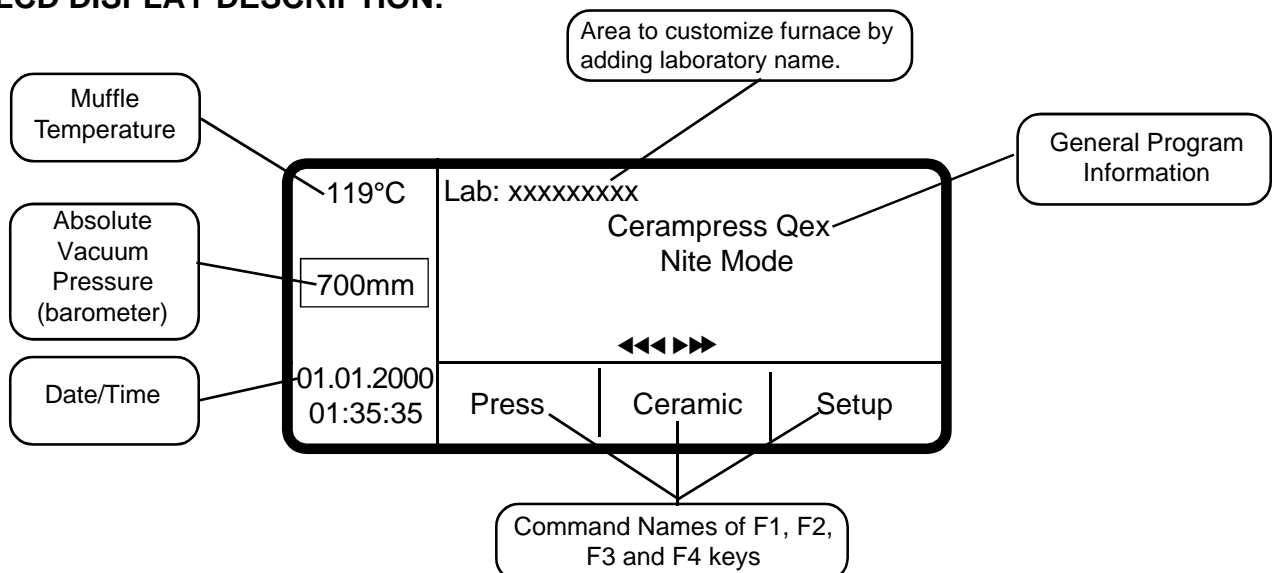**Function Keys (F1-F4)** - The display will indicate various command options listed above the keys (F1 -F4) on the LCD. Command examples include: Edit, Start, Stop, Copy, etc.

Muffle Movement - Opens and closes the muffle. Pressing a second time stops movement.

LCD DISPLAY DESCRIPTION:

Area to customize furnace by adding laboratory name.

Muffle Temperature

General Program Information

Absolute Vacuum Pressure (barometer)

Date/Time

119°C   Lab: xxxxxxxxx

Cerampress Qex
Nite Mode

700mm

◄◄◄ ►►►

01.01.2000
01:35:35   Press | Ceramic | Setup

Command Names of F1, F2, F3 and F4 keys

OPERATING INSTRUCTIONS:

WARNING: The furnace must be installed properly before operation. Please read and implement the installation instructions carefully before operating.

GETTING STARTED:

- FIRST TIME ONLY: Plug the power cord to a power circuit. The furnace will go through a series of self-diagnostic tests. The sound of the plunger being activated will also be heard. The muffle will open.

  IMPORTANT! The furnace is shipped with packing material inside the muffle. Remove this material before any keys are pressed.

  Install the ceramic door insulation & positioning ring. ***Operating the furnace without this platform will damage the furnace!***
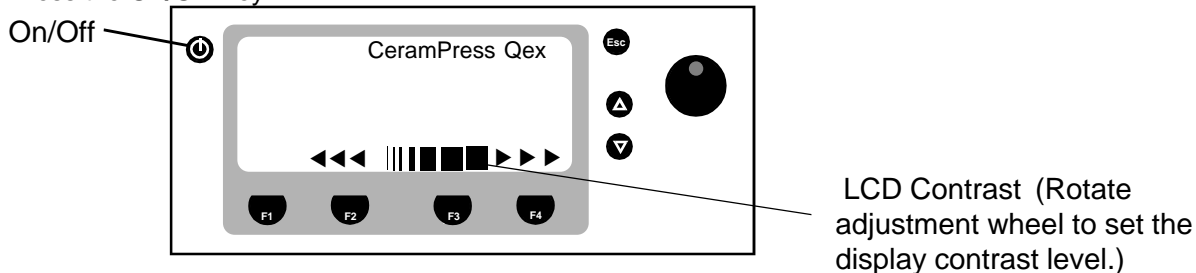
  Note: If the operation of the furnace causes the lights to "blink" or "flicker" the furnace is on the same circuit breaker or fuse as the lighting. Correct the problem by connecting the furnace to a different circuit.

  Note: The recommended air pressure for most pressing is 4.5 bar and is factory preset to this value. The air pressure is adjustable by turning the pressure control knob which is located on top of the pressure regulator.
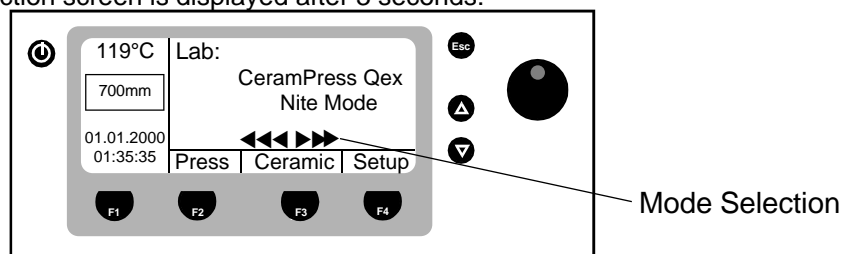
  Note: For a detailed explanation of the Control Panel see the description on page 4.

PRESSING OPERATION (PRESS MODE):

- Press the **On/Off** Key

On/Off

CeramPress Qex

◄◄◄ ▐▌▐█▐█ ►►►

Esc

LCD Contrast (Rotate adjustment wheel to set the display contrast level.)

The mode selection screen is displayed after 3 seconds:

119°C   Lab:

700mm

01.01.2000
01:35:35

CeramPress Qex
Nite Mode
◄◄◄ ►►►
Press | Ceramic | Setup

Esc

Mode Selection

The muffle temperature is controlled at the **Nite Temp** setting (see Setup).

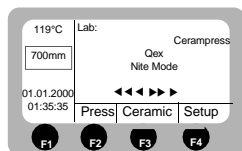At the bottom of the display, 3 menu options are displayed above its particular function key (F2 - F4).

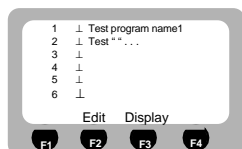**Press (F2)** - Listing of press programs - ^   symbol is used to indicate press programs.

Ceramic (F3)- Listing of conventional ceramic programs 1 thru 100 - no symbol used.

Setup (F4)- Support programs and operations such as set time / date, edit lab name, Language selection and memory card operations.

- Pressing the corresponding function key below the menu name activates that function. The highlighted name can also be activated by pressing the adjusting wheel.

```
┌─────────────────────────────────┐
│ 119°C  │Lab:                     │
│        │              Cerampress │
│ ┌────┐ │          Qex            │
│ │700mm│ │       Nite Mode         │
│ └────┘ │                         │
│        │     ◄◄◄ ►►► ►           │
│01.01.2000                         │
│ 01:35:35 │ Press│ Ceramic │ Setup │
└─────────────────────────────────┘
     F1    F2      F3       F4
```

- Pressing **Press** key (F2) displays the press programs. Temperature is controlled at 400°C.
- Turn the adjusting wheel to scroll through the listed programs.

```
┌─────────────────────────────────┐
│ 1   ⊥ Test program name1         │
│ 2   ⊥ Test " " . . .             │
│ 3   ⊥                            │
│ 4   ⊥                            │
│ 5   ⊥                            │
│ 6   ⊥                            │
│        Edit    Display           │
└─────────────────────────────────┘
   F1    F2       F3      F4
```
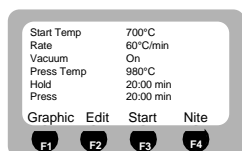
- Two new menu options (Edit and Display) are displayed above the function keys.

   Edit - Lists all program parameters of the selected program so that they can be edited.

   Display - Lists all program parameters for review before starting the selected firing program.

- Pressing **Edit** key (F2) displays a list of all program parameters of the selected program.

```
┌─────────────────────────────────┐
│ Start Temp      700°C            │
│ Rate            60°C/min         │
│ Vacuum          On               │
│ Press Temp      980°C            │
│ Hold            20:00 min        │
│ Press           20:00 min        │
│ Graphic  Edit   Start      Nite  │
└─────────────────────────────────┘
    F1     F2      F3         F4
```

- Three new menu options are displayed above the function keys.

   Graphic - Displays a graph with associated data for a selected program.

   Edit - Activates the edit mode. Turning the adjusting wheel moves the point cursor to a new parameter. Pressing the wheel selects the parameter for editing.

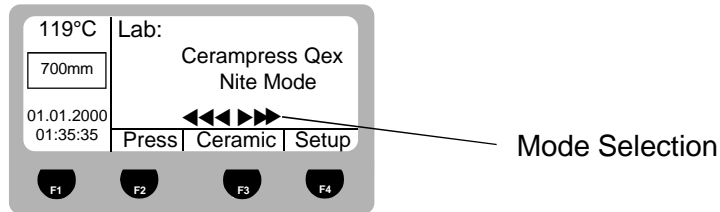   **Start** - Starts the firing program.

   Nite - Starts the firing program also, but enters the Nite mode at the completion (see Setup). The muffle stays open until the Nite Temp has been reached, then closes.

- Pressing **Start** key (F3) starts the program and the Start function key is changed to Stop. **Stop** key (F3) is replaced by Start once the start temp is reached. At this point the Cerampress Qex sounds a beep to alert the operator to load the pressing ring, pellets and ring plungers.

After the ring, pellets and plunger are loaded, press the **Start** key (F3) to start the pressing cycle.

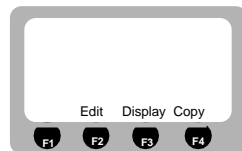| Parameter	Description	Programming Range
Start Temp	Firing cycle starting temp	400 - 800°C (752°F - 1472°F)
Rate	Closing time of muffle in steps	1°C - 200°C/min
Vacuum	Vacuum pump operation	On - Pump is on until max value is achieved
	(The displayed value is absolute	Cont - Pump stays on continuously
	pressure inside the chamber)	
Press Temp	End temperature of the firing cycle	800 - 1200°C in 1°C (1472°F - 2192°F)
Hold	Time to hold end temp	00:00 - 59:59 min
Press	Time to press ring	00:00 - 59:59 min

CERAMIC OPERATION (CERAMIC MODE):

```
┌─────────────────────────────────┐
│ 119°C │ Lab:                     │
│       │     Cerampress Qex       │
│ ┌─────┐│      Nite Mode          │
│ │700mm││                         │
│ └─────┘│    ◄◄◄ ►►►              │
│01.01.2000│                       │
│01:35:35│ Press │ Ceramic │ Setup │        Mode Selection
├─────────────────────────────────┤
│  ● F1    ● F2    ● F3    ● F4    │
└─────────────────────────────────┘
```

Mode selection
- Pressing the **"Ceramic"** key (F3) displays a listing of programs 1 thru 100 - no symbol used.
- The muffle temperature is controlled at the Lo Temp setting from the selected program.

Turn the adjusting wheel to scroll thru the listed programs.

3 new menu options are displayed above the function keys.

```
┌─────────────────────────────────┐
│ ┌─────────────────────────────┐ │
│ │                             │ │
│ │                             │ │
│ │                             │ │
│ │                             │ │
│ │       Edit  Display Copy    │ │
│ └─────────────────────────────┘ │
│  ● F1    ● F2    ● F3    ● F4    │
└─────────────────────────────────┘
```

   Edit- Lists all program parameters. Turning the adjusting wheel moves the cursor to a new parameter. Pressing the wheel selects the parameter for editing.
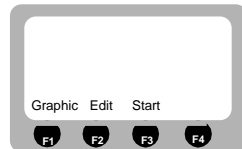
   Display- Lists all program parameters for review before starting the selected firing program.

   Copy - Copies current program parameters into new program number.

Parameter Displays
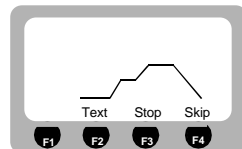• Press the **Display** function key or the **Edit** function key.

3 new menu options are displayed above the function keys.

```
┌─────────────────────────────────┐
│ ┌─────────────────────────────┐ │
│ │                             │ │
│ │                             │ │
│ │                             │ │
│ │ Graphic  Edit   Start       │ │
│ └─────────────────────────────┘ │
│  ● F1    ● F2    ● F3    ● F4    │
└─────────────────────────────────┘
```

   Graphic - Displays a graph with associated data for a selected program.

   Edit- Activates the edit mode. Turning the adjusting wheel moves the point cursor to a new parameter. Pressing the wheel selects the parameter for editing. Turning the wheel again will change the value.

   Start- Starts the firing program. The display changes to the graphic mode display. The Start function key is replaced with Stop. Pressing Nite will cause the furnace to enter the Nite Mode after completion of the firing cycles.

```
┌─────────────────────────────────┐
│ ┌─────────────────────────────┐ │
│ │          ╱╲                 │ │
│ │        ╱   ╲                │ │
│ │      ╱      ╲               │ │
│ │    Text  Stop  Skip         │ │
│ └─────────────────────────────┘ │
│  ● F1    ● F2    ● F3    ● F4    │
└─────────────────────────────────┘
```

   Skip - After the program has been started the function key skip (F4) is shown. Pressing this key will advance the firing cycle to the next segment (Heat goes to Rate, Rate goes to Hold etc.).

CARD OPERATION:
Operation from card:
   To start a firing program from a memory card select the **Mode Selection Screen** and insert the ceramic card. The function key "F2" shows the card symbol (▯). Press this function key to obtain a listing of the available card programs.

After the program has been started, the **Start** function key is changed to **Stop** and the card may be removed to run this one program only.

8

CERAMIC MODE PARAMETER TABLE

Parameter	Description	Programming Range
Dry Pos	Muffle position at start of program	0 - 9 (0 = closed)
Dry	Time to dry the work	00:00 - 59:59 min
Close	Closing time of muffle in steps	00:00 - 59:59 min
Lo Temp	Firing cycle starting temp	100 - 800°C (212°F - 1472°F)
Heat	Time to bring work to temp	00:00 - 59:59
Rate	Change in temperature per min.	1°C/min - 200°C/min in 1°C (1°F/min - 360°F/min)
Hi Temp	End temperature of the firing cycle	400 - 1200°C in 1°C (752°F 2 2192°F)
Vac	Vacuum pump operation	On - Pump is on until max value is achieved
	(The displayed value is absolute	Cont - Pump stays on continuously
	pressure inside the chamber)	Off - Pump off
Vac On	Temperature at vacuum is pulled	100 - 1200°C in 1°C (212°F - 2192°F)
Vac Off	Temperature at vacuum is released	100 - 1200°C in 1°C (212° - 2192°F)
Hold V	Time to hold end temp w/vacuum	00:00 - 59:59 min
Hold	Time to hold end temp w/out vacuum	00:00 - 59:59 min
Temper	Time holding at temper temp	00:00 - 59:59 min
Temper	Tempering temperature	100 - 1200°C in 1°C (212°F - 2192°F)
Cool	Opening time of muffle in steps	00:00 - 59:59 min

PROGRAMMING:
Program Modes
Several different methods are available for loading programs into the furnace.

- New programs can be entered manually (See Edit below)
- Existing programs can be copied to a new location and edited
- Programs can be loaded into the furnace using the memory card
- Special programs can be downloaded using a special card

Editing new programs
A new program name is entered into an empty program by:

- Press **Ceramic** or Press key from the Mode Selection Screen
- Turn adjusting wheel to the desired program number
- Press **Edit** key
- Turn adjusting wheel counter clockwise (CCW)
- A cursor blinks in the name field
- Press the function key **>>Set>>** to advance the cursor to the first letter position
- Turn the adjusting wheel either direction to display letters and symbols. Choose one.
- Press **>>Set>>** advances the cursor to the next character position.   Up to 14 character can be written.
- Press **<<Set<<** to move back a position to change previous characters
- Press the function key **Save** (F1) to store the program name

The **ESC** key aborts the program name editing and place the cursor ▶ at the first program parameter.

A new program parameter is entered into a program

- Turn the adjusting wheel in the clockwise (CW) direction to move the cursor to a new parameter
- Press the adjusting wheel once a parameter has been selected
- Turn the adjusting wheel clockwise (CW) direction to increase and (CCW) to decrease a parameter value
- Press the adjusting wheel to store the parameter or use the function key **Save**

The **ESC** key aborts the parameter editing and returns the cursor to the current parameter

Program Copy
Any program can be copied to any location. The existing program data at the new location is overwritten.

From the program listing screen:
- Turn the adjusting wheel to the program that will be copied to a different location
- Press **Copy** key
- Turn adjusting wheel to the new location
- Press the adjusting wheel to copy the program
Note: Copy will overwrite any existing data in the new program.

Press the **ESC** key to abort the copying process.

SPECIAL PROGRAM OPERATION:

To gain access to this feature a "Special Card" is required. In this mode, the operator has total flexibility in the design of programs such as ceramic only or Titanium based firing.

Insert this "Special Card" while in the **Mode Selection Screen**. The card programs are downloaded automatically to the furnace. The function key "F2" shows "Special". Press this function key to obtain a listing of the six available programs.
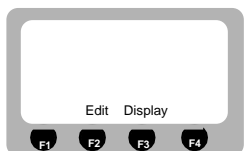

Display - Lists all parameters of the selected programs before starting the program.
   An "Empty" card (no programs stored) will show the **End** parameter for each program.

Edit- Activates the edit mode. The screen is spilt into two parts. The left side shows various parameters which may be selected and added to the program which is shown on the right side.
A new program name can also be entered (See p.8 program modes).

Parameter	Description	Programming Range
Press	Activates press Piston	0 = up, 1 = down
Rate & Temp	Changing temperature per minute to a temperature.	0.1 -9.9°C/min 10-220°C/min (positive or negative) 100°C - 1200°C
Pos & Time	Muffle goes to position within specified time.	0 - 9 (0 = closed) 00:00 - 59:59 min
Hold	Controls temperature for specified time	00:00 - 59:59 min
Vacuum	Turns vacuum pump On, Off or leave on continuous.	On, Cont
Tone	Operator alert during program.	0 - 9
Wait & Tone	Controls temperature indefinitely until manually instructed, to continue the firing cycle press function Key F4 (Cont.)	0 - 5
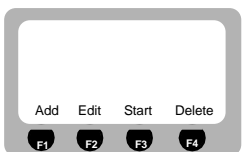
Add - Activates the parameter selection process. Turning the adjusting wheel moves the cursor from parameter to parameter. Select a parameter and press **Add** again. This parameter is now enhanced and turning the adjusting wheel moves the program cursor (located in the right field). A new parameter will always be added above the program cursor location. Press **Add** again to include the selected parameter into the program. Repeat this process until the program has all the parameters required.

Edit- The new parameters can now be modified by turning the adjusting wheel.
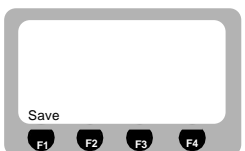
Save - Stores the modified parameter in temporary memory (See "Programming example at the end of this segment).

Delete - Removes parameters from a program. Place the program cursor to the particular parameter and press the function key F4 (Delete). This parameter is now enhanced. Press ESC if this command is no longer valid. Pressing Delete again remove this parameter from the program.

Start - Starts the firing program. The start function key is replaced with **Stop**. The muffle relays are energized and after completion of a parameter command the next parameter will be moved up on the screen.

10

OPERATION AND PROGRAMMING EXAMPLES:

The supplied SPECIAL program card contains a sample program called "Test" in order to illustrate the special program operation in more detail.

Loading the Programs
-Press ESC until the display shows the Mode Selection Screen (page 5). Insert the special program card (label towards display) and observe the message on the display. After the program has been loaded the function key (F2) shows "Special".

Viewing the Program
- Press the function key F2 (Special) to obtain the program listing. Turn the adjusting wheel so that the cursor points to program 6. Press the function key F3 (Display). The display shows the parameters of program 6 called "Test".

Explanation of Program Parameters
- The first parameter Set Pos 0 & Time 0:00 will bring the muffle to the down position at its fastest speed. The second parameters Hold 0:10 leaves the present condition unchanged for 10 seconds. Note: At this stage there is no temperature control. The third parameter Pos 9 & Time 0:20 brings the muffle to the up position in 20 seconds. The End parameter stops the firing cycle.

Running the Program called Test
- Bring muffle to the up position.
- Press "Start" and observe the display. The blinking cursor indicates the segment on which the control is operating. After completion the next parameter is placed on the first line. At the end of the program muffle is turned off and the display shows the program listing again.

Editing the Program called Test
- Turn the adjusting wheel until the cursor points to program 6, then press the Edit key. The program cursor points to "Pos & Time".
- To change the position to 4, press the function key "Edit" and turn the adjusting wheel clockwise until the display shows Pos 4. Press the function key "Save" to store this setting.
- To change the Hold 0:10 min to hold 0:15 min, turn the adjusting wheel to hold, press "Edit" and turn the wheel until Hold 0:15 min is shown, then press "Save".

Adding a Program Parameter
- To add a parameter press the function key "Add". Turn the adjusting wheel to Tone and press "Add" again.
- Turn the adjusting wheel to move the cursor in the program where to place the parameter Tone. Turn the wheel to Pos 9 and press "Add". The new parameter Tone is now placed above the parameter Pos 9 in the program. To Edit the parameter "Tone" follow the edit instructions above.

Deleting a Program Parameter
- Turn the adjusting wheel to move the cursor in the program to the parameter to be deleted. Turn the wheel to Tone and then press "Delete". Verify that this is the parameter to be deleted and press "Delete" again. The parameter "Tone" is now removed.

Storing the Program on the "Special" Card
- After completing a program from the "Edit" mode press the function key "ESC" to display the program listing screen. Press ESC again and the mode selection screen is displayed. Press the function key "Setup" and turn the adjusting wheel to Prog ♦ ▣ . Press the adjusting wheel to save the "Special" program to the memory card.

SETUP:

The **Setup** screen provides operator access to a number of furnace controls and features. The **Setup** mode is accessible from the mode selection screen.

• Press **Setup** key
• Turn adjusting wheel clockwise to move the cursor to an operation.

Press the adjusting wheel to select the operation.
Operating unit °C: selects between °C and °F operation.

Nite Temp: Nite Mode temperature of the muffle between firing programs. Range: 100-500°C (212°F - 932°F).

Idle Time: Muffle comes down automatically after count down (0:00 disables function)

Calib Temp: Adjustment to furnace temperature calibration. Range is + 30°C to -30°C. Factory setting is 0. The value added / subtracted from 960°C (silver melting temperature).

Set/Clear Choice: Select favorite programs to be listed separately from the 100 ceramic programs. Clear the choice status of a program.

Set Time (date): Turn the adjusting wheel to change the value and push to advance to the next number in time and date display.

Prog Edit: Locks or unlocks the program editing operation. To activate this feature push the adjusting wheel and dial a code between 1 and 1200. Press the adjusting wheel and a locked symbol (🔒) will appear. To unlock the edit function repeat the procedure and dial the previously entered code.

Edit Lab Name: Turn the adjusting wheel to Lab Name and push the wheel. The name of the company can be written. It then will be displayed at the "Select Mode" screen. (See "Entering a Program Name", pg.7)

Set English, Set Espanol, Set Italiano
Changes the furnace parameter words to the selected language. The cursor (◄) on the right side points to the current selection.
Start Vac Purge: starts a muffle cleaning cycle with vacuum
Start Air Purge: starts a muffle cleaning cycle without vacuum

Card to Program Transfer
⬛ >>> **Prog** : Loads the memory card programs into the Qex. To download from the card to the Qex:

• Select **Setup** from Mode Selection Screen
• Insert Card
• Move cursor to "⬛ **to Program**", push wheel
• Move cursor to first program to be transferred, push wheel
• Turn wheel clockwise until all programs to be transferred are selected, push wheel
• Turn wheel to desired # , push wheel (programs are automatically transferred)
  (Note: Existing programs will be overwritten)

Program to Card Transfer
Prog >>> ⬛: User can store up to 40 selected programs from the Qex memory card.

• Select **Setup** from Mode Selection Screen
• Insert Card
• Move cursor to "**Program to** ⬛", push wheel
• Move cursor to first program to be transferred, push wheel
• Turn wheel clockwise until all programs to be transferred are selected, push wheel
• After the programs are downloaded, the current date/time is written on the card.
  (Note: Only a "Ceramic" card will accept programs)

Clear ⬛ , Special
Clear ⬛: Erases all programs contained on the "Backup" card or clears the special program from temporary memory to allow choice program to be selected.

Turn the adjusting wheel to **Delete** and press the wheel. On the right most "Function Key" the word "Clear" will appear. Press this key and push the wheel to delete all programs from the card. The Backup card is now ready to accept up to 40 more programs.

MAINTENANCE:

General

Maintenance and care includes work which ensures perfect operational reliability of the Cerampress Qex.

The internal lift motor and other parts are maintenance-free.

⚠ Prior to cleaning, the unit must be switched off and unplugged.

⚠ When cleaning the unit make sure that no moisture can penetrate into the unit. In this way you avoid short circuits which may result in the breakdown of the unit or other hazardous conditions.

⚠ Do not open the unit. Hazardous voltages have been applied in the unit. Repairs must only be performed by authorized service technicians.

⚠ Manipulations of the unit reduce the operational reliability and include the risk of damage to persons or materials.

⚠ User has the responsibility for carrying out appropriate documentation if a hazardous material is spilt on or inside the equipment.

⚠ Before using any cleaning or decontamination method except those recommended by the DENTSPLY NeyTech, user should check with DENTSPLY NeyTech, that the proposed method will not damage the equipment.

Calibration:

• All Ney pressing furnaces are calibrated before shipment. No further calibration is required.

Replacement Fuses:

Receptacle: F250V, 10A (230V only)　　　PCB-F1: F250V, 1.0A

ERROR MESSAGES

In the event the microprocessor detects a malfunction the display shows an error window with a brief description and Err number. Except for vacuum and motor lift errors the Cerampress Qex aborts the firing cycle, the power relays open, an acoustic warning signal can be heard and the operator must unplug the unit from the AC line.

• **No Temp Signal (Err 1)**
  The thermocouple is open
• **Temperature too high (Err 2)**
  The thermocouple reading is above 1210°C
• **No Temp Increase (Err 3)**
  A thermocouple was installed with the wrong polarity (backwards).
• **Triac Shorted (Err 4)**
  The muffle current sensor detected no current control (always on).
• **Muffle Open (Err 5)**
  The muffle current sensor detected no current.
• **No Vacuum (Err 6)**
  The vacuum sensor reading does not change:
  - Check hose, electrical pump connections
  - Check proper door closure
• **Low Vacuum (Err 7)**
  The vacuum level achieved is not acceptable for porcelain firing (should be less than 100mm):
  - Check pump performance
  - Check proper door closure
• **Motor too Slow (Err 8)**
  The muffle travel took longer than 12 seconds:
  - Check for excessive friction or interference.
• **Motor: No Signal (Err 9)**
  The motor position sensor reads values outside its operating range.
• **Wrong Card (Err 10)**
  Only Qex cards are valid, cards from other furnaces do not work.
• **Read Only (Err 13)**
  This card cannot be written to.

13

SPECIFICATIONS:

OPERATIONAL
- Temperature Accuracy: +/- 3°C (+/- 5.5°F) at steady state
- Muffle Temperature Uniformity: +/- 5°C (+/- 9°F) at steady state
- Muffle Temperature In STD BY: 400°C (752°F)

ELECTRICAL

Voltage Ranges:	100-120V	230V
	50/60Hz	50/60Hz
Currents:	13 Amps @ 100V	7.2 Amps @ 230V
	14.5 Amps @ 120V	

Wattage: 1740 Watts with pump maximum
Watts to Maintain 1000°C: less than 400 Watts, muffle closed, no vacuum pump

MECHANICAL

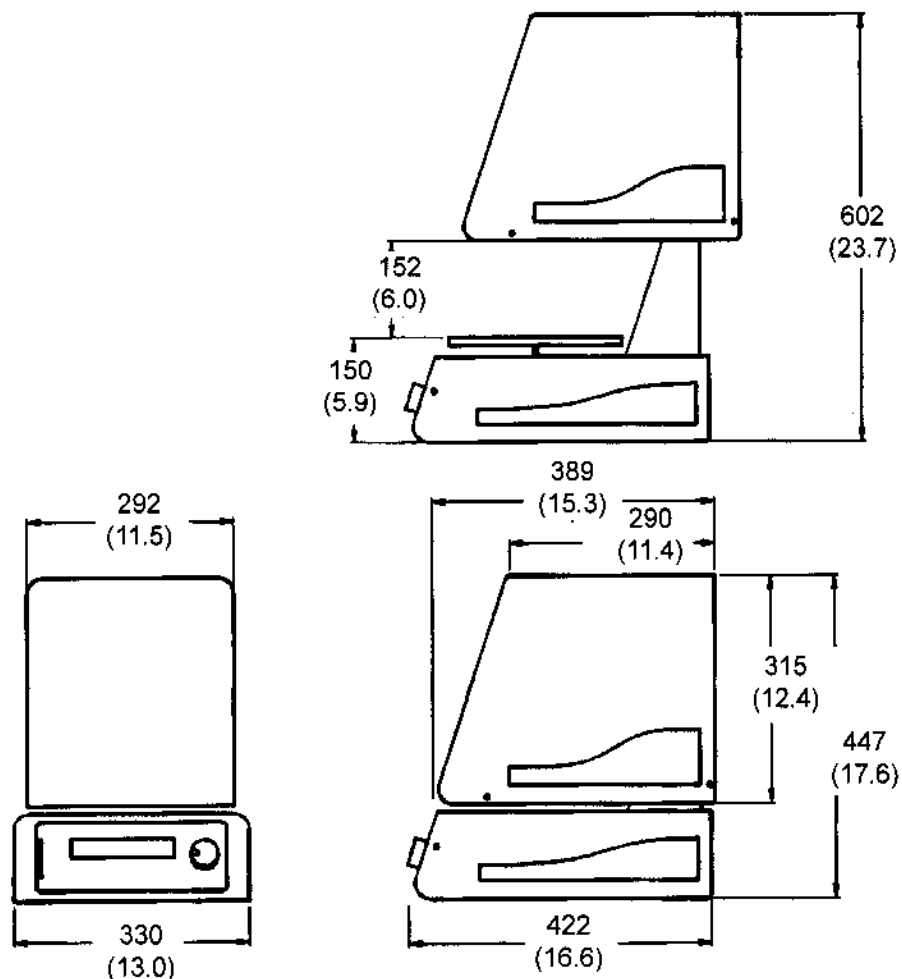| Exterior Dimensions:	Height	Width	Depth
Muffle open	602mm (23.7")	330mm (13")	457mm (18")
Muffle closed	447mm (17.6")	330mm (13")	422mm (16.6")

Interior Muffle Dimensions:
        Diameter: 102mm (4")   Height: 63.5mm (2.5")   Height w/Thermocouple: 38.1mm(1.5")
Compressed Air Supply: 1Liter/second @ 5Bar (2CFM @ 75PSI)
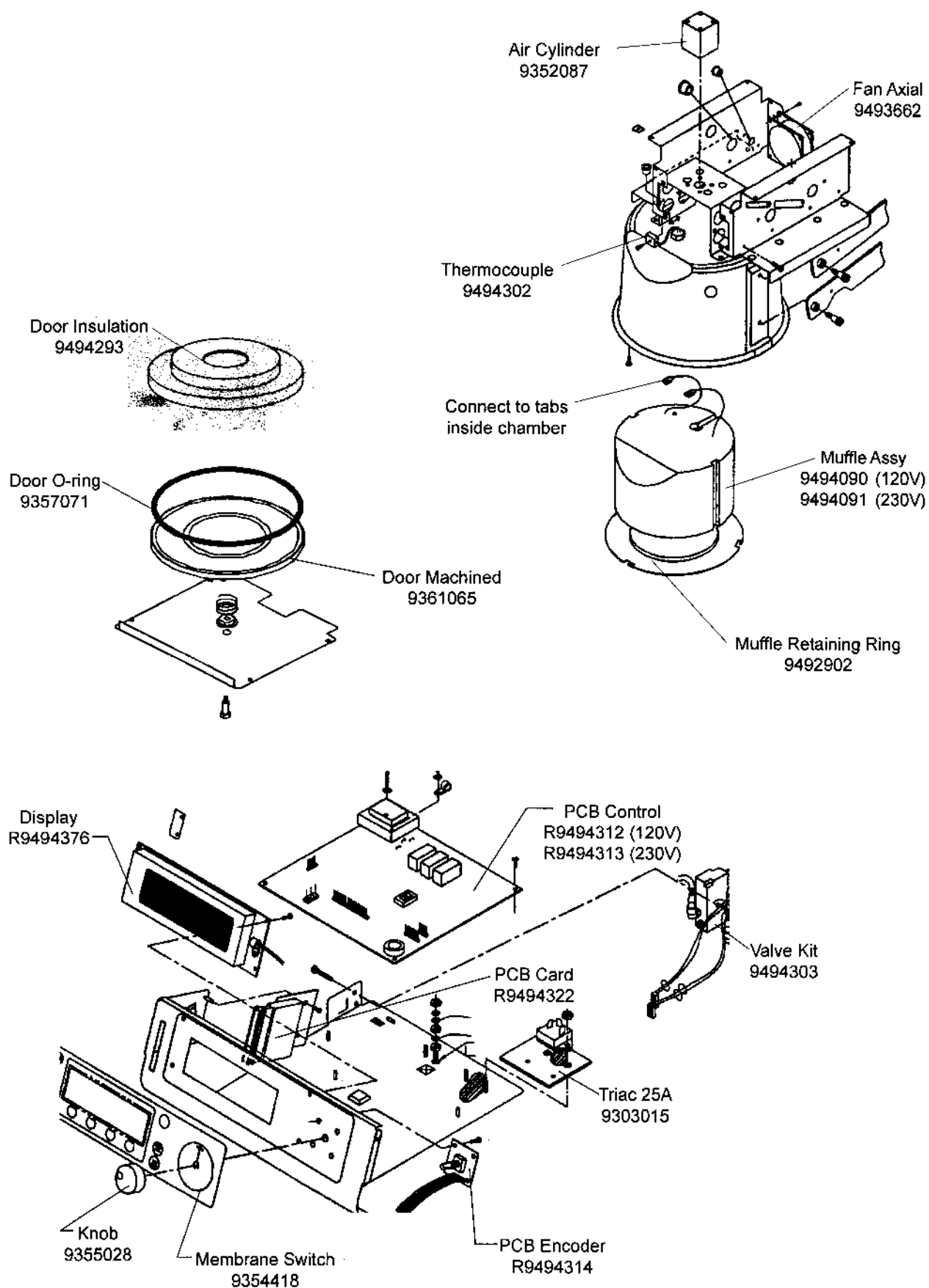Furnace Weight: 25Kg (55lbs)   Shipping Weight: 30Kg (66lbs)

ENVIRONMENTAL
Ambient Operating Temperature: 5 - 40°C (41°F - 104°F)
Relative Humidity: Maximum 80%, non-condensing

OUTLINE DRAWING:
   mm (in)

SERVICE PARTS

Air Cylinder
9352087

Fan Axial
9493662

Thermocouple
9494302

Door Insulation
9494293

Connect to tabs
inside chamber

Door O-ring
9357071

Muffle Assy
9494090 (120V)
9494091 (230V)

Door Machined
9361065

Muffle Retaining Ring
9492902

Display
R9494376

PCB Control
R9494312 (120V)
R9494313 (230V)

Valve Kit
9494303

PCB Card
R9494322

Triac 25A
9303015

Knob
9355028

Membrane Switch
9354418

PCB Encoder
R9494314

DECLARATION OF CONFORMITY:

DENTSPLY
CERAMCO

13553 Calimesa Blvd
Yucaipa, CA, 92399

DENTSPLY Ceramco certifies that the following product:
Names: *CeramPress Qex*
Serial Numbers: GRExxxx-xxx (Where x is a number from 0-9)
  High Temperature Ceramic Crown Pressing Furnace

Conforms with the basic requirements of the following EC guidelines:
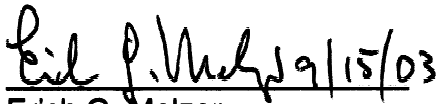   - Low Voltage Directive 73/23/EEC
           with 1. Modification 93/68/EEC
   - EMC - Electromagnetic Compatibility   89/336/EEC
           with 1. Modification 92/31/EEC
                 2. Modification 93/68/EEC

The following Harmonized Standards were applied:
- EN 61010:1993 + A2:1995 (Safety)
- EN 61010-2-010:1992 + A1: 1996 (Safety)
- EN 61326:1998 (EMC)

DENTSPLY Ceramco quality system meets these requirements:
- ISO 13485:1996 (Quality)

9/15/03
Erich G. Melzer
Electronic Project Engineer

9/16/03
John H. Holbeck
Mechanical Project Engineer

9/17/03
Richard D. Roy
Director of Operations

ACCESSORIES:

DESCRIPTION	PART NUMBER
Door Insulation, Complete	9494013
Cap, Door Insulation	9494027
Base, Door Insulation	9494028
Ring Plungers (2x)	9493630
Tray, Plunger	9493678
Ring Former Kit, 100g	9494076
Ring Former Kit, 200g	9494077
Filter/Regulator Kit	9494266
Tongs; Stainless Steel	9493633
MaxVac Pump; 100-125V; 50/60Hz	9494198
MaxVac Pump; 220-250V; 50/60Hz	9494199
Memory Card; Backup	9494298
Service Manual, Qex	9363133

PRODUCT SERVICE:

Three methods of product service are available for the CeramPress Qex . The first method is to telephone assistance available at the numbers listed below. The second method is to return the furnace for servicing using the instructions below. The last method is to call DENTSPLY NeyTech at the phone numbers below and obtain a service manual for a nominal fee.

BEFORE RETURNING THE FURNACE, DO THE FOLLOWING:
• Remove all firing trays, work platforms, and other loose items from inside the muffle.
• The original packing material should be used for the return shipment. Contact DENTSPLY NeyTech for replacements if they are not available.
• Call DENTSPLY NeyTech for a RMA number (Return Material Authorization). This is used to track and identify your furnace. Material received without this number may not be identifiable.
• Equipment damaged in shipment as the result of improper packing may not be paid by the carrier. DENTSPLY NeyTech will not be responsible for damages resulting from improper packing.

Ship Prepaid To: DENTSPLY NeyTech
        TEL 909.795.2461   RMA Number _____
        FAX 909.795.5268   13553 Calimesa Blvd.
                                    Yucaipa, CA 92399-2303 USA

Notes:

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WARRANTY

WARRANTY: Except with respect to those components parts and uses which are hereinafter described, DENTSPLY NeyTech warrants this furnace to be free from defects in material and workmanship for a period of two years from the date of sale. DENTSPLY NeyTech's liability under this warranty is limited solely to repairing or, at DENTSPLY NeyTech's option, replacing those products included within the warranty which are returned to DENTSPLY NeyTech within the applicable warranty period (with shipping charges prepaid), and which are determined by DENTSPLY NeyTech to be defective. This warranty shall not apply to any product which has been subject to misuse; negligence; or accident; or misapplied; or modified; or repaired by unauthorized persons; or improperly installed.

INSPECTION: Buyer shall inspect the product upon receipt. The buyer shall notify DENTSPLY NeyTech in writing of any claims of defects in material and workmanship within thirty days after the buyer discovers or should have discovered the facts upon which such a claim is based. Failure of the buyer to give written notice of such a claim within this time period shall be deemed to be a waiver of such claim.

DISCLAIMER: The provisions here-in stated DENTSPLY NeyTech sole obligation and exclude all other remedies or warranties, expressed or implied, including those related to *MERCHANTABILITY* and *FITNESS FOR A PARTICULAR PURPOSE*.

LIMITATION OF LIABILITY: Under no circumstances shall DENTSPLY NeyTech be liable to the buyer for any incidental, consequential or special damages, losses or expenses.

LIMITATION OF ACTIONS: The buyer must initiate any action with respect to claims under the warranty described in the first paragraph within one year after the cause of action has accrued.