YUCERA

USER MANUAL

F10+ Zirconia Sintering Furnace

Model: YRC-F10+



Read this manual carefully before installing or using the furnace. Keep it close to the device for future reference.

Manufacturer
Shenzhen Yurucheng Dental Materials Co., Ltd.
101, 201, 301, Building A, No. 35 Zhuqing Road, Shijing Community, Shijing Street, Pingshan District, Shenzhen, Guangdong, China

CE

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01 Safety information

Failure to follow these instructions may result in burns, electric shock, fire or damage to the device.

Hot surfaces
The furnace chamber, the lift tray and the crucibles reach very high temperatures. Always use the supplied crucible tongs and never touch the tray or crucibles with bare hands during or after a cycle.

Never open during sintering
Do not interrupt a high-temperature cycle to open the furnace. Sudden temperature changes can injure the operator, deform the heating elements and crack the furnace lining.

Electrical safety
Connect the furnace only to an earthed socket matching the voltage on the rating plate, on a dedicated line with a conductor cross-section of at least 2.5 mm². Do not use extension cords or multi-socket adapters.

Do not cut the power while hot
Never switch off the power while the chamber is above 300 °C: the cooling fan would stop and the housing could overheat.

Fire risk
Never place flammable or explosive materials near the furnace. Keep at least 25 cm of free space around the device.

Liquids and metals
Never pour liquids or molten metals into the chamber.

Qualified users
The furnace must be operated by trained dental professionals only. Keep out of reach of children.

Maintenance
Switch off and unplug the furnace, and let it cool down completely, before any cleaning or maintenance. Do not open the housing: repairs must be carried out by an authorised technician.

02 Intended use

The F10+ is an electric furnace designed for sintering zirconia dental restorations (crowns, bridges and other frameworks) in dental laboratories and dental practices. It combines classic (slow) sintering and fast sintering in a single device. Always follow the sintering recommendations of the zirconia manufacturer.

03 Technical specifications

Maximum temperature	**1600 °C**
Recommended operating temperature	**≤ 1560 °C**
Temperature control accuracy	**± 1 °C**
Maximum power	**2.2 kW**
Power supply	**220 V ~ 50/60 Hz · 10 A**
Heating elements	**4 × type 1850 high-purity molybdenum disilicide ($MoSi_2$) rods**
Temperature sensor	**Type S thermocouple (platinum-rhodium)**
Control panel	**7" colour touch screen**
Programs	**24 (P1–P16 classic · P17–P24 fast)**
Chamber size	**Ø 105 × 110 mm**
Dimensions (W × D × H)	**360 × 580 × 760 mm**
Weight	**approx. 45 kg**

Maximum heating rates

0 – 500 °C	**0 – 30 °C/min**
500 – 1200 °C	**0 – 10 °C/min**
1200 – 1530 °C	**0 – 12 °C/min**

Performance

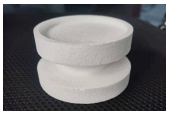
90 min
Fast cycle for approx. 15 crowns, about 2.3 kWh

~10 h
Classic cycle with two stacked Ø 100 mm crucibles, about 8.5 kWh

2.2 kW
Maximum power draw

Indicative values, depending on the program and the load.

04 Package contents

NO.		ITEM	QTY
1		F10+ sintering furnace	1
2		Classic sintering crucible (with lid)	2
3		Fast sintering crucible	1
4		Crucible tongs (classic and fast)	1 + 1
5		Sintering beads	1 bag
6		Crucible base	1

Check that all items are present and undamaged when unpacking. Contact your distributor if anything is missing.

05 Device overview



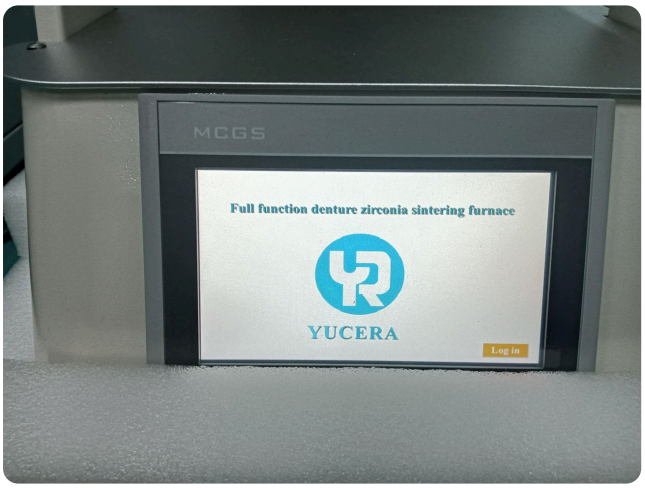
1. Furnace body
2. Lift tray
3. Touch screen control panel

06 Installation

1. Open the wooden crate, check that the furnace is in good condition and that all accessories listed in the package contents are present.
2. Place the furnace on a stable, level, heat-resistant surface, indoors, in a dry, ventilated and dust-free room.
3. Leave at least 25 cm of free space on all sides for ventilation and heat dissipation.
4. The furnace releases heat during operation. This is within safe limits, but it may discolour the housing of nearby equipment: keep heat-sensitive objects away.
5. Check that the supply voltage matches the rating plate before connecting. The furnace draws up to 2.2 kW (10 A): use a good-quality earthed socket on a line of at least 2.5 mm².
6. Before first use, or after a long period without use, dry the furnace as described in Care & maintenance (point C).

07 Switching on

The main power switch is located on the side of the control panel. Push it up to switch the furnace on. The start screen appears: tap "Log in" to open the main screen.



Start screen



Main screen: program table (left), current temperature and controls (right)

08 Operation

The furnace has 24 programs:

- **P1–P16: classic (slow) sintering.** The tray starts lowering when the chamber is at or below 500 °C.
- **P17–P24: fast sintering.** The tray starts lowering when the chamber is at or below 1000 °C. **Always use the fast sintering crucible with these programs.**
- Four fast sintering curves are preset by the manufacturer as a reference.

Starting a cycle

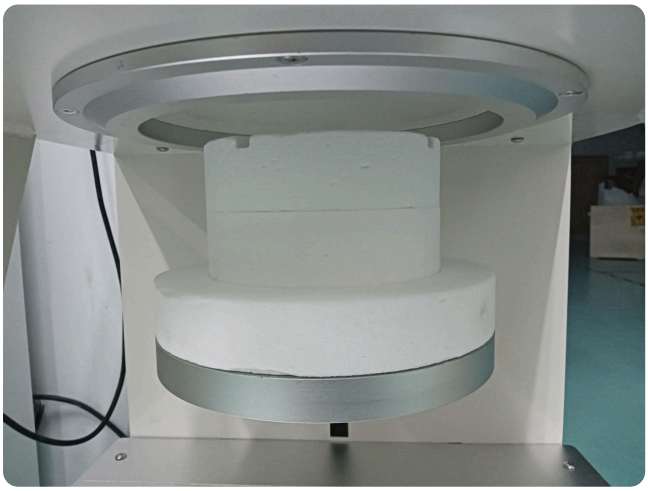
1. Tap the program field and select the program. Confirm with "Determine".
2. Place the crucible in the centre of the tray, then let the tray rise.
3. Tap "Start", then confirm with "Determine". The cycle runs automatically and the furnace stops by itself at the end of the program.



Program selection



Run confirmation



Crucible centred on the tray

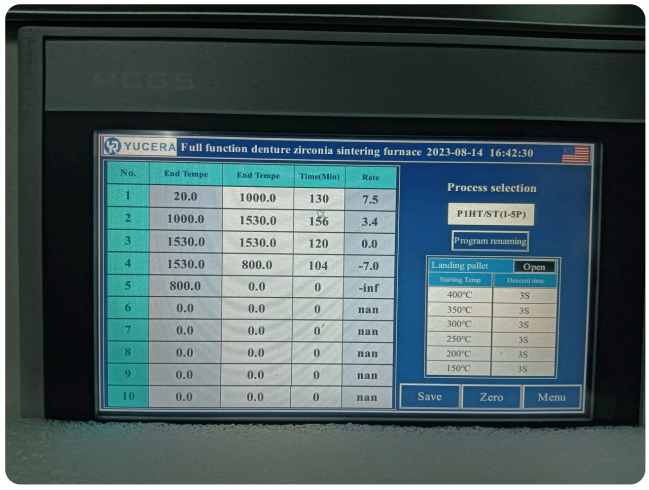
09 Programming a sintering curve

1. Tap "Menu", then "Curve setting".
2. Select the program to edit with "Process selection".
3. For each segment, enter the end temperature and the duration; the heating rate is calculated automatically. Tap "Save".
4. To rename a program, tap "Program renaming", type the name and confirm with "Ok".

> Set moderate heating rates in the low-temperature range, avoid large differences between segments, and always take the zirconia manufacturer's recommendations into account.



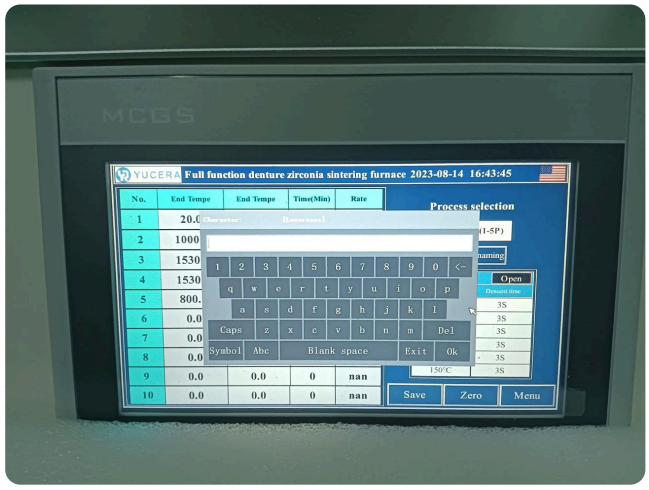
Menu



Curve setting screen



Renaming a program



Renaming a program

10 Usage notes

- When the furnace is used for the first time, or after a long period without use, run it on a normal program first. Never exceed the rated temperature.
- At the end of a program, the furnace automatically switches to stop mode.
- When the furnace is not in use, raise the tray to the top to keep the chamber dry.

11 Care & maintenance

A. Do not open the furnace during high-temperature sintering. This is dangerous, and sudden temperature changes can deform the heating elements and crack the lining.

B. After sintering, check that the chamber is below 300 °C before switching off the power. Above 300 °C, cutting the power stops the cooling fan and the housing can overheat.

C. Before first use, or after a long period without use, dry the furnace at about 120 °C for 1 hour, then at about 300 °C for 2 hours, to prevent cracking of the lining.

D. The heating elements are molybdenum disilicide rods, which are very brittle at room temperature. Do not move or disassemble the furnace once the elements are installed.

E. When starting from a cold furnace, the chamber absorbs a lot of heat: keep heating rates moderate in the low-temperature range to avoid spatter and contamination of the chamber.

F. Regularly have the electrical connections of the temperature control system and of the heating elements checked for tightness.

G. Avoid prolonged operation between 400 and 700 °C, which causes low-temperature oxidation of the heating elements.

H. Keep the chamber clean. Never pour liquids or molten metals into it.

12 Operating conditions

- Ambient temperature: −10 to 75 °C
- Relative humidity: ≤ 85 %
- No conductive dust, explosive gas or corrosive gas around the furnace
- No significant tilt, vibration or shocks

13 Warranty

The furnace is covered by a 12-month warranty from the date of delivery against defects in materials and workmanship, provided it has been stored, transported, installed and used in accordance with this manual. The heating elements are also covered for 12 months. Damage caused by misuse, accidents or unauthorised repairs is excluded. After the warranty period, paid repair service remains available. Contact your distributor for any warranty claim.

14 Disposal



This device must not be disposed of with household waste. At the end of its life, take it to a collection point for electrical and electronic equipment, in accordance with Directive 2012/19/EU (WEEE) and local regulations.

15 Manufacturer & regulatory information

Manufacturer	**Shenzhen Yurucheng Dental Materials Co., Ltd.** 101, 201, 301, Building A, No. 35 Zhuqing Road, Shijing Community, Shijing Street, Pingshan District, Shenzhen, Guangdong, China
Compliance	CE Machinery Directive 2006/42/EC · EN ISO 12100:2010 · EN 60204-1:2018
Support	If you encounter any problem during use, contact your distributor.