

Instruction Manual

Multimat[®] Cube

Multimat[®] Cube press



Table of contents

1	Safety and responsibility	4
1.1	Intended use	4
1.2	Operator qualifications.....	4
1.3	Warning messages in this manual.....	4
1.4	Operator obligations.....	5
1.5	Safety symbols on the device.....	5
1.6	Safe handling of ceramic fibres.....	6
1.7	Safety instructions for transport and storage.....	6
1.8	Safety instructions for commissioning.....	6
2	Technical description	7
2.1	Description of the unit.....	7
2.2	LED status display on the unit.....	8
2.3	Accessories (optional)	8
2.4	Technical specifications.....	9
3	Unpacking and commissioning.....	10
3.1	Unpacking the unit	10
3.2	Inspecting the shipment	10
3.3	Connecting the unit.....	11
4	Operation.....	12
4.1	Turning on the unit.....	12
4.2	Commissioning (initial configuration)	12
4.2.1	Working with the touch screen	12
4.2.2	Initial configuration	13 – 15
4.3	Self-test	16
4.4	Setting the pressing pressure (Multimat® Cube press only).....	17
4.5	The user interface.....	18
4.5.1	Home screen	18
4.5.2	Main menu.....	19
4.5.3	<Settings> menu	19 – 20
4.5.4	<Standby mode> field.....	21
4.5.5	<Fast cooling>.....	21
4.5.6	<File Manager> menu	21 – 26
4.5.7	Favourites	27

4.6	Firing and pressing programs	28
4.6.1	Overview of firing and pressing parameters.....	28
4.6.2	Start firing or pressing program.....	29 – 30
4.7	Special programs.....	31
4.8	Smart pre-heating program	31
4.9	Power failure behaviour.....	31
4.10	Muffle fracture (Multimat® Cube press only).....	31
5	Troubleshooting	32 – 33
6	Maintenance and cleaning	34
6.1	Cleaning the unit.....	34
6.2	Calibrating the unit.....	34 – 35
6.3	Updating the firmware and software.....	36
7	Waste disposal.....	37
7.1	Disposing of the packaging.....	37
7.2	Disposing of the unit.....	37
8	Warranty	38



For safe and proper use, carefully read this instruction manual and other documents accompanying the product.

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1 Safety and responsibility



Read the instruction manual for safe and proper use. Incorrect use may result in serious injury.

Illustrations in this instruction manual are meant to promote a basic understanding and may differ from the actual design of the unit, depending on the product type. If any errors are still present or if any information is missing, please notify us immediately.

The instruction manual is an integral part of the device and must be provided to the recipient of the unit if it is transferred or sold.

1.1 Intended use

The Multimat® Cube and Multimat® Cube press units are intended exclusively for the firing or pressing (only Multimat® Cube press) of ceramic materials in the field of dental technology. Observe the ceramic manufacturers' directions and recommendations.

This unit may only be set up, connected and operated in dental laboratories in accordance with the "Technical Specifications", **Section 2.4 "Technical Specifications"**.

Other possible uses, modifications, additions and conversions as well as any misuse can hazard the safety, reliability and function of the unit. Any such use will invalidate the warranty granted by Dentsply Sirona.

Examples of conceivable improper uses:





- Operation without a firing base or pressing base (Multimat® Cube press only).
- Firing or pressing (Multimat® Cube press only) of unapproved materials.
- Unsupervised operation.
- Operation by non-qualified personnel

1.2 Operator qualifications

Operators must be familiar with the tasks to be performed, e.g., dental technicians or other persons familiar with the processing of ceramic materials within the framework of dental technology.

1.3 Warning messages in this manual

For better differentiation, hazards are indicated by the following warning signs and signal words:




Warning sign and signal word		Significance	
	DANGER	Personal injury	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING		Indicates a hazardous situation which, if not avoided, may result in death or serious injury.
	CAUTION		Indicates a hazardous situation which, if not avoided, may result in moderate or slight injury.
	NOTICE	Property damage	Indicates a situation which, if not avoided, may result in damage to components, the installation or its functions or to property in its vicinity.

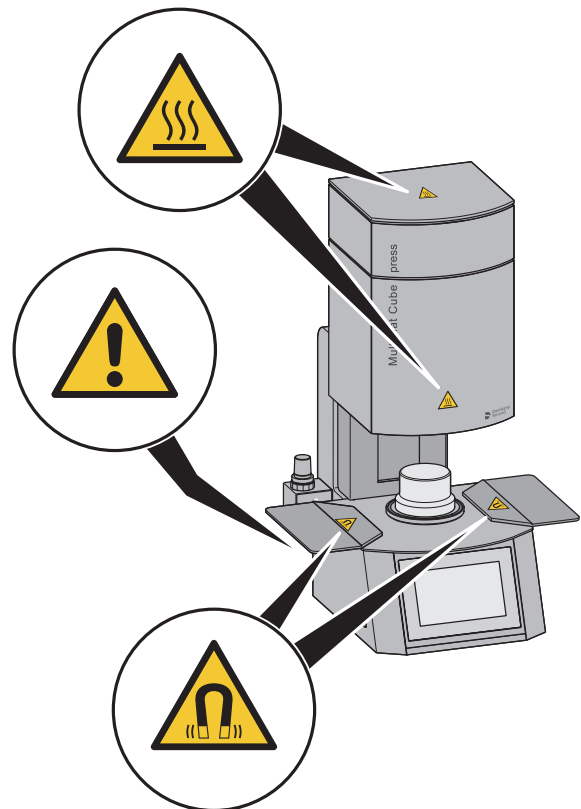
1.4 Operator obligations

Precautions for which the operator is responsible:

- Ensuring the proper use of the unit according to this operating manual and prevention of misuse.
- Obtaining the required operating licence from the competent authorities and following all applicable laws and regulations, e.g. with regard to:
 - Personnel safety
 - Material safety
 - Waste disposal
- Operation of the unit by qualified personnel.
- Operation of the unit by personnel to be trained, instructed, instructed or undergoing training only to be carried out under the constant supervision of a qualified person.
- Definition of the responsibilities of staff members for commissioning, operation, cleaning, troubleshooting and maintenance.
- Verified availability, legibility and completeness of the instruction manual at the point of use.
- Staff instructions according to the requirements laid down in the instruction manual.
- Compliance with all warnings and safety instructions.
- Compliance with service instructions shown on the unit's display.
- Service and repair work carried out by Dentsply Sirona or by qualified personnel authorized by Dentsply Sirona.
- Exclusive use of original spare parts.
- Dentsply Sirona recommends a technical inspection of the unit to be performed by Dentsply Sirona every 12 months in order to maintain the unit's firing quality/pressing quality (Multimat® Cube press only) at a high level.

1.5 Safety symbols on the device

	CAUTION Burns hazards when touching hot surfaces. ▶ Do not touch surfaces.
	WARNING Deadly electrical voltage. Maximum power consumption of the vacuum pump: 2.5 A (100–120 V) or 1.0 A (220–230 V). ▶ Use the IEC cold-appliance socket for connecting the vacuum pump only.
	WARNING The magnetic firing supports pose a hazard to wearers of implanted devices. ▶ Keep the magnetic firing support at least 10 cm away from the upper body.



1.6 Safe handling of ceramic fibres

The thermal insulation of the firing chamber and the firing base or pressing base (only Multimat® Cube press) contain ceramic fibres that are classified as carcinogenic. These ceramic fibres are firmly enclosed in the heat insulation and in the firing base or pressing base (Multimat® Cube press only) and pose no danger to operators when using the unit as intended.

Safety instructions for intended use:

- Repairs to the device may only be performed by Dentsply Sirona.
- Visible fibre deposits on openly accessible parts of the unit must be removed, e.g., wiped off with a damp cloth or vacuumed off using approved filters.
- Blowing off with compressed air or sweeping with brooms or brushes in dry condition is prohibited.
- If there are more visible fibre deposits in the device than usual, contact the technical customer service of Dentsply Sirona.
- The use of damaged components containing ceramic fibres must not be continued, e.g., firing chamber insulating material, firing base, pressing base (Multimat® Cube press only).

1.7 Safety instructions for transport and storage



WARNING

Severe crushing and impact hazard due to falling loads.

The unit may cause injury if dropped.

- Always have two people lift the device together.
- Transport the unit in its original packaging.



CAUTION

Damage due to improper storage.

- Store the unit in its original packaging.
- Store parts under the prescribed ambient conditions, **Section 2.4 “Technical specifications”**.

1.8 Safety instructions for commissioning



WARNING

Fire hazard

Flammable substances can pose a fire hazard to the entire work area.

- Place the unit only on a fireproof, stable and level surface.
- Keep the unit away from flammable or explosive objects.
- Place the unit at least 30 cm from walls or other objects and 50 cm from ceilings.
- Do not cover the unit and do not place any objects on top of the unit.
- Do not place the unit and the vacuum pump (available separately) in the immediate vicinity of sources of heat to prevent overheating of the device.



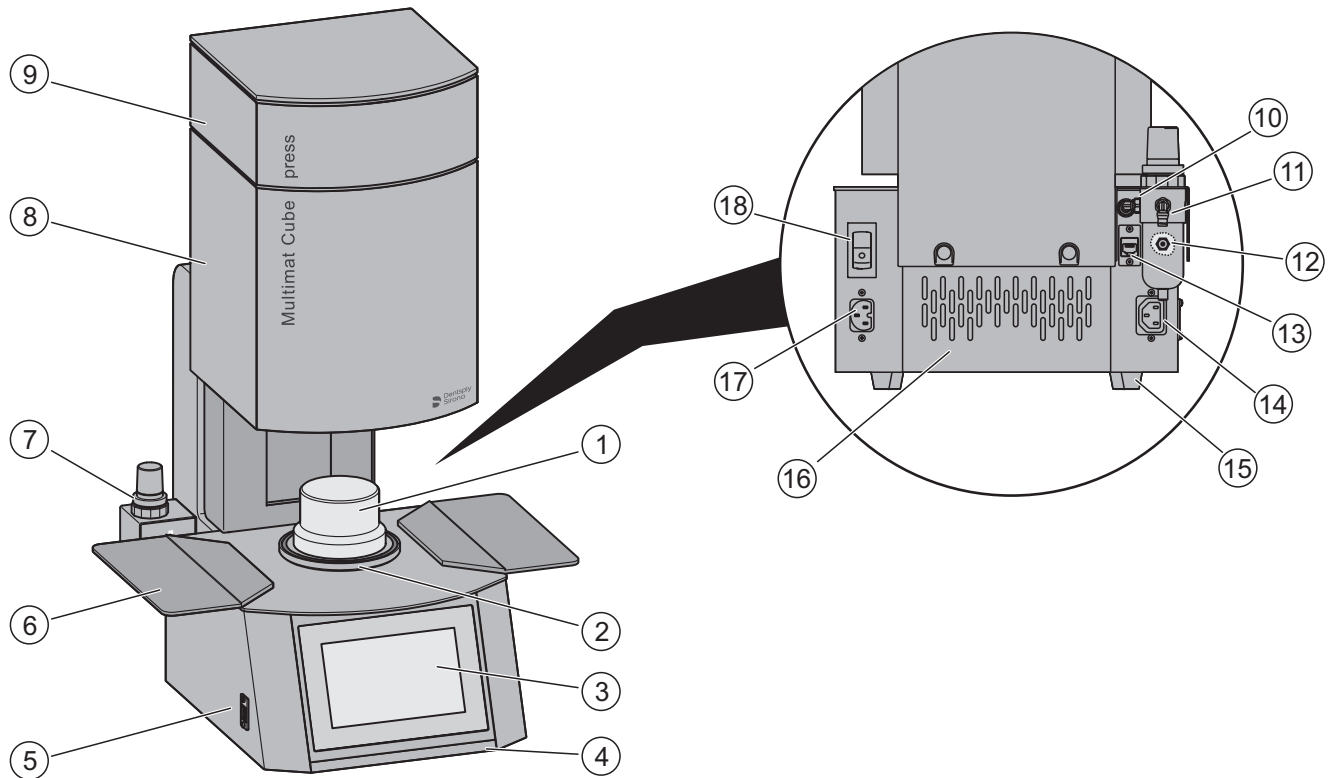
WARNING

Electric shock can cause death or serious injury.

- Connect the device according to the technical specifications, **Section 2.4 “Technical specifications”**.
- Do not use damaged power cords.
- Connect the power cord only to a properly protected mains outlet. There must be no other devices connected to the same mains circuit. Do not use power strips or extension cords are not permitted.
- Do not bend or squeeze the mains cord.
- Do not expose the mains cord to liquids.
- Make sure the mains cord is readily accessible so the unit can be disconnected easily and quickly in the event of an emergency.
- Keep the unit away from moisture, e.g., do not place glasses on the unit cover.
- In case of malfunction, switch off the unit immediately and disconnect the mains cord.

2 Technical description

2.1 Description of the unit



- 1 = Firing base/pressing base*
- 2 = Firing base carrier
- 3 = Display with touch screen
- 4 = LED status indicator
- 5 = USB port
- 6 = Firing support
- 7 = Filter pressure control*
- 8 = Firing chamber
- 9 = Pressing chamber*

- 10 = USB port for WLAN stick
- 11 = Connector for compressed-air connection hose*
- 12 = Connector for vacuum hose
- 13 = LAN connector
- 14 = IEC cold-appliance socket, for vacuum pump
- 15 = Feet of the unit
- 16 = Ventilation slits
- 17 = IEC hot-appliance socket, power connector
- 18 = ON/OFF toggle switch with automatic circuit breaker

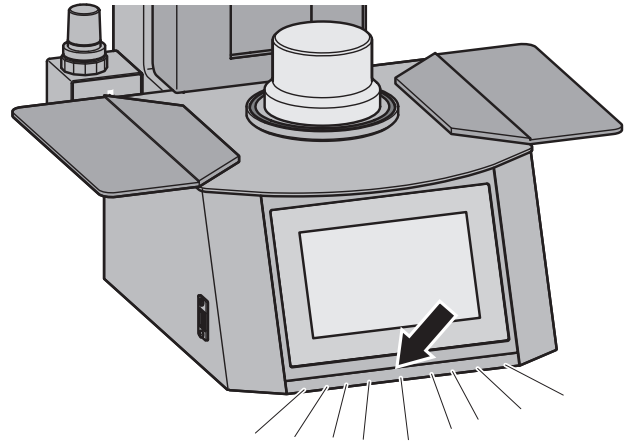
*Multimat® Cube press only

2.2 LED status display on the unit

The operating status of the unit is indicated by the status LED below the display.

Meaning of the light signals:

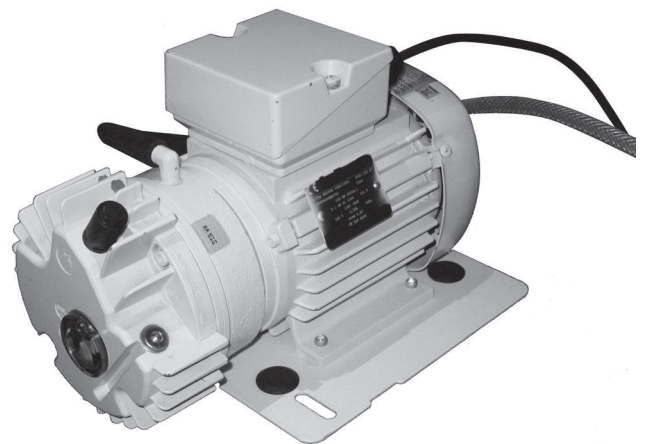
- green = ready
- flashing green = program finished
- flashing red = error
- blue = unit in operation
- flashing blue = action required
- pulsating grey-white = standby mode



2.3 Accessories (optional)

Vacuum pump and accessories:

- Biodent vacuum pump
- High-performance piston vacuum pump for ceramic furnaces
- Vacuum pump oil (0.5 litres)
- Oil change kit



2.4 Technische Daten

Technical parameter	Multimat® Cube	Multimat® Cube press
Power rating	220 – 230 V, 50 / 60 Hz 100 – 120 V, 50 / 60 Hz	
Acceptable voltage fluctuations	± 10%	
Maximum power consumption	1580 W, including vacuum pump	
Rated current	6 A (at 220 V – 230 V) 14 A (at 100 V – 120 V)	
Dimensions (width × depth × height/ with firing chamber up)	310 mm x 470 mm x 475/645 mm	310 mm x 470 mm x 575/745 mm
Weight	26,5 kg	29,0 kg
Working height, firing chamber	65 mm	
Working diameter, firing chamber	85 mm	
Opening range, base to firing chamber	100 mm	
Closing time, firing chamber	approx. 19 seconds	
Ambient temperature, operation	+5 °C to +40 °C, ideal: +20 °C	
Ambient temperature, storage	0 °C to +40 °C	
Humidity	80% relative humidity at up to 31 °C or linear decrease to 50% at +40 °C	
Environment	Indoors only, on a non-flammable surface	
Thermocouple	Quartz muffle with an openly radiating filament	
Temperature, standby	adjustable from 100 °C to 200 °C	
Temperature, base	adjustable from 200 °C to 650 °C	
Maximum firing temperature	1200 °C	
Maximum heating rate	120 °C/minute	
Pressing pressure	0 to 3 bar, monitored	
Input pressure at the controller	0.5 to 8.0 bar	
Display	7" TFT LCD display with projective-capacitive touch, thermally hardened 3-mm flat glass, 800 × 480 pixels	
Batteries	1 × lithium ion/manganese oxide cell battery, CR1220 Varta 1 × lithium ion(manganese oxide cell battery, CR2032 Varta	

3 Unpacking and commissioning

3.1 Unpacking the unit

Check the Shockwatch® indicator on the packaging. If it has turned red, the impact energy during transport was higher than allowed, and the unit may be damaged. In this event, follow the instructions on the Shockwatch® sticker.



WARNING

The magnetic firing supports pose a hazard to wearers of implanted devices.

Keep the magnetic firing support at least 10 cm away from the upper body.

- ▶ Open the packaging.

Inside the outer packaging, an upper and a lower PE foam shell protects the unit from damage in transit.

- ▶ Remove the upper PE foam shell.

The lower PE foam tray has transport handles on the left and right.

- ▶ Remove the unit from its packaging (use 2 persons to lift) by the transport handles provided for this purpose.
- ▶ Remove the accessories from the packaging.

3.2 Inspecting the shipment



WARNING

Risk of injury from damaged parts.

- After unpacking, inspect the shipment for completeness and any damage. Do not put connect or operate the unit if it is damaged or if any components are missing.
- Contact Dentsply Sirona.

Scope of delivery:

- Ceramic furnace Multimat® Cube or Multimat® Cubepress
- Mains cable with hot-appliance coupler
- Pressing base (Multimat® Cubepress only).
- Brennsockel (nur (Multimat® Cube)
- Firing base carrier
- Firing supports (2)
- Grip tool
- Compressed-air supply hose (Multimat® Cubepress only)
- Compressed-air adapter (Multimat® Cubepress 100-120 V only)
- Calibration set
- USB stick, including the user manual in several languages
- Quick Guide

3.3 Connecting the unit

Observe the safety instructions,
Section 1.8 “Safety instructions for commissioning”.

NOTICE Follow the user manual for the vacuum pump.

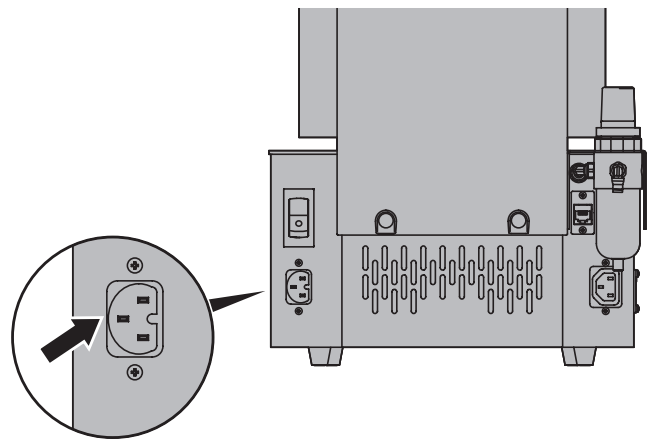
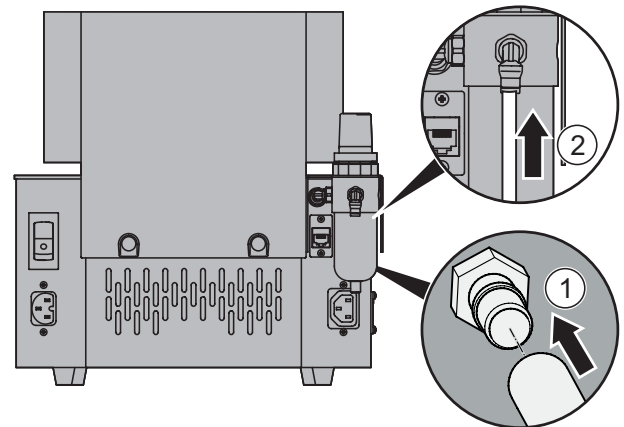
- ▶ Push the vacuum hose over the connector (1).
- ▶ Connect the mains plug to the cold-appliance coppler for the vacuum pump.

Multimat® Cube press only:

- ▶ Push the compressed-air connection hose into the clamping coupler of the filter pressure regulator (2).

The compressed-air connection hose is sufficiently secured by the clamping coupler.

- ▶ Connect the quick coupler of the compressed-air connection hose to the laboratory's compressed-air supply.
- ▶ Connect the mains cord to the hot-appliance socket and plug the mains plug into a properly protected mains outlet.

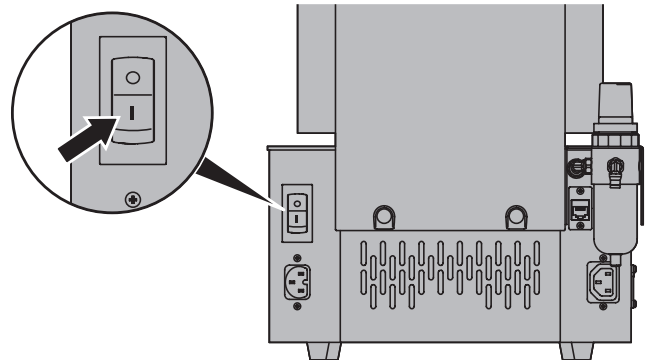


4 Operation

Observe the safety instructions, **Section 1.8 “Safety instructions for commissioning”**.

4.1 Turning on the unit

- ▶ Set the toggle switch to position **I** (ON).
When the unit is switched on, the toggle switch will be lit in green.



4.2 Commissioning (initial configuration)

When commissioning then unit (turning it on for the first time), the initial configuration program will automatically appear where you can set the first custom operating parameters.

The initial configuration program can also be started at any time from the menu: <Settings> → <General> → <Initial configuration ...>.

4.2.1 Working with the touch screen

Numerical input:



Delete last entry



Discard entries and return to previous screen



Commit entries and return to previous screen



Navigation:

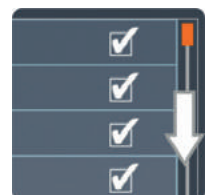
Selection slide mode:

- ▶ Swipe to the left or right on the screen until the desired selection appears in the centre.



Scroll bar: Scroll the screen up or down:

Use the scroll bar on the right side of the screen or window to move the screen contents up or down if not all of the screen's contents can be displayed at once.



- ▶ Hold down the scroll bar and drag it up or down.
- ▶ Touch → to proceed with the initial configuration.
- ▶ Touch ← to return to the previous screen.

Exiting the initial configuration program prematurely:

- ▶ Touch <Cancel>. Your changes will not be saved.
- ▶ Touch <Commit>. Your changes will be saved.

4.2.2 Initial configuration

Selecting your language:

The available languages are represented by the respective national flags.

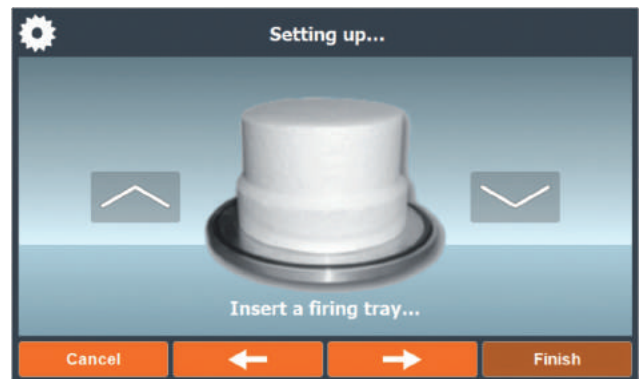
- ▶ Swipe to the left or right on the screen until the desired flag appears in the centre and touch the flag once.
- ▶ Touch ➡ to proceed with the initial configuration.



NOTICE Severe damage to the unit will result if you attempt to commission it without the firing base or pressing base*.

- ▶ Press ⤴ to open the chamber for inserting the firing base or pressing base*.

*Multimat® Cube press only



- ▶ Place the firing base or pressing base* in the middle of the firing base carrier (1).

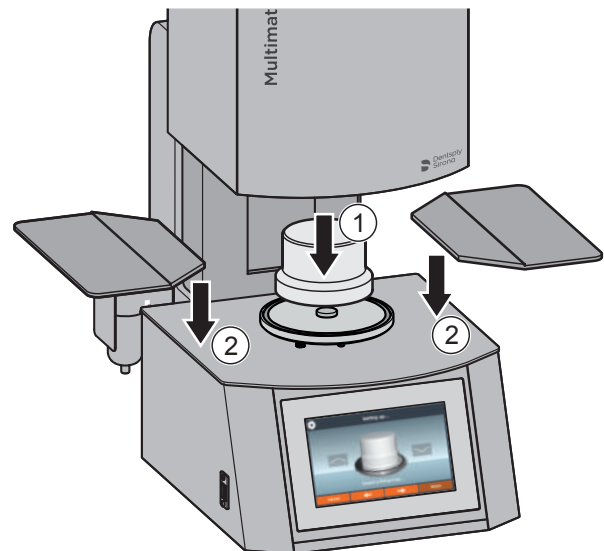
*Multimat® Cube press only

- ▶ Attach the magnetic firing supports to the unit (2).



WARNING
The magnetic firing supports pose a hazard to wearers of implanted devices. Keep the magnetic firing support at least 10 cm away from the upper body.

- ▶ Touch ⤵ to close the chamber.
- ▶ Touch ➡ to proceed with the initial configuration.



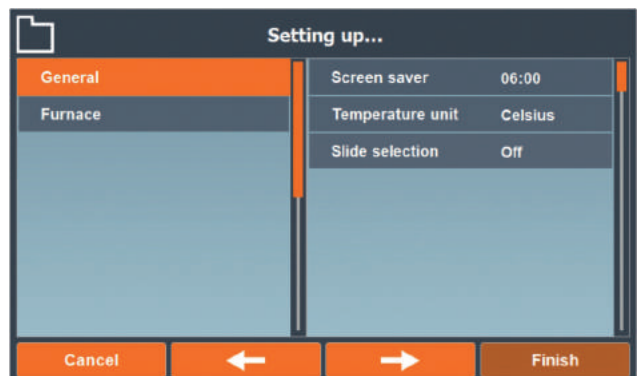
4.2.2 Initial configuration

Setting options in the <General> menu

Activating the screen saver:

- ▶ Touch <Screen saver>.

Example: 6 minutes and 0 seconds.



Numerical input:

- ▶ Minutes (tens digit): Touch 0.
- ▶ Minutes (units digit): Touch 6.
- ▶ Seconds (tens digit): Touch 0.
- ▶ Seconds (units digit): Touch 0.

Deactivating the screen saver:

Setting the time to 00:00 will deactivate the screen saver.

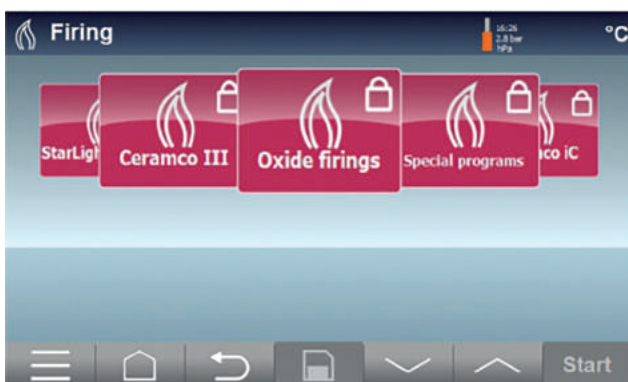
Changing the unit for temperature display:

- ▶ Touch <Temperature unit> and select Celsius (°C) or Fahrenheit (°F)

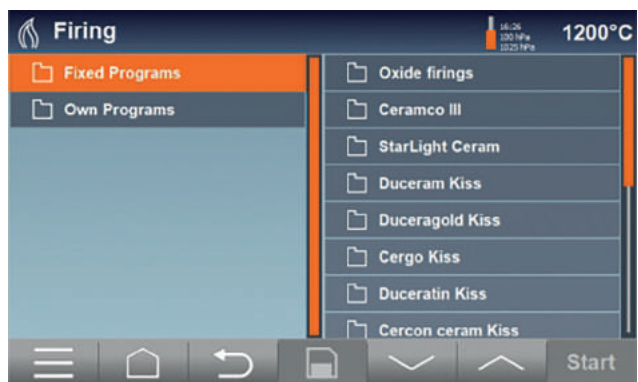
Slide mode (selection mode) on/off:

Depending on your personal preference, you can choose between two display modes.

Slide mode "ON"



Slide mode "OFF"



- ▶ Touch <Slide mode> to turn slide mode on or off.
- ▶ Touch ➡ to proceed with the initial configuration.

Setting options in the <Furnace> menu

Base temperature:

to open the chamber for inserting the firing base or pressing base*.

Setting range: 200 °C to 650 °C.

- ▶ Touch <Base temperature> and enter the new value.

*Multimat® Cube press only

Standby temperature:

The standby temperature is kept constant in standby mode with the firing chamber closed (**Section 4.5.4**). Setting range: 100 °C to 200 °C.

- ▶ Touch <Standby temperature> and enter the new value.

Turning the preheating program on/off:

- ▶ Touch <Preheating program> to switch the heating program on or off, **Section 4.8 “Intelligent preheating program”**.
- ▶ Touch ➡ to proceed with the initial configuration.

Vorauswahl der Brennprogramme festlegen:

Für eine bessere Übersicht und schnellere Auswahl lässt sich eine Vorauswahl der Brennprogramme festlegen, die im Betrieb zur Verfügung stehen, nicht benötigte Brennprogramme sind ausgeblendet.

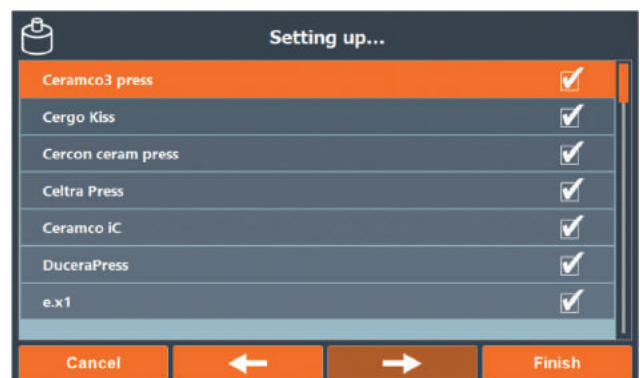
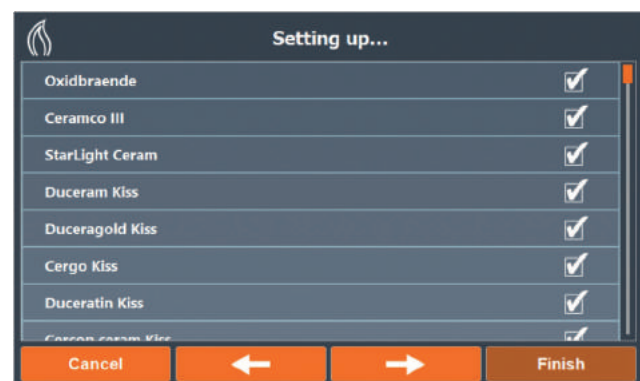
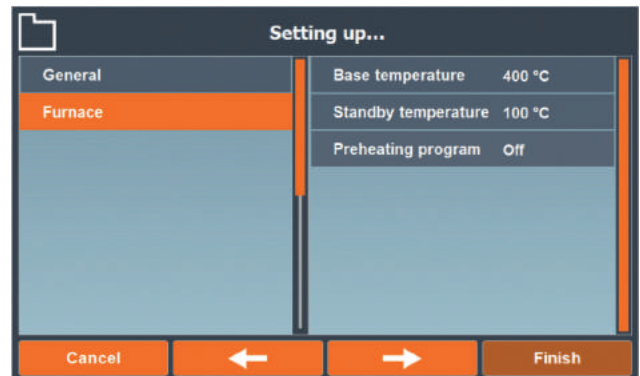
- ▶ Häkchen ✓ entfernen, wenn das Brennprogramm nicht benötigt wird.
- ▶ Taste ➡ drücken, um mit der Ersteinrichtung fortzufahren.

Multimat® Cube press only:

Preselecting the pressing programs:

For a better overview and faster selection, the pressing programs that are available during operation can be preselected, hiding unneeded firing programs.

- ▶ Remove the tick mark ✓ near a program if it is not needed.
- ▶ Touch <Commit>.



4.3 Self-test

Each time the unit is turned on, the self-test program is executed to check important functions. The following functions will be checked:



Lift (firing chamber)



Vacuum



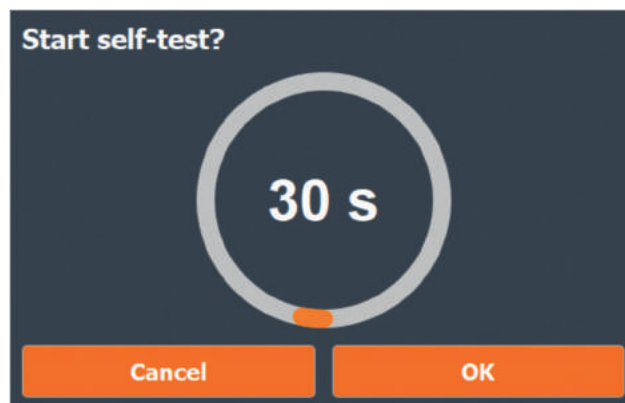
Pressing function (Multimat® Cube press only)



Temperature

► Touch <OK> to start the self-test immediately.
If a touch display field is not touched within 30 seconds, the self-test will start automatically.

► Touch <Cancel> if no self-test is required.



If the self-test has been passed:

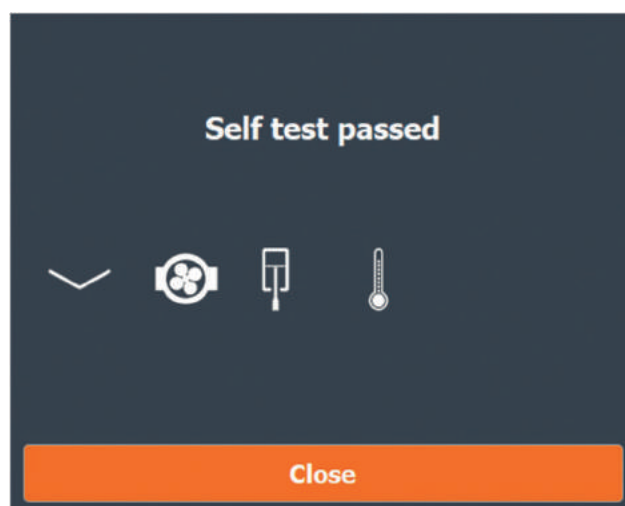
► Touch <Commit> to complete the self-test.

If the self-test is not passed, the faulty function is crossed out in red.

► Touch <Commit> to complete the self-test.

For possible problems and remedies:

Section 5 “Troubleshooting”.



4.4 Setting the pressing pressure (Multimat® Cube press only)

If the pressing pressure is reduced, it may take a few seconds for the display in the top bar to react, as the compressed air lines in the Multimat® Cubepress will still be under increased pressure, which will drop only slowly. The tolerated difference between the current pressure and the pressure entered in the pressing program is ± 0.2 bar.

If the current pressure exceeds or falls below the tolerance limit before the start of the pressing program, the pressing program cannot be started and the operator is instructed to check the pressing pressure.

If the tolerance limit is exceeded or not reached during the execution of a pressing program, a message will be displayed after the end of the program. The pressing process will not be aborted.

- ▶ Pull the pressure control upward to unlock it (1).
- ▶ Adjust the pressing pressure with the pressure control (2). The current pressure will be shown in the upper right corner of the display.

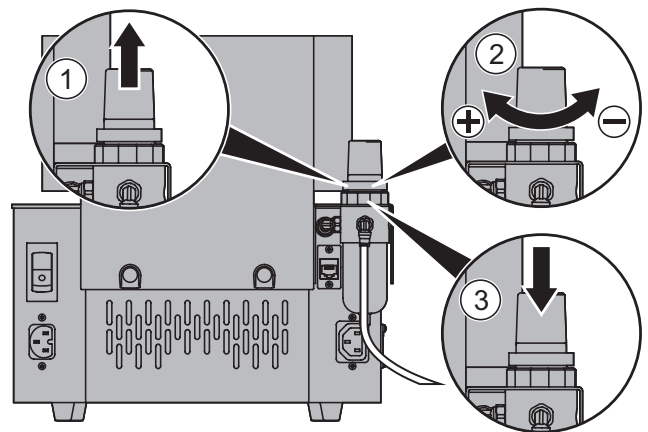
Increasing the pressing pressure:

- ▶ Turn the pressure control clockwise until the desired pressure is reached.

Reducing the pressing pressure:

- ▶ Turn the pressure control counterclockwise until a value below the desired pressing pressure is displayed.
- ▶ Then turn the pressure control clockwise again until the desired pressure is reached.

- ▶ Push the pressure control downward to lock it (3).



4.5 The user interface

4.5.1 Home screen

The home screen appears after the unit has been turned on.



NOTICE

Touch the display only with your finger. Pointed objects can damage the display.



- | | |
|--|----------------------------|
| 1 = Status bar: Current menu | 7 = <Home> field |
| 2 = Quick selection field: Firing | 8 = <Back> field |
| 3 = Quick selection field: Pressing* | 9 = <Save> field |
| 4 = Quick selection field: Last 10 (programs) | 10 = <Close chamber> field |
| 5 = Status bar: Pressure and temperature display | 11 = <Open chamber> field |
| 6 = <Main menu> field | 12 = <Start/Stop> field |

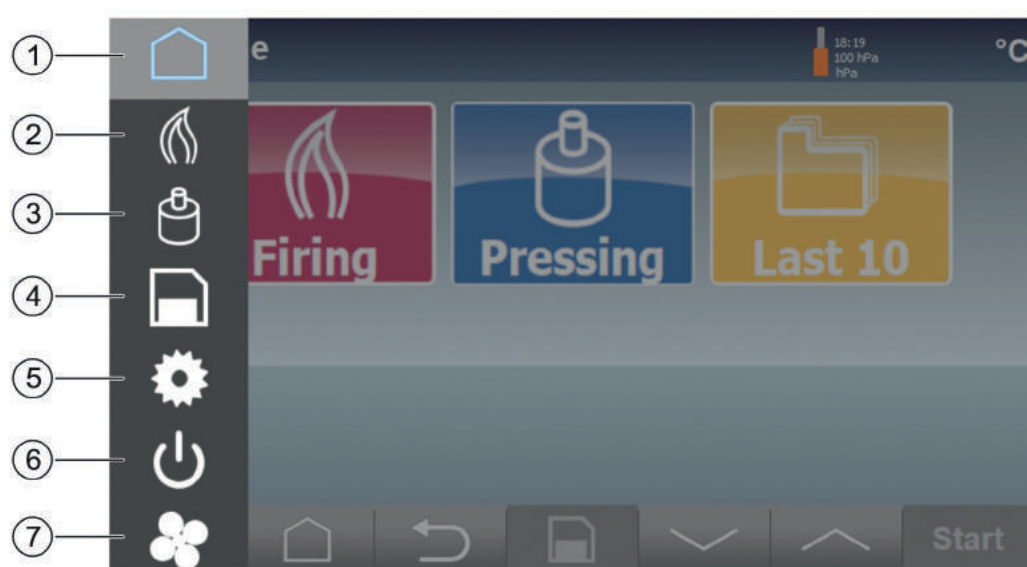
*Multimat® Cube press only

Quick selection directly from the home screen

The following program menus can be executed directly from the home screen for fast action:



4.5.2 Main menu



- 1 = <Home> field
- 2 = <Firing> menu
- 3 = <Pressing> menu*
- 4 = <File Manager> menu

- 5 = <Settings> menu
- 6 = <Standby mode> field
- 7 = <Fast cooling>

*Multimat® Cube press only

4.5.3 <Settings> menu

- Touch <Settings>.



4.5.3 <Settings> menu

Overview of the submenus in the <Settings> menu:

<General> menu

- Screen saver (ON/OFF)
- Language (selectable)
- Temperature unit (°C or °F)
- Automatic standby (ON/OFF)
- Slide mode (ON/OFF)
- Start initial configuration...
- Vacuum pressure unit (selectable)
- Set date/time
- Return furnace to factory setting ...

<Furnace> menu

- Base temperature
- Standby temperature
- Calibrating
- Preheating program (ON/OFF)
- Start preheating program
- Vacuum test

<Information> menu

- Software version
- Firmware version
- Runtime furnace
- Runtime muffle
- Runtime pump
- Lifting cycles

<Network> menu (for LAN or WLAN connections)

- DHCP (ON/OFF)
- IP address
- Network mask
- Gateway
- Name server


<Update> menu

- Search for updates
- (No) update available

4.5.4 <Standby mode> field

The standby function ensures a constant temperature in the firing chamber and prevents the accumulation of moisture in the chamber insulation.

Switch to standby mode manually:

- ▶ Touch  in the main menu.

Turn automatic standby mode on or off:

- ▶ <Settings> menu ▶ <General> ▶ <Automatic standby (ON/OFF)>.

Change standby temperature:

- ▶ <Settings> menu ▶ <Furnace> ▶ <Standby temperature>.

4.5.5 <Fast cooling>

The fast cooling function cools down the firing chamber to the base temperature. This function requires a connected vacuum pump.





Start fast cooling:

- ▶ Touch .

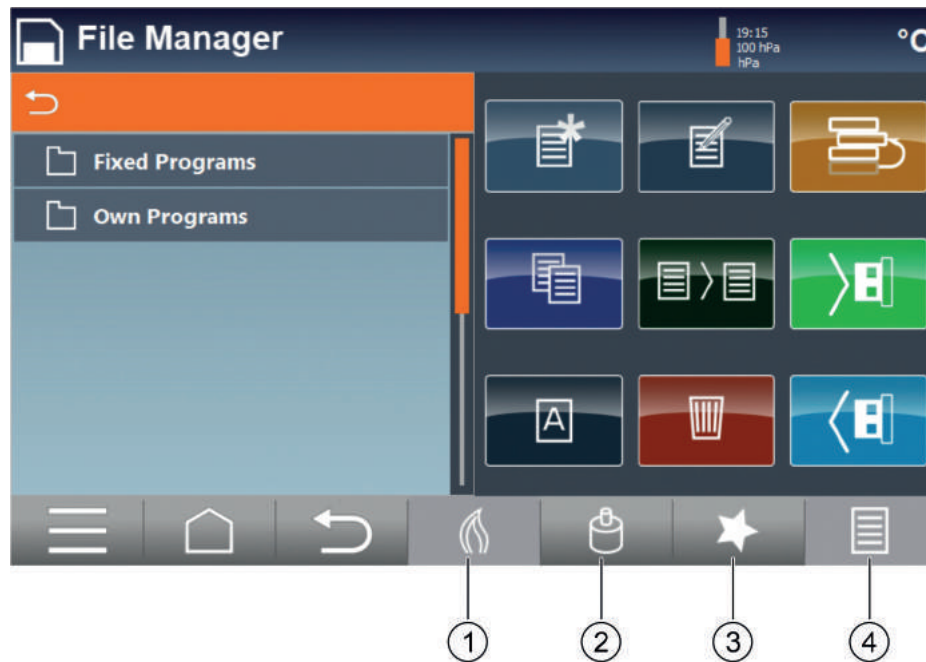
The firing chamber will be lifted, and the vacuum pump will run until the base temperature is reached.

4.5.6 <File Manager> menu

General notes:

- Predefined programs cannot be edited or deleted.
- Predefined programs can be copied to <My Programs> and edited.
- **Brennprogramme:**
 - Predefined firing programs are bright red and marked with the  symbol. They are locked for permanent editing.
 - Own firing programs are dark red and marked with the  symbol. These programs can be customized
- **Pressing programs (Multimat® Cube press only):**
 - Predefined pressing programs are bright blue and marked with the  symbol. They are locked for permanent editing.
 - Own pressing programs are dark blue and marked with the  symbol. These programs can be customized.

4.5.6 <File Manager> menu



- 1 = <Firing programs> field
2 = <Pressing programs> field

- 3 = <Favourites> field
4 = <File Manager menu> field

*Multimat® Cube press only

Activities within the file manager

	Create new program/group		Edit program/group		Sort programs/groups
	Copy program/group		Move program/group		Export program/group (USB)
	Rename program/group		Delete program/group		Import program/group (USB)

File Manager functions

The directory structure and selection of groups or programs is similar to the classic File Manager in Microsoft® Windows™:

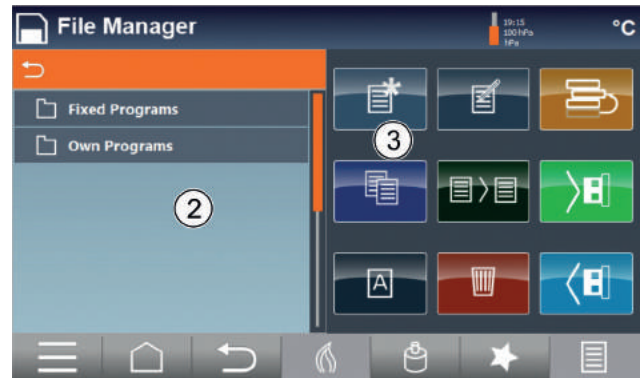
- Left-hand window (or left half of screen) = selection side
- Right-hand window (or right half of screen) = action page
- To select a group or program, touch a group twice in succession to access the subgroup (subfolder). This subgroup may contain other subgroups or programs.
- To highlight groups or programs, touch once.
- The parent group is displayed in the upper window row, e.g., Oxidbraende .
- To move up one level to the parent group, touch

Example: Creating a new group

The task: To create a subgroup <Test Group> in <My Programs> (firing programs).

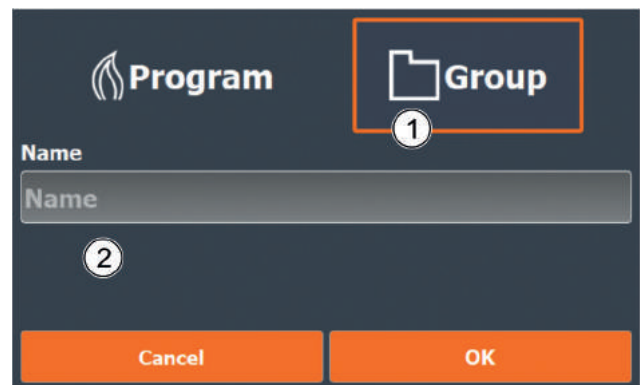
Select the group (directory) in which the new subgroup is to be created:

- ▶ Touch the <Firing programs> field (1).
- ▶ Touch <My Programs> twice (2) to access the subgroup.
- ▶ Touch the “Create new” activity (3) in the right-hand window.



①

- ▶ Touch <Group> (1).
 - ▶ Touch <Name> (2).
- A keyboard will be displayed.



- ▶ Enter a name, e.g., “Test Group”.

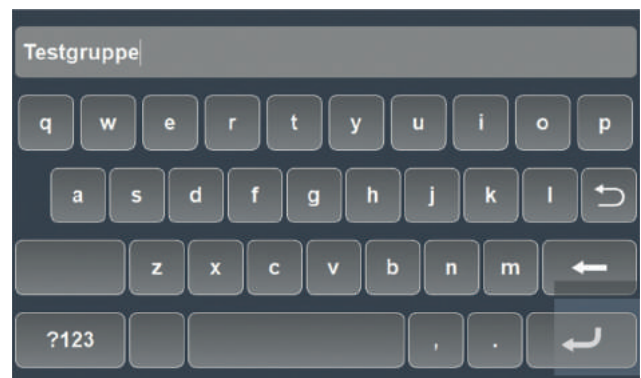
Shift key functionalities:

 UPPERCASE <-> lowercase letters

 Letters <-> digits/special characters

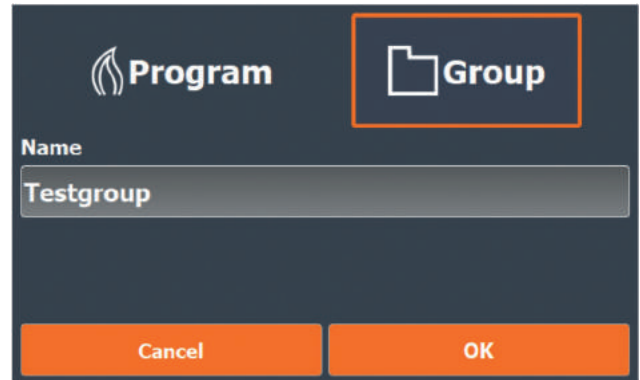
- ▶ Touch .

The keyboard will disappear.



4.5.6 <File Manager> menu

- ▶ Touch <OK> to save the new group.

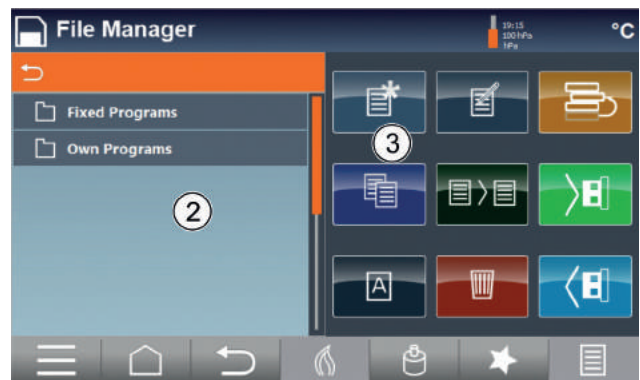


Example: Creating and editing a new program

The task: To create a new firing program <Test 1> in <Test Group>.

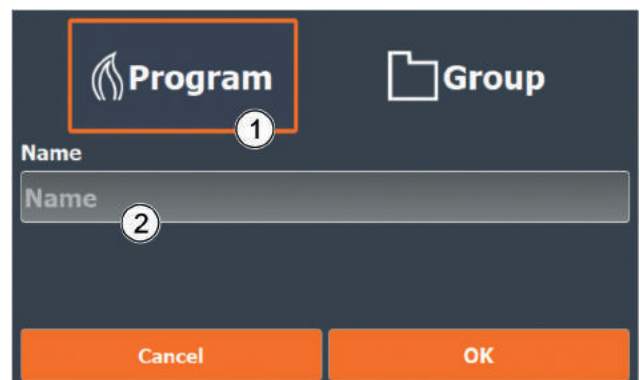
Create a new program:

- ▶ Touch the <Firing programs> field (1).
- ▶ Switch to the subfolder: Touch <My Programs> twice (1) to access the subgroups.
- ▶ Touch <Test Group> twice to access the <Testgruppe> subgroup.
- ▶ Touch the “Create new” activity (3) in the right-hand window.

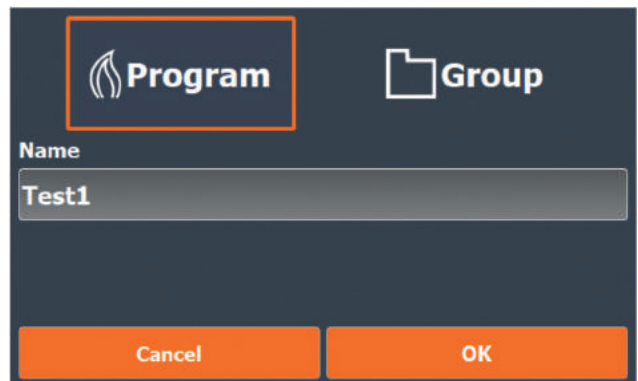


①

- ▶ Touch < Program> (1).
- ▶ Touch <Name> (2).
- ▶ Enter the name “Test 1” using the keyboard.



- ▶ Touch <OK> to save the new program.



Edit program “Test 1”:

- ▶ Touch <Test 1> (1).
- ▶ Touch the “Edit” activity (3) in the right-hand window.



Edit program “Test 1”:

- ▶ Touch the various fields (1) to modify the firing parameters.

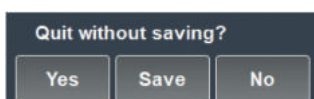
Saving modified parameters:

- ▶ Touch the “Save” field (2).



Discarding the modifications:

- ▶ Touch the “Return” field and confirm with <Yes>.



4.5.6 <File Manager> menu

Example: Copying a program or group

The task: To copy the firing program <Oxide Firing 780 °C> (Predefined) to the <Test Group> (My Programs).

Select the firing program <Oxide Firing 780 °C>:

- ▶ Touch the <Firing programs> field (1).
- ▶ Touch <Predefined> twice (2) to access the subgroups.
- ▶ Touch <Oxide Firings> twice (2) to access the subgroup with the firing programs.
- ▶ Touch the “Copy” activity (3) in the right window.



①

Change to the <Test Group> (My Programs) subgroup:

- ▶ Touch <My Programs> in the right-hand window twice to access the <Test Group> subgroup.
- ▶ Touch <Test Group> twice.



- ▶ Touch and hold <Oxide Firing 780 °C> in the left-hand window and drag it to the <Test Group> subgroup in the right-hand window.



4.5.7 Favourites

With the <Favourites> you can place frequently used programs or groups on the Home screen for quick direct selection.



Creating a favourite:

- ▶ Open the <File Manager:
<Main Menu> ▶ <Settings> ▶ <File
Manager>.
- ▶ Select the program or group (1).
- ▶ Touch the <Favourites> field (2).

The program (or group) will be marked with an asterisk



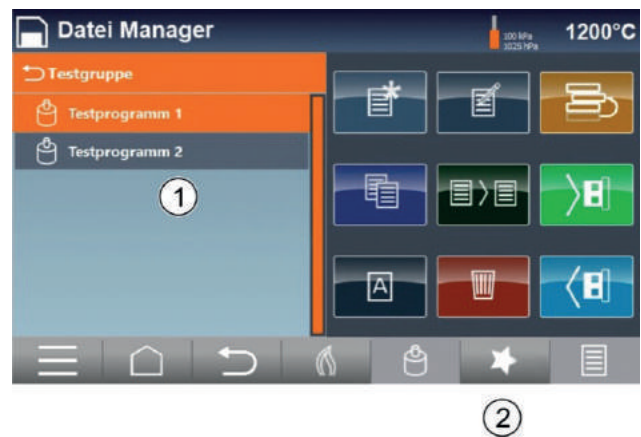
and will be shown on the Favourites selection on the Home screen.

- ▶ Touch <Home>.

Deleting a favourite:

- ▶ Select the favourite (program or group)
- ▶ Touch the <Favourites> field.

The program (or group) will no longer be marked with an asterisk and will not appear in the in the Favourites selection on the Home screen.



4.6 Firing and pressing programs

The following is an illustrative example of how to execute a firing program or pressing programs (Multimat® Cube press only).

4.6.1 Overview of firing and pressing parameters

Starting temperature	Specifies the temperature at which the firing/pressing program starts.
Pre-drying time	Specifies the time during which the starting temperature will be held with the firing chamber open.
Closing time	Specifies the time during which the firing chamber will close gradually; the starting temperature will be held.
Pre-heating time	Specifies the time during which the starting temperature will be held with the firing chamber closed.
Vakuum	Specifies the vacuum level in the firing chamber.
Firing stages	Specifies the number (max. 3) of stages (holding levels) used.
Heating rate	Specifies the speed of the temperature rise.
End temperature	End temperature reached during the firing/pressing program.
Vacuum time	Specifies the time during which the vacuum will be maintained after the end temperature is reached.
Holding time	Specifies the time during which the final temperature will be held.
Tempering temperature	Specifies the tempering temperature to be reached.
Tempering time	Specifies the time during which the tempering temperature will be held.
Cooling	Specifies the time during which the firing chamber will slowly open
Pressdruck	Specifies the pressure exerted on the pressing plunger.
Pressing time	Specifies the time during which the pressing is performed.

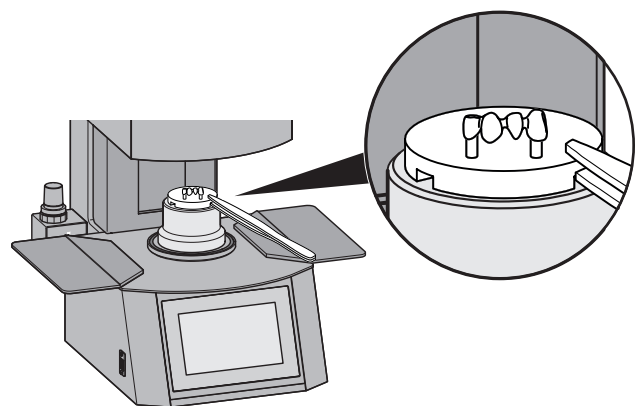
4.6.2 Start firing or pressing program

The following <Firing with Oxide Firing 980°C> is an illustrative example of how to execute a firing program or pressing programs (Multimat® Cube press only).

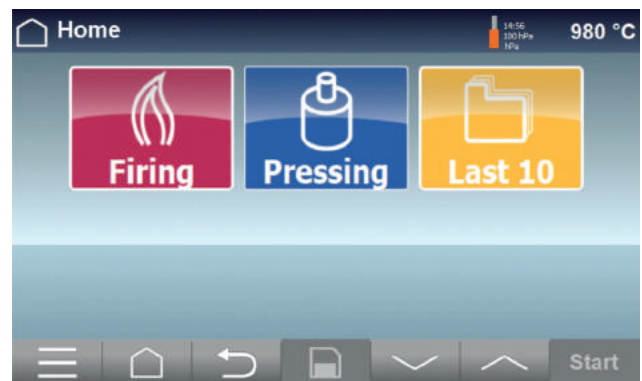
The screenshots were taken with slide mode "ON":
Menu <Settings> ▶ <General> ▶ <Slide mode>.

- ▶ Place the object to be fired in the centre of the firing base or pressing base*.

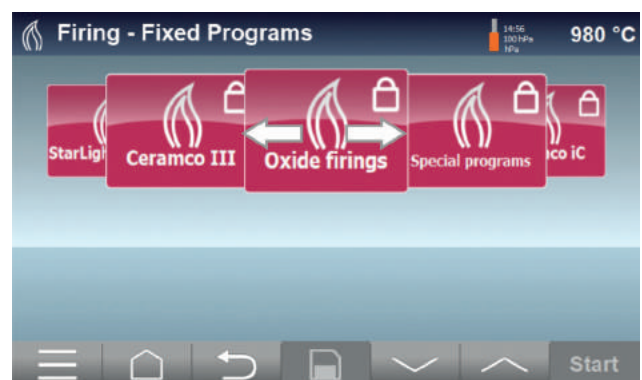
*Multimat® Cube press only.



- ▶ Touch <Firing> to access the subgroups.
- ▶ Touch <Predefined> to access the subgroup that includes the oxide firing programs.



- ▶ Swipe to the left or right on the screen until the <Oxide firings> group appears in the centre.
- ▶ Touch <Oxide firings>.



4.6.2 Start firing or pressing program


- ▶ Touch <Oxide Firing 980 °C>.

The current parameters settings are displayed in the right-hand window.

These parameters can be changed before and after starting the program, provided the program is not running yet.

Parameters in predefined programs can only be changed for the current procedure; the changes cannot be saved.

To save parameter changes permanently in “My Programs”:

- ▶ Touch .



- ▶ Touch <Start>.

The program sequence will begin.

There are three display modes to visualize the progress of program:

- ▶ Touch  or  to switch between the display modes.

Left-hand window: Progress of the individual parameters.

Right-hand window: Overall progress and remaining time.

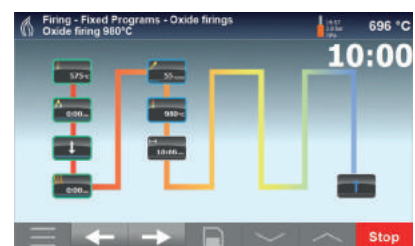
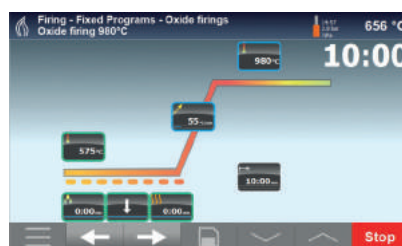


In these two display modes, the individual parameters (program phases) are symbolized by boxes:

White frame: Program phase not yet started.

Blue flashing frame: Program phase is being executed.

Green frame: Program phase completed.



At the end, a message window will indicate the completion of the entire program.

- ▶ Touch <OK> to confirm.

4.7 Special programs

The <Firing> ► <Predefined> ► <Special programs> menu contains the following special programs:

<Silver wire test>	Calibration program for correcting temperature deviations, Section 6.2 “Calibrating the unit” .
<Dehydration with pump>	For dehydrating (removing moisture from) the firing chamber insulation after prolonged non-use.
<Pre-heating>	For preheating and drying the firing chamber insulation to the parameters specified in the pre-heating program, Section 4.8 “Smart pre-heating program” .
<Cleaning program>	For cleaning the firing chamber, including the firing tray and pins.

4.8 Smart pre-heating program

The pre-heating program is used for pre-heating and drying the firing chamber insulation to the parameters specified in the pre-heating program.

Executing the pre-heating program manually:

- Touch <Settings> ► <Furnace> ► <Start pre-heating program>
- or
- Touch <Firing> ► <Predefined> ► <Special programs> ► <Pre-heating>

Activating smart pre-heating:

- Touch <Settings> ► <Furnace> ► <Pre-heating> and turn to “ON”.
- The next time the unit is turned on, you will be prompted to run the pre-heating program.
 - If the pre-heating program was run completely and without aborting and the unit was subsequently turned off, the next prompt to run the pre-heating program will be shown after 10 hours.
 - If the pre-heating program is not run or if it is aborted, the prompt to execute the pre-heating program will return each time the unit is turned on.

4.9 Power failure behaviour

In the event of a power failure while a program is running, an error message will appear once the power has returned.

The Multimat® Cube/Multimat® Cube press is equipped with a safety feature in the event of a power failure, so that the current program will be continued if there is sufficient vacuum and sufficient heat left.

If the vacuum or temperature drop thresholds are exceeded, an error message will appear and the program will be aborted.

4.10 Muffle fracture (Multimat® Cube press only)

The Multimat® Cube press is equipped with a muffle fracture detection feature.

If the pressing plunger does not register any resistance during the execution of a pressing program, a fracture may have occurred in the pressing ring; an error message will appear in this case.

5 Troubleshooting



WARNING

Improperly performed troubleshooting (repair work) can cause serious injuries.
Perform no troubleshooting procedures other than those described in this section.

Any other troubleshooting procedure requires comprehensive specialist knowledge as well as extensive experience, e.g., in assessing the wear condition of components. This is the responsible of Dentsply Sirona technical customer service.

Error message	Possible causes	Possible remedies
Heating circuit error.	Heating muffle or control relay defective	► Contact Dentsply Sirona.
Pre-heating error.	Timeout during pre-heating.	► Cycle the unit ON and OFF, Section 4.1. ► If the error recurs, contact Dentsply Sirona.
Thermocouple error.	Thermocouple or supply line broken; polarity reversed or short-circuited.	► Contact Dentsply Sirona.
Excessive temperature.	Temperature (firing chamber) 35 °C higher than the specified temperature .	► Contact Dentsply Sirona.
Excessive controller temperature.	Extremely high standby temperature while chamber is open.	► Check the position of the firing chamber. ► Check the base temperature and adjust as needed, Section 4.5.3. ► Turn the unit off, allow to cool and then turn the unit on again, Section 4.1. ► If the error recurs, contact Dentsply Sirona.
Pressing system error. Program must be aborted.	Pressing plunger completely extended during the first 15 seconds of the pressing phase.	► Check the pressing ring.
Pressing system error. Pressing plunger extended too far. Program must be aborted.	Pressing plunger completely extended during the pressing phase.	► Check the pressing ring.
Pressure too low. May affect furnace temperature.	The required pressing pressure is not present.	► Check the compressed-air connector. ► Check the pressure (pressure reducer) and adjust as needed. Section 4.4.
Pressure has changed during pressing. Program must be aborted.	Incorrect pressing pressure not correct during program execution.	► Check the compressed-air connector. ► Check the pressure (pressure reducer) and adjust as needed. Section 4.4. ► Check the pressing result.

Error message	Possible causes	Possible remedies
Vacuum system error. Program must be aborted.	Vacuum system is not ventilated. Vacuum cannot be relieved.	▶ Contact Dentsply Sirona.
Vacuum timeout. Program must be aborted.	Target vacuum level is not reached. Chamber seal or vacuum system leak.	▶ Perform vacuum test. ▶ Check the chamber seal and vacuum pump, Section 3.3. ▶ If the error recurs, contact Dentsply Sirona.
A system error has occurred. Try to restart the program. Error code: 0x407	Error in system communication.	▶ Restart the program. ▶ If the error recurs, contact Dentsply Sirona.
Lift error.	Limit switch defective.	▶ Contact Dentsply Sirona.
Supply voltage failed while firing was in progress. Firing cannot be resumed.	Supply voltage failed briefly while the program was executed. The vacuum and/or temperature were no longer sufficient to continue the program.	▶ Check the firing/pressing result.
Supply voltage failed while firing was in progress. However, the program was completed.	Supply voltage failed briefly while the program was executed.	▶ Check the firing/pressing result.
Battery error #1	The battery of the control unit is empty.	▶ Contact Dentsply Sirona.
Battery error #2	The battery of the control board is empty.	▶ Contact Dentsply Sirona.
Export failed	Error exporting data from unit to USB stick. Insufficient memory on USB stick. USB stick defective.	▶ Check the USB stick.
Self-test failed: Lift problem	Final position not reached: Lift blocked or limit switch defective.	▶ Cycle the unit ON and OFF, Section 4.1. ▶ If the error recurs, contact Dentsply Sirona.
Self-test failed: Vacuum problem	No vacuum present. Vacuum pump not connected or defective.	▶ Connect vacuum pump, Section 3.3. ▶ Check connections. ▶ If the error recurs, contact Dentsply Sirona.
Self-test failed: Pressing system problem	Pressing plunger could not be extended.	▶ Connect to compressed air, Section 3.3. ▶ Check connections. ▶ If the error recurs, contact Dentsply Sirona.
Self-test failed: Temperature problem	Temperature does not increase. Heater or thermocouple defective.	▶ Cycle the unit ON and OFF, Section 4.1. ▶ If the error recurs, contact Dentsply Sirona.

6 Maintenance and cleaning

6.1 Cleaning the unit



VORSICHT
Burns hazards when touching hot surfaces.
Allow the unit to cool before cleaning.

NOTICE Surfaces may be damaged by improper cleaning:

- Clean the unit and its accessories only on the outside.
 - Do not use sharp or abrasive cleaning agents.
 - Do not use aggressive (e.g., corrosive) chemicals such as alkaline or acid liquids.
 - Use commercially available cleaning agents, e.g., glass cleaner.
 - Blowing off with compressed air or sweeping with brooms or brushes in dry condition is prohibited.
- Before cleaning, turn off the unit at the mains switch and disconnect the mains plug from the mains outlet.
- Wipe down the unit housing and display with a damp, soft, clean cloth of neutral colour.

6.2 Calibrating the unit

The accuracy of the temperature control was precisely set at the factory. However various environmental factors may cause a deviation of the actual temperature from the set temperature. This deviation must be corrected by calibration.

For calibration, the unit must be preheated at 650 °C and with the firing chamber closed, for 60 minutes.

Pre-heating the firing chamber for calibration:

- Touch: <Firing> ► <Predefined> ►
<Special programs> ► <Silber wire program>.
- Set <Preheating time> to 60:00 minutes.
- Touch <Start>.



After the program has run, a prompt will appear asking whether the calibration value should be accepted.

- Touch <No>.
- Set <Preheating time> to 03:00 minutes

Calibrating:

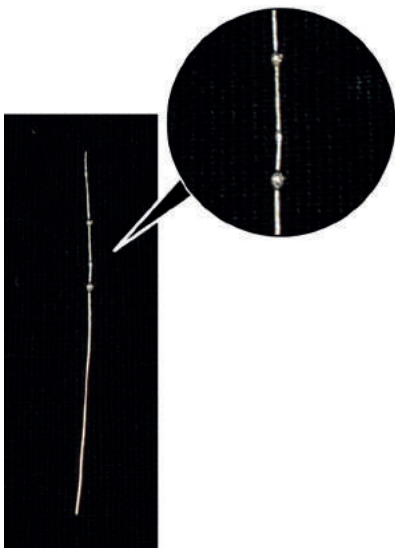
- ▶ Open the firing chamber.
- ▶ Place the carrier with the silver wire in the middle of the firing base.
- ▶ Touch <Start>.

After the program has run, a prompt will appear asking whether the calibration value should be accepted.

- ▶ Before proceeding, the result of the calibration carried out should first be evaluated as follows:

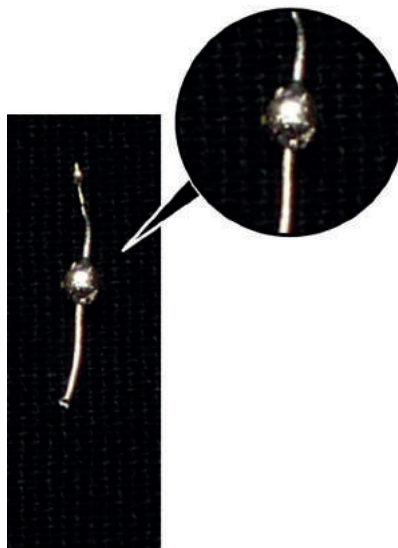


One or more small beads have formed on the silver wire.



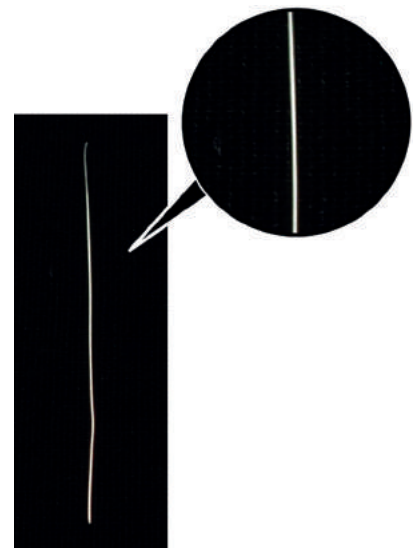
= Temperature correct ✓

The silver wire has almost or completely melted.



= Temperature too high!

No melting effect is visible on the silver wire.



= Temperature too low!

Bewertung:	Weiteres Vorgehen:
Temperature correct	<ul style="list-style-type: none"> ▶ Touch <Yes>. The calibration value is automatically stored under <Settings> ▶ <Furnace>. This concludes the calibration of the unit.
Temperature too high	<ul style="list-style-type: none"> ▶ Touch <No>. The calibration value will not be stored. ▶ Correct the final temperature value downwards in increments of approx. 3°C. ▶ Touch <Start> to restart the program.
Temperature too low	<ul style="list-style-type: none"> ▶ Touch <No>. The calibration value will not be stored. ▶ Correct the final temperature value downwards in increments of approx. 3°C. ▶ Touch <Start> to restart the program.

6.3 Updating the firmware and software

Finding and installing updates:

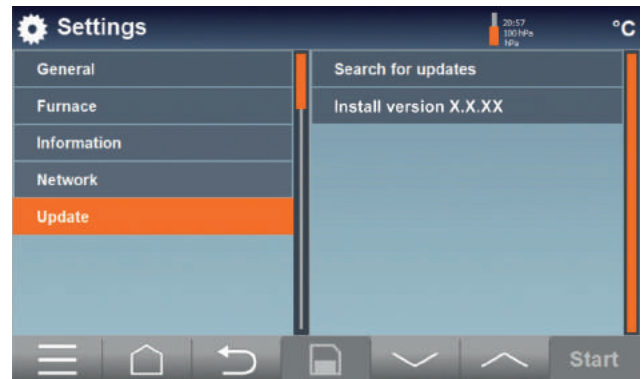
- ▶ Insert the USB memory stick (from Dentsply Sirona) into the USB port on the left side of the unit.
- ▶ Touch <Settings> menu ▶ <General> ▶ <Update>
- ▶ New versions are displayed:
Touch "Install Version XXXXX".

A message window displays the new functions.

- ▶ Touch <Install now>.

After the installation:

- ▶ Turn off the device at the mains switch and remove the USB stick before turning it on again.



7 Waste disposal

The unit and all its accessories must be disposed of according to apical regulations.

Countries of the European Union: Within the European Economic Area, this product is subject to Directive 2002/96/EC and national laws. This Directive requires environmentally sound recovery/disposal of the product.

All other countries: Contact Dentsply Sirona for further country-specific information.



CAUTION Improper disposal may result in environmental damage.

- Do not dispose of the unit, electronic or other components, accessories or packaging with normal household waste at the end of their useful lives.
- Contact the competent authorities for information about correct and environmentally sound recycling or disposal of the unit and its packaging.

7.1 Disposing of the packaging



WARNING

Parts of the packaging material (e.g. foils or polyethylene) may pose a suffocation hazard.

Dispose of the packaging and all its parts out of the reach of children.

The packaging materials have been selected with environmental considerations in mind that are fabricated from recyclable materials. The packaging material can be returned to the raw material cycle after use, salvaging valuable raw materials.

- The external packaging is made of cardboard.
- The filler materials and insets are made cardboard or polyethylene foam.
- The protective foils and bags are made of polyethylene (PE).

Dispose of the packaging materials in an environmentally responsible manner, separated by materials.

7.2 Disposing of the unit

The device contains two lithium ion/manganese battery cells.



- Dispose of the unit according to the applicable regulations through the intermediary of a certified waste disposer.
- Dispose of all electronic components according to the applicable regulations.
- According to the European Directive 2002/96/EC, manufacturers must take back used batteries.

8 Warranty

Dentsply Sirona offers a two-year warranty from the date of delivery.

The warranty excludes:

- Damage to parts subject to wear during normal operation (consumables).
- Damage caused by external impact, e.g., transport damage.
- Damage caused by incorrect positioning or installation
- Damage caused by connection to a voltage or frequency other than that specified on the nameplate.
- Damage caused by uses not provided for in the instruction manual.
- Damage caused by improper repairs and modifications made by unauthorized persons.

This warranty does not cover any further claims, including but not limited to material and immaterial claims. This device was designed for typical use in dental laboratories.

If the unit is used in a production plant, an industrial application or for continuous firing operation, premature ageing of any parts that are subject to wear must be expected.

The following parts are excluded from the warranty:

- Quartz glass muffle 100 – 120 V or quartz glass muffle 220 – 230 V
- Cable harness Multimat® Cube/Cable harness Multimat® Cube press
- Heater wire connection cable
- Heat sensor

Made in Germany



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 **Dentsply
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