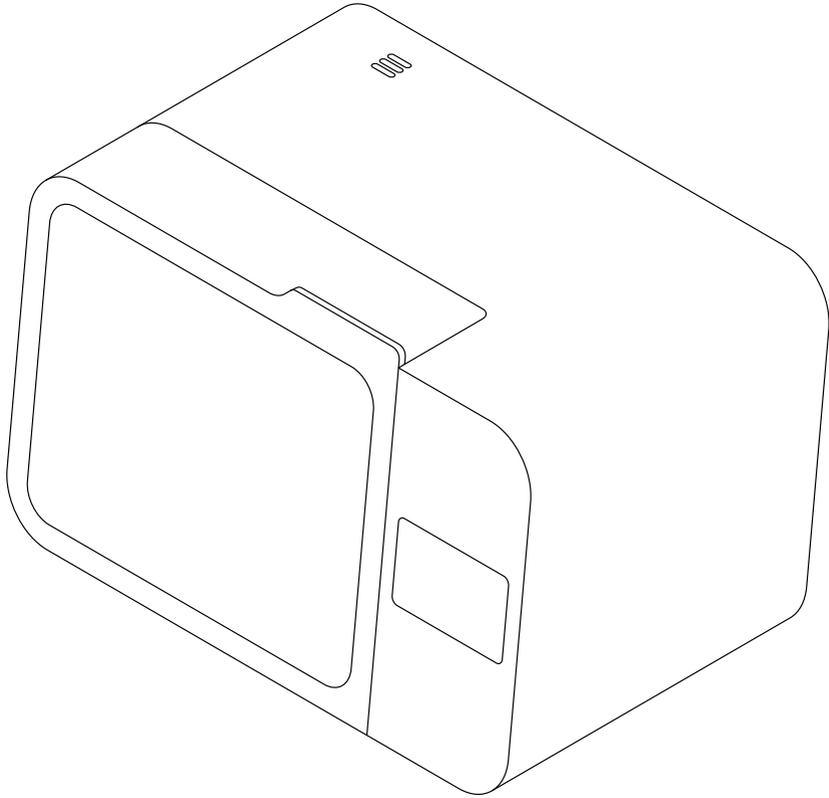


# Manual | Digital Cure Large Capacity Unit





# Installation and General Usage Instructions

*Refer to the Lucitone Digital Print Denture illustrated technical guides for detailed workflow instructions.*

## **Digital Cure - Large Capacity Unit**

Large-format desktop stereolithography  
post-cure chamber

Original English instructions

Read this manual carefully and keep it for future reference.

June 2022

PN: 2201683 REV 01



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Read and understand this manual and its safety instructions before using the Digital Cure. Failure to do so can result in serious injury or death.

## **DISCLAIMER**

Dentsply Sirona has made every effort to make these instructions as clear, complete, and correct as possible. The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither Dentsply Sirona nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information that is contained herein. Notify us if you have any suggestions for improvements or amendments or have found errors in this publication.

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## **TRADEMARKS**

All product names, logos, and brands are property of their respective owners. All company, product, and service names used in this manual are for identification purposes only. Use of these names, logos, or brands does not imply endorsement.

## **DOCUMENT REVISIONS**

<b>Date</b>	<b>Version</b>	<b>Document changes</b>
Jun 2022	REV 01	Initial publication

# 1 Preface

Congratulations on purchasing the Dentaply Sirona Digital Cure - Large Capacity Unit, hereby referred to as the Digital Cure. On behalf of the Dentsply Sirona team, we thank you for your purchase.

This manual explains how to set up, use, and properly maintain the Digital Cure.

The manual is intended for anyone who is installing, operating, maintaining, or otherwise interacting with the Digital Cure.

## 1.1 Read and retain instructions

Read and understand this manual and its safety instructions before using the Digital Cure. Failure to do so can result in serious injury or death. Keep all safety information and instructions for future reference and provide them to subsequent users of the product. Follow all instructions to avoid fire, explosions, electric shocks, or other hazards that may result in damage to property and/or severe or fatal injuries. The Digital Cure shall only be used by persons who have fully read and understand the contents of this manual. Ensure that each person who uses the Digital Cure has read these warnings and instructions and follows them. Dentsply Sirona is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions. In such cases, the warranty will be voided.

## 1.2 Obtaining documentation and information

Visit [dentsplysirona.com](https://dentsplysirona.com) to:

- Access the latest version of all Dentsply Sirona product documentation.
- Contact [Dentsply Sirona Support](#) to request documentation, manuals, repair guides, and technical information.
- Request additional training.

### 1.2.1 Support and service

Retain a record of the original purchase to request warranty services. Include the serial name of the product when contacting [Dentsply Sirona Support](#) for product support. The serial name is on the back panel of the machine in the format **DLCL-01234**.

For any support or service requests, including product information, technical assistance, or assistance with instructions, contact [Dentsply Sirona Support](#).

## 1.2.2 **Warranty**

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

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

**DISCLAIMER:** The provisions of the above warranty are Dentsply Sirona's sole obligation and exclude all other remedies or warranties, expressed or implied, including those related to MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE.

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

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

## 2 Introduction

### 2.1 Intended use

The Digital Cure post cures 3D printed parts with a unique combination of heat and light. The final performance characteristics of cured photopolymer resin may vary according to your compliance with the instructions for use, application, operating conditions, material combined with, end use, or other factors.



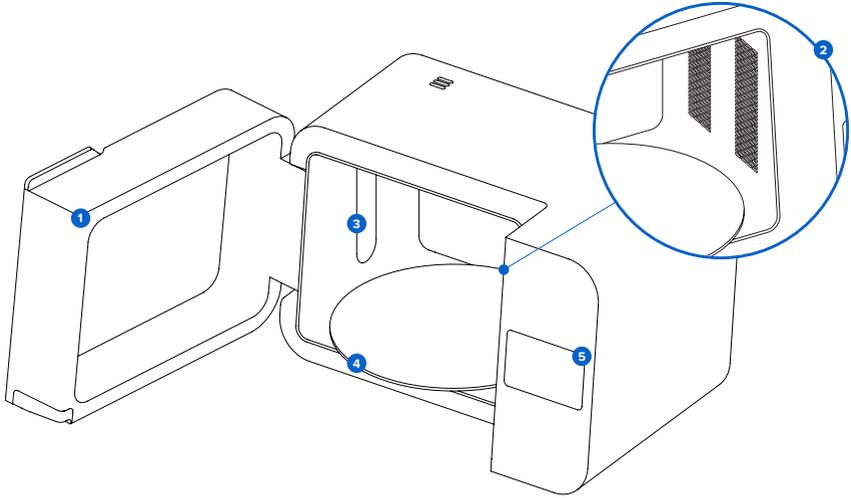
**Do not modify.** The Digital Cure is intended for use as-is. Modifying the machine without explicit approval and directions from Dentsply Sirona will void your warranty, and could potentially damage the machine and cause bodily harm.

## 2.2 Technical specifications

Parameter	Unit
Unit	Digital Cure
Installation surface	Benchtop unit
Minimum dimensions for convenient access (W × D × H)	90 × 85 × 55 cm 35.5 × 33.5 × 21.7 in
Product dimensions (W × D × H)	69 × 54 × 44.5 cm 27.2 × 21.3 × 17.5 in
Product weight	24 kg 53 lb
Turntable diameter	39.5 cm 15.6 in
Curing volume	Cylinder 39.5 cm in diameter and 32 cm tall Cylinder 15.6 in in diameter and 12.6 in tall
Operating environment	18–28 °C 64–82 °F
Power requirements	<b>Input (NA):</b> 100–120 VAC, 50–60 Hz, 15 A max <b>Input (EU):</b> 220–240 VAC, 50–60 Hz, 8 A max
Maximum post-cure temperature	80 °C 176 °F
Light source	45 multi-directional LEDs (15 385 nm LEDs, 15 395 nm LEDs, 15 470 nm LEDs)
UV LED electrical power	62 W
UV LED radiant power (total)	36 W
UV LED radiant power by wavelength	16 W at 385 nm (15 LEDs) 20 W at 395 nm (15 LEDs)
Connectivity	<b>Wi-Fi:</b> 2.4 GHz <b>Ethernet:</b> 100 Mbit <b>USB:</b> 2.0
Wi-Fi connectivity	<b>Protocol:</b> IEEE 802.11 b/g/n <b>Frequency:</b> 2.4 GHz <b>Supported security:</b> WPA/WPA2
Ethernet connectivity	RJ-45 Ethernet (10BASE-T/100BASE-TX) LAN port Connect with a shielded Ethernet cable (not included): minimum Cat5, or Cat5e or Cat6.
USB connectivity	USB (rev 2.0) B port with a USB A-B cable
Sound emission	Does not exceed 79.5 dB(A).
Unit control	Interactive touchscreen
Alerts	Touchscreen alerts

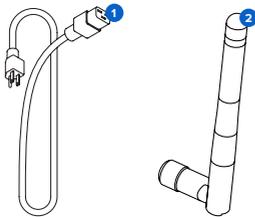
## 2.3 Product components

### 2.3.1 Digital Cure



- ❶ **Door:** Double walls insulate the post-cure chamber and the internal surfaces reflect light.
- ❷ **Heaters:** Two heating modules heat the post-cure chamber up to 80 °C (176 °F).
- ❸ **LEDs:** An array of 385 nm, 395 nm, and 470 nm LEDs help to post-cure parts.
- ❹ **Turntable:** Rotating plate ensures balanced post-curing across all exposed surfaces. The grey lines on the turntable define the cure zone.
- ❺ **Home screen / Touchscreen:** The LCD capacitive touch user interface displays post-cure cycle information, settings, and error messages.

### 2.3.2 Additional package components



- ❶ **Power cable:** Provides power to the Digital Cure.
- ❷ **Wi-Fi antenna:** Allows the machine to connect to a network via Wi-Fi.

## 2.4 User interface

The Digital Cure display is a touchscreen interface. The touchscreen displays information (time, temperature, and selected material), settings, and error messages. The touchscreen serves as the user interface for the machine.

The home screen displays the preheating time and temperature, post-cure time and temperature, current resin, device status, and serial name.

The following screens and options are accessible via the home screen on the Digital Cure display:

<b>Settings</b>	Connectivity Update Firmware Onboarding Machine Sounds Turntable Spinning Reboot
<b>Select Preheat Time and Temperature</b>	Select a preheat time and temperature.
<b>Select Post-Curing Time and Temperature</b>	Select a post-curing time and temperature.
<b>Select Resin Version</b>	Select a resin version.
<b>Recently Used</b>	Select or create a custom resin profile.
<b>Start</b>	Start a post-cure cycle.

## 3 Safety



Read and understand this manual and its safety instructions before using the Digital Cure. Failure to do so can result in serious injury or death.

Supervise young or inexperienced users to ensure enjoyable and safe operation. These instructions contain warnings and safety information, as explained below:



**DANGER** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



**WARNING** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



**NOTICE** indicates information considered important, but not hazard-related.



**DANGER:** Isopropyl alcohol is a flammable chemical.



**ENVIRONMENTAL HAZARD:** Uncured photopolymer resin is classified as hazardous to aquatic life.



**CAUTION:** Do not touch hot surfaces.



**MANDATORY ACTION:** Refer to instruction manual/booklet.



**MANDATORY ACTION:** Grounding required.



**MANDATORY ACTION:** Disconnect before carrying out maintenance or repair.



**MANDATORY ACTION:** Wear eye protection.



**MANDATORY ACTION:** Wear thermal-insulating silicone gloves when handling hot build chambers.

### 3.1 Component and subsystem safety

#### 3.1.1 General

The Digital Cure is a professional appliance that includes electronic components. As with any such appliance:

- Do not operate the device with a damaged cord or plug.
- Ensure reliable grounding before connecting the device to power.

- Always disconnect power before cleaning.
- Only use well-maintained equipment.
- Operate on a clear and level surface.



Do not touch hot surfaces. The Digital Cure contains two heaters to help ensure parts are strong after post-curing. While the heater and fan designs limit overheating and the heater is insulated to contain heat, surfaces of the Digital Cure and printed parts may be hot during and after use.



Like any heating appliance, a fire may occur if the Digital Cure maintains extended contact with flammable materials, such as walls or curtains. Keep the Digital Cure away from walls and curtains. Keep the area surrounding the turntable clean, and only post-cure parts that have been completely dried. Accumulation of cured material creates the possibility of malfunction.

The Digital Cure uses heat as well as 385 nm, 395 nm, and 470 nm light to post-cure 3D printed parts. The door includes an interlock system that is designed to automatically pause heating and extinguish the cure lights when the door is open.

### 3.1.2 **Optical radiation**

This equipment has been tested and found to be exempt from classification pursuant to IEC 62471.

### 3.1.3 **Radio interference**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to CFR Title 47, Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense. Changes or modifications to this product not authorized by Dentsply Sirona could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product.

This product has demonstrated EMC compliance under conditions that included the use of compliant peripheral devices and shielded cables between system components. It is important that you use compliant peripheral devices and shielded cables between system components to reduce the possibility of causing interference to radios, televisions, and other electronic devices.

## 3.2 **Personal protective equipment (PPE)**

Safe operation of the Digital Cure can be achieved by using the following equipment:

- Non-reactive nitrile gloves
- Safety glasses



Resin and solvents may cause skin irritation or an allergic skin reaction. Wear gloves when handling liquid resin, liquid solvent, or resin-coated surfaces. Wash

skin with plenty of soap and water.



Some methods of support removal may cause small pieces of supports to break away. Beware of flying debris. Wear eye protection and gloves to protect the skin and eyes.

### 3.3 Specification of tools to be used

The Digital Cure shall only be used with supplied accessories and additional tools recommended by Dentsply Sirona. Third-party accessories and materials may cause damage. Refer to sections **3.2 Personal protective equipment (PPE)** and **6.1 Tools and supplies for more information**.

- Apron
- General purpose cleaner (e.g., glass cleaner)
- Low-fiber paper towels
- Non-reactive nitrile gloves
- Safety glasses
- Shoe covers

### 3.4 Sensitive components

The Digital Cure has multiple components that are vulnerable to permanent damage if not periodically inspected and properly maintained. Using any tools, cleaning agents, or methods not mentioned in this manual may result in permanent damage to these components.

- **LED modules**

The Digital Cure uses LED modules to expose printed parts to a mix of 385 nm, 395 nm, and 470 nm light during post-curing. Refer to section **6.4.2 Maintaining the light diffusers** for more information.

- **Heater modules**

The Digital Cure uses two heater modules to heat the post-cure chamber and printed parts during post-curing. Refer to section **8 Disassembly and repair** for more information.

- **Turntable**

The Digital Cure uses a glass turntable that rotates throughout the post-cure cycle, ensuring that printed parts are evenly exposed to light and heat. Refer to section **6.3.1 Maintaining the turntable** for more information.

### 3.5 Emergency and exceptional situations

Always consult the safety data sheet (SDS) as the primary source of information to understand safety and handling of any materials used with the Digital Cure.

## 4 Preparation and setup

### 4.1 Location and environs

Prepare a space to install and operate the Digital Cure and house the necessary accessories and consumables.

**To prepare the workspace:**

- Ensure that the workspace meets the following requirements:
  - Dry, indoor location
  - Maximum altitude of 2000 m (6561.7 ft)
  - Low ambient humidity
  - Mains supply voltage fluctuations  $\leq 10\%$
  - Pollution degree of intended environment: 2
- Operate the device in a well-ventilated room with a temperature of 18–28 °C (64–82 °F).
- Position the device so that it is easy to operate the power switch of the unit.
- Dedicate a power outlet and circuit to the device capable of delivering 1 A of current.

## 4.2 Power and networking



The Digital Cure requires reliable grounding. The power cable used with the device must be grounded. Do not use an inadequately-rated power cable with the Digital Cure.

For remotely monitoring the device, ensure it maintains a constant connection to a secured network. Refer to section **4.6 Setting up a network connection** for more information.

## 4.3 Unboxing the machine

Prior to unboxing, ensure that the suitable workspace has been prepared according to section **4.1 Location and environs**.

### 4.3.1 Receiving

Shipping dimensions	Shipping weight	Product dimensions	Product weight
84.8 × 59.2 × 55.2 cm	32 kg	69 × 54 × 44.5 cm	24 kg
33.4 × 23.3 × 21.7 in	70 lb	27.2 × 21.3 × 17.5 in	53 lb

### 4.3.2 Unboxing

The custom packaging the Digital Cure arrives with is specially designed to protect the machine during shipping. During unboxing, inspect the product for any damage or missing items. In the case of damage or missing items, contact [Dentsply Sirona Support](#).

**To unbox the machine:**

1. Position the packaging near the designated location, leaving enough room for two people to comfortably maneuver throughout the area. Stand the packaging upright to ensure it is level.
2. Lift the outer cardboard box off of the lower carrier tray.
3. Remove the foam inserts from the top of the machine.
4. Use the provided handles on the carrying slings to lift the machine out of its carrier tray.
5. Carefully move the machine onto its workspace.



If you need to readjust the Digital Cure, use the carrying slings to pick the machine back up. Do not pick up the Digital Cure without the carrying slings.

6. Tilt each side of the machine up slightly to remove the carrying slings.
  7. Open the door.
  8. Remove the turntable from the upper packing foam. Place the turntable on its mount.
  9. Close the door.
- Keep the original packaging for transportation or shipping.

#### 4.4 Accessing the serial name

The serial name is a unique identifier used to track the history of manufacturing, sales, and repair. The serial name for the Digital Cure is located on the back of the unit in the format **DLCL-01234**. It is also accessible via the touchscreen.

##### To access the serial name on the touchscreen:

1. If you are currently viewing a submenu on the touchscreen, tap the < arrow until you return to the home screen. The home screen lists your current post-cure settings and the device status.
2. The serial name is listed in the top-left corner.

#### 4.5 Installing the machine

After selecting a location, connect the device to a power source and install the Wi-Fi antenna before turning on the device.

##### 4.5.1 Connecting the cables

Plug the included power cable into the power port on the back of the unit and connect the power cable to a dedicated circuit.

For Ethernet, connect the machine to your LAN. Refer to section **4.6 Setting up a network connection** for more information.

##### 4.5.2 Installing the Wi-Fi antenna

Install the Wi-Fi antenna to connect the machine to a wireless network.

To install the Wi-Fi antenna, screw the Wi-Fi antenna onto the jack on the back of the unit.

##### 4.5.3 Turning on

###### To turn on the machine:

1. Plug the included power cable into the power port on the back of the unit and connect the power cable to a dedicated circuit.
2. Flip the breaker switch on the back of the unit to the **ON** position to turn on the machine.
3. As the Digital Cure initializes, the Dentsply Sirona logo with a progress bar appears on the touchscreen, followed by the onboarding process. Follow the on-screen prompts to finish setting up the machine.

To turn off the machine, refer to section **4.5.4 Turning off**.

##### 4.5.4 Turning off

The Digital Cure is designed to remain powered on when not in use. Flip the breaker switch on the back of the unit to the **OFF** position to turn off the machine completely and conserve power. When moving or storing the machine, unplug the unit from its power source in addition to flipping the breaker switch

#### 4.6 Setting up a network connection

Connect the machine to a secure network via Wi-Fi or Ethernet, providing it internet access for remote monitoring and receiving firmware updates. The device can connect directly to a

computer with a USB cable.

#### 4.6.1 **Connecting with Wi-Fi**

The device has built-in Wi-Fi (IEEE 802.11 b/g/n) that supports WPA/WPA2 security. Use the touchscreen to configure a wireless network connection.

##### **To connect with Wi-Fi:**

1. Select the wrench icon on the home screen. The **Settings** screen appears.
2. Select **Connectivity > Wi-Fi**. The **Wi-Fi** screen appears.
3. Toggle **Use Wi-Fi** to **ON**. The toggle turns blue.
4. Select the desired wireless network.
5. If prompted, enter your network password and tap the checkmark to confirm.

#### 4.6.2 **Connecting with Ethernet**

The rear of the unit is equipped with a RJ-45 Ethernet (10BASE-T/100BASE-TX) 100 Mbit LAN Port. Use a shielded Ethernet cable (not included): minimum Cat5, or Cat5e or Cat6.

##### **To connect with Ethernet:**

1. Plug one end of the Ethernet cable into the Ethernet port on the back of the unit.
2. Connect the other end of the Ethernet cable to your LAN.

#### 4.6.3 **Connecting with a manual IP configuration**

When connected to an active Ethernet connection or available wireless network, the device can be configured with a static IP address. Use the touchscreen to configure a manual IP connection.

##### **To connect with Wi-Fi or Ethernet using a manual IP configuration:**

1. With an established Ethernet or available Wi-Fi connection, select the wrench icon on the home screen. The **Settings** screen appears.
2. Select **Connectivity**. The **Connectivity** screen appears.
  - For Wi-Fi networks, select **Wi-Fi**, then the desired wireless network. A new screen appears. Select the **Manual IP** button in the lower-left corner. The **Manual IP Settings** screen appears.
  - For Ethernet connections, select **Ethernet**. The **Manual IP Settings** screen appears.
3. Toggle **Use Manual IP** to **ON**. The toggle turns blue.
4. Enter the appropriate **IP Address, Subnet Mask, Default Gateway, and Name Server**.

#### 4.6.4 **Connecting with USB**

Use the included USB cable for connecting a computer directly to the machine.

##### **To connect with USB:**

1. Plug one end of the USB cable into the USB port on the back of the unit.
2. Connect the other end of the USB cable to a computer's USB port.

### 4.7 **Updating firmware**

Dentsply Sirona regularly releases updated firmware to fix bugs and improve functionality.

##### **To update the firmware:**

1. The machine may automatically recognize that you have sent a firmware update. Tap **Continue** on the touchscreen to finish the installation.
2. If you are not prompted to **Continue**, continue the firmware update manually. Tap **Settings > System > Firmware Update**.
3. After the firmware update installs, confirm the system restart on the touchscreen or wait 30 seconds for an automatic restart.

## 4.8 Transporting the machine

Refer to section **4.3.1 Receiving** for product weight and dimensions. Keep the packaging for transportation or shipping.

### The complete packaging kit consists of:

- 1 outer carton, cardboard
- 1 upper insert, foam
- 1 carrier tray, cardboard
- 2 carrying slings, cardboard
- 1 carrier tray insert, foam

### 4.8.1 Preparing for transportation

Before repackaging, remove the glass turntable and place it in the accessories box. Ensure the post-cure chamber as well as the outer shells are clean and dry.



CAUTION

The Digital Cure is a heavy object. A two person lift is required to prevent injury and avoid damage to the machine. Always use the included cardboard slings when moving the device.



NOTICE

Do not ship the machine without removing and fully securing the turntable. The turntable is made of glass and can break during transit.

### To prepare the machine:

1. Always remove the turntable and any printed parts before moving or packaging the machine.
2. Wipe residual liquid resin and solvent from the post-curing chamber and other internal components.



NOTICE

Do not ship the machine with any liquid resin or solvent inside. Liquids left inside the machine can leak during transit, which may result in additional fees, void the warranty, or present a safety hazard.

Do not ship the Digital Cure with any loose items stored inside the machine. Loose items can shift during transit and damage sensitive components, which may result in additional fees or void the warranty.

### 4.8.2 Packaging



NOTICE

Thoroughly read and follow the instructions to properly package the machine. Skipping any of the following steps may result in shipping damage and void the warranty.

### To package the machine:

1. If you have previously collapsed the machine's outer cardboard carton, start by reassembling and securely taping the box.
2. Tilt one side of the machine up and slide a carrying sling underneath. Repeat with a second sling under the other side of the machine.
3. Place the foam carrier tray insert into the cardboard carrier tray.
4. Use the provided handles on the carrying slings to lift the machine into its carrier tray.



**Lifting hazard:** The Digital Cure is a heavy object. A two-person lift is required to prevent injury and avoid damage to the machine.

5. Place the two foam inserts on the top edges of the machine.
6. Lower the outer box onto the machine.
7. Seal each edge of the opening with adhesive packing tape.

# 5 Usage

## 5.1 Operational environment

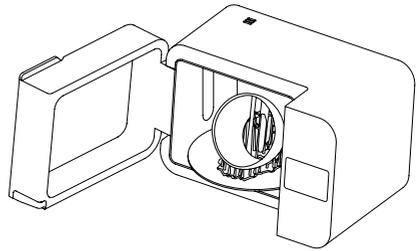
- **Ventilation:** No specific requirements
- **Temperature:** 18–28 °C (64–82 °F)
- **Power:**
  - Dedicated power outlet and circuit capable of delivering 8 A of current (for 220–240 VAC circuits) or 15 A (for 100–120 VAC circuits)
  - Easy access to the power switch of the device
- **Location:** Dry, indoor
- **Altitude:** Maximum 2000 m (6561.7 ft)
- **Humidity:** Low ambient humidity
- **Mains supply voltage fluctuations:** ≤ 10%
- **Pollution degree of intended environment:** 2

## 5.2 Operating the Digital Cure

### 5.2.1 Inserting clean and dry appliances

Fully dry all parts after cleaning. Check all internal and external surfaces, because curing non-dried parts may trap solvent inside the part, prevent parts from strengthening and affect quality. Once parts are dry:

- Open the door.
- Distribute parts on the round turntable. Place parts with the most even spacing possible to allow light and heat to reach all areas.
  - The Digital Cure turntable has a diameter of 39.5 cm (15.6 in). However, the cure zone is limited to the area between 5 cm and 12 cm measured from the center of the turntable. The cure zone is defined by the grey lines.
- Gently close the door.



The Digital Cure contains two heaters that heat inserted parts during post-curing. Take care when inserting and removing parts from the Digital Cure, because the turntable may be hot.

### 5.2.2 Setting the cure cycle

The Digital Cure has a preset material profile for Lucitone Digital Appliances. The unit may require periodic firmware updates. Refer to section 4.7 for step by step instructions on updating the firmware.

#### To select the cure cycle:

1. Select the **Cure** menu box on the right side of the home screen. The **Resin Profile** menu appears.

2. Select the Lucitone Digital Appliances profile. The touchscreen automatically returns to the home screen.
3. Select **Start**.



The printed part must be in the Digital Cure while it preheats. If the part is not placed inside the device until preheating is complete, the part may crack.



Once the program cycle starts: do not stop and restart, open the door, or add appliances; a complete, uninterrupted program run is required.

The Digital Cure – Large Capacity can also be used for custom curing. Refer to the material-specific IFU for curing cycle details.

**To manually set the curing time and temperature:**

4. Select **Cure**. The **Resin Profile** menu appears.
5. Select **Custom**. The **Custom Cure** screen appears.
6. Select the desired time and temperature on the touchscreen.
7. Select the check mark to confirm your selection.
8. Select **Start**.



The printed part must be in the Digital Cure while it preheats. If the part is not placed inside the device until preheating is complete, the part may crack.

### 5.2.3 Collecting printed parts

After the cure cycle completes, a three-minute cool down period is recommended before handling.



The Digital Cure contains two heaters that heat inserted parts during post-curing. Take care when inserting and removing parts from the Digital Cure, because the turntable may be hot.

## 5.3 Time and temperature settings

For the best results, use the recommended time and temperature settings tested specifically for use with the Digital Cure. For detailed guidance and visual assistance, visit [dentsplysirona.com](https://dentsplysirona.com). Each material's print settings are designed and refined to print parts successfully at optimal speeds. Additional post-curing further improves the functional properties of the materials. Post-curing exposes parts to light and heat and strengthens crosslinks in the polymer structure, improving strength, stiffness, and temperature resistance. Due to the increased number of

bonds, the material becomes more tightly packed and will shrink slightly. Each material's print settings are designed to account for the expected shrinkage during printing and post-curing. Although using a higher temperature for post-curing results in a shorter post-cure cycle, a higher temperature setting may also cause some materials to warp, depending on the part geometry and features. When choosing to modify the recommended post-cure settings, the material must be able to withstand the temperature and maintain a stable material structure.

## **5.4 Managing the machine**

Between post-cure cycles, perform maintenance, track the machine's history or turn the machine off. For detailed guidance and visual assistance, visit [dentsplysirona.com](https://dentsplysirona.com).

### **5.4.1 Turning off**

The Digital Cure is designed to remain powered on when not in use. Flip the breaker switch on the back of the unit to the **OFF** position to turn off the machine completely and conserve power. When moving or storing the machine, unplug the unit from its power source in addition to flipping the breaker switch

## 6 Maintenance

To maintain the most efficient and long-lasting machine, ensure regular conservation. Dentsply Sirona provides instructions to advise in installing, operating, and maintaining the machine. The Digital Cure shall only be maintained by a qualified and trained person. Unauthorized disassembly or repair procedures may damage the machine.

There are two groups of maintenance procedures: regular, which should be done after every use, and intermittent maintenance, which only needs to be done occasionally. Please keep a log detailing when each intermittent maintenance procedure was last performed.

For detailed guidance and visual assistance, visit [dentsplysirona.com](https://dentsplysirona.com).



Tampering with or disassembling the device prior to disconnecting the power cable and waiting at least five minutes can subject users to potentially fatal electrical hazards. When removing the exterior paneling, disconnect the machine from its power source before maintenance.



Wear personal protective equipment (PPE) when performing maintenance tasks. Use tools only as described.



- Dentsply Sirona provides instructions to advise skilled and unskilled persons in installing, operating, and maintaining the Digital Cure. The Digital Cure shall only be maintained by a qualified and trained person.
- Do not open the Digital Cure and/or investigate internal components unless under the guidance of Dentsply Sirona Support. Contact [Dentsply Sirona Support](#) for any additional guidance.
- Unauthorized disassembly or repair procedures may damage the machine and void the warranty.

### 6.1 Tools and supplies

Only use tools, chemicals, or procedures to maintain the Digital Cure that are outlined in this manual, by prompts on the touchscreen, and on [dentsplysirona.com](https://dentsplysirona.com).

Do not use any tools, chemicals, or unapproved procedures with the Digital Cure unless otherwise instructed to do so by Dentsply Sirona.

- **General purpose cleaner (e.g., glass cleaner) and/or soapy water**
  - For cleaning the outer shells and display.
- **Isopropyl alcohol (IPA), 90% or higher**
  - For cleaning the work surface and tools.
- **Low-fiber paper towels**
  - For cleaning the work surface and tools.
  - For wiping residue grease, resin, or solvent.
- **Non-abrasive microfiber cloth**
  - For cleaning the outer shells and display.

## 6.2 Inspection and maintenance

### 6.2.1 Before each use

Inspect	Refer to	Section
Installation environment	Location and environs	4.1
Turntable	Maintaining the turntable	6.3.1
Parts to be post-cured	Considerations for specific geometries Drying parts and keeping equipment clean	5.3 6.3.2

### 6.2.2 Periodic maintenance

Inspect	Refer to	Section
Interior surfaces	Maintaining interior surfaces	6.4.1
Light diffusers	Maintaining the light diffusers	6.4.2
Door	Maintaining the door	6.4.3
Touchscreen	Maintaining the touchscreen	6.4.4

## 6.3 Tasks between uses

Over time, debris or contaminants may collect in the Digital Cure or on its internal surfaces, particularly if printed parts are not fully dried before post-curing. In order to preserve the reliability of the Digital Cure, it is important to regularly inspect and clean its various components and assemblies.

### 6.3.1 Maintaining the turntable

The Digital Cure relies on the turntable's rotation to expose part surfaces to even amounts of light and heat. The turntable must have sufficient clearance to continue rotating.

#### To maintain the turntable:

- Periodically lift the turntable to inspect underneath it for small pieces of cured resin. Remove particles of cured resin from above and below the turntable to ensure the turntable can rotate without interruption.
- Clean the turntable and the surface underneath as needed.



Use isopropyl alcohol to clean the turntable or the base if necessary, and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.



Do not clean the underside of the turntable with IPA or any other aggressive chemical, as the grey indicators will be negatively affected. Only clean the top of the glass turntable with solvents.

### 6.3.2 Drying parts and keeping equipment clean

Completely clean and dry all parts before post-curing in the Digital Cure.

## 6.4 Periodic maintenance

The Digital Cure requires regular maintenance and care. The standard cycle for the following procedures is every one to three months of use.

Task	Frequency	Refer to	Section
Interior surfaces	Monthly	Maintaining interior surfaces	6.4.1
Light diffusers	Monthly	Maintaining the light diffusers	6.4.2
Door	Every three months	Maintaining the door	6.4.3
Touchscreen	Every three months	Maintaining the touchscreen	6.4.4

#### 6.4.1 **Maintaining interior surfaces**

The internal surfaces of the Digital Cure are covered in a reflective coating that reflects the light from the LEDs and ensures that parts post-cure evenly. If the reflective coating is damaged or covered, parts may not post-cure properly.

Visually inspect the internal surfaces of the Digital Cure for traces of resin, cracks, or other damage.

Resin will harden during post-curing. Cured resin blocks light and must be removed. If parts are washed but not fully dry before post-curing, certain washing solvents, such as tripropylene monomethyl ether, may evaporate and form deposits on the interior surfaces of the Digital Cure. These deposits cloud the reflective coating and prevent parts from post-curing properly. Clean the reflective coating as needed. Use isopropyl alcohol to clean the reflective coating and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.

#### 6.4.2 **Maintaining the light diffusers**

The primary 385 nm, 395 nm, and 470 nm LEDs in the Digital Cure are covered by frosted light diffusing panels. These light diffusers spread the light from the LEDs and ensure that parts post-cure evenly. If the light diffusers are damaged or covered, parts may not post-cure properly. Visually inspect the light diffusers for traces of resin, cracks, or other damage. Resin will harden during the post-curing.

Cured resin blocks light and must be removed. If parts are washed but not fully dry before post-curing, certain part washing solvents, such as tripropylene monomethyl ether, may evaporate and form deposits on the interior surfaces of the Digital Cure.

These deposits will coat the light diffusers and prevent parts from post-curing properly. Clean the light diffusers as needed.



Use isopropyl alcohol to clean the turntable or the base if necessary, and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.

#### 6.4.3 **Maintaining the door**

Visually inspect the door for traces of resin, cracks, or other damage. Clean the door with a non-abrasive microfiber cloth and soapy water or a general purpose cleaner, such as glass cleaner.

#### 6.4.4 **Maintaining the touchscreen**

Visually inspect the touchscreen for any traces of resin. Check that the touchscreen responds to inputs. Clean the touchscreen with a non-abrasive microfiber cloth and a general purpose cleaner, such as glass cleaner.

### 6.5 **Intermittent maintenance**

Task	Frequency	Refer to	Section
Update the firmware	When indicated by Dentsply Sirona	Updating firmware	4.7

# 7 Troubleshooting

## 7.1 Collecting diagnostic logs

The Digital Cure maintains diagnostic logs to provide detailed information about the machine that may expedite issue investigation. After experiencing any error or unusual behavior on the Digital Cure, include the diagnostic logs with other relevant observations and details when contacting [Dentsply Sirona Support](#). The options for sharing diagnostic logs vary depending on the machine's connection type.

## 7.2 Performing a factory reset



A factory reset erases diagnostic information and custom settings, including networked connections. Do not perform a factory reset before contacting [Dentsply Sirona Support](#). The stored diagnostic information may be helpful to Dentsply Sirona Support to assist with troubleshooting.

## 7.3 Troubleshooting errors or abnormal activity

In the case of errors or abnormal activity with the Digital Cure, reference the following errors, causes, and proposed solutions. Complete the initial troubleshooting steps and carefully document all results. Contact [Dentsply Sirona Support](#) for additional guidance.

### 7.3.1 Resolving abnormal functions

Error	Cause	Solution
The display does not turn on.	<ul style="list-style-type: none"><li>Power failure or a faulty electrical connection</li></ul>	<ul style="list-style-type: none"><li>Disconnect and reconnect the power.</li><li>Plug the power cable into a different outlet.</li></ul>
The touchscreen is unresponsive.	<ul style="list-style-type: none"><li>Faulty or damaged touchscreen</li></ul>	<ul style="list-style-type: none"><li>Disconnect and reconnect the power.</li><li>Replace the touchscreen.</li></ul>
The door does not fully close.	<ul style="list-style-type: none"><li>The turntable is not mounted properly</li><li>The printed parts inserted into the Digital Cure are blocking the door</li></ul>	<ul style="list-style-type: none"><li>Remove and reseat the turntable on its mount.</li><li>Adjust the position and orientation of the printed parts on the turntable.</li></ul>
The 385 nm, 395 nm, and 470 nm LEDs do not turn on.	<ul style="list-style-type: none"><li>The Digital Cure has not reached its target temperature</li><li>Power failure or a faulty electrical connection</li></ul>	<ul style="list-style-type: none"><li>Wait for the machine to reach its target temperature.</li><li>Disconnect and reconnect the power.</li><li>Plug the power cable into a different outlet.</li></ul>
The heaters do not reach the target temperature.	<ul style="list-style-type: none"><li>Abnormal display behavior</li><li>Environmental conditions</li><li>Faulty or damaged heater</li></ul>	<ul style="list-style-type: none"><li>Disconnect and reconnect the power.</li><li>Ensure that the operating environment is in the recommended temperature range.</li><li>Check that the heater fan is spinning.</li><li>Check and compare the internal temperature readings from both heater modules.</li></ul>

<b>Error</b>	<b>Cause</b>	<b>Solution</b>
The turntable does not turn.	<ul style="list-style-type: none"> <li>• Turntable is obstructed</li> <li>• Turntable is not fully seated</li> <li>• Turntable gear has separated from the turntable</li> <li>• Faulty or damaged motor assembly</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that no cured resin or printed parts are blocking the turntable. Reorient large prints as necessary.</li> <li>• Reseat the turntable on its mount.</li> <li>• Check that the gear on the bottom of the turntable is firmly adhered to the turntable.</li> <li>• Check that the rollers underneath the turntable turn smoothly.</li> <li>• Replace the motor assembly.</li> </ul>
Parts are undercured or do not have desired mechanical properties.	<ul style="list-style-type: none"> <li>• Expired resin</li> <li>• Part was washed but not fully dried before post-curing</li> </ul>	<ul style="list-style-type: none"> <li>• Check the expected lifetime of the resin used for the print.</li> <li>• Fully dry all solvent off of parts before post-curing.</li> </ul>
Post-cured parts have tacky or sticky surfaces.	<ul style="list-style-type: none"> <li>• Part was not washed before post-curing</li> <li>• Part was washed but not fully dried before post-curing</li> </ul>	<ul style="list-style-type: none"> <li>• Wash liquid resin off of printed parts before postcuring.</li> <li>• Fully dry all solvent off of parts before post-curing.</li> </ul>

### 7.3.2

#### **Resolving errors**

If errors persist after following these steps, contact [Dentsply Sirona Support](#) for additional guidance.

<b>Error</b>	<b>Cause</b>	<b>Solution</b>
The device is currently active.	The Digital Cure attempted to start a post-curing cycle while a cycle was already in progress.	Disconnect and reconnect the power.
The device state is currently invalid.	Firmware error	Disconnect and reconnect the power.
The device's duty cycle is currently invalid.	Firmware error	Disconnect and reconnect the power.
The call to DBus failed.	Firmware error	Disconnect and reconnect the power.
The reply to the DBus was invalid.	Firmware error	Disconnect and reconnect the power.
The fan control failed.	Firmware error	Disconnect and reconnect the power.
The timer has expired.	The Digital Cure is not receiving temperature data.	Disconnect and reconnect the power.
Temperature fault occurred.	The Digital Cure thermistor reported an error.	<ul style="list-style-type: none"> <li>• Disconnect and reconnect the power.</li> <li>• Disconnect the power. Remove the Digital Cure top shell and check that the thermistor wiring is secure. Contact <a href="#">Dentsply Sirona Support</a> for more information.</li> </ul>

<b>Error</b>	<b>Cause</b>	<b>Solution</b>
The LED brightness encountered an error.	The Digital Cure encountered an error while setting the brightness of the LEDs.	<ul style="list-style-type: none"> <li>• Disconnect and reconnect the power.</li> <li>• Disconnect the power. Unscrew each of the three LED modules (accessible from within the post-cure chamber) and check that their wiring is secure. Contact <a href="#">Dentsply Sirona Support</a> for more information.</li> </ul>
The set limit failed.	The Digital Cure encountered an error while setting the current temperature limit.	<ul style="list-style-type: none"> <li>• Disconnect and reconnect the power.</li> <li>• Disconnect the power. Unscrew each of the three LED modules (accessible from within the post-cure chamber) and check that their wiring is secure. Contact <a href="#">Dentsply Sirona Support</a> for more information.</li> </ul>
The set duty cycle failed.	The Digital Cure encountered an error while setting the brightness of the LEDs.	<ul style="list-style-type: none"> <li>• Disconnect and reconnect the power.</li> <li>• Disconnect the power. Unscrew each of the three LED modules (accessible from within the post-cure chamber) and check that their wiring is secure. Contact <a href="#">Dentsply Sirona Support</a> for more information.</li> </ul>
The door is open. Please close.	The door is open while the Digital Cure is trying to begin a cycle.	Close the Digital Cure door.
The device failed to reach the required temperature.	The Digital Cure did not reach its target temperature within 30 minutes.	Disconnect the power. Remove the Digital Cure top shell and check that the thermistor and heater module wiring is secure. Contact <a href="#">Dentsply Sirona Support</a> for more information.
An error occurred with the device's turntable.	The turntable was unable to move properly due to an issue with the motor driver or the motor command.	Disconnect and reconnect the power.
An unknown error occurred	Other/unspecified cause	Disconnect and reconnect the power.

## 8 Disassembly and repair



All steps that involve opening the machine and/or investigating internal components should be done by skilled persons under the guidance of Dentsply Sirona Support. Any damage resulting from attempting disassembly and/or repair without prior authorization from Dentsply Sirona Support is not covered by warranty. When removing the exterior paneling, disconnect the machine from its power source before maintenance.

### 8.1 Tasks

Contact [Dentsply Sirona Support](#) to receive repair instructions and authorization, including how to disassemble or remove the exterior paneling.

Task	Frequency
Replacing the LED modules	The LEDs have stopped functioning or behave erratically.
Replacing the heaters	The heater modules have stopped functioning or behave erratically.

Any other maintenance or repair tasks not listed in section **6 Maintenance** requires servicing the machine. Contact [Dentsply Sirona Support](#) to request service or an RMA (short for “return to manufacturer authorization”).

## 9 Recycling and disposal

### 9.1 Disposal of electronic components



The symbol on the product, the accessories, or packaging indicates that this device shall not be treated as nor disposed of with household waste. When you decide to dispose of this product, do so in accordance with environmental laws and guidelines. Dispose of the device via a collection point for the recycling of waste electrical and electronic equipment. By disposing of the device in the proper manner, you help avoid possible hazards for the environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment with the unsorted municipal waste.

### 9.2 Disposal of packaging waste



NOTICE

The original packaging is designed to be kept and reused for transporting or shipping the machine for service. Save the complete packaging including any inserts for your convenience.

The packaging is made of cardboard and plastic-based materials. Dispose of packaging through waste and recycling facilities. By disposing of the packaging waste in the proper manner, you help avoid possible hazards for the environment and public health.

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# 11 Glossary

Term	Meaning
Display	The display shows status, time, temperature, and options for configuring the Digital Cure.
Display ribbon cable	A flat, flexible cable connects the display assembly to the motherboard.
Door	The hinged door allows access to the Digital Cure turntable. Double walls insulate the cure chamber and internal surfaces reflect light.
Ethernet port	The Digital Cure can connect to a network via Ethernet. The port is connected to the motherboard and can be accessed from the back of the machine.
Fans	There are seven fans in the Digital Cure. Two fans blow hot air from the heater modules into the post-cure chamber. One fan exhausts air from the post-cure chamber. Four fans bring in outside air to cool the LEDs and other electronics.
Heater	Two 500 W heater modules heat the chamber up to 176 °F / 80 °C.
Interlock magnets	The interlock sensor detects these magnets to determine when the door is closed. This safety mechanism disables the heater, LEDs, and turntable when the door is open.
LEDs	45 multi-directional LEDs (15 385 nm LEDs, 15 395 nm LEDs, 15 470 nm LEDs) help to post-cure parts and illuminate the turntable. The LEDs are contained in three LED modules: one on the top of the post-cure chamber, one on the left, and one beneath the turntable.
Light diffusers	Diffusers on each LED module ensure that the parts in the post-cure chamber are evenly bathed in light.
Motherboard	The motherboard is the main circuitry through which all systems in the Digital Cure communicate.
Motor assembly	The motor assembly rotates the turntable during the post-cure cycle.
Post-cure chamber	The main chamber of the Digital Cure, where parts are placed to be post-cured with light and heat.
Power cable	Provides power to the Digital Cure.
Turntable	A rotating plate ensures balanced post-curing across all exposed part surfaces. The turntable is made of glass, allowing light to reach all surfaces of printed parts in the Digital Cure.
USB port	The Digital Cure can connect to a computer via USB. The port is connected to the motherboard and can be accessed from the back of the machine.
Wi-Fi antenna	The Wi-Fi antenna enables the machine's wireless connectivity.

# 12 Product compliance

The Digital Cure complies with the following electronics and safety standards:

<b>ETL</b>	<b>CE</b>
UL 61010-1:2012 CSA C22.2 No. 61010-1-12:2012 UL 61010-2-010:2019 CSA C22.2 No. 61010-2-010:2019	Machinery Directive 2006/42/EC Radio Equipment Directive 2014/53/EU RoHS Directive 2011/65/EU EMC Directive 2014/30/EU
<b>Other</b>	
FCC IEC 61010-1:2010 IEC 61010-1:2010/AMD1:2016 IEC 61010-2-010:2019 IEC 62471:2006	

