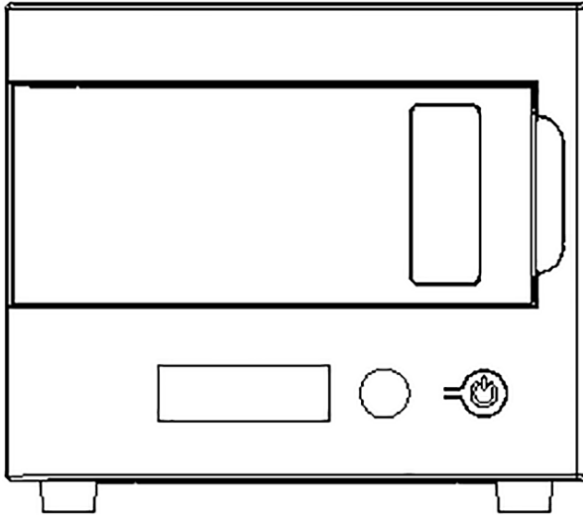# Manual | Digital Cure
Curing Unit

Installation and General Usage Instructions

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

Digital Cure
Desktop stereolithography post-cure chamber

Table of Contents

⚠ Warning

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

Date	Version	Document changes
NOV 2022	REV 00	Initial publication

⚠ **THIS DEVICE IS NOT SUITABLE FOR USE IN THE PRESENCE OF FLAMMABLE ANESTHETIC MIXTURE WITH AIR OR WITH NITROUS OXIDE.**

1   Preface

Congratulations on purchasing the Dentsply Sirona Digital Cure 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 noncompliance with the safety instructions. In such cases, the warranty will be voided.

1.2   Obtaining documentation and information

Visit **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.

1.3   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 **U01234**.

For any support or service requests, including product information, technical assistance, or assistance with instructions, contact Dentsply Sirona Support.

1.4   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.

WARRANTY EXCEPTIONS: This warranty shall not apply to any product which has been subject to misuse, negligence, or accident (including natural disasters and abnormal power voltage), or misapplied, or modified, or repaired by unauthorized persons, or improperly installed. The warranty stated herein is the sole warranty applicable to Dentsply Sirona products.

REPAIRS: Repairs must be only carried out by an authorized Dentsply Sirona engineer/dealer. If repairs during warranty period are not carried out by an authorized engineer/dealer, warranty will be terminated immediately without further notification.

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

Inappropriate use may damage equipment and be harmful to human body. Please read the relevant safety instruction in this user manual. This will also help you use this equipment properly and easily.

⚠️ Warning

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

Power Supply Voltage	100-240 VAC 50/60 Hz
Wattage	MAX 400 W
Dimensions	Length: 333 mm Width: 263 mm Height: 231 mm Weight: 7.1 kg

Operating Environment

Recommended Temperature	18˚C ~ 28˚C
Relative Humidity	20% ~ 65%
Ambient Pressure	700hPa ~ 1060hPa

Transportation And Storage Conditions

Ambient Temperature	-10˚C ~ +70˚C
Relative Humidity	10% ~ 90%
Ambient Pressure	500hPa ~ 1060hPa

Standard Color	White shell with black door

2.3   Product Components

DOOR

COLORED WINDOW

ON/OFF SWITCH

DISPLAY

INPUT KNOB

TURNTABLE
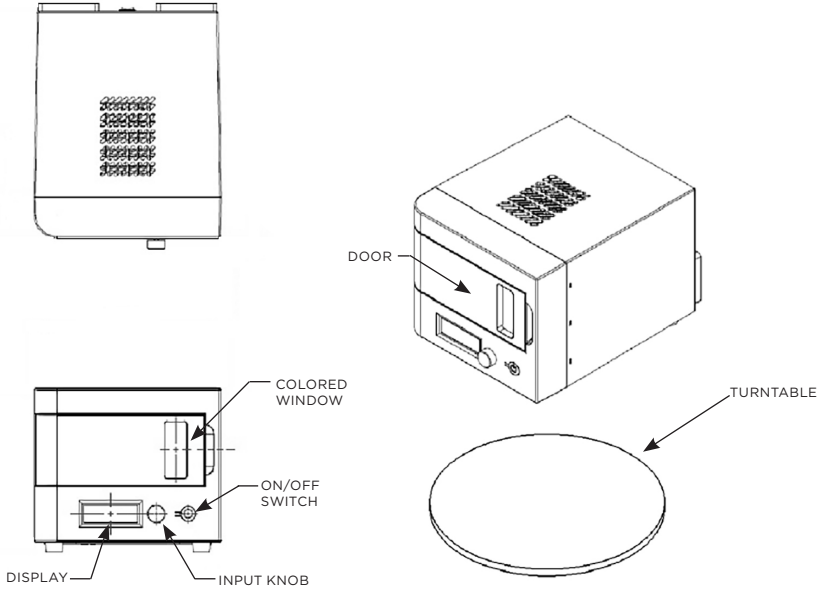
2.4   Spare Parts

2007E070 Power Cord, Detachable – 120V – North America
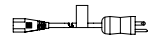
2007E070 Power Cord, Detachable – 240V – EURO

2007E100 Power Cord, Detachable – 240V – UK

2007E90 Power Cord, Detachable – 240V – Switzerland

2007E130 Power Cord, Detachable – 240V – Australia
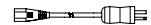
2007A360 Turntable

2.5 Function Key Descriptions

START/STOP BUTTON

DISPLAY PANEL
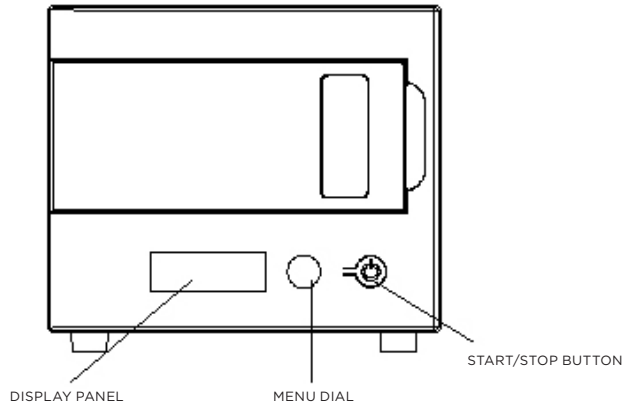
MENU DIAL

Display Panel: Displays available/selected cycle
Menu dial: Two functions:
(1) Moves the cursor on the display panel
(2) Deep press as enter
Start/Stop Button: Two functions:
(1) Start or Stop the selected process
(2) Rotates the turntable while the door is opened
Magnetic switch: Acts as a safety mechanism to prevent the curing unit from operating while the door is open.

MAGNETIC SWITCH
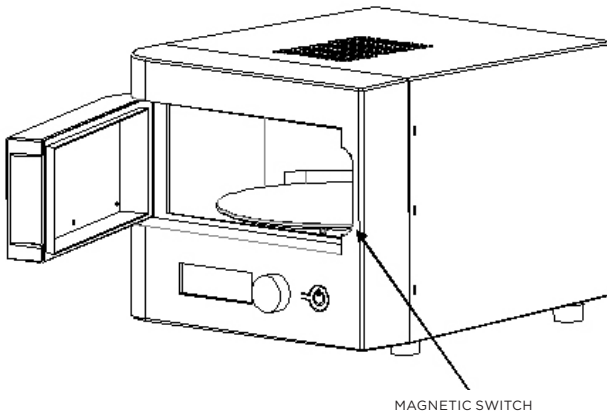
2.6 Signs and symbols

The signs and symbols in this user manual and on the curing unit facilitate the finding of important points and have the following meanings:

⚠ Warning	**WARNING:** Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
⚠ CAUTION	**CAUTION:** Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
🔥	**CAUTION:** Do not touch hot surfaces.
① NOTICE	**NOTICE:** Indicates information considered important, but not hazard-related.
⚠ DANGER	**DANGER:** Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
🔌	**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.   Safety

3.1   Component and subsystem safety

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.

CAUTION

Do not touch hot surfaces. The Digital Cure contains a heater 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.

CAUTION

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 and 450 nm light to post-cure 3D printed parts. The door includes a magnetic switch that is designed to automatically pause heating and extinguish the cure lights when the door is open.

3.2   Indications

The Digital Cure is intended for the curing of Dentsply Sirona materials only. Refer to material Instructions for Use for directions and recommendations.

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.

- 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 and 450 nm light during post-curing. Refer to section **6.1 Test LED Module** and section **6.2 Cleaning** for more information.
- **Heater modules**
  The Digital Cure uses a heater module to heat the post-cure chamber and printed parts during post-curing. Refer to section **6.3 Maintenance** for more information.
- **Turntable**
  The Digital Cure uses a plastic turntable that rotates throughout the post-cure cycle, ensuring that printed parts are evenly exposed to light and heat. Refer to section **6.2 Cleaning** for more information.

3.5 Health and Safety Instructions

Please read operating instructions carefully before installing or operating this unit.

- The unit's interior and exterior surfaces may be hot during and after use. The use of gloves is recommended.
- Use indoors only.
- Never operate the unit in close proximity to combustible materials or place materials on top of the unit.
- Do not place the unit in the immediate vicinity of heaters or other sources of heat.
- The unit must be electrically grounded to a three-wire electrical outlet or receptacle. The electrical service provided must be a dedicated line of the proper size according to local electrical codes.
- Unit must be placed in a position that allows the power cord to be easily disconnected from the wall.
- Do not attempt to service the unit until you have read and understand this instruction manual.
- Turn off the power switch and disconnect the power cord before attempting to service the unit.
- Do not look directly into the light without a filter or goggles. Doing so may lead to injury or harm to your eyes.
- Do not operate the unit controls with tongs or other tools.
- Do not use solvents or liquid cleaners on the control panel.
- Do not touch the bulbs when the unit door is open.
- Do not cover the top of the unit or obstruct the rear fans in anyway.
- Make sure that no foreign objects enter the air vent.
- Do not heat water or food in the unit chamber.
- Do not submerge the unit into any liquid.
- Do not store flammable products or solvents inside the unit chamber.
- Follow the manufacturer's instructions for use for maximum appliance load per process and cure cycle.
- If the unit is not operated in the manner as specified in this manual, the protection provided by the unit may be impaired.
- Pollution Degree: 2

CAUTION

RISK OF DANGER! BURN HAZARD IS PRESENT WHEN DOOR IS OPENED. USE CAUTION AFTER OPENING DOOR, BULBS AND METAL SURFACES MAY BE HOT! USE HEAT-RESISTANT GLOVES WHEN REMOVING BULBS OR TAKE OUT THE CURING OBJECTS.

CAUTION

RISK OF DANGER! WHEN THE DOOR IS OPENED, THE LIGHT SOURCE MAY REMAIN ON A MOMENTARILY. IF THE LIGHTS ARE ON, DO NOT LOOK INTO THE CHAMBER DIRECTLY WITHOUT ANY PROTECTING GEARS OTHERWISE MAY INJURE OR HARM THE EYES.

3.6   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   Working Environment
In order to ensure optimum performance, please keep this unit <u>free of debris and</u> in a clean environment.
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
- Low ambient humidity
- Mains supply voltage fluctuations ≤ 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 4 A of current.

4.2   Installation and Set Up
Shipping damage should be reported as soon as detected.

4.2.1   The unit package contains the following:
1   -   Digital Cure unit
5   -   Power cords
2   -   Cooling Fan filters
1   -   Turntable
1   -   Quick Start and Safety Guide

4.2.2   Assembly and initial start-up
1. Check to ensure that the voltage indicated on the rating plate complies with local standard.
2. After selecting a location, place the unit on the flat surface.
3. Connect the appropriate power cord to the back of the unit.
4. Open door and install turntable onto motor shaft as depicted in image below.
5. Attach the two (2) cooling fan filters onto the fans on the back of the machine. Simply push onto each fan opening (see figure 4.2.3) until secured; mounting fasteners are not necessary.
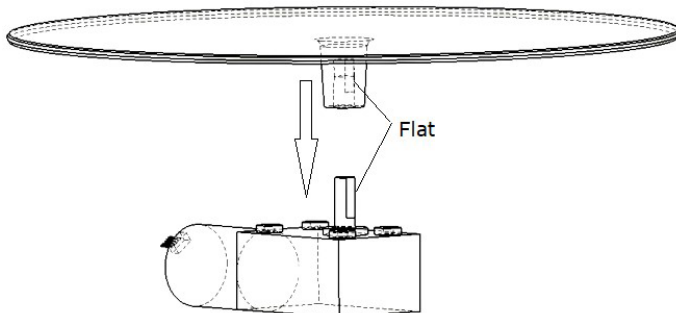
4.2.3 Turning on the machine

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 switch on the back of the unit to the **ON** position to turn on the machine.

COOLING FAN FILTERS (2)

POWER SWITCH

POWER SOCKET
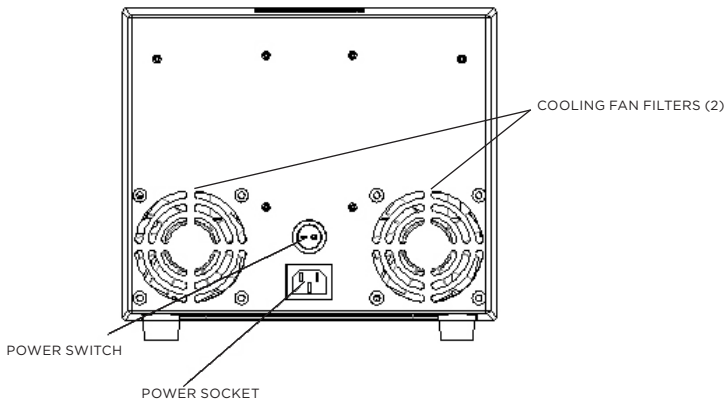
4.2.4 Turning off the machine

The Digital Cure is designed to remain powered on when not in use. Flip the 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

⚠️
CAUTION

TO ENSURE PROPER COOL DOWN, IT IS RECOMMENDED THAT THE UNIT REMAINS SWITCHED ON UNTIL THE COOLING FAN IS NO LONGER RUNNING.

4.2.5 Magnetic switch

The magnetic switch has been designed as a safety mechanism to prevent the curing unit from operating while the door is open.

5.   Operation

5.1   Operating the Digital Cure

5.1.1   Turn on the power switch on the rear of the unit.

5.1.2   Insert clean and dry appliance
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.
- Place the appliance(s) on the turntable.
- Load multiple appliances using the start/stop button to rotate turntable.
- Distribute parts on the round turntable - placing parts with the most even spacing possible to allow light and heat to reach all areas.
- Ensure appliance(s) do not overlap or extend beyond the turntable.
- Gently close the door

5.2   Setting the cure cycle for Lucitone Digital Appliances
The Digital Cure has a preset cycle (Lucitone) for Lucitone Digital Appliances.

5.2.1   To select the cure cycle for Lucitone Digital Print Appliances

→	P	r	e	s	e	t		C	y	c	l	e	s					
	C	u	s	t	o	m		C	y	c	l	e	s					
	S	e	t	t	i	n	g	s										

1. From the main menu **turn the menu dial until the arrow points to "Preset Cycles"**. Deep press the menu dial. The **Resin Profile** menu appears.

→	L	u	c	i	t	o	n	e										
	B	a	c	k														

2. Select the Lucitone program
3. Select **Start** by pressing the start/stop button.

The program will automatically run and advance through the following steps: LED test cycle – 20 seconds, Tack curing – 12 seconds, Heating – 10-15 minutes, Curing – 25 minutes and Cooling – 30 minute.

When the curing process starts, the screen will display the current process, unit temperature and processing time remaining. Following the final step, the menu screen "Program Complete" will appear indicating the program completion. The appliance(s) are ready for removal.

NOTICE

In an emergency, stop the process by re-pressing start/stop button.

NOTICE

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.

NOTICE

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

5.3 **Setting a custom cure cycle**

The Digital Cure can also be used for custom curing. If the material is not included within "Preset Cycles", select "Custom Cycles". Refer to the material specific IFU for curing cycle details. Up to 11 custom curing cycles can be programmed into the unit. Curing time, temperature, and light intensity can all be customized.

5.3.1

From the resin profile screen, select "Custom Cycles". The Custom Material Profile screen appears.

→	R	e	s	i	n	-	1									
	R	e	s	i	n	-	2									
	R	e	s	i	n	-	3									
	B	a	c	k												

The unit comes with 11 empty slots which are shown as Resin-1, Resin-2 and Resin-3. The system will automatically save inputs in each cycle until overwritten.
NOTE: custom cycles will be immediately overwritten when any input within that profile is changed.

5.3.2

Select a Resin profile. The Resin profile's custom settings appears.

Navigate each input by highlighting with the arrow and deep selecting.

Custom settings appear on 3 screens. Scrolling through each page using the following:
• "Back" goes to previous Resin-1 Settings page
• "Next" goes to the next Resin-1 Settings page
• "Exit" goes to main menu

Select Next to move to the next screen.

R	e	s	i	n	-	1										
T	a	c	k		C	u	r	e		T	i	m	e	:	0	0	s
C	u	r	e		T	i	m	e	:	1	0	:	0	0		
→	N	e	x	t												

The maximum curing time per cycle can be set at 59min 50sec

R	e	s	i	n	-	1										
S	t	a	r	t		T	e	m	p	:	0	5	0	°	C	
T	a	r	g	e	t		T	e	m	p	:	0	5	0	°	C
→	N	e	x	t												

The Digital Cure accommodates curing temperatures between 50˚C and 100˚C. Set the temperature to N/A if you do not want to activate the heating function.

The target temperature must be > the start temperature.

R	e	s	i	n	-	1										
S	t	a	r	t		T	e	m	p	:	0	5	0	°	C	
T	a	r	g	e	t		T	e	m	p	:	0	5	0	°	C
→	N	e	x	t												

5.4   **Start the Curing Cycle by pressing the start/stop button.**

5.5   **Collecting the printed parts**
After the cure cycle completes, the unit will produce a series of beeping sounds until the door is opened.

⚠️ ♨️
CAUTION

The Digital Cure contains a heater which heats inserted parts during post-curing. Take care when inserting and removing parts from the Digital Cure, because the turntable may be hot.

Remove Cured product using gloves, open unit door and remove cured parts.
NOTE: The user may press the on/off button to rotate the turntable while the door is opened.

5.6   **Turning off the machine**

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 **NOTE:** to ensure proper cool down, it is recommended that the unit remains switched on until the cooling fan is no longer running.

6 System Cleaning and Maintenance

To maintain the most efficient and long-lasting machine, ensure regular maintenance. The Digital Cure shall only be maintained in accordance with the directions included here. Unauthorized disassembly or repair procedures may damage the machine and void the warranty.

DANGER

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.

Warning

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

6.1 Test LED Module

The Digital Cure has been carefully designed to cure Lucitone Digital Appliances. Periodic testing of LEDs will ensure all LEDs are functioning as designed. This procedure may take 20 seconds and the result will be shown on the panel after the testing.

From the main menu turn the menu dial until the arrow points to "settings". Deep press the menu dial.

→	L	E	D		T	e	s	t		C	y	c	l	e				
	B	a	c	k						V	1	.	0					

- Select LED Test Cycle
  - Press the start/stop button to start the LED Test Cycle

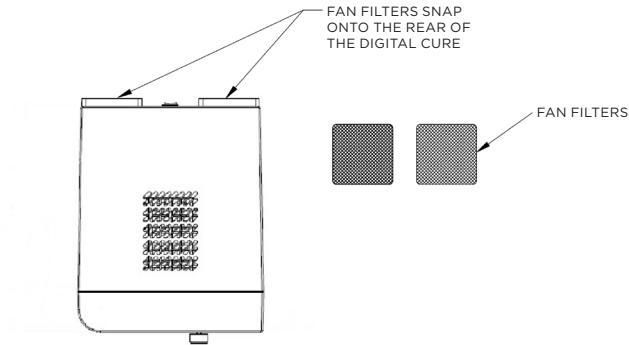**LED Test Results**

ERROR	CAUSE	SOLUTION
LED1, or LED1 LED2	One or more of the LED modules are malfunctioning	Contact Dentsply Sirona support.

6.2 Cleaning

- Due to the risk of electrical shock, disconnect the power cord before cleaning.
- The inner surface of the chamber is surrounded by glossy stainless steel to reflect the LED light. To maintain the light curing efficiency, clean the stainless steel before each curing cycle.
- Use neutral detergent for cleaning outer surface and chamber.
- Do not touch LEDs, as any foreign residue considerably shortens the life cycle of the LED.
- It is recommended to clean both cooling fan filters, outer surfaces, chamber and stainless steel reflector at minimum every 2 weeks

6.3 Maintenance

- Routine maintenance of the 2 cooling fan filters will help to prolong the life of this unit. It is recommended to clean these filters, at minimum, every 2 weeks.

FAN FILTERS SNAP ONTO THE REAR OF THE DIGITAL CURE

FAN FILTERS

6.4 Error codes and troubleshooting

ERROR	CAUSE	SOLUTION
Error code "ERROR1"	Heater is overheating	Contact Dentsply Sirona support
Error code "ERROR2"	LED is overheating	• Allow the system to cool. • Turn the unit off once the cooling fans have stopped running. • Check the cooling fan filters to ensure they're clear of debris. • Contact Dentsply Sirona support if problem persists.
Error code "ERROR3"	Abnormal temperature	Contact Dentsply Sirona support

7   Disposal of unit

The unit is an electronic unit according to the "Act Governing the Sale, Return and Environmentally Sound Disposal of Electrical and Electronic Devices" (ElektroG). Unit must not be disposed of in normal domestic waste. For environmental reasons, dispose of the product according to local environmental guideline or regulations. The unit is not intended for private use. It is manufactured and delivered for commercial use and is to be disposed by the end user according to the specifications of the Electrical and Electronic Equipment Act – ElektroG.

(This manual subjects to change without notice)