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# cameo

# **Cameo Proclain Furnace** Operator's Manual

Model: CFP-200





Ideal diagnosis and treatment experience

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# Foreword

## **Dear Users:**

Firstly, thank you for purchasing our product! Please confirm the furnace according to the order, invoice and the serial number directly installed in the furnace. The production processes of all products in the table of contents all conform to high-quality control procedures, which are under strict control from order processing to after-sales technical service, ensuring the product quality standards.

We will provide users with free service of the entire furnace (except for man-made damage), if the product is damaged due to quality problems and cannot work normally within 12 months from the date of delivery, on the premise of observing relevant requirements of storage, use, installation and transportation. We will continue to carry out paid lifelong maintenance according to user's requirements, after the warranty period expires.



You must read through this manual and obey requirements contained herein because this manual contains additional information on intended use and safe operation of the furnace. If Users follows precautions related to this furnace in this manual, operations on this furnace are safe.

Storage, handling, transportation, debugging, operation and maintenance of this furnace shall comply with requirements of this manual. Before use of this furnace, relevant personnel shall read through this manual. This manual shall be deemed as part of this furnace for proper storage until the furnace is dismantled.

This furnace is only used for trained operation and maintenance personnel. The owner of this furnace and all personnel responsible for use of this furnace shall ensure that the furnace is only used by competent and designated personnel.

Operators shall be ensured to fully understand functions of the furnace and all safety and warning information. Without permission, nobody shall operate it without any reason. All operators shall receive training to be aware of coping with emergencies. Only personnel who are competent, and familiar with functions and use of this furnace can install, operate and maintain it. These personnel must be aware of foreseeable and potential hazards. Only designated, trained and appointed personnel can complete operation, maintenance and repair of the furance. These personnel must be informed of all foreseeable and potential risks.

Personnel who are not physically or mentally qualified shall not operate the furnace or stay near it, otherwise, it may cause personal injury or equipment damage. For incompetent personnel who do not comply with the requirements of this manual, perform illegal operation and maintenance of the furnace, we do not bear any responsibility for personal injury, equipment damage and property loss caused.

We are only responsible for retaining the furnace with the same configuration installed for the first time. Without permission, it is forbidden to modify it. Any change of furnace configuration and structure shall be completed by our staff or our designated personnel. For non-original supplies, we do not assume any responsibility for personnel injuries caused by them.

The contents and drawings or pictures attached in this manual are trade secrets and shall not be copied, duplicated, exhibited or sold.

# Chapter 1 Safety Information

# 1.1 Key Contents

## 1.1.1

The design and construction of the furnace comply with relevant safety standards, which guarantees that the furnace is safe under correct operation. The safety of operators are our top priority when designing the furnace. If the operation method is wrong, the furnace is not for intended use or operated by personnel who is lack of necessary production experience or untrained or lack of sense of responsibility, the entire furnace has potential hazards.

#### 1.1.2

For the safety of your personnel, please read this manual carefully and be aware of the intended use, limitations and related potential hazards of the furnace. The hazards caused by the following situations will be very serious:

- % Incorrect operation methods or inexperienced operators
- \* Failure to comply with part or all parts of this manual
- ※ Incorrect installation
- ※ Power failure
- \* Serious maintenance faults
- ※ Random change of data and operation
- ※ Use of irregular spare parts
- \* Special accidents1.3 Installation and use

#### 1.1.3

All owners of the furnace must clearly designate a person who is responsible for startup, operation and maintenance and ensure that furnace operation can be carried out in a safe working order.

#### 1.1.4

The operator must immediately remedy all equipment damage and changes that may damage the furnace safety (if within his scope of responsibility), otherwise, he must immediately report the above situation to the relevant personnel.

Non-professional personnel shall not approach the furnace, and all visitors must keep a safe distance from the furnace.

## 1.1.6

It is very important to ensure that the carrying capacity of the lifting device is sufficient to bear the weight of the furnace when unloading and installing.

### 1.1.7

Regularly check and clean signs and other safety posters related to product safety. If they cannot be clearly identified within a reasonable distance, new signs and posters shall be replaced.

#### 1.1.8

Before startup of the furnace every time, check all safety mechanisms to ensure that all protective furnaces have been installed in place and can function normally. Once the safety furnace is found invalid/faulty, it must be replaced in time. If it cannot be replaced in time, shut down the furnace. Before switching on the furnace, all protective mechanisms temporarily removed to facilitate start-up, modification, repair or maintenance of the furnace must be replaced and ensure that they are in the ideal working order.

### 1.1.9

Before opening the furnace, remove all dangers which threaten operators.

#### 1.1.10

Don't open the protective cover or start maintenance work until the furnace is closed, all moving parts are completely stopped and the furnace is fixed to avoid accidental switching on (there are locking or warning signs on the main switch).

#### 1.1.11

Don't dismantle or change spare parts and safety mechanisms of the bypass device.

### 1.1.12

Don't use the furnace in a hazardous environment.

### 1.1.13

Ensure that your work area is well illuminated.

Use the furnace in a clean, well-ventilated and flat indoor area. Protect it from lightning strikes, and do not use it in a damp or rainy place.

### 1.1.15

The operating speed of the furnace must meet design requirements. Do not force the furnace or auxiliary facilities to work.

#### 1.1.16

Because loose coats, long hair, watches and jewelry can lead to work accidents,

※ Don't wear loose coats.

<sup>≫</sup> Wrap hair

※ Take off the watch and jewelry

#### 1.1.17

Ensure that the workplace is clean and tidy. Dirt (such as oil and wood chips on the floor) and obstacles will pose a threat to your safety. The most important thing is to ensure that all worktables on the furnace are clean, because the dust on them will cause serious wear and fire.

#### 1.1.19

Post emergency phone numbers near the work area.

#### 1.1.20

The operator shall know the location of first-aid boxes and fire extinguisher and how to use fire extinguishers in case of emergencies.

#### 1.1.21

Two or more people must be involved in carrying or using lifting equipment to prevent physical injury, when handling heavy parts (or furnaces).

#### 1.1.22

Due to a high-voltage furnace in the furnace, there is an electrical hazard and special care shall be taken in the detection and maintenance of its location. Incorrect reassembly may cause electric shock in future use.

Do not put anything on the power cord and control cord. Place the furnace where the power cord will not be trampled or tripped.

## 1.1.24

Do not plug anything into the furnace from the casing gap, otherwise it will cause fire or electric shock.

### 1.1.25

The operator shall not leave his post without authorization when the furnace is working.

### 1.1.26

The allowable noise level shall depend on the current regulations and standards in the country of the furnace owner. If the applicable noise limits are exceeded in individual cases, the furnace owner must take additional noise suppression measures due to exceptional reasons.

### 1.1.27

Provide sufficient maintenance to the furnace, such as lubrication and adjustment, but do not conduct under the working condition. Installation, maintenance, cleaning and removal of the furnace can only be carried out after the power supply is cut off, the furnace is shut down and safety protection measures are taken.

#### 1.1.28

Use appropriate hand tools when the furnace is tested or repaired. Before running, be sure to check whether the tools are left in the furnace. For your own safety, never take the tools away from the furnace when it is running.

### 1.1.29

Please use recommended spare parts.

### 1.1.30

Keep a job log to record problems encountered in faults and accidents and maintenance measures taken by the user of the furnace for his own responsibility.

### 1.1.31

The user shall ensure the room and location of keeping the furnace and building and installation methods meet safety requirements of this manual and provide enough ventilation conditions.

After original installation, update the corresponding information in this manual if the user changes some place on the furnace.

# 1.2 How to use and keep this manual?

## 1.2.1

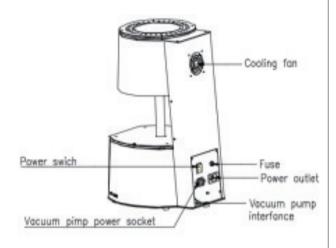
This manual is used by operators for operation and technical services to ensure that the furnace is in a good working condition. The manual includes all technical data required by users for daily operation and maintenance. Important safety warning signs are marked on the furnace, which are mentioned in many relevant chapters of this manual. Please read them carefully.

### 1.2.2

This manual is a key part of the furnace, and shall be placed near it and sold along with it. The storage place of this manual shall be convenient for operation and maintenance personnel to use and read it.

# Chapter 2 Safety Maintenance and Precautions

## 2.1 Installation location



The furnace shall be installed in a dry room, and not less than 30cm distant from the wall. The distance between the two furnaces shall be more than 50cm to ensure safety and heat dissipation.

When the temperature is lower than 15  $^{\circ}$ C (for example, after handling), let the furnace sit at room temperature for 30 minutes before starting.

Attention shall be paid to the heat resistance of the platform for placing the furnace. The thermal radiation and thermal effect released by the furnace are within the range of no damage, but it does not exclude the drop of high-temperature objects caused by improper operation, resulting in slight color change of the working platform.

Inflammables are strictly prohibited around the furnace.

## 2.2 Idle mode

When the furnace is in the idle mode, make the working bench return into the furnace and turn off the main switch.

Close the furnace to protect thermal insulation of the furnace and prevent moisture absorption.

## 2.3 Installation and use

Non-professionals are forbidden to dismantle this furnace.

Unpack the box, take out the porcelain furnace, place it on a flat and stable table, install it in a clean and ventilated environment, and check its accessories, especially if the firing platform and firing plate are damaged.

The power supply for the porcelain furnace must be grounded. Check if its power supply is connected before starting up, carefully read this manual, and check if there are any packages left in the furnace, and if the vacuum pump is reliably connected with the furnace.

Place the firing platform in the middle of the tray.

The furnace shall burn without load for three times before officially burning teeth models.

As the porcelain furnace works for the first time, it is recommended to run for 3 hours in standby mode (the tray is lowered to the lowest position) to remove the moisture in the furnace.

Inflammable and volatile substances are strictly prohibited to place around the furnace. Do not place inflammables next to it, and ensure ventilation and heat dissipation at the same time.

When the furnace needs to be moved, firstly cut off the power and then move it gently, to avoid collision and damage.

When "abnormal vacuum" is prompted, please immediately check if the vacuum pipeline is leaked or plugged and if the solenoid valve is damaged.

# 2.4 Cleaning

When cleaning, do not clean the upper cover of the furnace with the wet cloth, to avoid water dripping, short circuit or furnace damage.

When the fault light is on or the buzzer gives an alarm, the fault shall be eliminated by professional maintenance personnel.

If the fuse is blown out, take it out of the fuse holder of the furnace terminal board, replace it with a spare fuse and tighten the fuse holder.

Note: if the installed fuse is not originally supplied, please confirm the specification of the fuse before installation to avoid safety accidents.

There is a fan behind the furnace to dissipate heat for the furnace. When the furnace runs, do not block the fan cooling port or the upper cover of the furnace.

The furnace shall not be overhauled during operation. If the upper cover of the furnace is opened, ensure that the furnace is powered off, to avoid electric shock.

No junk can be placed on the upper cover of the furnace to avoid fire.

# 2.5 Precautions for vacuum pump installation:



1. Take out the vacuum pump and pipeline assembly from the accessories box, and connect one end of the pipeline assembly to the air inlet of the vacuum pump (note that the arrow indicates the air flow direction). Connect the silencer to the exhaust hole of the vacuum pump. When using PTFE tape for sealing, it is noted that three threads are left on the front end of the joint thread, and not wrapped with PTFE tape. Wrap the joint head from behind the three threads, to avoid that PTFE tape is crushed and sucked into the vacuum pump, causing the vacuum pump failure.

2. Connect one end of the attached silicone hose with the vacuum pump and the other end with the furnace to ensure that the end of the silicone hose is sleeved to the root of the joint and ensure the air tightness.

3. Insert the power cord of the vacuum pump into the power output interface of the vacuum pump on the back plate of the furnace, and turn on the main power switch. Pressing the power switch "1" indicates turning on the power, and pressing "0" indicates turning off the power.

# 2.6 Active cooling fan

When the highest temperature insulation of the firing process is completed, automatically turn on the fan to blow the external cold air to the furnace, help it quickly cool down, increase the cooling rate, and then improve the efficiency of glazed porcelain.

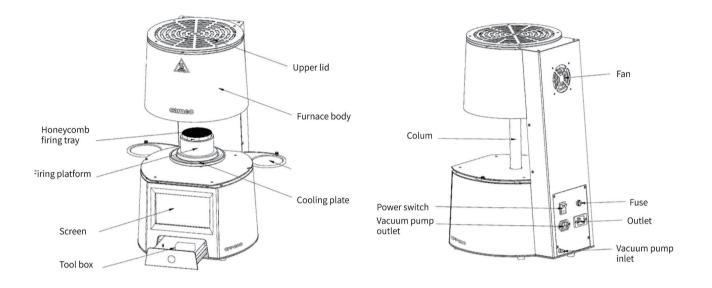
# 2.7 Automatic temperature regulation

The system automatically adjusts the temperature after each roasting program is started.

This automatic temperature regulation system controls all possible deviations of relevant circuit components, which ensures that the temperature deviation is controlled within  $\pm 1$  °C under the condition of long-time operation of the furnace.

# Chapter 3 Furnace Introduction

## 3.1 Cameo CFP-200 Proclain Furnace



## 3.2 Features

- Touch screen: 7-inch capacitive touch screen.
- Thermal insulation refractory materials: new, ultra-light, low energy consumption.

- Temperature control meter: high precision, automatic temperature regulation, temperature accuracy of  $\pm~1^\circ\text{C}$ 

- Vacuum pump: high-limit vacuum value, maintenance-free and large flow.
- Pipeline: multi-layer filter structure, to improve stability and service life of components.
- Vacuum performance: vacuum process design provides excellent air tightness.

• Prompt function: status indicator light and buzzer sound to prompt the porcelain furnace status in real time.

## 3.3 Software

- 9 built-in curves+111 user-defined curve.
- Visual preview of curve parameters.
- It has a quick curve selection interface.

·····

- Second-order firing curve function.
- Remaining time: displaying the remaining time of roasting curve
- Standby function: to ensure the furnace is dry.
- One-click sleep function: low power standby.
- Temperature calibration: to ensure temperature control accuracy of the furnace.
- Language selection: Chinese, English, French, Italian, German, Spanish, Portuguese, Japanese and Korean
- Equipment self-check: to ensure stable operation of various functions.
- Furnace cleaning function.

## 3.4 Technical parameters

1	Dimension	362X316X596mm
2	Net weight/gross weight	28KG/34KG
3	Furnace size	95mm*65mm
4	Firing platform diameter	90mm
5	Voltage	220V/110V 50Hz /60Hz ;
6	Heating power	1.5KW
7	Maximum power	1.8KW
8	Temperature range	50-1100°C
9	Temperature rise rate	1°C ~100°C /min
10	Temperature control accuracy	±1°C
11	Screen	7-inch touch screen
10	Fuer enceification	220V10A/250V
12	Fuse specification	110V15A/250V

## Vacuum pump:

1	Dimension	350*130*220mm
2	Vacuum speed	30L/min
3	Limit vacuum	50mbar
4	Voltage	220V /110v AC , 50/60Hz

# Chapter 3 | Furnace Introduction

5	Power	160W
6	Air inlet	Φ6mm
7	Air outlet	Silencer
8	Working temperature	7-40°C
9	Weight	10KG
10	Noise	<60dB

# 3.5 Packing List

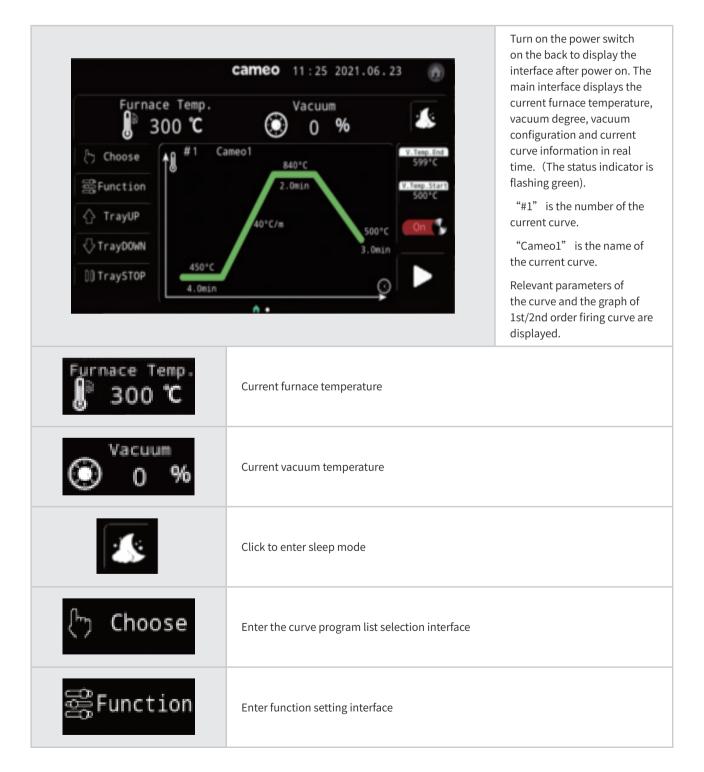
No.	Name	Amount
1	Cameo porcelain furnace	1 set
2	Furnace power cord (16A)	1 piece
3	Baking forceps (hemostatic forceps)	1 piece
4	Honeycomb-type baking tray	2 pieces
5	Porcelain nails	1 bag
6	Firing platform	1 piece
7	Lifting tray sealing ring	1 piece
8	One operator's manual	1сору
9	Fuse	1 piece
10	Temperature measuring ring	3 pieces
11	Active carbon (50*50*30mm)	1 piece

# Other optional accessories

No.	Name	Amount
1	Vacuum pump 220V,50/60Hz; 110V, 50/60Hz	one set
2	Vacuum silicon tube	one piece

# Chapter 4 Operation Guidance

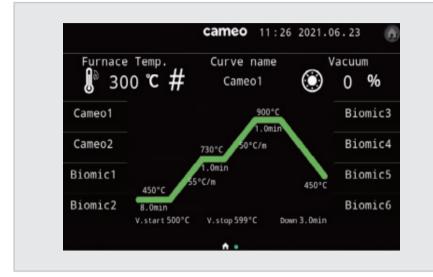
# 4.1 Main interface



# Chapter 4 | Operation Guidance

← TrayUP	Control tray up
<pre>√ TrayDOWN</pre>	Control tray down
]] TraySTOP	Control tray stop

V.Temp.End 599°C	Set the vacuum stop temperature of the current curve program (effective when the vacuum mode is on)
V.Temp.Start 500°C	Set the vacuum start temperature of the current curve program (effective when the vacuum mode is on)
On	Whether the vacuum mode of the current curve program is on or not. "On" is to turn on the vacuum mode. "Off" is to turn off the vacuum mode.
	Start the current firing curve program.
<b>^</b> •	Display the current interface as the main interface. When the user slides to the right on the touch screen, it switches to the fast curve selection interface.
11:25	Display the current hh: mm format. Long press to set the time.
2021.06.23	Display the current yyyy.mm.dd format. Long press to set the date.



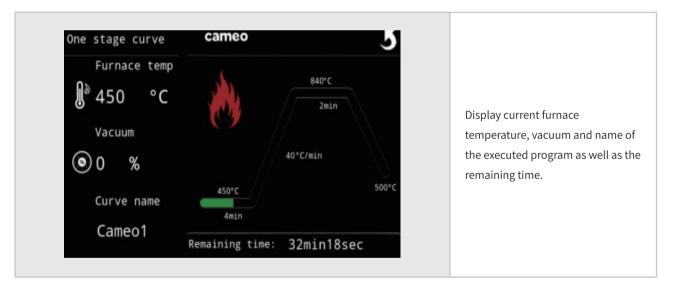
# 4.2 Quick curve selection interface

The quick curve selection interface displays the current furnace temperature, current curve, vacuum and current curve information in real time.

"Cameo1" "Cameo2" "Biomi c1" "Biomic2" "Biomic3" "Bi omic4" "Biomic5" "Biomic6" are curve parameters and names configured by factory default, which can be modified at will.

After restoring the default curve, restore default factory configured curve parameters and names.

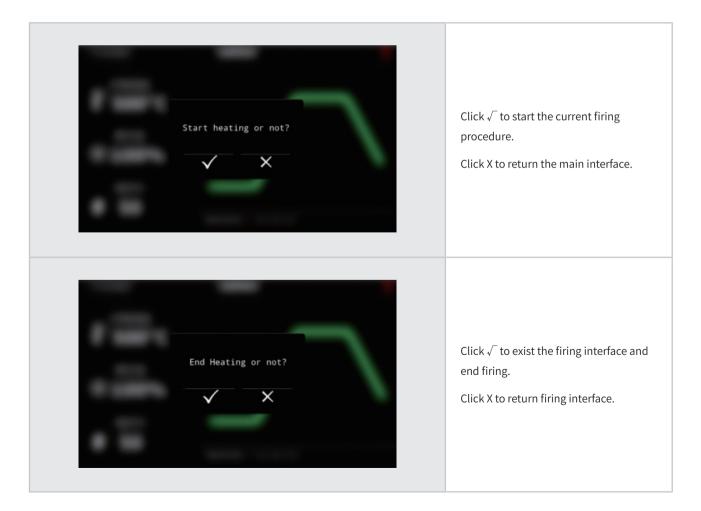
# 4.3 First-stage firing interface



#### cameo Two stage curve Furnace TEMP 840°C 450 °C 2min Display current furnace temperature, 600°C Vacuum 50°C/min vacuum and name of the executed 2min ٥ (٢) % program as well as the remaining time 40°C/min 500°C Curve name Cameo1 Remaining time: 32min18sec

# 4.4 Two-stage firing interface

# 4.5 Confirm the firing interface and exit it



Choose	cameo 5	
C) Edi		
🕞 Sta	rt 2 Cameo2 3 Biomic1	It includes Program Editing, Start Firing,
840°C	4 Biomic2	Curve Program List and Curve Preview
450°C/min	5 Biomic3	
4.0min V.start500°C V.stop599*(	6 Biomic4 C Down 3.0min	
~		
O Edit	Enter parameters editing screen of selected Cu	rve Program.
▷ Start	Start Firing Current Curve Program	
1 Cameo1 2 Cameo2 3 Biomic1 4 Biomic2 5 Biomic3 6 Biomic4	List 120 Curve Programs. You can page up/dow directly start firing.	n and click to select one curve to edit or

# 4.6 Curve Program Choose Screen

# 4.7 Curve parameters setting screen

<pre>@Edit Curve name Came</pre>	eo1	Curve number ()	01			
Vacuum Mode Temp. Start(°C) Time dry(min)	On 3 450 4	Second stage heating V. Temp. End(°C) Rate 2(°C/min)	On 599 50	st		s of firing curve i m mode, 1st-sta
Rate 1(°C/min) Temp. 1(°C) Hold 1(min)	40 600 2	Temp. 2(°C) Hold 2(min) Temp. Cooling(°C)	2 		√ X	Save or exit
V. Temp. Start(°C)	500	Tray down(min)	3		> Sawe & Start	Save and start f

On indicates that the vacuum pumping mode is on. Off indicates that the vacuum pumping is off.
On indicates the second-stage firing mode is on. Off indicates the second-stage firing mode is off.
Temp. Start parameters indicate the starting temperature of the firing procedure.
Time dry parameters are used for teeth firing time.
1st temperature rise rate is from the starting temperature to the maximum temperature.
1st stage maximum temperature indicates the maximum temperature of the first-stage curve or 1st-stage one of the second stage curve.
1st stage holding time indicates the holding time of the maximum temperature of the first curve or 1st-stage maximum holding time of the second curve.
Vacuum Temp Start indicates the starting temperature of the vacuum pump.
Vacuum Temperature End indicates the temperature at which the furnace is unloaded from vacuum state.
Rate 2 indicates the temperature rate rise from 1st stage maximum temperature rise to 2nd stage maximum temperature during the second stage firing
Temp 2 indicates the maximum temperature during the firing procedure at the second-stage firing.
Hold 2 indicates the holding time of the maximum temperature during the firing procedure at the second-stage firing.
Furnace opening temperature is used to set the trigger temperature of furnace door opening.
Tray down time, required for the tray to descend from the highest position to the lowest position

# 4.8 Abnormal reminder of parameters setting

Curve name Came	:01	Curve number 00	01
Vacuum Mode	On 👘	Second stage heating	On
Temp. Start(°C)	450	V. Temp. End(°C)	59
Time dry(min)	4	Rate 2(°C/min)	50
Rate 1(°C/min)	40	Temp. 2(°C)	84
Temp. 1(°C)	600	Hold 2(min)	2
Hold 1(min)	2	Temp. Cooling(°C)	50
V. Temp. Start(°C)	500	Tray down(min)	3

Corresponding information is be prompted when there is a logic error in the set parameters.

There are a total of 6 error prompts.

Illogical settings cannot be saved and applied.

Error 1	1st-stage maximum temperature is lower than 2nd –stage one.
Error 2	Opening temperature is not higher than the maximum temperature during the firing procedure.
Error 3	The vacuum starting temperature is 10°C lower than the vacuum stop temperature.
Error 4	The starting temperature is lower than 1st-stage maximum temperature.
Error 5	The vacuum end temperature is not higher than the maximum procedure temperature.
Error 6	The vacuum starting temperature is not lower than the starting temperature.

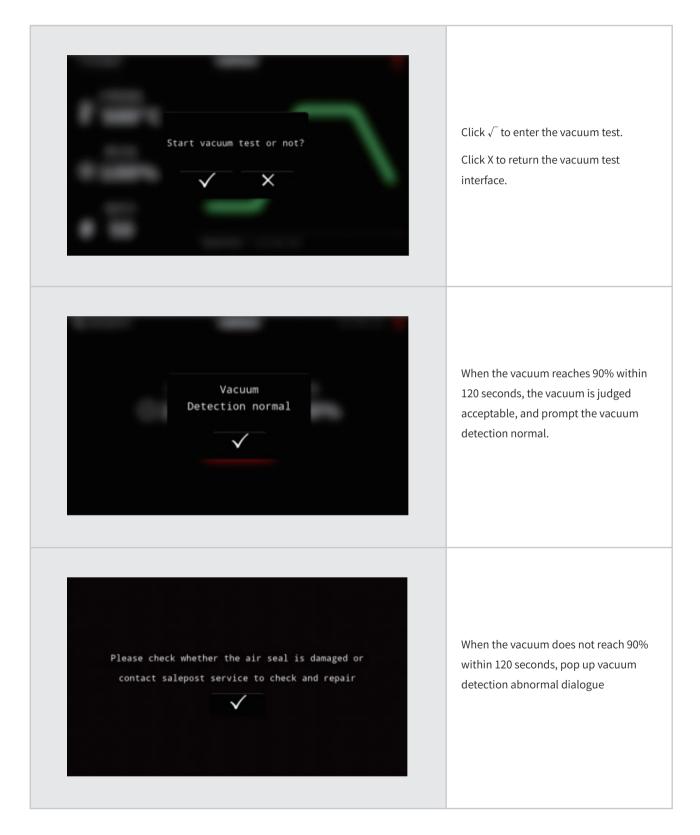
# 4.9 Function setting screen

◎ Function	cameo	5	
Vacuum Test	لی کی Temp.Check	Standby Temp.	The screen includes six module functions such as Vacuum Test, Temp Check, Standby Temp. Furnace Clean
D Furnace Clean	<b>B</b> Settings	Device Information	Settings and Device Information.

# 4.10 Vacuum test

<ul> <li>Vacuum test</li> <li>Time(sec)</li> <li>Vacuum(%)</li> <li>120</li> <li>0</li> </ul>	Click Vacuum Test on the function setting screen to enter the vacuum test interface. The timer on the left starts 120s, and the vacuum gauge on the right shows the current vacuum percentage
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# 4.11 Vacuum test interface



# 4.12 Temperature calibration function

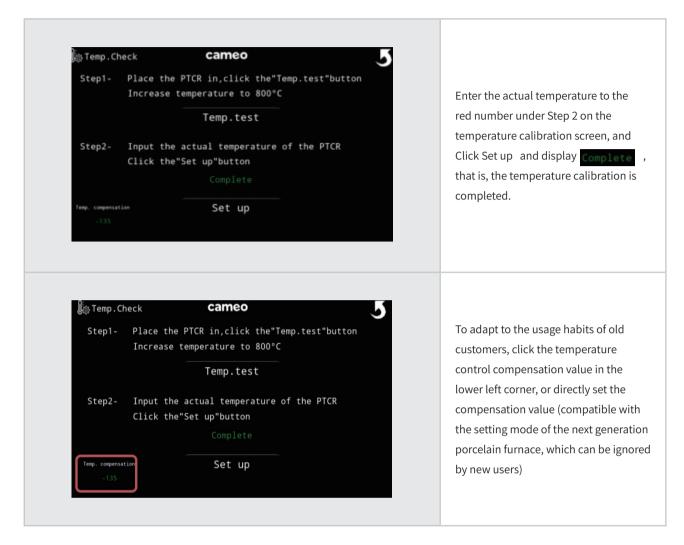
🕼 Temp . Cl	heck cameo
Step1-	
	Increase temperature to 800°C
	Temp.test
Step2-	Input the actual temperature of the PTCR
	Click the"Set up"button
	800 °C
Temp. conpensa	stion Set up
	Place the PTCR in
	Spend 80 minutes.
	$\checkmark$ ×
<sub>@</sub> Tempera	ature test
	AC Temp. Current Temp.
	AC Temp. Current Temp.
	AC Temp. Current Temp. Ĵ@ -135 °C Ĵ 800 °C
	Ĵi⊕ -135 °C 🧕 800 °C
	AC Temp. Current Temp. Ĵ∲@; -135 °C Ĵ 800 °C
	Ĵ∰ -135 °C Ĵ 800 °C
	Ĵi⊕ -135 °C 🧕 800 °C

Click Temperature Calibration on the function setting screen to enter the temperature calibration interface.

If the furnace temperature deviates from the set temperature, use the temperature calibration function to ensure the temperature accuracy.

According to Step 1, click Temperature Test, the tray will drop to the lowest end. Place the temperature measuring ring (PTCR-UTH) in the middle of the firing platform, and click Confirm. After the furnace temperature reaches 800°C and retain it for 60 minutes. Then the tray gradually drops to the lowest end. After the temperature measuring ring drops to room temperature, measure its outer diameter with the caliper for three times and take the average value. You can find the actual temperature measured by the temperature measuring ring according to the temperature table of the temperature measuring ring.

## Chapter 4 | Operation Guidance

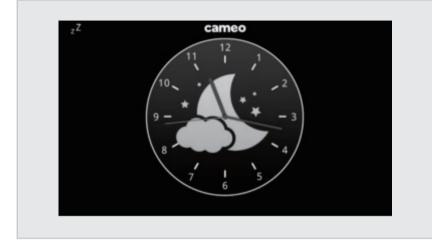


# 4.13 Standby temperature setting

3	cameo	Temp.
	standby Temp.	Setup
	300 °C	
	Confirm	
	Confirm	

Click Standby Temp. to enter the standby temperature setting interface, for setting up the temperature of starting Standby temperature within the range of 100-500°C .Click Confirm to set successfully.

# 4.14 Sleep mode interface



The user can manually or automatically enable the furnace to enter the sleep state. The platform rises to close the furnace. Keep the temperature constant at 100° C. Click anywhere on the screen to exit sleep mode.

There are two ways to enter the sleep mode:

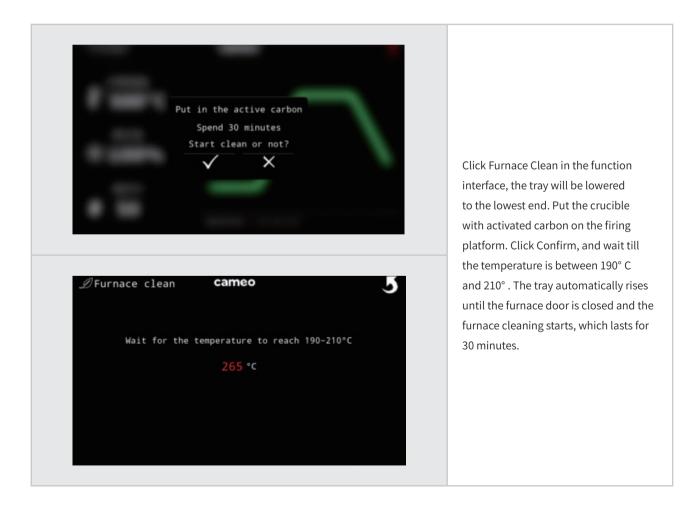


on the main interface.

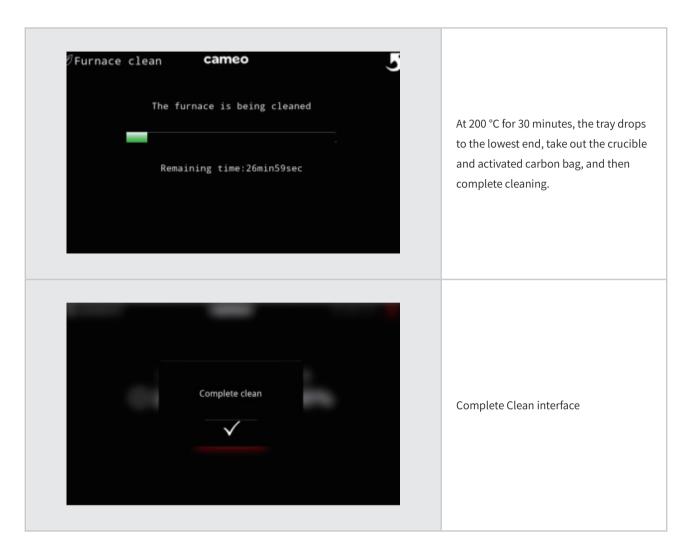
II. After four continuous hours of no operation activities on the main interface.

"

## 4.15 Furnace cleaning



## Chapter 4 | Operation Guidance

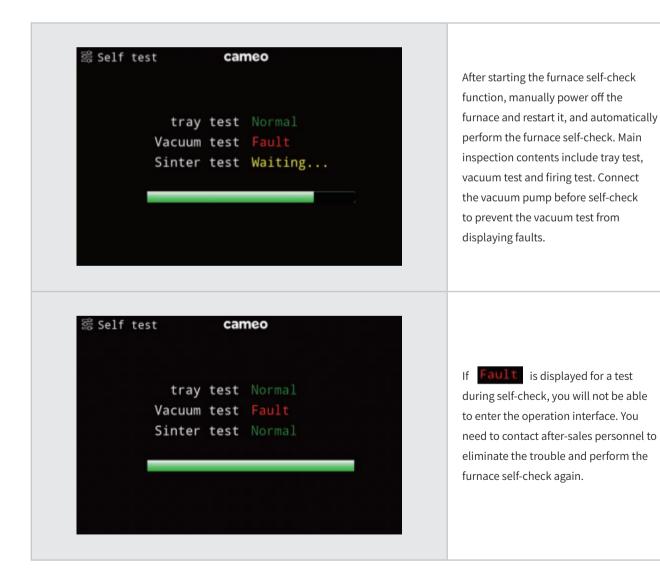


# 4.16 System setting

Settings	cameo		5	
Luminance				Click System Setting on the function design interface to enter the system setting interface.
Volume Button sound		*		The system setting interface includes Luminance, Volume, Button sound,
Self test On	\$	State lamp On .		State lamp, Self- test, Language, and Reset curve. Reset curve can restore al the currently set firing curve parameter
Reset curve		Language		to the factory state (including user- defined).

Self test On SAfter Self test is on, power off the furnace manually and restart and automatically carry out<br/>furnace self-check.State lamp On SPorcelain furnace status light switchReset curveReset curve can restore all the currently set firing curve parameters to the factory state<br/>(including user-defined)LanguageEnter the language setting interface to select 9 languages.

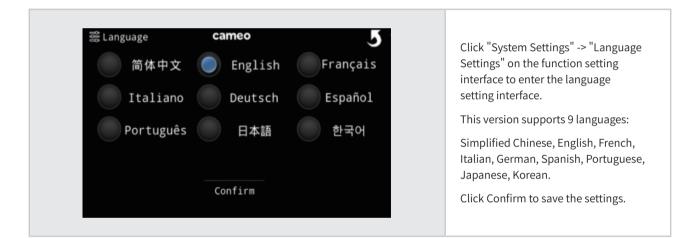
# 4.17 Furnace self-check



## Chapter 4 | Operation Guidance

§Selftest cameo traytest Normal Vacuumtest Normal Sintertest Normal	After all self-checks are completed, and all normal, click Confirm to enter the main interface.
$\checkmark$	

## 4.18 Language setting



# 4.19 Device information

Device Information Car	neo	5	
			Click Device Information on the
			function setting screen, to enter d
Manufacture date	2020-11-10		information interface.
Serial number	12345678901		
First boot date	2020-11-10		Device information interface main
Cumulative Working time	316		includes manufacture date, serial
			number, first boot date and cumu
			working time.
		Ver. 2.1.0	8

# 4.20 Abnormal alarm

Heat error <b>Cameo</b>	Temperature control error
Contact customer service for inspection and maintenance	Contact customer service for inspection
Reset	and maintenance.
Tray error <b>Cameo</b> Contact customer service for inspection and maintenance Reset	Tray up/down error Contact customer service for inspection and maintenance.
Comm error Cameo	Communication error
Contact customer service for inspection and maintenance	Contact customer service for inspection
	and maintenance.

# Chapter 4 | Operation Guidance

 Vacuum error
 Cameo

 Please check whether the air seal is damaged or
 Vacuum error

 contact salepost service to check and repair
 Please check whether the air seal is damaged or contact customer service for inspection and maintenance.

# Chapter 5 Warranty terms

Aidite guarantees Buyer that the technology and materials of CFP-100 and CFP-200 are free from defects under the professional normal installation, use and service procedures, and the warranty period is 1 year or 2000 hours of high-temperature operation, whichever occurs first.

During this period, Aidite will replace, repair or refuse warranty at its discretion. The heat treatment, misuse, improper installation, improper maintenance, accident or abuse of refractory materials will be not in the scope of warranty. Aidite's warranty scope only covers parts provided by Aidite and repairs performed by Aidite's certified service technicians. Repairs performed during the warranty period do not extend the warranty period.

The warranty period starts from the date when the furnace is first started up. If the porcelain furnace fails due to non-human factors, Aidite or dealers will provide customers with maintenance or replacement services. This type of porcelain furnace is sold with a vacuum pump produced by a third-party company, whose warranty period is subject to the time and standard prescribed in the vacuum pump' s manual.

No.	Parts
1	Vacuum pump
2	Furnace assembly
3	Spiral quartz tube firing unit
4	S-type thermocouple
5	O-ring
6	Temperature control meter
7	CFP-100-M main control panel
8	7-inch capacitive touch screen
9	Solenoid valve
10	Limit switch
11	CFP-100-D drive plate

## The following parts under warranty:

## Chapter 5 | Warranty terms

12	220V-50ktyz permanent magnet synchronous motor
13	Circuit board assembly

# No warranty and special instructions for warranty time :

No warranty parts	Parts of vacuum pump other than motor
Guaranteed for 5 months	Sintering platform;
Notes	Slight cracks and sintering platform in the furnace is a normal phenomenon, does not affect the use.

# **Firing Curve**

	Drying time min.	Starting temperature °C	Temperature rise rate °C /min	Maximum temperature °C	Holding time min.	Final temperature °C
Cameo1	4	450	40	840	2	500
cameo2	4	450	40	840	6	500

#### Cameo 1: Cameo glass ceramic-veneer inlay curve

#### Cameo 2: Cameo glass ceramic-crown, bridge curve

	Drying time min.	Starting temperature °C	Temperature rise rate °C /min.	Maximum temperature °C	Holding time min.	Opening temperature	Slow cooling (min)
Biomic 1	8	450	55	730	1	500°C	1
Biomic 2	8	450	55	720	1	500°C	1
Biomic 3	2	450	99	720	0.5	500°C	1
Biomic 4	8	450	40	730	1	400°C	5
Biomic 5	10	450	30	730	1	400°C	10
Biomic 6	1min	400°C	50	900	5	400°C	1

Biomic 1: First firing (2D paste, 3D paste, transparent glaze)

Biomic 2: Second firing (2D paste, 3D paste, transparent glaze)

Biomic 3: (Transparent glaze only)

#### Biomic 4 : Zirconia long bridge

Biomic 5: (more than and equal to 8 unis)

#### Biomic 6: Biomic LiSi Vacuum-free firing curve

	Starting temperature °C	Drying time min.	1st-stage temperature rise rate °C /min.	1st -stage temperature ℃	1st –stage holding time min	2nd -stage temperature rise rate °C /min
Biomic7	400	1	40	820	5	20
	2nd -stage temperature ℃	1st –stage holding min	Opening temperature °C	Slow cooling min	Vacuum start ℃	Vacuum end ℃
Biomic7	900	5	400	1	830	900

Biomic 7: Biomic LiSi Vacuum firing curve