

# UNC

International

# EVEREST Volcan Speed



- ! Make sure you carefully read this product manual before using the product.
- Product Warranty is included at the back of this manual.

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# 1. Introduction

Thank you for purchasing the EVEREST Volcan Speed. EVEREST Volcan Speed Furnace is subject to stringent quality control procedures and patiently follows standard procedure. As the results of our quality system, EVEREST Volcan Speed Furnace has better performance.

Also, EVEREST Volcan Speed has sturdily and gracefully designed and programmed as user friendly. This Manual will explain the installation and operation of the oven as well as help you get the most out of your new EVEREST Volcan Speed Furnace. Please read the instructions in this manual carefully for the best user experience.

## ⊙Attention

Please ensure that all safety information has been read by the operator before using the oven.

- The Safety information is divided into two sections: Warning and Caution as described below:

### **WARNING**

Violations of instructions may cause increased risk of serious injury or death.

### **CAUTION**

Violations of instructions may cause increased chance of material waste or injuries.

# Warning

1. Do not disassemble, repair or modify any part of the machine without prior approval from an authorized technician. It could be out of warranty and could cause damage, electric shock or fire.
2. Ensure the oven is properly grounded to prohibit error or electrical hazard.
3. Do not cut or modify the power cord. Do not stretch or bend the power cord that may cause electrical hazard.
4. Keep flammable materials away from the oven at all time.
5. Keep liquid away from the oven and avoid using the oven in damp environment to prevent electrical hazard.
6. Ensure that the power plug is firmly plugged into the proper section. Unstable contact may cause an electric spark and a fire.
7. Always wear heavy thermal insulated gloves when handling units with door open to avoid burns.
8. Always ensure that the oven is completely stopped before working with the oven and only operate the door when the machine is not in a cycle.
9. Do not touch or handling the power plug. It may cause an electric shock or a fire.
10. Carefully use tongs without touching wires when takeout Casting Ring from inside of Furnace.
11. Do not place flammable materials or body inside of Furnace. It may cause a burn or a fire.



# Caution

1. Use a Super-fast sintering (Rapid sintering) schedule only in present of operators.  
< Use the furnace carefully, there are risks of a burn and a fire >
2. Do not use a regular sintering tray in a Super-fast sintering schedule.  
< There are risks of a fire and damages on the furnace >
3. Use the sintering trays supported from the manufacture. There is a risk of damages on the heating element when a bigger sintering tray is used.  
< The warranty will not be applied with the heating elements broken by using off size sintering trays >
4. Keep away from Furnace during operation. While running, furnace generates high temperature.
5. Please handle the oven carefully to avoid damage. The furnace contains fragile parts.
6. Do not use in places with a lot of vibration.
7. Please read the manual and understand the instructions before using the oven.
8. Do not leave Furnace with a door open.
9. Keep away from flammable spray or materials from Furnace.
10. Do not install Furnace on place with gradient or rocking table
11. Do not pull a plug out with a strong force.
12. Keep temperature lower than 40 Celsius degree and sweep the dust out.
13. If detecting any defect during the operation, stop using and inquire manufacturer.
14. Use dry cloth and unplug power cords when cleaning Furnace. Do not use any detergent.
15. While operating and right after, do not touch Furnace. Especially, do not touch the upper part of furnace. It may cause a burn or a fire.
16. Keep away flammable materials from Furnace. It may cause a fire.
17. If Furnace is not in use, turn off switch to power off.
18. If Furnace is not in use for a long-term, pull-out power plug.
19. If continuously use the Furnace at high temperature, glass materials might lay on the moving insulation and could contaminate materials. To remove contaminated materials, use only vacuum cleaner. Do not use air compressor for health and safety.

20. To remove the tray after sintering, wait till inside temperature of the furnace is lower than 100°C. Higher temperature could damage on the tray and skin.

21. Cleaning Mode: Regularly inspect inside of the furnace. If oxide films on the heating elements are damaged or zirconia materials are contaminated, use Cleaning Mode to clean and prevent contamination. <Caution. Too often use of Cleaning Mode (less than 1 month period) could damage on Muffle/heating elements. If use of Cleaning Mode is getting shorter, contact manufacturer of seller.>

22. Changing insulation: Contact particulate from insulator with the eyes or skin may cause irritation. Long term and inhaling a large quantity of the particulate from insulator may cause respiratory disorders. Try protecting skin, eyes and respiratory organs with wearing safety glasses and mask.

<Compliance matters: wear long sleeves clothes, safety glasses, mask and using vacuum machine. After work, wash unprotected skin with fresh water.>

23. Cracks in insulator should occur by a high temperature or a rapidly changing temperature. However, cracks by thermal shock in insulator do not critically affect Firing result. (In case of cracks on Tray insulator may effect on temperature. In that case, need to change tray insulator through manufacturer or local distributor.)

## 2. Product Information

### **(1) Characteristics**

- Easy to operate and full set of features
- Easy-to-use display provides all available information and setting control
- Store 100 different schedules
- Maximum ramp rate 99°C/min
- Compact Size
- Available Super-fast sintering (Rapid Sintering) schedule and Regular sintering

### **(2) Display Feature**

- User defined programs
- Progress indicates with LED lights
- Display a remaining time
- User can do fine-tuning on temperature
- User can define Cooling Fan On/Off

## 3. Technical Data

### Temperature Sensor

<b>Sensor Type</b>	Thermocouple R-type
<b>Sensor Range</b>	0~1760°C

### Main Controller

<b>Voltage</b>	DC 12V
<b>Display</b>	LED Display

### I/O Controller

<b>Voltage</b>	DC 12V
<b>Output</b>	1 Ch. :DC Fan

### General Information

<b>Voltage</b>	AC 220V, 50/60 Hz
<b>Fuse</b>	30A / AC250V
<b>Max.current</b>	15A
<b>Dimensions</b>	300mm (W) x 400mm (D) x 640mm (H)
<b>Chamber size</b>	Ø100mm x 80mm (h)
<b>Max. temp.</b>	1600°C
<b>Max. ramp up rate</b>	99°C/min
<b>Environment temp</b>	+2°C ~ +35°C
<b>Working humidity</b>	Less than 80%
<b>Working altitude</b>	Lower than 3800m
<b>Weight</b>	About 41kg

# 4. Installation

## (1) Connect AC power

This furnace requires AC220V and maximum current is 15A. This furnace should be connected directly to over 20A breaker in a panel board. (Do not use extension cords and connecting to other equipment. Insufficient capacity may cause a short circuit and fire.)

## (2) Parts List

After open a box, ensure there are all parts. Also, check any visual damage. If you find any damages or defects, please contact a seller.

- Super Fast Sintering Furnace	1 pc
- Manual	1 pc
- Rapid Sintering Tray	1 pc
- Regular Sintering Tray	1 pc
- Regular Sintering Lid	1 pc
- Regular Sintering Plate	1 pc
- Cooling Tray	1 pc
- Zirconia beads (100g)	1 pc

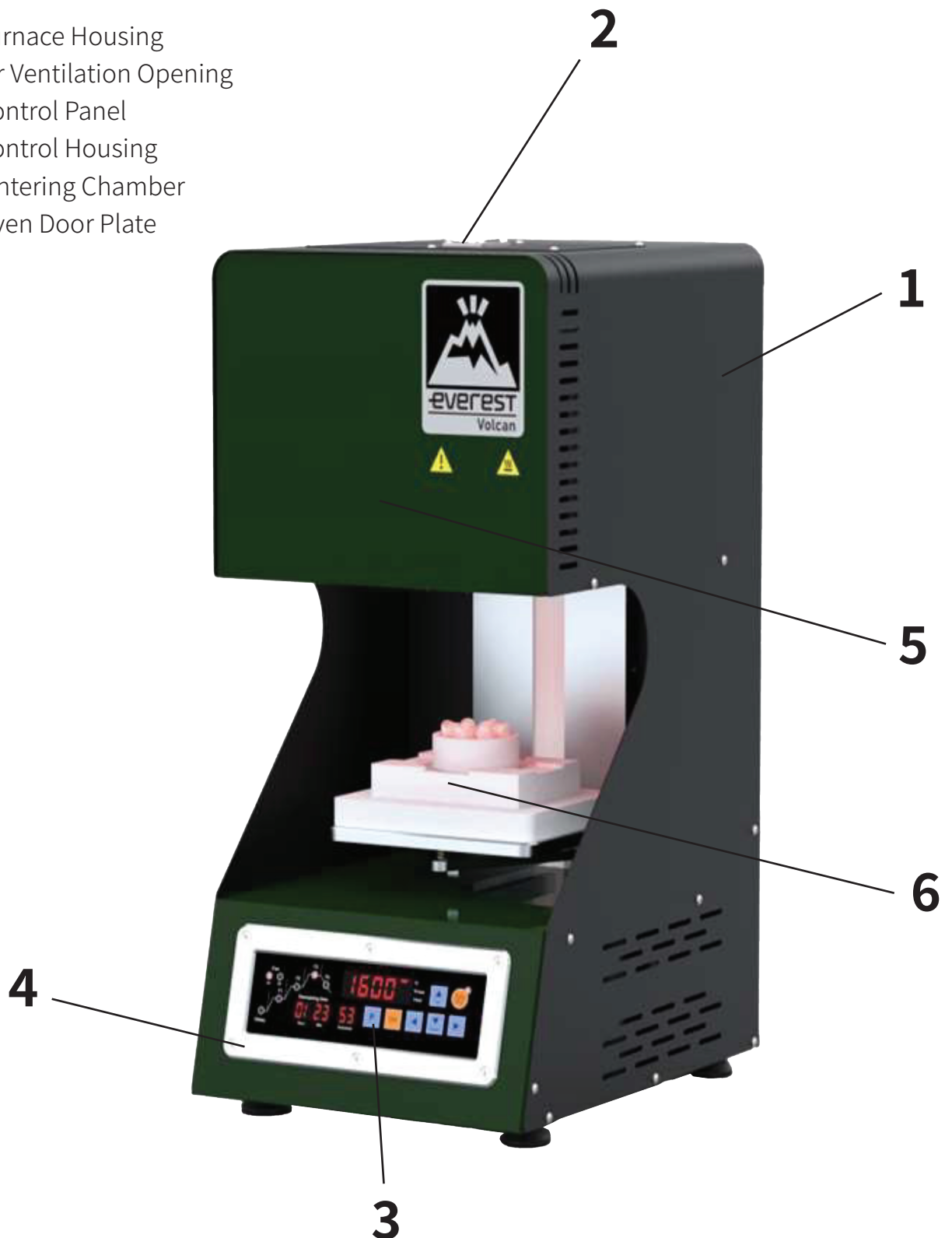
## (3) Installation

Avoid sunlight or moist when installing the product. Also, install on a level place. Dust could damage on heating elements, thus, install in clean environment. Place a furnace at least 30 cm apart from the wall and 1.5 m away from the ceiling. If too close to wall or ceiling, may cause a fire and damage on product. Do not place flammable materials on the top of product. Before use, install a ventilation system above the product to remove harmful gas during sintering.

# 5. Appearance and Names

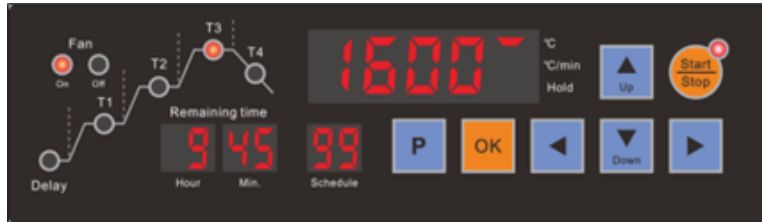
## List of Parts

1. Furnace Housing
2. Air Ventilation Opening
3. Control Panel
4. Control Housing
5. Sintering Chamber
6. Oven Door Plate



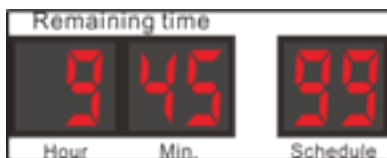
# 6. Front Panel Information

## (1) Display



<Information in this picture is only example>

### 1) Time and Mode display

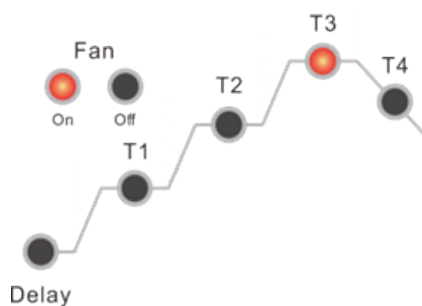


- ① Displaying the time required for selected schedule
- ② Changing schedule: Changing schedule with pressing PRG. Button

### 2) Current Temperature Display














### 3) Display Current Progress



- ① Fan on : Fan on, Fan off : Fan off.
- ② T1, T2, T3, T4 : Blinking the light with current progress.

## (2) Button Functions

Buttons	Description
	<p>Start Program button</p> <p>-Start : When LED light is blinking, click the button will start a program</p> <p>-Stop : During the schedule is running, click this button will stop schedule</p>
 	<p>Display LED</p> <p>Light Blinking : Stand-by</p> <p>Light On : Program (Schedule) is running</p> <p>Light Off : Program (Schedule) is stopped or off</p>
	<p>Program Button</p> <p>Change and select programs with adjust arrow button  </p> <p>Select and change next setting values at selected program</p> <p>During program (Schedule) is running, Program Button will display setting values of selected program.</p>
	<p>Select and Save Program Button</p> <p>To go User Set Mode - Click OK button six times at stand-by</p>
	<p>Up Arrow Button</p> <p>Change numbers</p>
	<p>Down Arrow Button</p> <p>Change numbers</p>
 	<p>Left/Right Arrow Button</p> <p>Change selected digit</p>





# 7. Program and Temperature Setting

## (1) Change Program




Click  , Use   , Select a schedule  , Press 

## (2) Run Selected Program (Schedule)







Click  (Before start, check LED light is blinking)

Click  will make LED light on and a program(Schedule) start

## (3) Edit Program Settings

- ① Select a program which need to be edit
- ② Click  (  button will move to next settings)
- ③ After finishing edit, click  will save changed data.

## (4) How to Copy Program

- ① (  ,  ) Use Up/down button to select schedule number want to copy
- ②  Hold about 5 seconds ( "COPY " -> "CPY 00 " will appear on the display panel)
- ③ (  ,  ) Use up/down button to select the schedule number to paste
- ④  Hold about 5 seconds ( "SAVE " will appear on the display panel), finished

## (5) Program Setting Information

Display -> remaining time displaying window

Setting	Display	Description
Temp. Step Setting	St EP	Setting the temp. level to be used 1~3
T1 Temp.	t1 1	Set T1 temp
T1 Ramp Up	t1 2	Set ramp up rate till T1 (°C/min) Set for Super - sintering, click "◀" button triple times.
T1 Staying	t1 3	Set staying time at T1 temp. ( hh . mm )
T2 Temp.	t2 1	Set T2 temp. ( 0000 -> not use)
T2 Ramp Up	t2 2	Set ramp up rate till T2 (°C/min) (0000 -> Not use) Set for Super - sintering, click "◀" button triple times.
T2 Staying	t2 3	Set staying time at T2 temp. (0000 -> Not use)
T3 Temp.	t3 1	T3 temp. (0000 -> not use)
T3 Ramp Up	t3 2	Set ramp up rate till T3 (°C/min) (0000 -> Not use) Cannot set for Super - sintering.
T3 Staying	t3 3	Set staying time at T3 temp. (0000 -> Not use)
T4 Co	t4 Co	Set cooling rate ( Set lower than 40°C/min) Setting Super - fast schedule will do an open cooling after T3 staying
Fan ON	S on	Cooling fan ON temp. (Do not change value unless under instruction by manufacturer)
Fan Off	S of	Cooling fan Off temp. (Do not change value unless under instruction by manufacturer)





※ Caution : Do not set ramp up rate over 40°C/min for a regular sintering.  
Ramp up rate over 40°C/min will casue damages on the furnace and a fire.  
If it is necessary, must contact the manufacturer before changes.

# 8. Edit Default Setting

## (1) Enter Default Setting

 Click 6 times

## (2) Edit Setting Values

- ①  (Allow to move next setting values )
- ②   > Change setting values
- ③  Save and Exit.

## (3) Setting Value Information

Display > remaining time displaying window

Values	Display	Default	Description
Starting Temp	US Er 0	0	Schedule will only start lower than starting temp. (Ex, input 300 > Start lower than 300°C)
Set Cooling Time	US Er 1	300	For T4 cooling, cooling time setting , if it is a super-fast mode (Do not change this value)
N/A	US Er 2	0	N/A
Output Test	USEr 3	0	0:Off, 1:Relay #1 On, 2:Relay #2 On, 3: 4:
N/A	US Er 4	0	N/A
Buzzer Volume	US Er 5	100	1 ~ 100 Buzzer volume, 0 Mute
Button Sound	US Er 6	1	0: Off / 1: On
Run Count	US Er 7		Display schedule running count
Schedule Factory Reset	US Er 98	0	Temp. display (8888) → P button → ▲ button
Device Factory Reset	US Er 99	0	Temp. display (8888) → P button → ▲ button

# 9-1. Run (Super-fast Sintering)

## ※ Caution

1. Use the Super-fast sintering schedules only with present of operators
2. Use only Super-fast sintering tray for Super-fast sintering schedules (Schedule # 1,2,3,4)
3. Do not use a regular sintering tray in Super-fast sintering schedules. May cause damages on the furnace and a fire.
4. Applying large amount of coloring liquid may cause cracks on the restorations in Super-fast sintering schedules. Use coloring liquid minimum amount or do not use.

1. Drying materials (About 30 min.)



2. Furnace Main S/W on



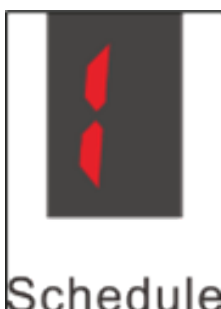
3. Lift down



4. Place resoration on tray



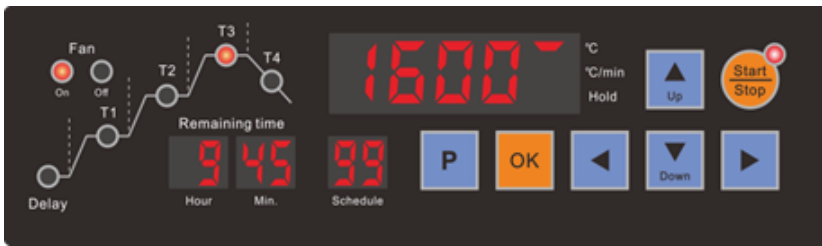
5. Select sintering schedule



6. Modify and confirm temp



< Refer Page 13 for temp setting >



7. Ready > Start schedule



8. Finish sintering



9. Remove tray after finish



<Caution>

Do not place hot tray in front of the furnace, controller may damage by heat

Hot tray should place on cooling station

Touch the restorations below furnace temp. 100°C

## 9-2. Run (Regular Sintering)

### ※ Caution

1. Use the Super-fast sintering schedules only with present of operators
2. Use only Super-fast sintering tray for Super-fast sintering schedules (Schedule # 1,2,3,4)
3. Do not use a regular sintering tray in Super-fast sintering schedules. May cause damages on the furnace and a fire.
4. Applying large amount of coloring liquid may cause cracks on the restorations in Super-fast sintering schedules. Use coloring liquid minimum amount or do not use.

#### 1. Drying materials (About 30 min.)



#### 2. Furnace Main S/W on



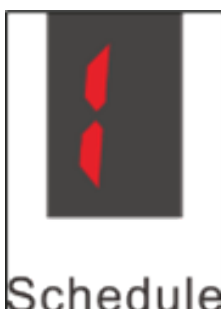
#### 3. Lift down



#### 4. Place resoration on tray



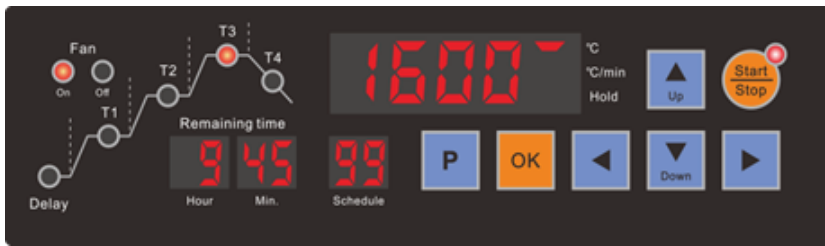
#### 5. Select sintering schedule



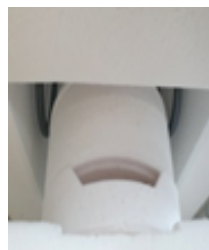
#### 6. Modify and confirm temp



< Refer Page 13 for temp setting >

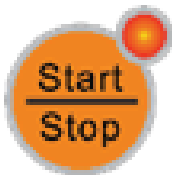


7. Press Lift up button to manually close the lift. Carefully close the lift without touching the heating element. (Up button will allow the lift up and stop)



7. Ready > Start schedule

8. Finish sintering



9. Remove tray after finish



<Caution>

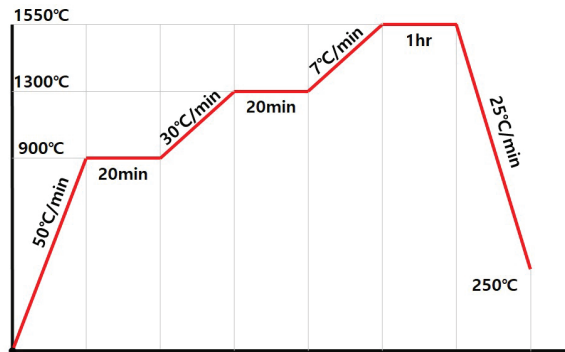
Do not place hot tray in front of the furnace, controller may damage by heat

Hot tray should place on cooling station

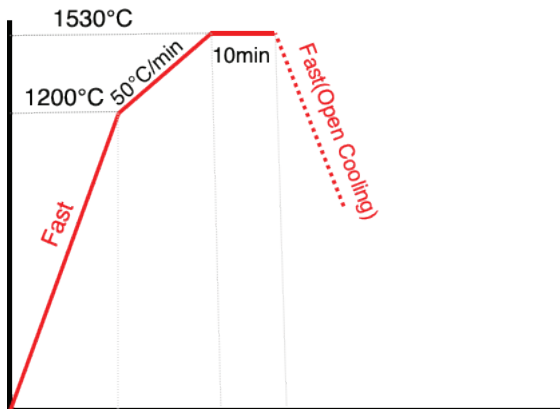
Touch the restorations below furnace temp. 100°C

# 10. Pre-Set 10 Sintering Schedules

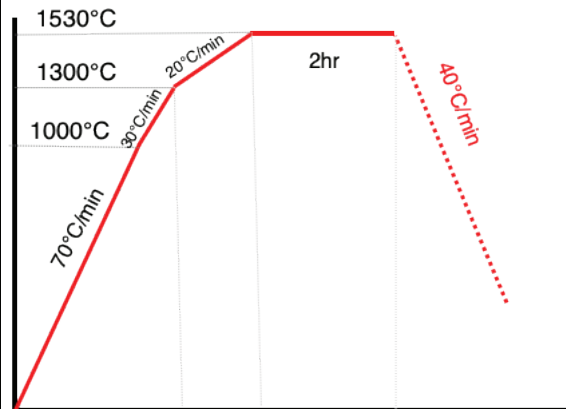
Schedule : 0 (Cleaning Mode)  
 Max. temp : 1550°C  
 Total hours : About 3hr 50min



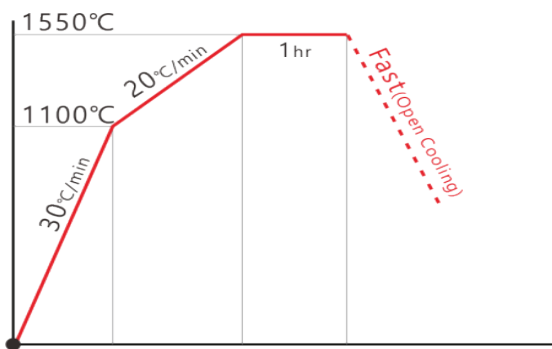
Schedule: 1 (UVS Speed Mode)  
 Max. temp: 1530°C  
 Total hours: About 40min



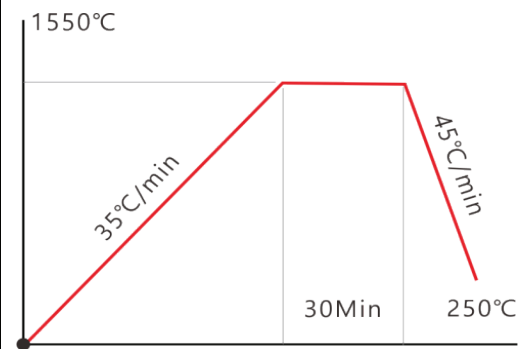
Schedule: 2 (UVS Normal Mode)  
 Max. temp: 1530°C  
 Total hours: About 4 hr



Schedule: 3 (Super-fast)  
 Max. temp: 1550°C  
 (Schedule 13:1450°C)  
 Total hours: About 2hr 20min

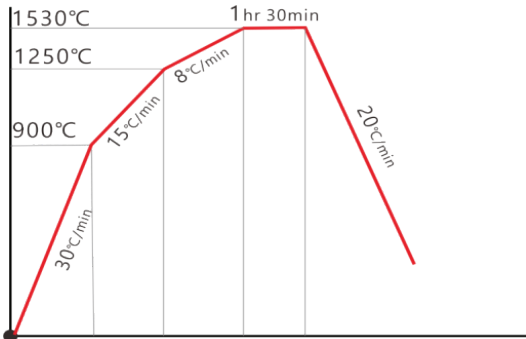


Schedule: 4 (Super-fast)  
 Max. temp: 1550°C  
 (Schedule 14:1450°C)  
 Total hours: About 1hr 40min

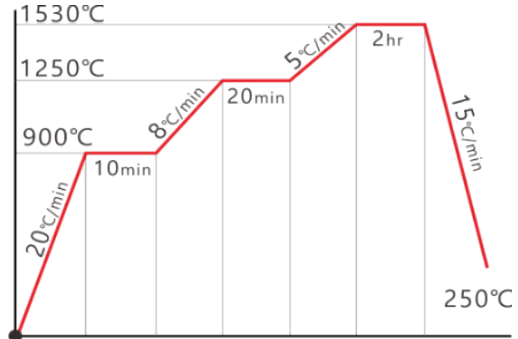




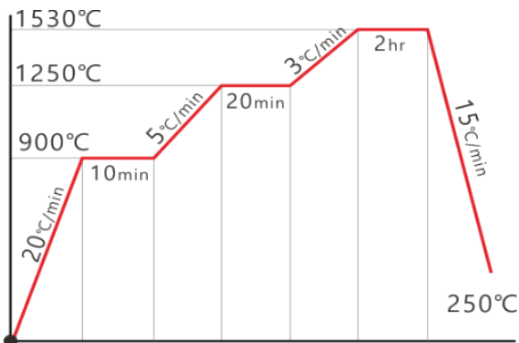
Schedule: 5  
 Max. temp: 1530°C  
 (Schedule 15: 1450°C)  
 Total hours: About 4hr



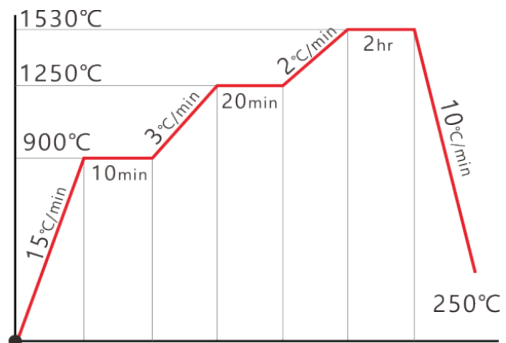
Schedule: 6  
 Max. temp: 1530°C  
 (Schedule 16: 1450°C)  
 Total hours: About 6hr 10min



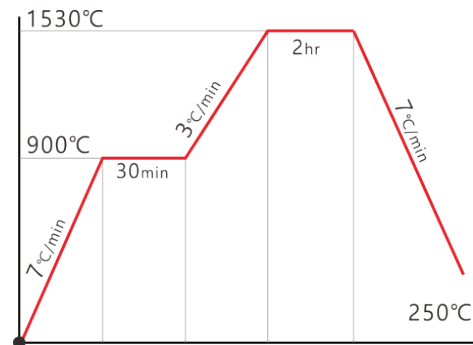
Schedule: 7  
 Max. temp: 1530°C  
 (Schedule 17: 1450°C)  
 Total hours: About 7hr 20min



Schedule: 8  
 Max. temp: 1530°C  
 (Schedule 18: 1450°C)  
 Total hours: About 9hr 50min



Schedule: 9  
 Max. temp: 1530°C  
 (Schedule 19: 1450°C)  
 Total hours: About 11hr



※ Prog. No. : 20~ Prog. No. : 99, User can modify schedules

# 11. Trouble Shooting

## (1) Possible error messages and trouble shooting

Error	Error description	Trouble Shooting
ProG	Program setting value error	Check setting values (Check ramp up rate)
Err01	Disconnected the sensor	Replace the sensor
Err02	Board or control IC is damaged	Inspection control PCB
Err03	Heating elements are damaged	Replace heating elements
Err04	Incoming an electric noise, short sensor or no heat	Use other wall outlet or place the furnace another room. Inspection control PCB sensor part and check heating element
Err05	N /A	N /A
Err06	N /A	N /A
Err07	Low input voltage causing lift motor speed reduction	Check input voltage
Err08	Lift up error	Check lift motor and rail
Err09	Lift down error	Check lift motor and rail

# 12. Warranty

NO.	Condition	Within warranty period	After warranty period
1	Within 10 days of purchase, require major repair by defect even though used in normal condition	Exchange or refund	
2	After 1 month of purchase, require major repair by defect even though used in normal condition	Exchange	
3	Manufacturer could not repair for a month from customer request to be fix	Exchange	Exchange + Charge for depreciation in price
4	Same problem occur 3 times	Free repair	Repair + fee
5	Same problem occur 4 times	Exchange	Repair + fee
6	Within 6 months after repairing with charging fee, same problem occur	Repair without fee or refund repair fee	
7	5 times repaired by troubles in several parts, but detecting trouble again	Exchange	Repair + fee
8	Cannot be repaired although have the spare parts. (Within spare parts holding period)	Exchange	Exchange + Charge for depreciation in price
9	Cannot be repaired by out of parts (Within spare parts holding period)	Exchange	Exchange + Charge for depreciation in price
10	Incident due to operator error	Repair + fee	Repair + fee
11	Lost parts or products by manufacturer	Exchange	Exchange + Charge for depreciation in price
12	Damage in delivery	Exchange (Claim for damages to carrier)	
13	Lost or damaging parts during delivery from customer to manufacturer	Customer fault	
14	Damage during the install by manufacturer	Exchange	Exchange Parts
15	Any other quality issue	Additional progress	

# MEMO

# WARRANTY CARD

To protect the benefit of customers and agency, U&C International assure product quality as follows.

Warranty is void under these circumstances:

- Modification not approved by authorized support technician
- Incident due to operator error
- Sales performed by unauthorized persons
- Oven not operated as outlined in the manual
- Damage caused by external sources such as power outage, fire, act of God, etc.
- Without a warranty

Fill out this warranty card and send to email ([unc@uncint.net](mailto:unc@uncint.net)) or fax to +82-2-864-7713. Without submitting this warranty card, warranty may not be covered.

Customer	Name		
	Phone		
	Address		
Seller	Company		
	Phone		
	Address		
Install Date			
Serial Number		Warranty Period	
Product Name			

**UNC**  
International



U&C International Co., Ltd.

Warranty Info	4. Caution at use
<p><b>1. Warranty Length</b></p> <p>Warranty is good for 1 year after purchase for malfunctions due to manufacturer defects</p>	<ul style="list-style-type: none"> <li>■ Avoid places of sudden and/or drastic temperature changes</li> <li>■ Do not use flammable material for cleaning</li> <li>■ Do not install near high voltage usage or voltage fluctuations</li> <li>■ Avoid heavy shock to the machine</li> <li>■ Do not place oven in direct sunlight or in place with heavy dusts</li> <li>■ Store in dry places</li> <li>■ Do not use in area with vibrations</li> </ul>
<p><b>2. Warranty Exclusions</b></p> <p>Warranty is void under these circumstances</p> <ul style="list-style-type: none"> <li>• Modification not approved by authorized support technician</li> <li>• Incident due to operator error</li> <li>• Sales performed by unauthorized persons</li> <li>• Oven not operated as outlined in the manual</li> <li>• Damage caused by external sources such as power outage, fire, act of God, etc.</li> <li>• Without a warranty</li> </ul>	
<p><b>3. Miscellaneous</b></p> <p>Sales must be invoiced to be eligible for warranty</p>	



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