

Instructions for use

Multimat NTX



The text and illustrations of these Instructions for Use have been compiled with the utmost diligence. Nevertheless, the presence of typographic errors or incorrect data cannot be excluded. Please note that DeguDent GmbH will not be responsible for such errors.

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Dear customer:

Thank you for your confidence in Multimat[®] NTX/NTX^{press}. This furnace for firing and pressing dental ceramics is a safe high-quality device featuring numerous automated functions. It is characterized by ease of handling and minimal training requirements. The device is nearly maintenance-free and suitable for continuous operation.

We hope you will appreciate your results with the Multimat[®] NTX/NTX^{press}.

1 General information

1.1 On these Instructions for Use

Compliance with these Instructions for Use is a prerequisite for the successful and safe operation of the Multimat[®] NTX/NTX^{press}. These Instructions for Use contain important information for operating this unit in a safe, appropriate and economic manner. Compliance with these Instructions for Use also helps avoid hazards, limits repair costs and downtime and increase the reliability and prolong the life of the Multimat[®] NTX/NTX^{press}.

These Instructions for Use must be continuously present in the vicinity of the device and must be read by all persons working with the Multimat[®] NTX/NTX^{press}.

DeguDent GmbH will not be responsible for any damage caused by improper use or operation of the Multimat[®] NTX/NTX^{press} and/or non-compliance with these Instructions for Use.

Note: We are constantly seeking to keep these Instructions for Use up to date. You may download the most recent version from our website **www.degudent.com** at any time.

1.2 Layout elements used in these Instructions for Use

Safety notes related to personal injury, accidents or property damage:



The unit must be opened only by authorized DeguDent GmbH service personnel!

Step-by-step instructions

1. Remove...
2. Locate...

Designations of buttons or user interface elements:

Start firing button

Emphasis:

The front of the unit includes the **display (1)** with its...

Additional notes and hints:

Note: You may also use existing programs to...

1.3 Unit types and year of manufacture

Multimat[®] NTX

Multimat[®] NTX^{press}

Year of manufacture: From 2011 onward

Software version: From 3.0 onward

Note: To the extent that pressing functions are described in these Instructions for Use, these descriptions refer exclusively to the Multimat[®] NTX^{press}.

1.4 Manufacturer and service addresses

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1.5 Intellectual property rights

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1.6 Proper use

The Multimat[®] NTX/NTX^{press} is a device for **firing and pressing dental ceramic materials**. Observe the ceramic manufacturers' directions and recommendations.

Any use outside or beyond those directions or specifications does not constitute proper use. Any damage resulting from such use will be the sole responsibility of the user of the Multimat[®] NTX/NTX^{press}. The same is true of any unauthorized changes to the unit. Proper use presupposes compliance with all instructions on:

- Safety
- Operation
- Care, maintenance and troubleshooting

described in these Instructions for Use. The unit is intended solely for dental laboratory use. Any use in other locations or for other purposes requires prior written approval of DeguDent GmbH.

2 Safety instructions

All DeguDent GmbH devices are designed and produced using **state-of-the-art technology** and following all recognize safety rules.

Nevertheless, using these devices may result in **hazards to operators or third parties or damage** to the Multimat® NTX/NTX^{press} or other property, e.g. if:

- The unit is operated by untrained or not properly instructed personnel.
- The unit is not employed for its proper uses.
- The unit has not been properly operated or maintained.

Use only **qualified and trained personnel** to perform to tasks described in these Instructions for Use. Observe any applicable legal age restrictions!

Personnel to be trained or guided, including vocational trainees, must work with the Multimat® NTX/NTX^{press} only if supervised by an experienced operator!

2.1 Safe transport

The unit weighs **22 kg** (Multimat® NTX)/**24.6 kg** (Multimat® NTX^{press}) and must be lifted and transported by **two** persons.

The unit is shipped in a **cardboard case** and is protected by an upper and a lower interior **foam shell**. These shells are designed such that the **firing base** is also protected from shock by an elastic foam element. When repackaging the unit, make sure that this protective foam element is properly in place.



2.2 Safe operation

To ensure **safe operation** of the unit, read and follow the following instructions:

Do not place the Multimat® NTX/NTX^{press} and the vacuum pump (available separately) in the immediate vicinity of sources of heat to prevent overheating of the unit.

Keep the device clear of the nearest wall or object. The minimum distance is **25 to 30 cm**.

Place the device only on non-flammable surfaces. Keep flammable objects and liquids away from the device.

Position the vacuum pump such that adequate ventilation is assured.

Protect the unit from moisture and steam.

Ensure that the unit and the vacuum pump (available separately) are connected only to the appropriate mains voltage.

Never open the unit under any circumstances. Electric shock hazard!

If the Multimat® NTX/NTX^{press} is not to be used for an extended period, disconnect the unit from mains.

Do not operate the unit unless it is firmly placed on the firing/pressing base to avoid excessive wear and tear on the seals of the firing platform, which might even result in deformation of the carrier plate.

Use only your fingers or a stylus to operate the touch screen. Do not touch the screen with pointed or hot objects.

A furnace with pressing function must always be properly connected to compressed air, even during “normal” vacuum firing cycles.

The pressing tray included with the Multimat® NTX should be used exclusively for pressing cycles. Use the firing base for all firing cycles.

2.3 Maintenance and troubleshooting safety notes

Observe the following rules during **maintenance, repairs, or troubleshooting tasks**:

- All repairs must be performed by authorized DeguDent personnel only.
- All work on electrical components must be performed by qualified electricians.
- Disconnect from mains before opening the unit.
- Use only original replacement parts.

Some components of the Multimat® NTX/NTX^{press} are subject to a certain amount of wear and tear.

It is therefore recommended to subject the unit to technical inspections at yearly intervals.

2.4 Safe handling of ceramic fibres

The **heat insulation** of the firing chamber and the firing base contain **ceramic fibres** that have been rated as carcinogenic. Measurements performed on a ceramic furnace while in use have shown that the actual level of these fibres is significantly lower than the acceptable risk threshold if the furnace is used as per the manufacturer's instructions.

Any damage to the furnace must be repaired by a recognized expert (e.g. DeguDent's Technical Service).

Visible **deposits of fibres are freely accessible parts of the furnace** must be removed by **approved cleaning methods** (e.g. by **wiping them off with a moist cloth** or by **vacuuming using approved filters**).

Fibres must never be blown away with compressed air nor brushed away with brooms or brushes while still dry. Should you detect unusual quantities of visible fibre deposits on freely accessible parts of the furnace, please contact a recognized expert as mentioned above. Use of **defective accessories** containing ceramic fibres must be **discontinued immediately**.

2.5 Warning decals on the unit

The **Hot Surface** warning decal alerts the operator to hot temperatures on Multimat® NTX/NTX^{press} surfaces that may prevail near the firing chamber, especially in the case of higher firing temperatures.



The **Generic Hazard** warning decal is attached near the vacuum pump power receptacle (see **3.2 Connectors, page 9**). This decal alerts you to the following safety hazards:

The vacuum pump power receptacle is intended exclusively for connecting a vacuum pump.

The vacuum pump power receptacle carries mains voltage.

The maximum vacuum pump current is 1 A.



3 Technical description

3.1 Base unit

Both units consist of an attractively designed and stable **metal housing (1)** with a **firing chamber top (2)**. The heat inside the **firing chamber (2)** is generated by a quartz muffle with an openly radiating filament winding. The walls of the heating chamber are filled with **insulating ceramic fibres** to keep the heat loss to a minimum (see also **2.4 Safe handling of ceramic fibres page 7**).

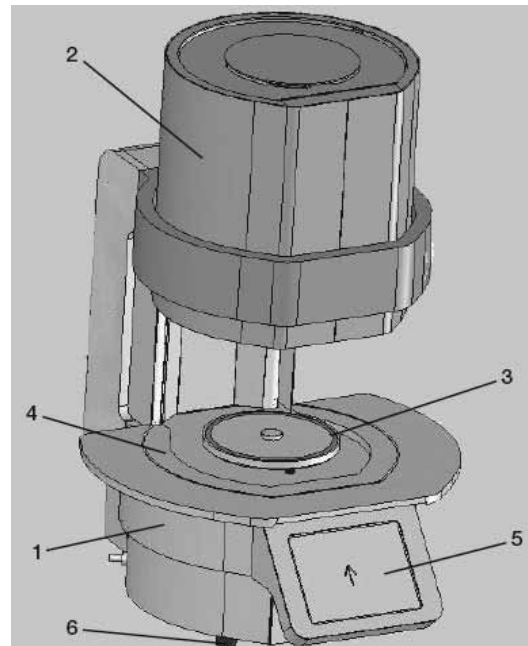
The firing objects are placed on the **firing base (3)** together with the firing support. During the firing process, the firing chamber is lowered onto the carrier plate, to be raised again once the firing process has been completed. The chamber is lowered and raised by a **stepper motor with a geared-down belt drive**.

For more ease of handling, the firing object including the firing support can be placed on the U-shaped **magnetic rest (4)**.

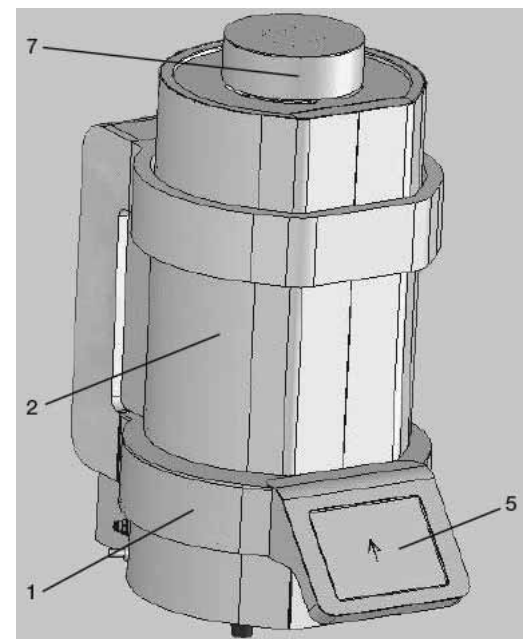
The **touch screen (5)** is ergonomically located at the front of the unit. It allows you to activate the pre-defined (fixed) firing programs or to define and store your own firing programs. All firing processes are controlled by an electronic **microcontroller** inside the unit.

The unit rests on four **feet (6)** for maximum stability.

The Multimat® NTX^{press} additional features a **pressing** function that allows mechanical pressing of pressable ceramics within a running program. To achieve this, a **pressing cylinder (7)** integrated into the upper part of the pressing chamber is moved downwards by air pressure. This also explains why the firing chamber of the Multimat® NTX^{press} is elongated (see illustration).



Multimat® NTX



Multimat® NTX^{press} (firing chamber lowered)

3.2 Connectors

The following electrical components and connectors are available:

Primary power receptacle (8)

Mains switch with automatic circuit breaker (9)

RJ45 socket (10) (for service purposes only)

2 USB connectors (11) for service updates via USB memory stick)

Vacuum pump air inlet (12)

Vacuum pump power receptacle (12) to provide the optional vacuum pump with mains power.

The vacuum pump power receptacle is intended exclusively for connecting a vacuum pump.

The vacuum pump power receptacle carries mains voltage.

The maximum vacuum pump current is 1 A.

External speaker connector, 3.5 mm jack (14)

Pressurized-air connector for connecting the pressing cylinder to the filter-protected pressure regulator (15) (Multimat[®] NTX^{press} only).



3.3 Scope of delivery

The scope of delivery includes:

Multimat[®] NTX/NTX^{press} **ceramic furnace**

Mains cable for high-temperature devices

Instructions for Use

USB memory stick

CD-ROM containing Multimat[®] NTX/NTX^{press} **application software** for Windows operating systems

Touch-screen stylus

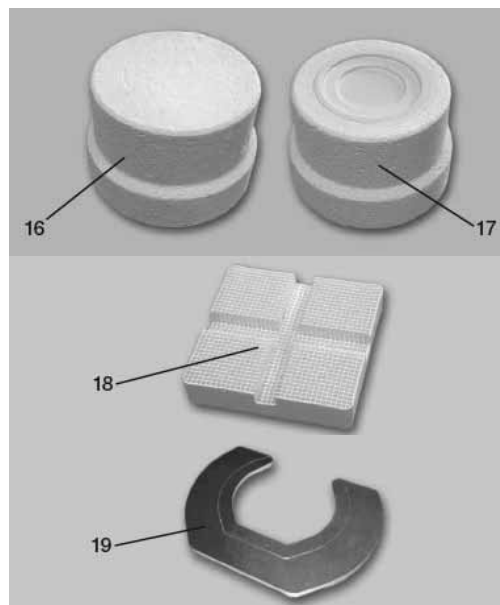
One **firing base (16)**

One **pressing base (17)** (Multimat[®] NTX^{press} only)

One **firing support (18)**

One **firing object plate (19)**

One pair of **tweezers**



3.4 Optional accessories

The following optional accessories are available from DeguDent GmbH:

REF	Description
D03002220VD	Biodent Vacuum pump (20) High-performance vacuum pump for ceramic furnaces
D 03 532 803	Calibration set (21) "Silver wire test, manual" For controlling the temperature of ceramic furnaces; includes: 25 silver wires 0.3 × 37 mm, 5 wire carriers, 1 instruction for use
D 03 260102	Vacuum pump oil 0.5 l
54 69991009	Oil change set
D 03 002 MULT	Firing muffles for Multimat[®], Multimat[®] MC, Ø 92 mm, 1,100 W
D 03002MC2220	Firing muffles for Mach 1, Mach 2, Mach 3, MC II and SC Ø 92 mm, 220 V, 1,200 W
D 03 002 SYSTD	Firing muffles for Systomat D, Systomat M and Systomat, Ø 92 mm
D03002C230V	Quartz firing muffle for Multimat[®] C
54 69991011	Quartz firing muffle for Multimat[®] Touch, Touch&Press Multimat[®] 2 Touch, Touch+Press, Multimat[®] NTX/NTX^{press} and Easy
D430112	FAC muffle set, large
D430111	FAC muffle set, small (not available in Germany)
D430114	FAC alumina piston
D430115	FAC wrapping paper
53 6591 1104	MultiMax 450 muffle set, 4 parts
53 6591 1004	MultiMax 450 rubber sleeve, large



3.5 Technical specifications and operating environment

Power supply	230–240 VAC, 50/60 Hz 100–125 VAC, 50/60 Hz alternatively 120–125 VAC, 50/60 Hz
Acceptable voltage fluctuations	±10% or less
Maximum power consumption	1 580 W, with vacuum pump
Power consumption in sleep mode	18 W
Dimensions (Multimat [®] NTX) (W × D × H/firing chamber up):	280 mm × 430 mm × 410/560 mm
Dimensions (Multimat [®] NTX ^{press}) (W × D × H/firing chamber up):	280 mm × 430 mm × 540/690 mm
Weight (Multimat [®] NTX)	Approx. 22 kg
Weight (Multimat [®] NTX ^{press})	Approx. 24.6 kg
Firing chamber clearance	67 mm
Firing chamber diameter	85 mm
Deployment	Indoors only, on a non-flammable surface
Ambient temperature	5°C–40°C – preferably 20°C ± 2°C
Humidity	80% RH up to 31°C, linear decrease to 50% at 40°C
Heating element	Quartz muffle with an openly radiating filament winding
Maximum firing temperature	1 200°C
Display	TFT touch screen
Pressing pressure	Up to 3 bar, controlled, see pressable-ceramic data sheet
Display and input device	Backlit touch screen, 320 × 240 pixels

3.6 Features

- Menu-driven firing parameter display
- 1000 freely programmable and storable programs; numerous pre-defined sample programs available
- Currently running programs may be modified
- Existing programs can be modified and saved as customized programs
- Existing programs can be copied, deleted or renamed
- Up to 99:59 minutes of vacuum time
- Set and actual vacuum display
- Adjustable vacuum
- Up to 99:59 minutes of firing time
- Up to 25 minutes of firing and pre-heating time
- Heating rates of 1–120°C/minute
- Controlled cooling
- Manual or programmable fast cooling via vacuum pump
- Time-to-completion countdown display
- Overheating protection and muffle monitoring
- High-precision temperature settings
- Standby operation to avoid moisture in the firing chamber
- Vacuum program to avoid moisture in the fibre insulation
- Global hours-of-operation counter
- Vacuum pump hours-of-operation indicator
- Language selection
- Error message display
- Automatic continuation after short-term power-outs
- Unlimited data retention after power-outs
- Automatic mains frequency adjustment
- Beep signals, can be deactivated
- Software-assisted calibration using a silver wire test

5 PC application program

The Multimat® NTX/NTX^{press} includes a PC application program on CD-ROM.

This program will run reliably under the Windows Vista, XP or 2000 (SP2) operating systems. It offers the following features:

- Convenient definition of firing programs in the PC
- Exporting data to the ceramic furnace via a USB stick
- Importing data from the ceramic furnace via a USB stick

A comprehensive installation guide and program description is included on the -ROM as a PDF file.

6 Function button overview



Home (main menu)



Help



Manual cooling



Delete favourite



Open chamber



Close chamber



Back (one screen)



Back (one level)



Stand-by mode



Program selection



Save data



Graphic view



Fire



Tabular view



Stop



Press



Cancel vacuum



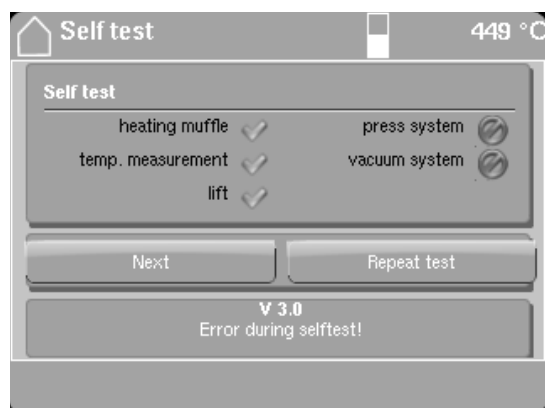
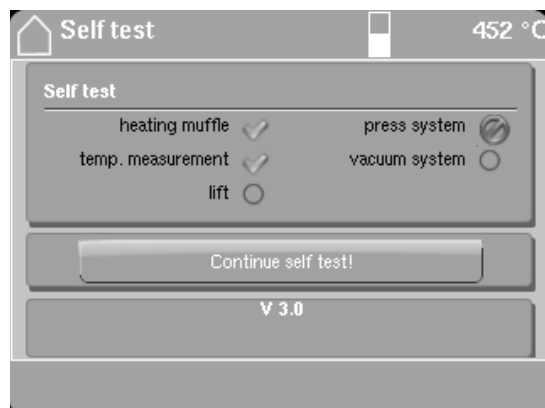
System information

7 Operation

7.1 Turning on the unit

Turn on the unit with the mains switch. The **Self-test** menu appears. Tap the **Continue self-test** button to activate the self-test. If a system has tested operative, this is indicated by a checkmark in the corresponding **checkbox**, in case of errors, the checkbox turns red and is crossed out (see 12, **Error messages and troubleshooting, page 45**).

Tap **Continue** to continue to the **heating program**. This program is turned off by default. This will take you to the main menu.



7.2 Main menu

Once the **self-test** and **pre-heating program** has run, the **main menu** will appear on the display. Custom-selected **favourite programs** or **folders (1)** can be displayed on the left side, allowing them to be started/opened instantly. For more information on defining favourites, see **8.1 Define favourites menu, page 31**.

Tapping the **Fire (2)** button on the top right panel opens the **Fire/Programs** menu. Tapping the **Pressing (3)** button opens the **Press/Programs** menu.

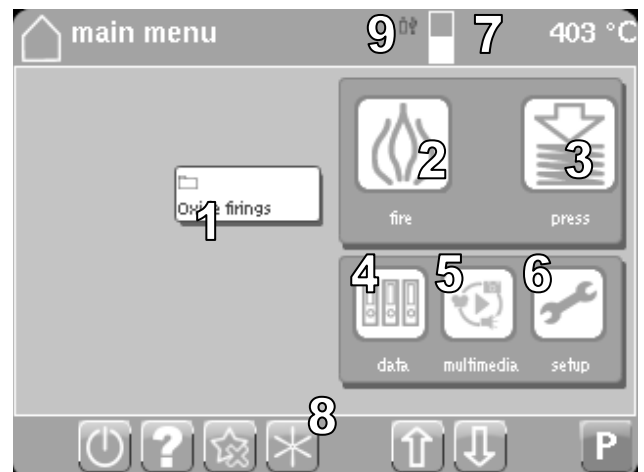
Tapping the **Data (4)** button opens the **Data Administration** menu (see **7.8.1, Data manager menu, page 23**); tap the **Setup (6)** button to open the **Setup** menu. Tapping the **Multimedia (5)** button opens the menu for photo, audio or video files.

The right side of the header always starts with the **chamber icon (7)** that indicates whether the chamber has been raised or lowered.

The menu footer displays the **function buttons (8)** to tap for different program functions. Different function buttons may be used within the various menus as appropriate (see **6, Function button overview, page 14**).

The **USB stick (9)** symbol will appear in the menu header as soon as a USB stick is connected. The stick symbol can have one of three different colours:

- Red: USB device recognized but not usable
- Yellow: USB device with read-only access (please check the USB stick on the PC).
- Green: USB device with read/write access



Tapping the **ON/OFF** button powers down the Multimat[®] NTX/NTX^{press} to Standby mode (customizable).



Tapping the **Delete favourites** button deletes entries for programs or folders saved as favourites from the main menu.



Tapping the **Help** button displays help related to the current symbols.



Tapping the **Manual cooling** button initiates the fast-cooling function (see **8.2 Manual fast cooling, page 32**)



Tapping the **Open chamber** button raises (opens) the firing chamber.



Tapping the **Close chamber** button lowers (closes) the firing chamber.



To directly select a program by its number, tap the **Program selection** button (see **8.3 Selecting and starting a program by number, page 32**).



7.3 Firing/Programs menu

The **Firing/Programs** menu includes two folders called **Fixed Programs** and **My Programs**. These folders let you choose from a number of fixed or custom firing or pressing programs/folders.

Once you open this menu, you will see a selection list of existing folders, each identified by the **Folder (1)** icon. To open the folder, tap on it. The menu will change to display a selection list of folders/programs contained in it. If a selection list contains more than a few folders/programs, you may need to **scroll** up (5) or down (6) to find the corresponding folder/program.

Within the selection lists, folders are characterized by the **Folder (1)** icon, firing programs are characterized by the **Firing (4)** icon and pressing programs are characterized by the **Pressing** icon.

The **Firing/Programs** menu allows you to select a program either from the unit's internal memory or from a USB memory stick inserted into the unit. To select, tap either the **Internal (2)** button or the **USB stick (3)** button. Once you have done so, proceed as described previously.



Tapping the **Home** button returns you to the main menu.

Tapping the **Help** button displays help related to the current symbols.

Tapping the **Back** button returns you to the previously opened menu.

Tapping the **Open chamber** button raises (opens) the firing chamber.

Tapping the **Close chamber** button lowers (closes) the firing chamber.



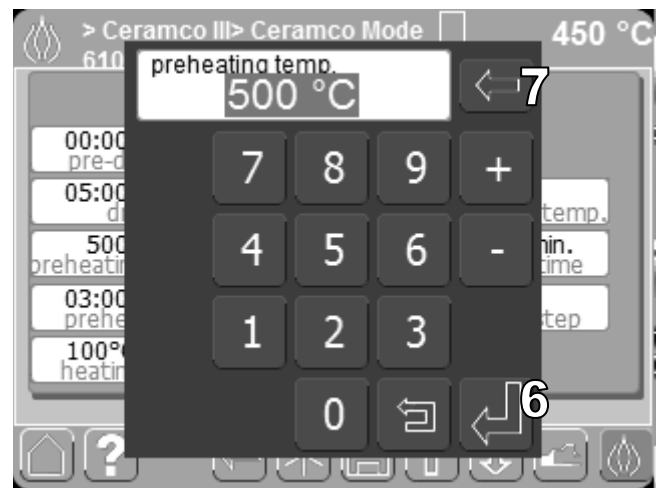
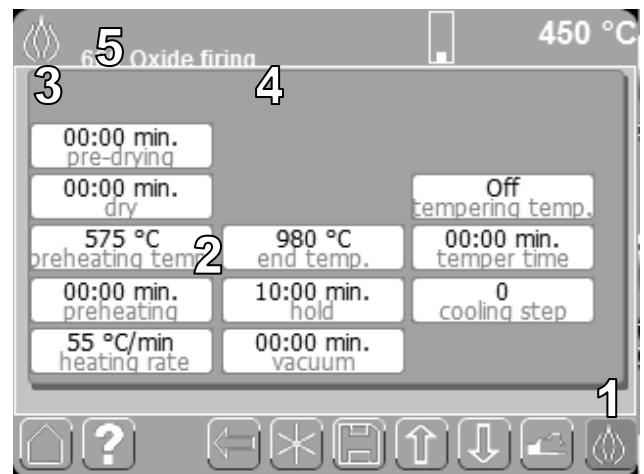
7.4 Program menu

Once you have selected a specific (firing or pressing), a table with the firing or pressing parameters will appear.

You can either start the program directly by tapping the **Fire (1)** button or by editing the firing or pressing parameters.

The **parameters (2)**, e.g. *Pre-heating temp*, are shown in rectangular white fields. If a parameter is selected, a **numeric keypad** will appear to allow numeric entries. Tapping the **Enter (6)** button confirms your entry. Tapping the arrow button on the left cancels your entry and dismisses the numeric keypad. Tapping the **Back (7)** button lets you move the cursor to correct and incorrect entry.

The **Firing (3)** icon in the header identifies the program is a firing program. The **Pressing** icon identifies the program as a pressing program. Next to the eye can you will find the **filename (4)** and immediately below the corresponding **program number (5)**.



The **cooling level** parameter offers several cooling options.

The cooling level feature is activated by default.

The following: levels are available:

Level 0 – Chamber immediately moves to its upper position – no controlled cooling

Level 1 – Chamber opens approx. 70 mm

Level 2 – Chamber opens approx. 50 mm

Level 3 – Chamber position remains unchanged

Use the **numeric keypad (1)** to select the desired cooling level. Tapping the **Enter (2)** button confirms your entry.



Tapping the **Time (1)** button changes the cooling mode to time-controlled.

Use the **numeric keypad (1)** to select the desired cooling level. Tapping **Enter (3)** confirms your entry.

Tapping the **Back (4)** button lets you move the cursor to correct and incorrect entry.



Tapping the **Cooling (1)** button changes the cooling mode back to the cooling levels.

Tapping the **Fast cooling (2)** button turns on automatic fast cooling after firing.

This is indicated in the display by three **asterisks**.

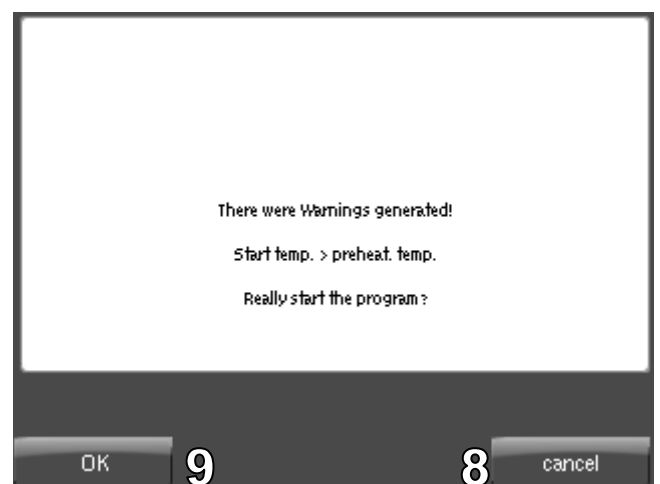
Tapping **Enter (3)** confirms your entry.



Once you tap the firing or pressing icon, the selected program is checked for plausibility. The following messages may appear:

- Base temperature > pre-heating temperature
- Base temperature > final temperature
- No pressing time entered
- The pressure entered
- Base temperature > pre-heating temperature
- Base temperature > final temperature
- Pre-heating temperature > final temperature
- Tempering temperature > final temperature
- Vacuum on > vacuum off
- Vacuum on < pre-heating temperature
- Vacuum selected without indicating vacuum level

Tapping the **Cancel (8)** button takes you back to the table where you can correct your entries. Pressing **OK (9)** starts your program.



Tapping the **Home** button returns you to the main menu.



Tapping the **Help** button displays help related to the current symbols.



Tapping the **Back** button returns you to the previously opened menu.



Tapping the **Star** button initiates the fast-cooling function.



Tapping the **Save data** button lets you save the displayed/edited parameters under a new filename. The filename is entered on the alphanumeric keypad that appears.



Tapping the **Open chamber** button raises (opens) the firing chamber.



Tapping the **Close chamber** button lowers (closes) the firing chamber.



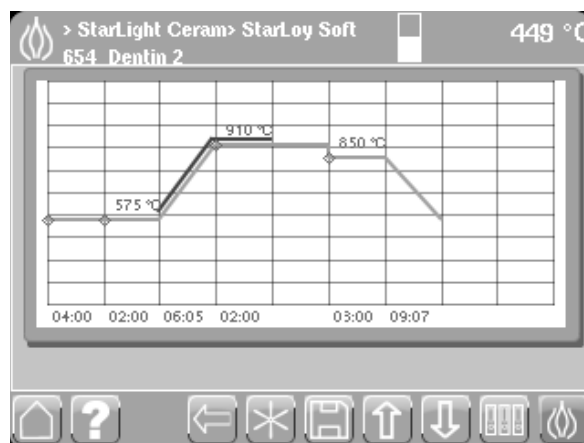
Tapping the **Fire** button starts the selected program.



Tapping the **Graphic view** button opens the **Graph** menu.

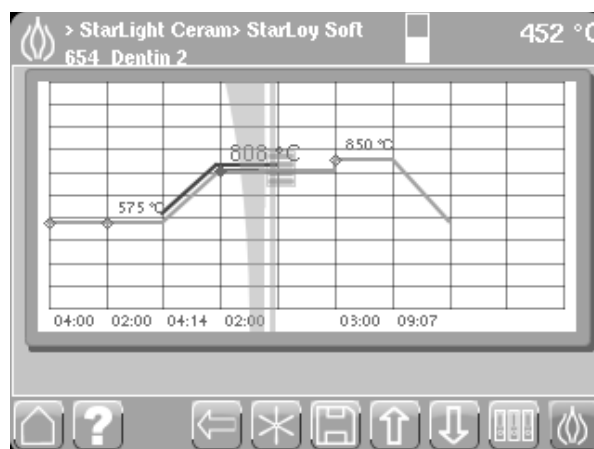


Tapping the **Graph** button will display the firing or pressing parameters in graphic view. The graphic view is also shown after selecting a firing or pressing program. The x-axis indicates time, while the y-axis indicates temperature.



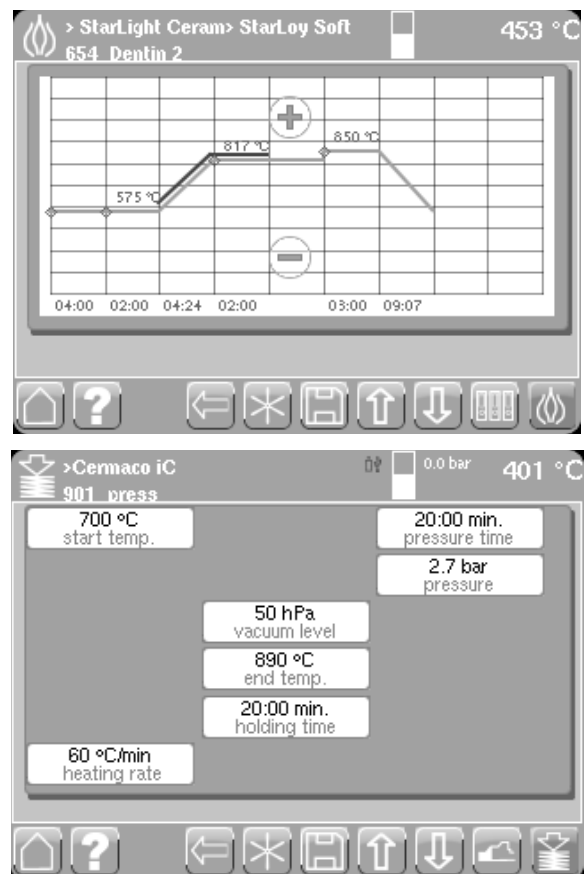
You make changes section of the firing curve by tapping it:

- Pulling the curve upward will increase the temperature.
- Pulling the curve downward will decrease the temperature.



Alternatively, the temperature may be changed by tapping the **plus** and **minus** buttons that appear when you take your fingers off the display.

Pressing programs are edited in the same way as firing programs.



Fixed programs can be modified only for single program run. It is not possible to store the changes to this fixed program permanently. However, you may save the modified program as a custom program.

7.5 Firing parameters

Base temp. The temperature prevailing prior to the start of the firing program. Select a value between 100°C and 1,200°C.

Pre-drying (pre-set drying time). The chamber is heated in order to reach the pre-heating temperature. During this time, the firing chamber will be open. Select a duration between 0 and 25 minutes.

Dry. The chamber is heated in order to reach the pre-heating temperature. During this time, the firing chamber will gradually close. Select a duration between 0 and 25 minutes.

Pre-heating temp. The temperature to be reached prior to firing. Select a value between 100°C and 1,200°C.

Pre-heating. The chamber is heated in order to reach the pre-heating temperature. During this time, the firing chamber will be open approx. 1 cm. Select a duration between 0 and 25 minutes.

Heating rate. This is the speed of the temperature increase during the heating phase. Select a value between 1°C and 120°C per minute.

End temp. (pre-set firing temperature). The temperature to be reached during firing. Select a value between 300°C and 1,200°C.

Vacuum level. Shows a pre-set value representing a vacuum between 1 hPa and 99 hPa.

Hold (pre-set firing time). The duration of the firing. Select a value between 0.0 and 99.9 minutes.

Vacuum. The time during which the vacuum pump will be running. Select a value between 0.1 and 99.9 minutes.

Tempering temp. This temperature setting corresponds to the temperature to be reached during tempering. Select a value between 300°C and 1,200°C.

Temper time. Pre-set tempering time. Select the duration between 0 and 25 minutes.

Cooling step. Cooling in multiple stages results in a gradual release of tension within the ceramic material. Cooling will begin immediately after firing or as programmed via the menu. The following cooling levels can be defined:

- Fast cooling 
- Level 0 – Chamber immediately moves to its upper position – no controlled cooling
- Level 1 – Chamber opens approx. 70 mm
- Level 2 – Chamber opens approx. 50 mm
- Level 3 – Chamber position remains unchanged

7.6 Pressing parameters (Multimat® NTX^{press} only)

In addition to the temperature, vacuum and time parameters, the following parameters must be defined specifically for the pressing procedure:

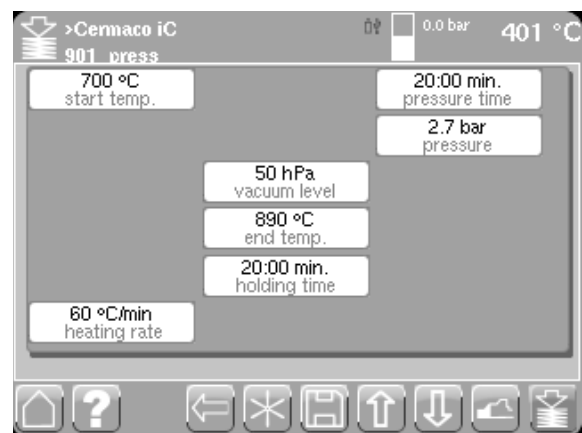
Pressure time. Time during which the pressing ram performs the pressing said. Select a duration between 0 and 25 min.

Pressure. Monitored pressing pressure indicated in bar (pressure cannot be set electrically!).

The starting point in each case is the **base temperature** (preset to 400°C). Once the program has been started, the unit pre-heats to the pre-set **starting temperature**. Once the **starting temperature** has been reached, the chamber opens, and the pressing muffle with its pressing cylinder can be placed on the pressing tray. *Tapping the down arrow closes the chamber and initiates the heating phase at the pre-set heating rate (e.g. 60°C/min).* Once the **final temperature** has been reached, the program enters the **holding phase** during which the vacuum pump will be active. **Pressing** immediately follows the holding phase.

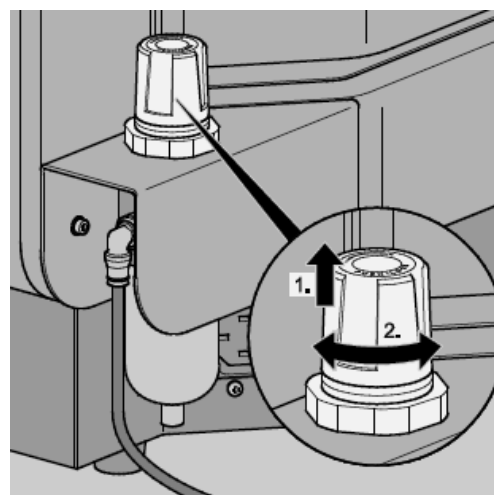
7.7 Setting the “Pressure” program parameter on the Multimat® NTX

The Multimat® NTX offers a permanent pressure control feature. The pressure selected in the pressing program (1) is the pressure required for that program. Before starting the pressing program and as the pressing program is executed, this value is continuously checked against the pressure detected that the pressure reducer. **The pressing program does not change the pressure.** The **current** pressure (2) is shown in the header.



To adjust the current pressure to the required pressure for the selected program, proceed as follows:

1. Pull the pressure control upward (1.)
2. To increase the pressure, turned the pressure control clockwise (2.).
3. To decrease the pressure, turned the pressure control counterclockwise (2.).



Note:

When the pressure is reduced, several seconds may pass until the displayed pressure in the header changes, as the pressure lines of the Multimat® NTX will still be under the previous, higher pressure, which will take some time to decrease. The tolerated difference between the current pressure and the pressure selected in the pressing program is **±0.2 bar**.

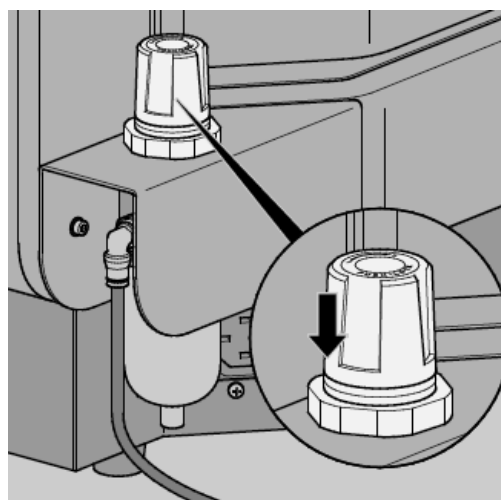
If the current pressure already exceeds the pressure selected for the pressure program at the time the pressing program is started, the pressing program will not be executed. The user will be prompted to select the correct pressure.

If the current pressure exceeds the pressure selected for the pressing program, a message will be displayed after program execution. **Note that the pressing process will not be discontinued.**

To lock the setting of the pressure control, press the pressure control downward. The pressure control will lock.

Note:

To be able to start a pressing program, make sure that the current pressure corresponds to the pressure required by the specific program.



7.8 Data manager

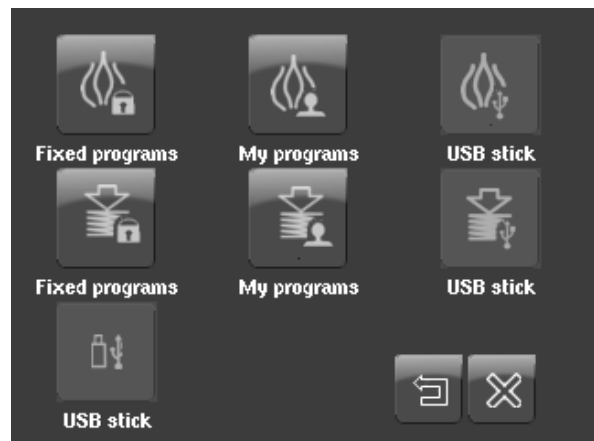
7.8.1 Data manager menu

Tap the **Save data** button in the Main menu to open the **Data manager** menu. Here you can create and manage your folders or pressing and firing programs.



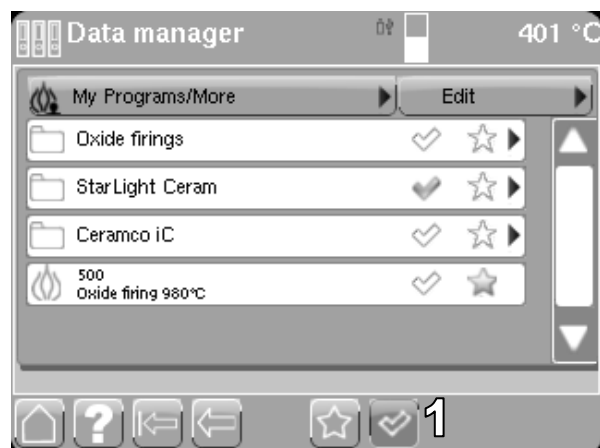
7.8.2 Menu Firing programs

To the appropriate **icon** to open the individual menus for administering firing or pressing programs, fixed programs or custom programs or USB stick data.



7.8.3 Copy/Move

Once you have selected the **Firing/Fixed Programs**, you will see a list of programs. Tapping the **Selection (1)** button will activate the selection function. Tap the folder/program you want to work with (the corresponding checkmark will turn green) and then tap the **Edit** button.



You can now select what operation to perform on the selected program.

The following operations are available:

- New (only for **Firing/My Programs** or **Pressing/My Programs**)
- Copy
- Move
- Rename
- Delete
- Insert (only if **Copy** or **Move** was selected).

Fixed programs cannot be renamed, moved or deleted.

Fixed programs can only be copied to the custom programs area or to a USB memory stick.

Once you have selected one of the available operations, will be returned to the selection window.

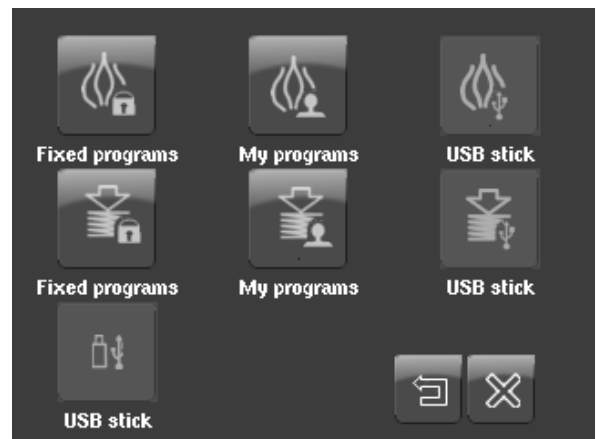
If the selected operation is **Copy** or **Move**, you may now select the target folder to copy/move the folder/program to. To do so, tap the **Edit (2)** button.



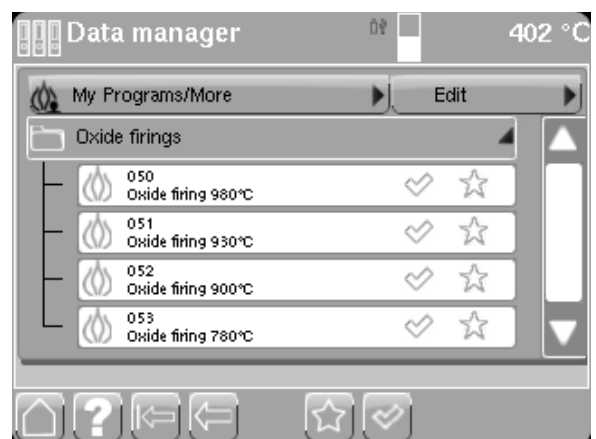
The selection window for the firing/pressing programs will open. Open the desired target area, e.g. **My Programs**, by tapping it. Tap the desired target folder the selected. The folder open, showing the firing/pressing programs it contains.



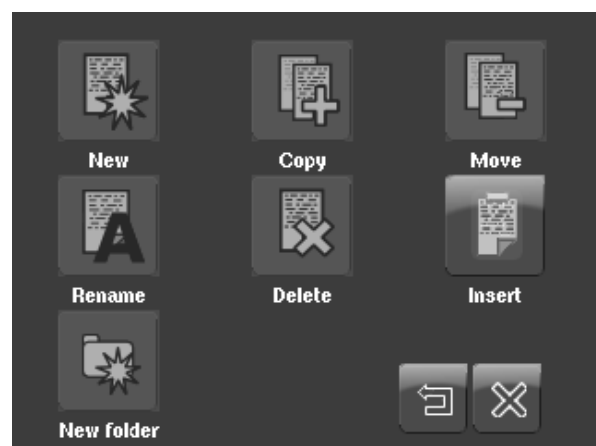
Tap **Edit** again. You will see a selection window with available operations.



The **Insert** icon is now active. Tap it to open the list of memory locations (numbers).



Memory locations already in use will be shown in red; available memory locations will be shown in green. Select a free memory location and tap the **Enter** button. The program will be inserted (saved) into the previously selected folder. If you select a memory location that is already in use, that number will turn yellow. Programs that have been saved cannot be overwritten. Instead, all programs will be moved to a block of free memory locations.



Hint:

When copying or moving multiple programs, make sure that a sufficiently large block of memory locations is available by moving or deleting existing programs.

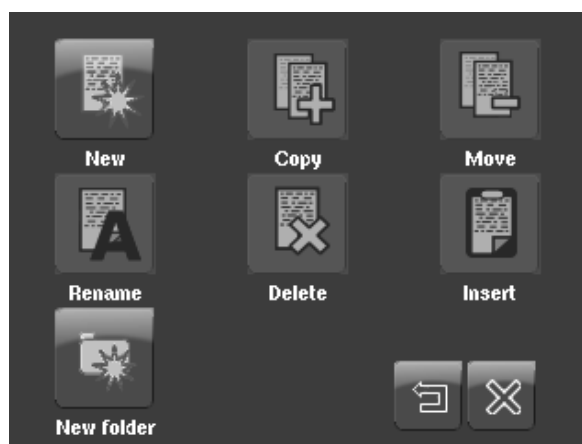


7.8.4 Create a program

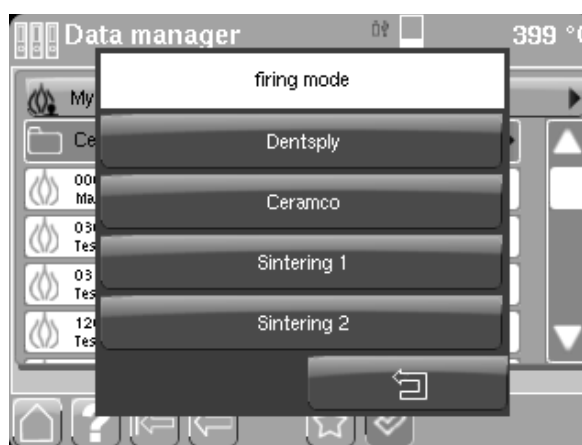
You may create new firing/pressing programs in the custom programs area. To do so, select the desired target folder for the new program from the selection window for the firing/pressing programs. The folder open, showing the firing/pressing programs it contains.

Tap the **Edit** button. You will see a selection window with available operations.

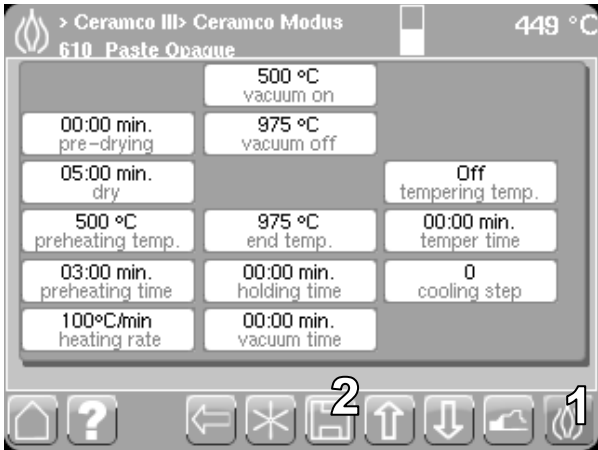
Tap the **New** button to open the menu for creating a new firing program.



Now select the desired **firing mode**. This will take you to a screen with pre-set parameters, which you may modify if desired by tapping them, setting the appropriate values and then tapping the **Enter** button.

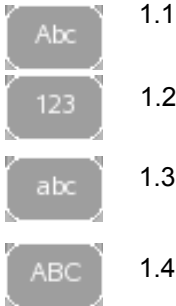


You may either tap the **Fire (1)** button to start firing program immediately or give the program a name and save it using the **Save data (2)** button.



Tap the **Typing Mode (1)** button to alternate the overlay keyboard between uppercase and lowercase letters.

The Typing Mode button will change mode each time it is tapped. In mode 1.1, only the first letter of each word will be capitalized. Mode 1.2 allows only numeric digits to be entered. Mode 1.3 allows only lowercase letters to be entered. Mode 1.4 finally allows only uppercase letters to be entered.



Tapping the **Search (1)** button will automatically locate a free memory location. Tapping the **Table (2)** button will let you select a memory location yourself.

Memory locations already in use will be shown in red; available memory locations will be shown in green. If you select a memory location that is already in use, that number will turn yellow. Confirming the selection will save the program to the next available memory location.

Once you have selected a memory location and turned it by tapping **Enter (3)**, the new program name and memory location will be displayed. You can now either start the program by tapping the **Fire** button or open it later via the main menu (**Data, My programs**).



7.8.5 Rename programs

The **Rename** button will let you rename programs or folders.

Select the corresponding folder/program by tapping it and then tapping the **Edit** button.

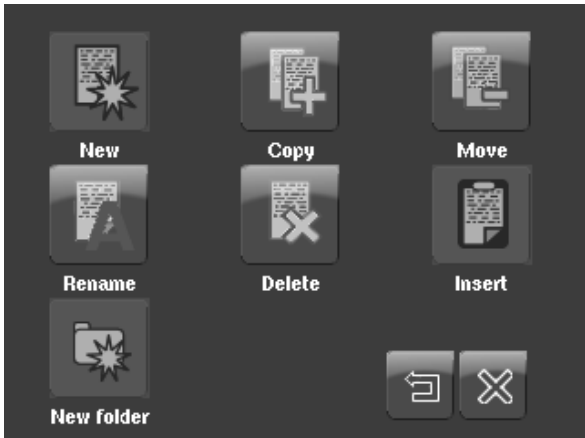
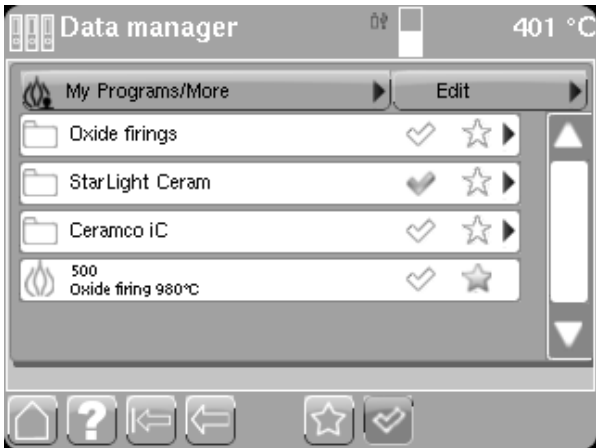
Then tap the **Rename** icon.

Enter a name for the new folder and confirm by tapping the **Enter** button.

Tap the **Typing Mode (1)** button to alternate the overlay keyboard between uppercase and lowercase letters.

The Typing Mode key will change mode each time it is tapped. In mode 1.1, only the first letter of each word will be capitalized. Mode 1.2 allows only numeric digits to be entered. Mode 1.3 allows only lowercase letters to be entered. Mode 1.4 finally allows only uppercase letters to be entered.

	1.1
	1.2
	1.3
	1.4



7.8.6 Delete firing programs

The **Delete** button lets you delete programs or folders.

This menu lets you delete individual firing programs or entire folders within the **My Programs** folder.

Folders/programs are selected by tapping the corresponding **checkboxes**. Tap the **Edit** button.



Then tap the **Delete** icon.

You will be shown a confirmation prompt to help prevent accidental deletions. On confirmation, the selected folder/programs will be deleted from internal memory/the USB memory stick.



7.8.7 Create new folders

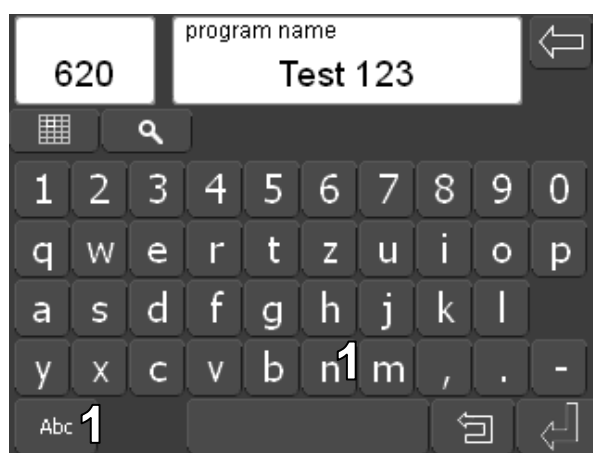
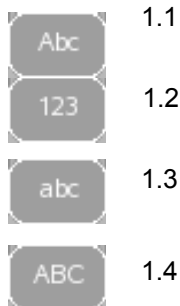
The **New folder** button let you create a new folder.

Tap the **Edit** button and then tap the **New folder** button. Enter a name for the new folder and confirm by tapping the **Enter** button.



Tap the **Typing Mode (1)** button to alternate the overlay keyboard between uppercase and lowercase letters.

The Typing Mode key will change mode each time it is tapped. In mode 1.1, only the first letter of each word will be capitalized. Mode 1.2 allows only numeric digits to be entered. Mode 1.3 allows only lowercase letters to be entered. Mode 1.4 finally allows only uppercase letters to be entered.



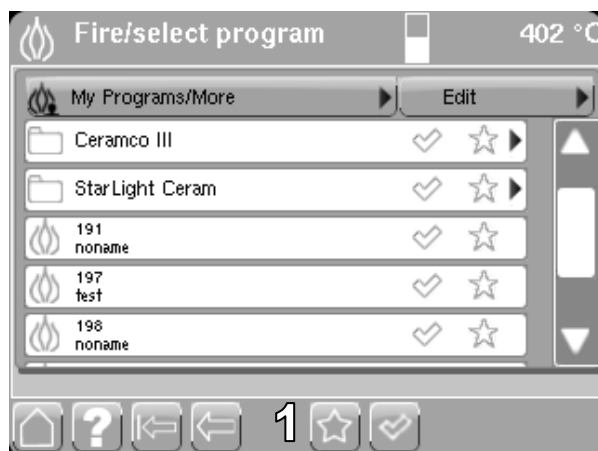
8 Special features

8.1 Define favourites menu

You can save programs you expect to use frequently to the **Favourites** in the main menu to be able to start them directly from there.

Tapping the **Star (1)** button will activate the favourites feature. Tapping the folder/program will take you to the table where you can store your favourites.

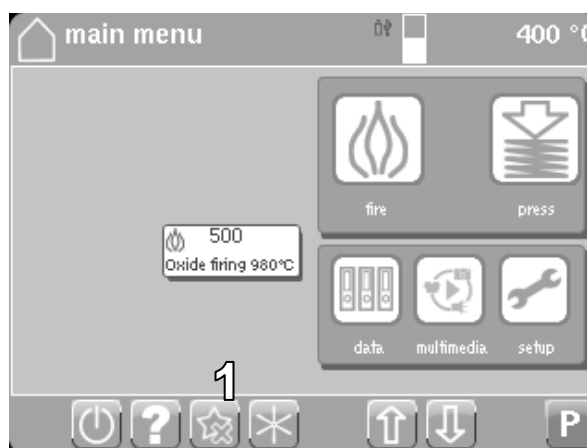
(Keeping the stylus on the yellow **Star** symbol for several seconds will turn it white again, and the corresponding program or folder will no longer appear as a favourite in the main menu.)



Tap a free favourites position to link the desired program to the button and place it on the left side of the main menu. Folders/programs stored as favourites are marked with a yellow star in the selection list. With the favourites feature active,, tapping a folder/program marked with a yellow star will remove it from the list of favourites (see 7.2, Main menu, page 16)



Tapping the **Delete favourite (1)** button lets you remove programs or folders saved as favourites from the main menu.



The corresponding folder/program is removed by tapping its deletion symbol. Tapping the **Escape (1)** button cancels the action and returns to the previous menu.



Tapping the **Home** button returns you to the main menu.



Tapping the **Help** button displays help related to the current symbols.



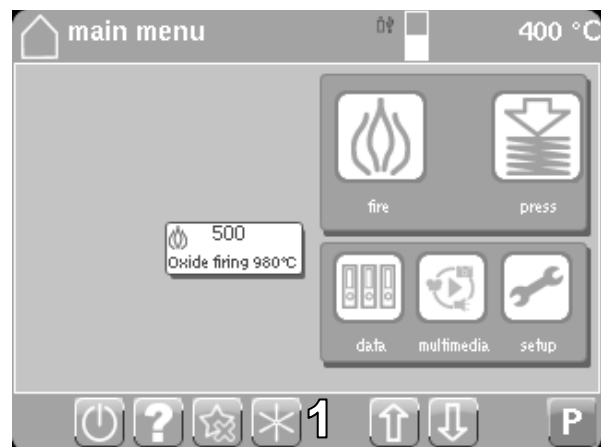
Tapping the **Back** button returns you to the previously opened menu.



8.2 Manual fast cooling

Fast cooling means that the vacuum pump is turned on **immediately after termination of the program** once the firing chamber has opened and will suck in air through the firing chamber until the base temperature is once again reached.

To start **manual cooling**, wait for the program to terminate and then tap the **Star (1)** button. The firing chamber will be lifted, and the vacuum pump will run until the base temperature is reached.



8.3 Selecting and starting a program by number

1. Tap the **Program selection** button on the main menu.
2. Use the **numeric keypad** to enter the number of the desired program and confirm by tapping the **Enter** button.
3. The menu for the corresponding **program** (firing or pressing program) appears.



4. Tap the **Fire** or **Press** button to start the program.



8.4 Entering standby mode

The Multimat[®] NTX/NTX^{press} standby mode **optimizes the moisture level** inside the firing chamber and keeps moisture away from the insulation. Standby refers to **constant heating** at a fixed temperature (can be selected between 0°C and 150°C).

The standby temperature is defined in the **Settings** menu (see

8.5 Multimedia

Tap the **Multimedia (1)** button to open the multimedia file management menu. The multimedia file must reside on a USB memory stick.



In this menu, the data are arranged by

- Photos
- Audio
- Video

Tapping the **Photo** button will open a folder on the USB stick, where you can view or edit stored photo images.



Tapping an image file once will open the photo viewer. Alternatively, you can tap the **Selection (1)** button and start the photo viewer by tapping the **Multimedia (2)** button.



When the photo viewer opens, all photos residing on the USB memory stick are previewed in a film strip. The selected image or the first image of the selection are indicated by yellow frame and shown in an enlarged preview. Tapping the **Full screen (1)** button displays the yellow-framed image in **full-screen mode (4)**.

Use the **arrow (2)** buttons to move to the next image. The **skip (3)** buttons take you to the first or last image in the strip.

Image specifications

File format:

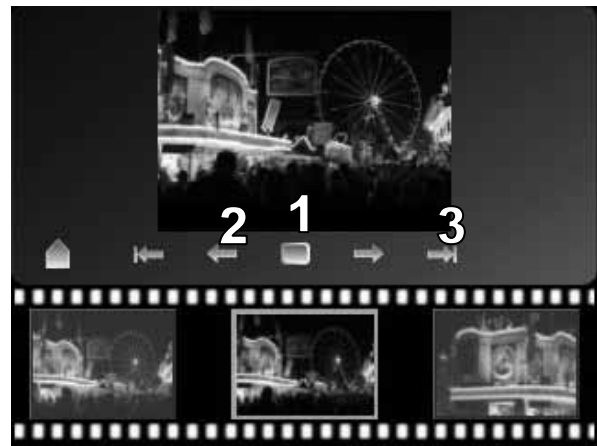
3GP, 3rd Generation Partnership Project
e.g. Nokia Phone Video)

Video:

Codec: MPEG4,
Frame size: 320 × 240
Frame rate: 20 frames/s
Bit rate: 128 kbps

Audio:

Codec: AAC-LC
Bit rate: 128 kbps
Sampling rate: 48 kHz



Audio and video files can be played back or edited in the same manner. Tapping on an audio file will open the audio player and play back the selected audio file or files on the USB memory stick. Tapping the **Minimize (1)** button minimizes the player, allowing you to continue operating the furnace as the audio file continues to be played.

Format specifications

Audio files must be in MP3 format.
Bit rate: 128–256 kbps



DeguDent GmbH will not be responsible for any damage caused by playing a video, audio or other file.

9 Setup

Tapping the **Setup (1)** button in the Main menu will take you to the **Setup** menu. From here you can reach other submenus or you can define settings or activate functions:

The **Settings** menu contains several basic device settings such as the standby temperature. 9.1 The **Parameters** menu contains various parameters such as cycle times (see 9.1, **Settings menu**, page 35).

The **Update** menu contains options for installing the most recent version of the Multimat® NTX/NTX^{press} controller software.

Backup opens a menu for backing up data on a USB stick.

In addition to the firing and pressing programs, the Multimat® NTX/NTX^{press} offers several utility programs, e.g. for calibration using a silver wire test or for drying. These can be accessed in the **Special programs** menu (see 9.2, **Special programs menu**, page 37)



9.1 Settings menu

The **Settings** menu is reached from the **Setup** menu. It allows you to define certain basic device settings (default values):

Basic temperature. Sets the temperature prevailing prior to the start of the firing program.

Standby temperature. Sets the temperature for standby mode.

Upper temperature limit. Maximum firing temperature.

Vacuum level. Vacuum level.

Auto. Selftest: Select On or Off. If the setting is On, the selftest will be started automatically once the firing chamber is closed.

Temperature unit. Select °C or °F.

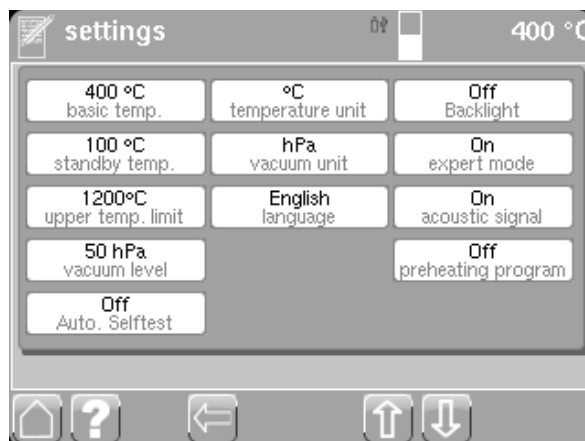
Vacuum unit. Select bar or hPa.

Language. Select the menu/display language.

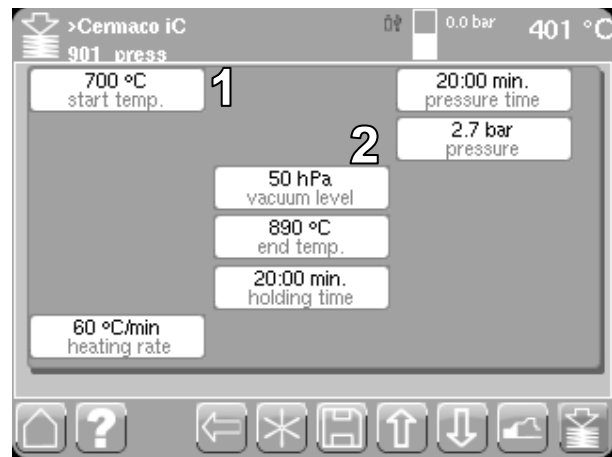
Backlight.

On: Backlight on in standby.

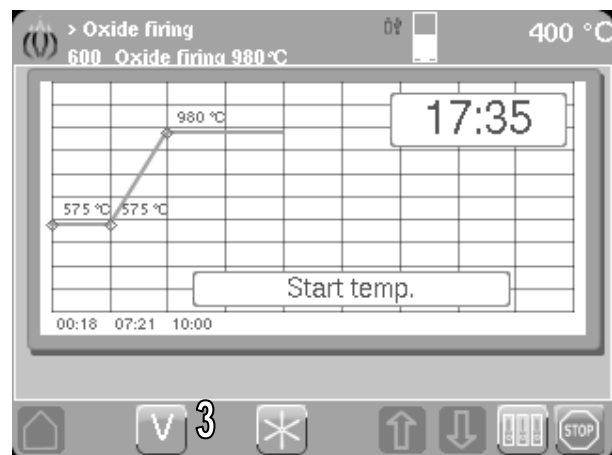
Off: Backlit off in standby.



Expert mode. If expert mode is activated, the **Fire** menus will additionally contain the **Basic temperature (1)** and **Vacuum level (2)** parameters.

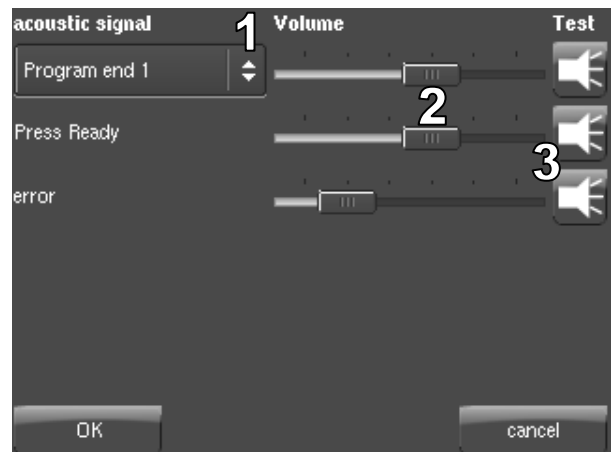


The graphic representation of a firing program additionally contains the **Cancel vacuum (3)** button. This button allows removing the vacuum manually at any time once the furnace has attained the pre-selected vacuum. A cancelled vacuum **cannot** be restored.



Acoustic signal. Can be turned on or off. The volume can be controlled. The following options are available:

- **End of program**
Tapping the **arrow** buttons (1) selects one of two possible acoustic signals. Use the **slide control** (2) to select the desired volume. Tapping the **speaker symbol** (3) lets you test the acoustic signal.
- **Ready to press**
Use the **slide control** (2) to select the desired volume. Tapping the **speaker symbol** (3) lets you test the acoustic signal.
- **Error**
Use the **slide control** (2) to select the desired volume. Tapping the **speaker symbol** (3) lets you test the acoustic signal.



9.2 Special programs menu

The **Special programs** menu is reached from the **Setup** menu. Here you can start a number of calibration and maintenance programs.

Silver wire test. Starts the calibration program (see **11, Calibration using a silver wire test, page 43**).

Heating program: Starts the pre-heating program to heat the muffle to the pre-defined temperature (see **10, Maintenance and cleaning, page 42**).

Dehydration: Starts a program for pre-heating or for dehydrating the insulation layer (see **10, Maintenance and cleaning, page. 42**).

Two programs are available:

- **Dehydration with pump**
- **Dehydration without pump**

Cleaning cycle: Use to clean the firing chamber, including the carrier and pins.

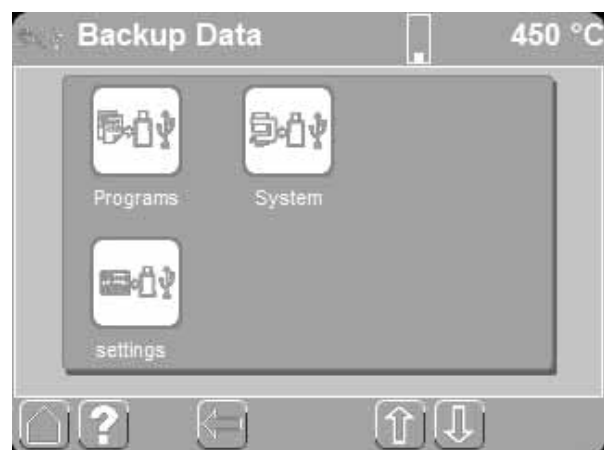
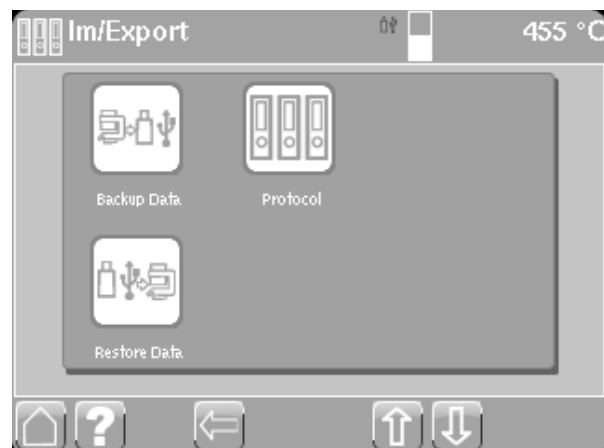


9.3 Backup menu

This menu allows data to be backed up and restored.

In the **Backup Data** menu, the data may be backed up separately by

- Programs
- System
- Settings



After tapping **Backup Data**, the data will be backed up to the USB stick, and a corresponding message is displayed.



9.4 Parameters menu

The **Parameters** menu is reached from the **Setup** menu. It contains various device parameters:

Operating hours furnace. Indicates how many total hours the furnace has been in operation.

Operating hours muffle. Indicates how many total hours the muffle has been in operation.

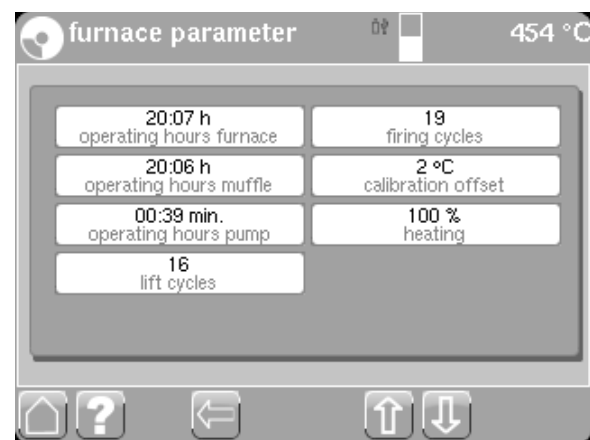
Operating hours pump. Indicates how many total hours the vacuum pump has been in operation.

Lift cycles. Indicates how often the firing chamber has been raised/lifted.

Firing cycles. Number of firing cycles.

Calibration offset. Enter/read the calibration offset (see 11, **Calibration using a silver wire test**, page 43).

Heating. Indicates the power factor.



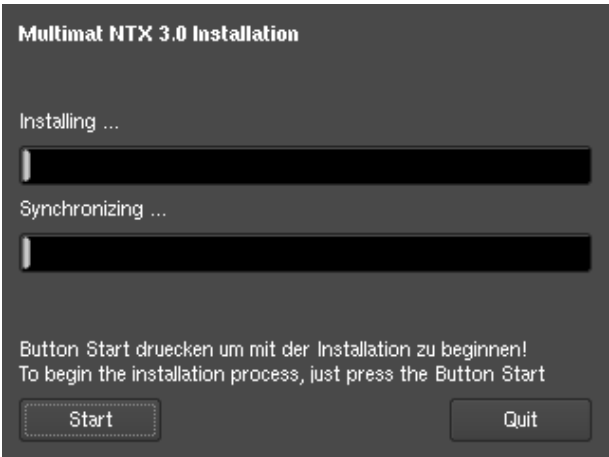
9.5 Update menu

The **Update** menu is reached from the **Setup** menu. Once the USB memory stick has been inserted and detected, tap the **Start update** button to update the system software to the most recent software version.

Tap the **Start** button to activate the update installation function. Tap the **Start** to start the actual update. Depending on the update type, the update may take up to 5 minutes. A progress bar will show how far the update has proceeded.



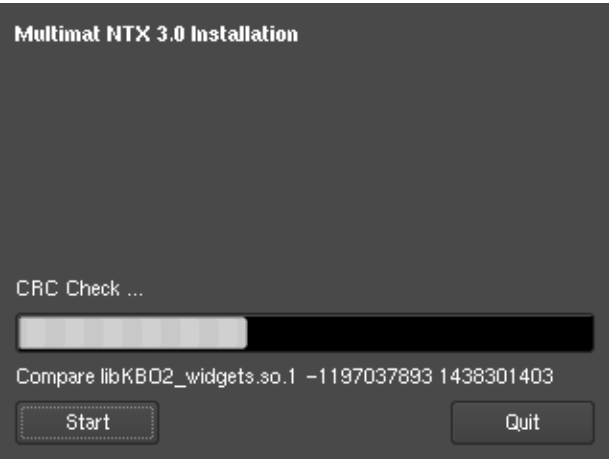
Once the update is done, the unit is re-started by the Package Manager.



Restart the furnace using the power switch.

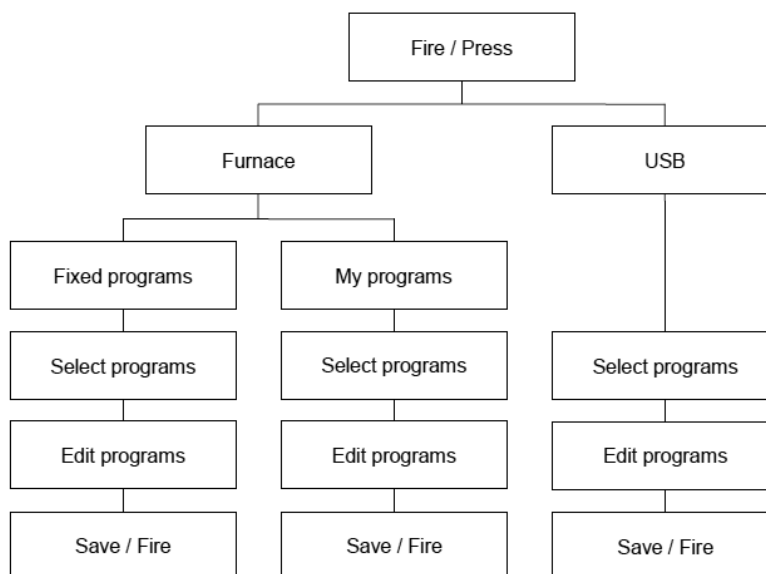


After each software update, the system file installation is verified during the startup process. A progress bar will show how far this verification has proceeded. Once the verification process has been completed, a self-test will be conducted.

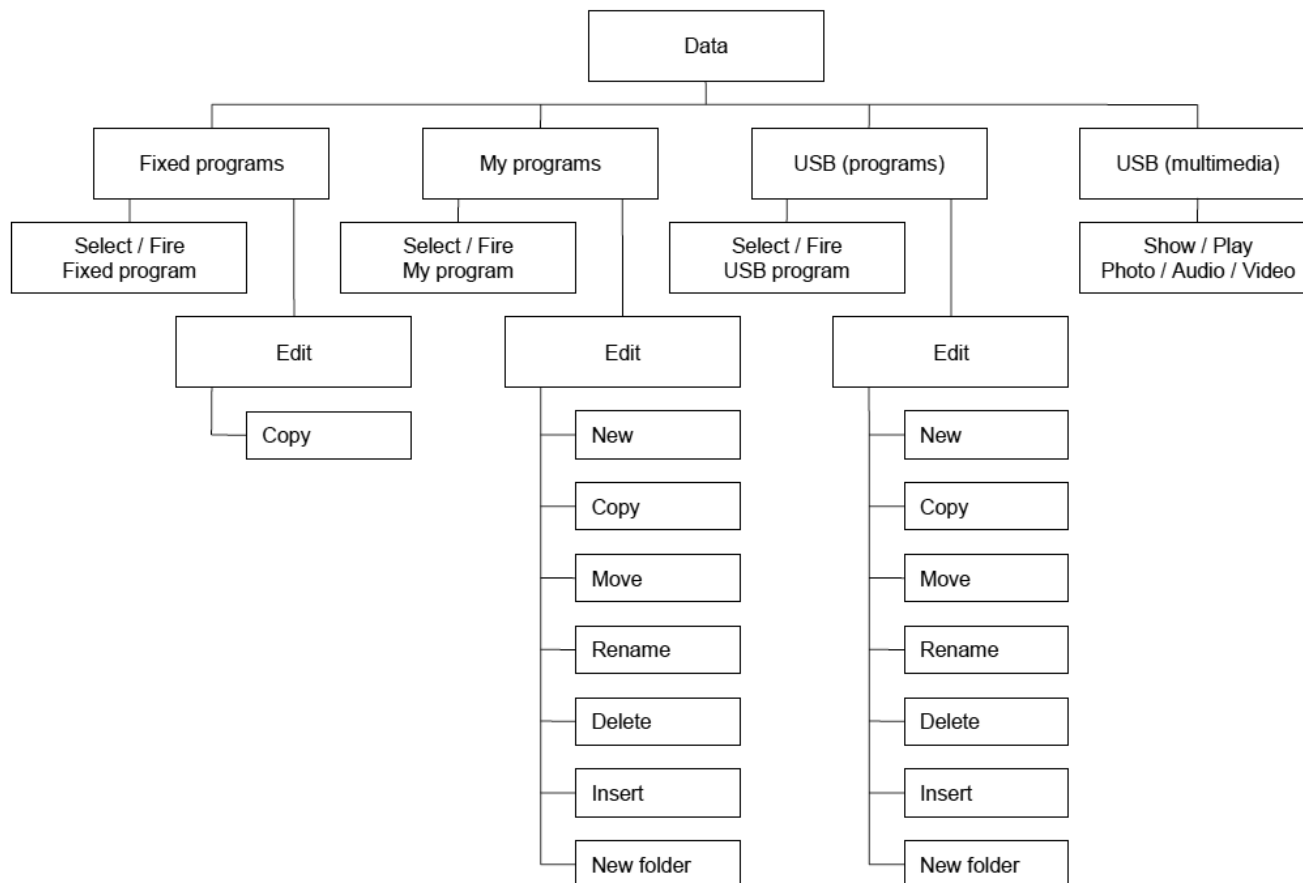


9.6 Menu structures overview

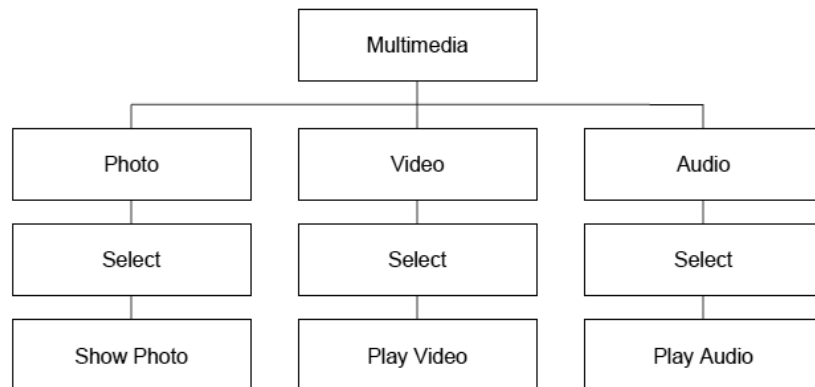
9.6.1 Menu structure „Fire / Press“



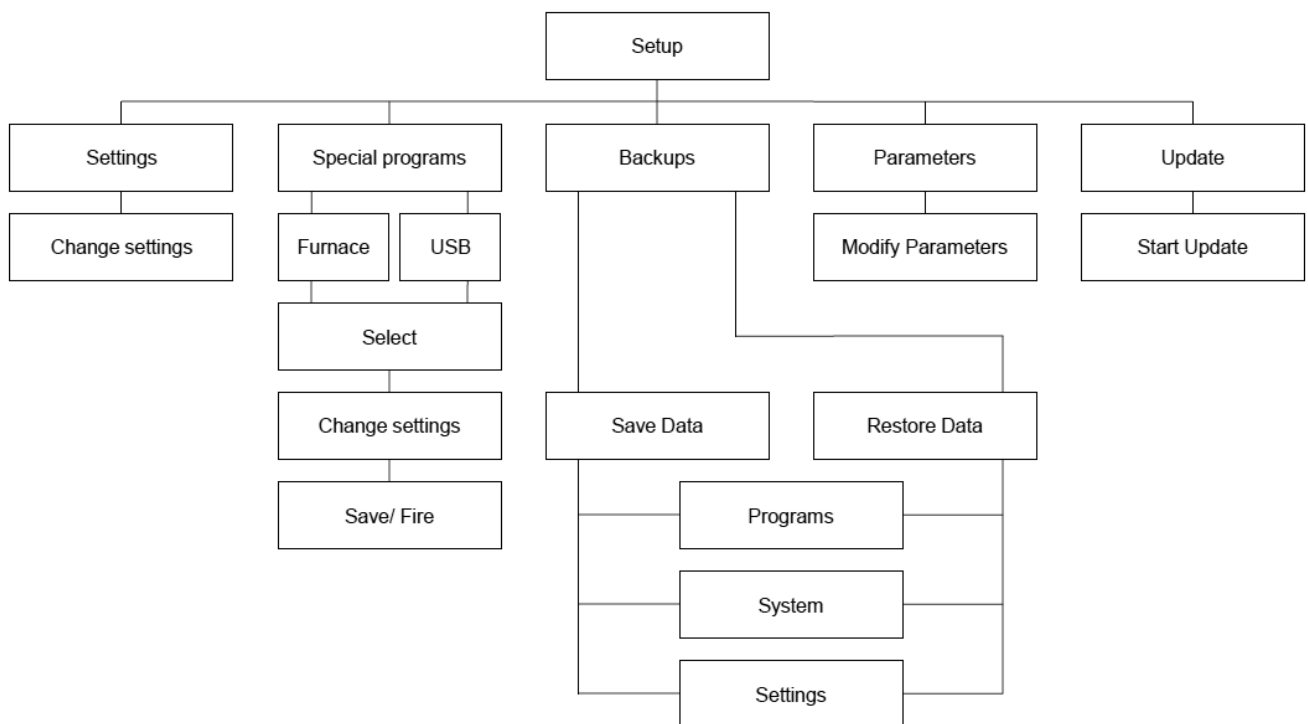
9.6.2 Menu structure „Data“



9.6.3 Menu structure „Multimedia“



9.6.4 Menu structure „Setup“



10 Maintenance and cleaning

10.1 Heating program

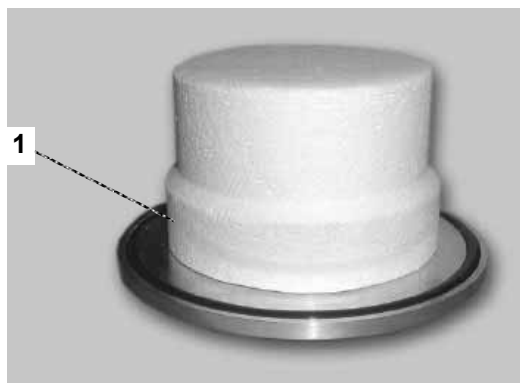
A special program for pre-heating or for drying the insulation layer at the period of non-use has been pre-defined and stored in the unit's internal memory. Its parameters are as follows:

You can start the cleaning cycle from the main menu (Setup, Service programs) (see **9.2, Special programs menu, page 37**)

10.2 Firing support maintenance

The firing support (see **3.1 Base unit, page 8**) serves to seal the bottom of the firing chamber. In addition, the **O-ring (1)** ensures a close seal at the sealing surfaces.

Regularly **check** the surface of the firing support/the O-ring for deposits or damage. **Replace** damaged O-rings immediately.



10.3 Replacing the firing muffle

If the quality of the firing process deteriorates or if recalibration becomes necessary more frequently (see **11, Calibration using a silver wire test, page 43**) the reason may be that the firing muffle has reached the end of its useful life.



The firing muffle must be replaced only by authorized DeguDent GmbH service personnel!

10.4 Vacuum pump maintenance

The **vacuum pump** (see **3.4 Optional accessories, page 10**) requires separate maintenance steps, such as oil changes.

For more information, consult the Instructions for Use of the respective vacuum pump.



11 Calibration using a silver wire test

The **temperature control** has been precisely calibrated at the factory. Environmental factors, however, may cause the selected temperature and the actual temperature during the firing process to **drift apart over time**. This can be done by **calibrating the unit** and entering a **calibration offset**. Proceed as follows:

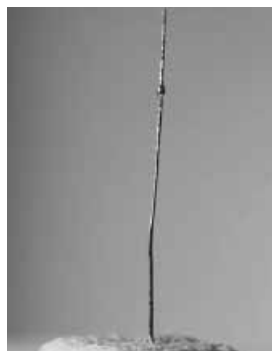
1. Turn on the Multimat[®] NTX/NTX^{press} (see 7.1, **Turning on the unit, page 15**).
2. Set the base temperature to 650°C and pre-heat the furnace for one hour with the chamber closed. While waiting, insert the silver wire into the wire carrier (see 11.1, **Silver wire calibration program, page 44**)
3. Select Program no. 475.
4. Open the firing chamber and centre the white carrier and silver wire on the firing base.
5. Start the calibration program (see 11.1, **Silver wire calibration program, page 44**).

Indicate the final temperature for the silver wire calibration test and tap the **Fire** button to start the process.

At the end of the firing cycles, you will be asked to indicate whether the firing was executed properly.

- Tap **Yes** if the firing was executed properly. The corrected data will be accepted by the system.
- Tap **No** if the temperature was too high or too low. Indicate a corrected final temperature for the silver wire calibration test and tap the **Fire** button to restart the process.

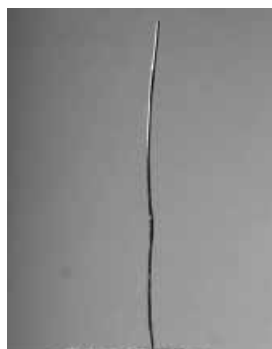
If the selected temperature corresponds to the actual temperature (to within $\pm 2^{\circ}\text{C}$), a **small bead of melted silver** will appear at the tip of the silver wire. In this case, it will not be necessary to enter a calibration offset.



If the silver wire has partially or completely **melted to a clump**, this means that the temperature is too high.



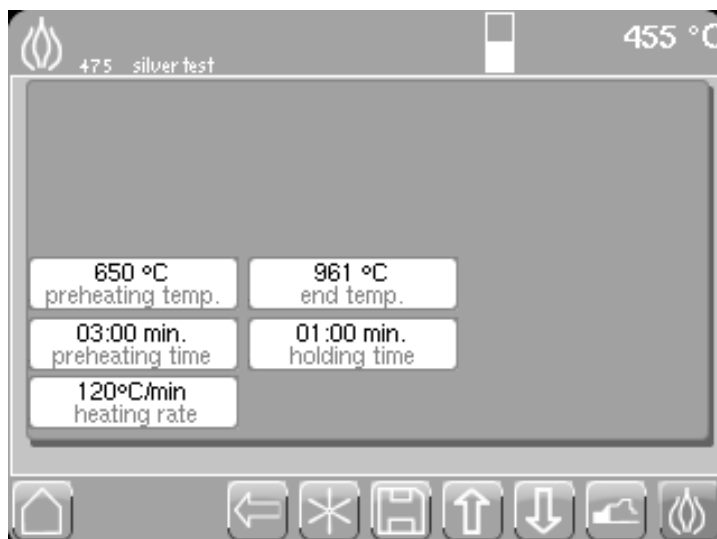
If the surface of the silver wire does **not show any signs of melting**, the temperature is too low.



11.1 Silver wire calibration program

The calibration program has been pre-defined and stored in the unit's internal memory. Its parameters are as follows:

Pre-heating temp	650°C
Vacuum level	0 hPa
Vacuum time	0 min
End temp	961 °C (melting point of silver)
Holding time	1 min
Cooling level	0



12 Error messages and troubleshooting

Various failure states and errors are shown in the display in the form of error messages. The following table lists and explains these messages:

Error message	Possible Causes	Potential remedy	Action(s)
F 02	Multimedia	Audio or image format was not recognized – audio or image file cannot be replayed	Make the file available in a different format (see the restrictions on audio or image files).
F 05	Vacuum still prevails	No air is entering the system	Notify service technician
F 06	Bus error	Internal system error	If error recurs, notify service technician
F 07	Com error	Error in motor communication	Notify service technician
F 08	Excessive controller temperature	a) Firing support plate above the controller is missing b) Extremely high standby temperature while the chamber is open	Disconnect from mains and allow to cool for about five minutes a) Put support plate in place b) Keep oven them closed when not in use. Restart oven normally once cooled
F 09	Defective heating circuit	Heating muffle or control relay defective	Notify service technician
F 10	Excessive temperature	Current temperature exceeds the pre-set temperature by 35°C or more	Notify service technician
F 11	Reference error	Reference sensor defective	Notify service technician
F 12	Selected vacuum level not attained	Chamber seal or vacuum system leak	Check chamber seal or notify service technician
F 13	Rapid cooling not completed	Stand-by temperature has not been reached	Wait until the stand-by temperature has been reached or terminate rapid cooling with ESC
F 14	Power outage has occurred	Short-term power outage during firing	Check firing result
F 15	Heat sensor error	Internal measurement error	If error recurs, notify service technician
F 16	Battery error	Backup battery voltage too low	Have a service technician change the battery
F 19	Access denied	No read or write access possible for this file	Save the data to a different location or under a different name
F 20	Out of memory	The unit's internal memory is full	Delete any data or programs no longer needed
F 21	Defective program	Memory error	The controller will delete the defective program automatically; program must be re-entered
F 23	Vacuum was not relieved	Ventilation valve defective	Notify service technician

Error message	Possible Causes	Potential remedy	Action(s)
F 24	Pressure	The desired pressure is not available	Check whether the unit is properly connected to compressed air. and select the correct pressure at the pressure reduced (see 4.2 Setting up and connecting, page 13); if the desired adjustment is not possible, notify service technician
F 25	Heat sensor broken	Heat sensor or heat sensor wiring broken	Notify service technician
F 26	Incorrect polarity of heat sensor	Plus and minus poles were confused when connecting	Notify service technician
F 27	Error during heating	The furnace experienced a timeout during the heating phase	Restart the unit; if error recurs, notify service technician
F 28	Error initializing the motor control	Motor control could not be initialized during the power-on sequence	Cycle the unit off and back on
F 29	Program number already assigned	An attempt was made to re-assign a program number already in use	Save the program to a different program number, or delete the program that previously occupied the desired number
F 30	Fixed programs cannot be saved	An attempt was made to save a fixed program	Changes to fixed programs cannot be saved to the programs themselves; assign a new program number and save the program as a user-defined program in <i>My programs</i>
F 31	Motor controller error	An error has occurred in the motor controller	Cycle the unit off and on.
F 32	Data files too large	Multimedia data cannot be displayed for size reasons (e.g. pictures larger than 5 megapixels)	Reduce the resolution of the image files (a resolution of 320×240 pixels is recommended)

12.1 Power failure

The Multimat® NTX/NTX^{press} offers a **power failure protection feature** that allows the **currently running program** to be **continued** after a power failure of **less than 60 seconds** as soon as the power returns. You will see error message F 14. The maximum duration of the power failure is defined in the **Settings** menu.

Note: The firing result must be inspected closely even if the firing program was only interrupted for a very short time.

If the power failure lasts for **more than 60 seconds**, the currently running program will be interrupted.

Note: If the **firing chamber** must be open during the power outage, you may **carefully push it up manually**. This will damage neither the motor nor the gear mechanism.



When shipping the unit, please follow the instructions in section 2.1, Safe transport, page 6!



Do not reach into the firing chamber – burn hazard!

13 Fixed programs

Note: The parameters listed here have the nature of recommendations. If necessary, conduct your own test firings and adapt the parameters to your own needs. Note that the cooling levels must be defined as per the alloy manufacturers' recommendations.

Base temperature, pre-heating temperature, tempering temperature – in °C

Pre-drying, drying, pre-heating time, holding time, vacuum time, tempering time, pressing time – in mm:ss

Heating rate – in °C/min

Vacuum, pressing pressure – in hPa

Cooling level – indicated by 1, 2, 3

Oxid firings														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
600	Oxid firing 980°C	575	00:00:00	00:00:00	575	00:00:00	55	980	00:10:00	00:00:00	0	00:00:00	0	0
601	Oxid firing 930°C	575	00:00:00	00:00:00	575	00:00:00	55	930	00:05:00	00:00:00	0	00:00:00	0	0
602	Oxid firing 900°C	575	00:00:00	00:00:00	575	00:00:00	55	900	00:05:00	00:00:00	0	00:00:00	0	0
603	Oxid firing 780°C	575	00:00:00	00:00:00	575	00:00:00	55	780	00:05:00	00:05:00	0	00:00:00	0	0

Ceramco III Ceramco Mode														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
610	Paste opaque	500	00:00:00	00:05:00	500	00:03:00	100	975	00:00:00	00:00:00	0	00:00:00	0	50
611	Powder opaque	650	00:00:00	00:03:00	650	00:03:00	70	970	00:00:00	00:00:00	0	00:00:00	0	50
612	Margin	650	00:00:00	00:05:00	650	00:05:00	70	965	00:00:00	00:00:00	0	00:00:00	0	50
613	Dentine, modifiers	650	00:00:00	00:05:00	650	00:05:00	55	960	00:00:00	00:00:00	0	00:00:00	0	50
614	Natural glaze	650	00:00:00	00:03:00	650	00:03:00	70	945	00:00:30	00:00:00	0	00:00:00	0	0
615	Overglaze	650	00:00:00	00:03:00	650	00:03:00	70	935	00:00:30	00:00:00	0	00:00:00	0	0
616	Add On	650	00:00:00	00:05:00	650	00:05:00	70	940	00:00:00	00:00:00	0	00:00:00	0	50

Vacuum on = Pre-heating temperature

Vacuum off = End temperature

Ceramco iC Precious Metal

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
620	Powder opaque	650	00:00:00	00:03:00	650	00:03:00	55	960	00:02:00	00:00:00	0	00:00:00	0	50
621	Paste opaque	500	00:00:00	00:05:00	500	00:05:00	55	930	00:02:00	00:00:00	0	00:00:00	0	50
622	Neutral mass for Bio alloy	500	00:00:00	00:05:00	500	00:05:00	55	900	00:02:00	00:00:00	0	00:00:00	0	50
623	Paste opaque for Bio alloy	500	00:00:00	00:05:00	500	00:05:00	55	910	00:02:00	00:00:00	0	00:00:00	0	50
624	Shoulder, built-up	600	00:00:00	00:05:00	600	00:05:00	90	880	00:00:30	00:00:00	0	00:00:00	0	50
625	Shoulder, pressed	600	00:00:00	00:05:00	600	00:05:00	90	870	00:00:00	00:00:00	0	00:00:00	0	50
626	Dentine 1	500	00:00:00	00:05:00	500	00:03:00	100	840	00:01:00	00:00:30	0	00:00:00	0	50
627	Dentine 2	500	00:00:00	00:03:00	500	00:03:00	100	830	00:00:30	00:00:00	0	00:00:00	0	50
628	Glaze firing without glaze	e	00:00:00	00:03:00	500	00:03:00	100	820	00:00:30	00:00:00	0	00:00:00	0	0
629	Correction	600	00:00:00	00:05:00	600	00:03:00	100	815	00:00:00	00:00:00	0	00:00:00	0	50
630	Stain glaze	500	00:00:00	00:03:00	500	00:03:00	100	805	00:00:30	00:00:00	0	00:00:00	0	0
631	Glaze firing / Final Shoulder	500	00:00:00	00:03:00	500	00:03:00	100	805	00:00:00	00:00:00	0	00:00:00	0	0

Vacuum on = Pre-heating temperature

Vacuum off = End temperature

Ceramco iC veneers and dies

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
640	Dentine 1	500	00:03:00	00:05:00	500	00:03:00	100	840	00:02:00	00:00:00	0	00:00:00	0	50
641	Dentine 2	500	00:00:00	00:03:00	500	00:03:00	100	830	00:02:00	00:00:00	0	00:00:00	0	50
642	Natural glaze	500	00:00:00	00:03:00	500	00:03:00	100	820	00:00:30	00:00:00	0	00:00:00	0	0
643	Glaze	500	00:00:00	00:03:00	500	00:03:00	100	805	00:02:00	00:00:00	0	00:00:00	0	0

Vacuum on = Pre-heating temperature

Vacuum off = End temperature

StarLight Ceram on StarLoy soft

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
650	Paste opaque 1	575	00:00:00	00:07:00	575	00:02:00	55	980	00:02:00	00:01:00	0	00:00:00	0	50
651	Paste opaque 2	575	00:00:00	00:07:00	575	00:02:00	55	950	00:02:00	00:01:00	0	00:00:00	0	50
652	Shoulder 1+2	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
653	Dentine 1	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	850	00:03:00	2	50
654	Dentine 2	575	00:00:00	00:04:00	575	00:02:00	55	910	00:02:00	00:01:00	850	00:03:00	2	50
655	Glaze	575	00:00:00	00:03:00	575	00:01:00	55	900	00:02:00	00:00:00	850	00:03:00	2	0

StarLight Ceram on StarLoy C

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
660	Paste opaque 1	575	00:00:00	00:07:00	575	00:02:00	55	980	00:02:00	00:01:00	0	00:00:00	0	50
661	Paste opaque 2	575	00:00:00	00:07:00	575	00:02:00	55	950	00:02:00	00:01:00	0	00:00:00	0	50
662	Shoulder 1+2	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
663	Dentine 1	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	850	00:03:00	0	50
664	Dentine 2	575	00:00:00	00:05:00	575	00:02:00	55	910	00:02:00	00:01:00	850	00:03:00	0	50
665	Glaze	575	00:00:00	00:03:00	575	00:01:00	55	900	00:01:00	00:00:00	850	00:03:00	0	0

StarLight Ceram

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
670	Neutral for Bio alloys	575	00:00:00	00:07:00	575	00:02:00	55	900	00:03:00	00:02:00	0	00:00:00	0	50
671	Paste opaque for Bio alloys	575	00:00:00	00:07:00	575	00:02:00	55	900	00:03:00	00:02:00	0	00:00:00	0	50
672	Paste opaque 1 + 2	575	00:00:00	00:07:00	575	00:02:00	55	930	00:02:00	00:01:00	0	00:00:00	0	50
673	Shoulder 1 + 2	600	00:00:00	00:05:00	600	00:02:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
680	Dentine 1 <14,3	575	00:00:00	00:05:00	575	00:02:00	55	910	00:02:00	00:01:00	0	00:00:00	0	50
681	Dentine 2 <14,3	575	00:00:00	00:05:00	575	00:02:00	55	900	00:02:00	00:01:00	0	00:00:00	0	50
682	Glaze <14,3	575	00:00:00	00:03:00	575	00:01:00	55	890	00:02:00	00:00:00	0	00:00:00	0	0
690	Dentine 1 >14,3	575	00:00:00	00:05:00	575	00:02:00	55	910	00:02:00	00:01:00	850	00:03:00	0	50
691	Dentine 2 >14,3	575	00:00:00	00:05:00	575	00:02:00	55	900	00:02:00	00:01:00	850	00:03:00	0	50
692	Glaze >14,3	575	00:00:00	00:03:00	575	00:01:00	55	890	00:02:00	00:00:00	850	00:03:00	0	0

Repair masses

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
693	Opaque	450	00:00:00	00:01:00	450	00:01:00	55	700	00:02:00	00:01:00	0	00:00:00	0	50
694	Dentine 1	450	00:00:00	00:06:00	450	00:02:00	55	680	00:02:00	00:01:00	0	00:00:00	0	50
695	Dentine 2	450	00:00:00	00:03:00	450	00:02:00	55	670	00:02:00	00:01:00	0	00:00:00	0	50
696	Glaze	450	00:00:00	00:03:00	450	00:01:00	55	650	00:01:00	00:00:00	0	00:00:00	0	0
697	Shoulder	450	00:00:00	00:04:00	450	00:02:00	55	660	00:02:00	00:01:00	0	00:00:00	0	50

Duceram Kiss														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
700	Neutral for Bio alloys	575	00:00:00	00:07:00	575	00:01:00	55	900	00:04:00	00:01:00	0	00:00:00	0	50
701	Paste opaque for Bio alloys	575	00:00:00	00:07:00	575	00:01:00	55	900	00:04:00	00:01:00	0	00:00:00	0	50
702	Powder opaque for Bio alloys	575	00:00:00	00:04:00	575	00:01:00	55	900	00:04:00	00:01:00	0	00:00:00	0	50
703	Paste opaque 1 + 2	575	00:00:00	00:07:00	575	00:01:00	55	930	00:03:00	00:01:00	0	00:00:00	0	50
704	Powder opaque 1 + 2	575	00:00:00	00:04:00	575	00:01:00	55	930	00:03:00	00:01:00	0	00:00:00	0	50
705	Shoulder 1	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
706	Shoulder 2	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
707	Dentine 1 <14,3	575	00:00:00	00:05:00	575	00:02:00	55	910	00:02:00	00:01:00	0	00:00:00	0	50
708	Dentine 2 <14,3	575	00:00:00	00:04:00	575	00:02:00	55	900	00:02:00	00:01:00	0	00:00:00	0	50
709	Glaze <14,3	575	00:00:00	00:03:00	575	00:01:00	55	890	00:01:00	00:00:00	0	00:00:00	0	0
710	Correction Final Kiss <14,3	575	00:00:00	00:03:00	575	00:01:00	55	880	00:02:00	00:01:00	0	00:00:00	0	50
711	Final Shoulder	450	00:00:00	00:03:00	450	00:02:00	55	660	00:02:00	00:01:00	0	00:00:00	0	50
712	Dentine 1 >14,3	575	00:00:00	00:05:00	575	00:02:00	55	910	00:02:00	00:01:00	850	00:03:00	0	50
713	Dentine 2 >14,3	575	00:00:00	00:04:00	575	00:02:00	55	900	00:02:00	00:01:00	850	00:03:00	0	50
714	Glaze >14,3	575	00:00:00	00:03:00	575	00:01:00	55	890	00:01:00	00:00:00	850	00:03:00	0	0

Duceram Kiss on StarLoy C														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
720	Bonder	575	00:00:00	00:07:00	575	00:01:00	55	980	00:03:00	00:01:00	0	00:00:00	0	50
721	Paste opaque	575	00:00:00	00:07:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
722	Powder opaque	575	00:00:00	00:04:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
721	Paste opaque	575	00:00:00	00:07:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
724	Dentine 1	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	850	00:03:00	2/3	50
721	Paste opaque	575	00:00:00	00:07:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
726	Glaze	575	00:00:00	00:03:00	575	00:01:00	55	890	00:01:00	00:00:00	850	00:03:00	2/3	0
727	Correction (Final Kiss)	575	00:00:00	00:03:00	575	00:01:00	55	880	00:02:00	00:01:00	850	00:03:00	2/3	50
728	Final Shoulder	450	00:00:00	00:03:00	450	00:02:00	55	660	00:02:00	00:01:00	0	00:00:00	0	50

Duceram Kiss on StarLoy soft

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
730	Paste opaque 1	575	00:00:00	00:07:00	575	00:01:00	55	980	00:03:00	00:01:00	0	00:00:00	0	50
731	Paste opaque 2	575	00:00:00	00:07:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
732	Powder opaque 1	575	00:00:00	00:04:00	575	00:01:00	55	980	00:03:00	00:01:00	0	00:00:00	0	50
733	Powder opaque 2	575	00:00:00	00:04:00	575	00:01:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
734	Shoulder 1 + 2	575	00:00:00	00:05:00	575	00:02:00	55	930	00:02:00	00:01:00	0	00:00:00	0	50
735	Dentine 1	575	00:00:00	00:05:00	575	00:02:00	55	920	00:02:00	00:01:00	850	00:03:00	2/3	50
736	Dentine 2	575	00:00:00	00:04:00	575	00:02:00	55	910	00:02:00	00:01:00	850	00:03:00	2/3	50
737	Glaze	575	00:00:00	00:03:00	575	00:01:00	55	890	00:01:00	00:00:00	850	00:03:00	2/3	0
738	Correction (Final Kiss)	575	00:00:00	00:03:00	575	00:01:00	55	880	00:02:00	00:01:00	850	00:03:00	2/3	50
739	Final Shoulder	450	00:00:00	00:03:00	450	00:02:00	55	660	00:02:00	00:01:00	0	00:00:00	0	50

Duceragold Kiss

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
740	Oxide	575	00:00:00	00:00:00	575	00:00:00	55	780	00:05:00	00:05:00	0	00:00:00	0	50
741	Degunorm classic base	575	00:00:00	00:07:00	575	00:01:00	55	780	00:01:00	00:00:10	0	00:00:00	0	50
742	Paste opaque	575	00:00:00	00:07:00	575	00:02:00	55	780	00:01:00	00:00:10	0	00:00:00	0	50
743	Shoulder 1	450	00:00:00	00:02:00	450	00:03:00	55	780	00:02:00	00:01:00	0	00:00:00	0	50
744	Shoulder 2	450	00:00:00	00:02:00	450	00:03:00	55	780	00:02:00	00:01:00	0	00:00:00	0	50
745	Dentine 1 with tempering	450	00:00:00	00:03:00	450	00:03:00	55	780	00:02:00	00:01:00	720	00:03:00	0	50
746	Dentine 2 without tempering	450	00:00:00	00:02:00	450	00:03:00	55	780	00:02:00	00:01:00	0	00:00:00	0	50
747	Glaze without tempering	450	00:00:00	00:02:00	450	00:03:00	55	770	00:02:00	00:00:00	0	00:00:00	0	0
748	Correction Final Kiss	450	00:00:00	00:02:00	450	00:03:00	55	720	00:02:00	00:01:00	0	00:00:00	0	50
749	Final Shoulder	450	00:00:00	00:02:00	450	00:03:00	55	720	00:02:00	00:01:00	0	00:00:00	0	50
750	Degunorm classic base	575	00:00:00	00:07:00	575	00:01:00	55	780	00:01:00	00:00:10	0	00:00:00	0	50
751	Dentine 1 without tempering	450	00:00:00	00:03:00	450	00:03:00	55	780	00:02:00	00:01:00	0	00:00:00	0	50
752	Dentine 2 with tempering	450	00:00:00	00:02:00	450	00:03:00	55	780	00:02:00	00:01:00	720	00:03:00	0	50
753	Glaze with tempering	450	00:00:00	00:02:00	450	00:03:00	55	770	00:02:00	00:00:00	720	00:03:00	0	0

Cergo Kiss

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
760	Dentine 1	450	00:00:00	00:03:00	450	00:03:00	55	800	00:02:00	00:01:00	0	00:00:00	0	50
761	Dentine 2	450	00:00:00	00:02:00	450	00:03:00	55	800	00:02:00	00:01:00	0	00:00:00	0	50
762	Glaze	450	00:00:00	00:02:00	450	00:03:00	55	790	00:02:00	00:00:00	0	00:00:00	0	0
763	Correction	450	00:00:00	00:02:00	450	00:03:00	55	740	00:02:00	00:01:00	0	00:00:00	0	50

Duceratin Kiss

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
770	Adhesive bond	600	00:00:00	00:04:00	600	00:02:00	99	750	00:02:00	00:01:00	0	00:00:00	0	50
771	Opaque 1 + 2	450	00:00:00	00:03:00	450	00:02:00	99	760	00:00:50	00:00:10	0	00:00:00	0	50
772	Shoulder 1 + 2	450	00:00:00	00:04:00	450	00:03:00	55	780	00:02:00	00:01:00	0	00:00:00	0	50
773	Dentine 1	450	00:00:00	00:06:00	450	00:02:00	55	760	00:02:00	00:01:00	0	00:00:00	0	50
774	Dentine 2	450	00:00:00	00:05:00	450	00:02:00	55	750	00:02:00	00:01:00	0	00:00:00	0	50
775	Glaze	450	00:00:00	00:04:00	450	00:02:00	55	730	00:01:00	00:00:00	0	00:00:00	0	0
776	Final Kiss	450	00:00:00	00:03:00	450	00:02:00	55	680	00:02:00	00:01:00	0	00:00:00	0	50
777	Final Shoulder	450	00:00:00	00:03:00	450	00:02:00	55	680	00:02:00	00:01:00	0	00:00:00	0	50

Cercon ceram Kiss

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
780	Powder liner 1	450	00:00:00	00:04:00	450	00:04:00	55	970	00:02:00	00:01:00	0	00:00:00	0	50
781	Powder liner 2	450	00:00:00	00:04:00	450	00:04:00	55	960	00:02:00	00:01:00	0	00:00:00	0	50
782	Paste liner 1	575	00:00:00	00:07:00	575	00:04:00	55	970	00:02:00	00:01:00	0	00:00:00	0	50
783	Paste liner 2	575	00:00:00	00:07:00	575	00:04:00	55	960	00:02:00	00:01:00	0	00:00:00	0	50
784	Shoulder 1	450	00:00:00	00:05:00	450	00:04:00	55	850	00:02:00	00:01:00	0	00:00:00	0	50
785	Shoulder 2	450	00:00:00	00:05:00	450	00:04:00	55	850	00:03:00	00:02:00	0	00:00:00	0	50
786	Dentine 1	450	00:00:00	00:03:00	450	00:04:00	55	830	00:02:30	00:01:30	0	00:00:00	0	50
787	Dentine 2	450	00:00:00	00:03:00	450	00:04:00	55	820	00:02:30	00:01:30	0	00:00:00	0	50
788	Glaze	450	00:00:00	00:02:00	450	00:03:00	55	800	00:02:00	00:00:00	0	00:00:00	1	0
789	Correction (Final Kiss)	450	00:00:00	00:02:00	450	00:04:00	55	680	00:02:00	00:01:00	0	00:00:00	1	50
790	Final Shoulder (F-SM)	450	00:00:00	00:02:00	450	00:04:00	55	680	00:02:00	00:01:00	0	00:00:00	1	50

Press & Smile

Cercon ceram press stain technique

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
800	Stain fixation	450	00:00:00	00:02:00	450	00:03:00	55	700	00:02:00	00:01:00	0	00:00:00	0	50
801	Glaze	450	00:00:00	00:02:00	450	00:03:00	55	800	00:02:00	00:00:00	0	00:00:00	0	0

Cercon ceram press build-up technique

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
805	Dentine 1	450	00:00:00	00:03:00	450	00:04:00	55	830	00:02:30	00:01:30	0	00:00:00	0	50
806	Glaze	450	00:00:00	00:02:00	450	00:03:00	55	800	00:02:00	00:00:00	0	00:00:00	0	0
807	Correction P&S	450	00:00:00	00:02:00	450	00:04:00	55	680	00:02:00	00:01:00	0	00:00:00	0	50

Ducera press

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
810	Paste opaque	575	00:04:00	00:02:00	575	00:01:00	55	980	00:01:30	00:01:30	0	00:00:00	0	50
812	Correction cervical	500	00:02:00	00:02:00	500	00:02:00	55	820	00:01:00	00:01:00	0	00:00:00	0	50
813	Stain glaze	450	00:02:00	00:02:00	450	00:01:00	55	810	00:01:00	00:00:00	0	00:00:00	0	0
814	Correction incisal	450	00:01:00	00:02:00	450	00:01:00	55	720	00:01:00	00:00:00	0	00:00:00	0	50
815	Correction cervical > 5 units	500	00:02:00	00:02:00	500	00:02:00	55	820	00:01:00	00:01:00	0	00:00:00	1	50
816	Stain glaze > 5 units	450	00:02:00	00:02:00	450	00:01:00	55	810	00:01:00	00:00:00	0	00:00:00	1	0
817	Correction incisal > 5 units	450	00:01:00	00:02:00	450	00:01:00	55	720	00:01:00	00:00:00	0	00:00:00	1	50

Duceram plus

Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
830	Paste opaque 1	575	00:00:00	00:05:00	575	00:01:00	55	930	00:04:00	00:01:00	0	00:00:00	0	50
831	Paste opaque 2	575	00:00:00	00:05:00	575	00:01:00	55	930	00:03:00	00:01:00	0	00:00:00	0	50
832	Powder opaque 1	600	00:00:00	00:02:00	600	00:01:00	55	930	00:04:00	00:01:00	0	00:00:00	0	50
833	Powder opaque 2	600	00:00:00	00:03:00	600	00:03:00	55	930	00:03:00	00:01:00	0	00:00:00	0	50
834	Shoulder	600	00:00:00	00:06:00	600	00:03:00	55	920	00:02:00	00:01:00	0	00:00:00	0	50
835	Dentine 1 <14,2	600	00:00:00	00:06:00	600	00:03:00	55	910	00:02:00	00:01:00	0	00:00:00	0	50
836	Dentine 2 <14,2	600	00:00:00	00:05:00	600	00:03:00	55	900	00:02:00	00:01:00	0	00:00:00	0	50
837	Glaze <14,2	600	00:00:00	00:04:00	600	00:03:00	55	890	00:02:00	00:00:00	0	00:00:00	0	0
838	Correction	600	00:00:00	00:03:00	600	00:03:00	55	880	00:02:00	00:01:00	0	00:00:00	0	50
839	Dentine 1 >14,2	600	00:00:00	00:06:00	600	00:03:00	55	910	00:02:00	00:01:00	850	00:03:00	0	50
840	Dentine 2 >14,2	600	00:00:00	00:05:00	600	00:03:00	55	900	00:02:00	00:01:00	850	00:03:00	0	50
841	Glaze >14,2	600	00:00:00	00:04:00	600	00:02:00	55	890	00:02:00	00:00:00	850	00:03:00	0	0

Circon ceram love														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
850	Paste liner 1	575	00:00:00	00:07:00	575	00:04:00	55	970	00:02:00	00:01:00	0	00:00:00	0	50
851	Paste liner 2	575	00:00:00	00:07:00	575	00:04:00	55	960	00:02:00	00:01:00	0	00:00:00	0	50
852	Shoulder 1	450	00:00:00	00:05:00	450	00:04:00	55	950	00:03:00	00:01:00	0	00:00:00	0	50
853	Shoulder 2	450	00:00:00	00:05:00	450	00:04:00	55	950	00:02:00	00:01:00	0	00:00:00	0	50
854	Dentine 1	450	00:00:00	00:03:00	450	00:04:00	55	900	00:02:30	00:01:30	0	00:00:00	0	50
855	Dentine 2	450	00:00:00	00:03:00	450	00:04:00	55	890	00:02:30	00:01:30	0	00:00:00	0	50
856	Glaze	450	00:00:00	00:02:00	450	00:03:00	55	880	00:02:00	00:00:00	0	00:00:00	1	0
857	Correction	450	00:00:00	00:02:00	450	00:04:00	55	750	00:02:00	00:01:00	0	00:00:00	1	50
858	Final Shoulder	450	00:00:00	00:02:00	450	00:04:00	55	750	00:02:00	00:01:00	0	00:00:00	1	50

Duceram love NPM < 14,6														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
860	NP-Powder-Bonder	575	00:00:00	00:06:00	575	00:01:00	55	980	00:02:00	00:00:00	0	00:00:00	0	50
861	NP-Paste-Bonder	575	00:00:00	00:08:00	575	00:01:00	55	980	00:03:00	00:00:00	0	00:00:00	0	50
862	Paste Opaque 1+2	550	00:00:00	00:08:00	550	00:01:00	100	910	00:04:00	00:02:00	0	00:00:00	0	50
863	Shoulder 1	500	00:00:00	00:04:00	500	00:02:00	100	880	00:01:00	00:00:30	0	00:00:00	0	50
864	Shoulder 2	500	00:00:00	00:04:00	500	00:02:00	100	860	00:01:00	00:00:30	0	00:00:00	0	50
865	Dentine 1	500	00:00:00	00:07:00	500	00:02:00	55	820	00:01:00	00:00:30	0	00:00:00	0	50
866	Dentine 2	500	00:00:00	00:06:00	500	00:02:00	55	810	00:01:00	00:00:30	0	00:00:00	0	50
867	Glaze	500	00:00:00	00:02:00	500	00:02:00	55	800	00:00:30	00:00:00	0	00:00:00	0	0
868	Final Shoulder/Correction	450	00:00:00	00:03:00	450	00:02:00	55	680	00:01:00	00:00:30	0	00:00:00	0	50
869	Stain	450	00:00:00	00:03:00	450	00:01:00	55	660	00:01:00	00:00:00	0	00:00:00	0	0

Duceram love NPM > 14,6														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
870	NP-Powder-Bonder	575	00:00:00	00:06:00	575	00:01:00	55	980	00:02:00	00:00:00	0	00:00:00	0	50
871	NP-Paste-Bonder	575	00:00:00	00:08:00	575	00:01:00	55	980	00:03:00	00:00:00	0	00:00:00	0	50
872	Paste Opaque 1+2	550	00:00:00	00:08:00	550	00:01:00	100	910	00:04:00	00:02:00	0	00:00:00	0	50
873	Shoulder 1	500	00:00:00	00:04:00	500	00:02:00	100	880	00:01:00	00:00:30	850	00:03:00	1	50
874	Shoulder 2	500	00:00:00	00:04:00	500	00:02:00	100	860	00:01:00	00:00:30	850	00:03:00	1	50
875	Dentine 1	500	00:00:00	00:07:00	500	00:02:00	55	820	00:01:00	00:00:30	0	00:00:00	1	50
876	Dentine 2	500	00:00:00	00:06:00	500	00:02:00	55	810	00:01:00	00:00:30	0	00:00:00	1	50
877	Glaze	500	00:00:00	00:02:00	500	00:02:00	55	800	00:00:30	00:00:00	0	00:00:00	1	0
878	Final Shoulder/Correction	450	00:00:00	00:03:00	450	00:02:00	55	680	00:01:00	00:00:30	0	00:00:00	0	50
879	Stain	450	00:00:00	00:03:00	450	00:01:00	55	660	00:01:00	00:00:00	0	00:00:00	0	0

Duceram love Precious Metal														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
880	Opaque 1+2	550	00:00:00	00:08:00	550	00:01:00	100	910	00:04:00	00:02:00	0	00:00:00	0	50
881	Shoulder 1	500	00:00:00	00:04:00	500	00:02:00	100	880	00:01:00	00:00:30	0	00:00:00	0	50
882	Shoulder 2	500	00:00:00	00:04:00	500	00:02:00	100	860	00:01:00	00:00:30	0	00:00:00	0	50
885	Dentine 1	500	00:00:00	00:07:00	500	00:02:00	100	830	00:01:30	00:00:30	0	00:00:00	0	50
886	Dentine 2	500	00:00:00	00:06:00	500	00:02:00	100	820	00:01:30	00:00:30	0	00:00:00	0	50
887	Glaze	500	00:00:00	00:02:00	500	00:02:00	100	800	00:00:30	00:00:00	0	00:00:00	0	0

Ceramco IC - NPM & laser sintered CoCr														
Program number	Program name	Base temperature (°C)	Pre-drying time (min)	Drying time (min)	Pre-heating temperature (°C)	Pre-heating time (min)	Heating rate (°C/min)	End temperature (°C)	Holding time (min)	Vacuum time (min)	Temper temperature (°C)	Temper time (min)	Cooling stage	Vacuum level (hPa)
888	NP-Powder-Bonder	575	00:00:00	00:04:00	575	00:03:00	55	980	00:02:00	00:00:00	0	00:00:00	0	50
889	NP-Paste-Bonder	575	00:00:00	00:06:00	575	00:03:00	55	980	00:03:00	00:00:00	0	00:00:00	0	50
890	Powder opaque	650	00:00:00	00:03:00	650	00:03:00	55	960	00:02:00	00:00:00	0	00:00:00	0	50
891	Paste opaque	500	00:00:00	00:05:00	500	00:05:00	55	930	00:02:00	00:00:00	0	00:00:00	0	50
892	Shoulder, built-up	600	00:00:00	00:05:00	600	00:05:00	55	880	00:00:30	00:00:00	0	00:00:00	0	50
893	Shoulder, pressed	600	00:00:00	00:05:00	600	00:05:00	90	870	00:00:30	00:00:00		00:00:00	2	50
894	Dentine 1	500	00:00:00	00:05:00	500	00:03:00	55	830	00:01:00	00:00:30	0	00:00:00	2	50
895	Dentine 2	500	00:00:00	00:03:00	500	00:03:00	55	820	00:00:30	00:00:00	0	00:00:00	2	50
896	Glaze	500	00:00:00	00:03:00	500	00:03:00	55	810	00:00:30	00:00:00	0	00:00:00	2	0
897	Correction	500	00:00:00	00:05:00	500	00:03:00	55	805	00:00:30	00:00:00	0	00:00:00	0	50
898	Stains / glazes	500	00:00:00	00:03:00	500	00:03:00	55	790	00:00:30	00:00:00	0	00:00:00	0	0

Pressing programs

Ceramco IC									
Program number	Program name	Base temperature (°C)	Holding time (sec.)	Heating rate (°C/min)	Pressure (bar)	Pressing time (sec.)	End temperature (°C)	Vacuum level (hPa)	Vacuum time (sec.)
901	Pressing 200 g	700	00:20:00	60	2,7	00:20:00	890	50	00:40:00

Ceramco III press									
Program number	Program name	Base temperature (°C)	Holding time (sec.)	Heating rate (°C/min)	Pressure (bar)	Pressing time (sec.)	End temperature (°C)	Vacuum level (hPa)	Vacuum time (sec.)
905	Pressing 100 g	700	00:20:00	60	2,7	00:10:00	930	50	00:30:00
905	Pressing 200 g	700	00:20:00	60	2,7	00:20:00	930	50	00:40:00

Cergo Kiss									
Program number	Program name	Base temperature (°C)	Holding time (sec.)	Heating rate (°C/min)	Pressure (bar)	Pressing time (sec.)	End temperature (°C)	Vacuum level (hPa)	Vacuum time (sec.)
910	100-g, 200-g muffle	700	00:20:00	60	2,7	00:20:00	960	50	00:40:00
911	PressMaster	700	00:40:00	60	2,7	00:40:00	960	50	01:20:00

Cercon ceram press									
Program number	Program name	Base temperature (°C)	Holding time (sec.)	Heating rate (°C/min)	Pressure (bar)	Pressing time (sec.)	End temperature (°C)	Vacuum level (hPa)	Vacuum time (sec.)
915	100-g, 200-g muffle	700	00:20:00	60	2,7	00:10:00	940	50	00:30:00
916	Cercon PressMaster	700	00:40:00	60	3	00:20:00	940	50	01:00:00

Ducera press / StarExpress

Program number	Program name	Base temperature (°C)	Holding time (sec.)	Heating rate (°C/min)	Pressure (bar)	Pressing time (sec.)	End temperature (°C)	Vacuum level (hPa)	Vacuum time (sec.)
920	Pressing 100 g	700	00:12:00	60	2,7	00:10:00	930	50	00:24:00
921	Pressing 200 g	700	00:20:00	60	2,7	00:10:00	930	50	00:30:00
922	PressMaster	700	00:40:00	60	3	00:20:00	960	50	01:00:00

Service programs

Program number	Program name	Base temperature (°C)	Pre-drying time (sec.)	Closing time (sec.)	Pre-heating temp. (°C)	Pre-heating time (sec.)	Heating rate (°C/min)	End temperature (°C)	Holding time (sec.)	Vacuum time (sec.)	Temper temperature (°C)	Temper time (sec.)	Cooling stage	Vacuum level (hPa)	Firing mode
475	Silver wire test.brn	650	180	30	650	180	120	961	60	0	0	10	1	0	99
478	Vacuum test.brn	0	0	0	0	0	0	0	0	0	0	0	0	0	97
479	Dehydration with pump.brn	0	0	0	0	0	0	0	0	0	0	0	0	0	97
998	Heating.brn	575	30	30	575	30	120	980	60	0	0	0	0	0	1
999	Cleaning.brn	575	0	18	575	180	55	1100	600	540	0	0	0	50	1

14 Disposal

This device is an electrical device pursuant to the German law on the marketing, return and environmentally compatible disposal of electrical and electronic equipment (ElektroG). The device has been labelled in compliance with the law and marked with the following symbol:



The device is not intended for private or home use. It has been produced and furnished for commercial use and must be disposed of properly by the last user pursuant to the regulation in the ElektroG.

15 EC Declaration of Conformity

DeguDent GmbH

Rodenbacher Chaussee 4

63457 Hanau

Germany

We hereby declare that the product

Multimat[®] NTX/NTX^{press}

Device for firing dental ceramic materials

conforms to the basic requirements of the following EC Directives:

1. **EC machine directive 2006/42/EC**
2. **EC directive on electrical equipment designed for use within certain voltage limits
(Low-voltage directive) 2006/95/EC**
3. **EC directive for electromagnetic compatibility 2004/108/EC**

The following harmonized standards were applied:

DIN EN ISO 12100-1/A1: 2009-10

DIN EN ISO 12100-2/A2: 2009-10

DIN EN 61010-1: 2004-01

DIN EN 61010-2-010: 2004-06

DIN EN 61326-1: 2008-06

Hanau, 18.02.2011

Hanau, 18.02.2011



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Last revision: 11/2012



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