

## INSTRUCTIONS FOR USE

### *Burnout furnace*

# PC 30



Rév. 150421

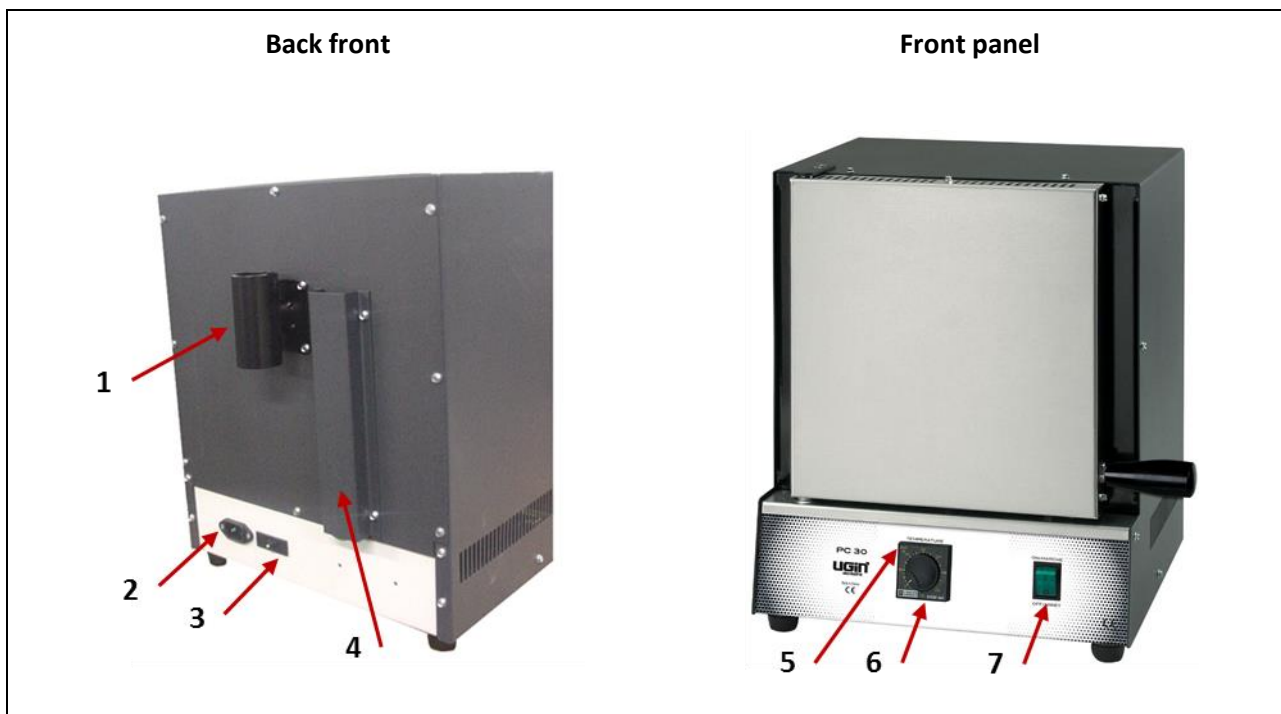
# PC 30

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*Non-contractual images*

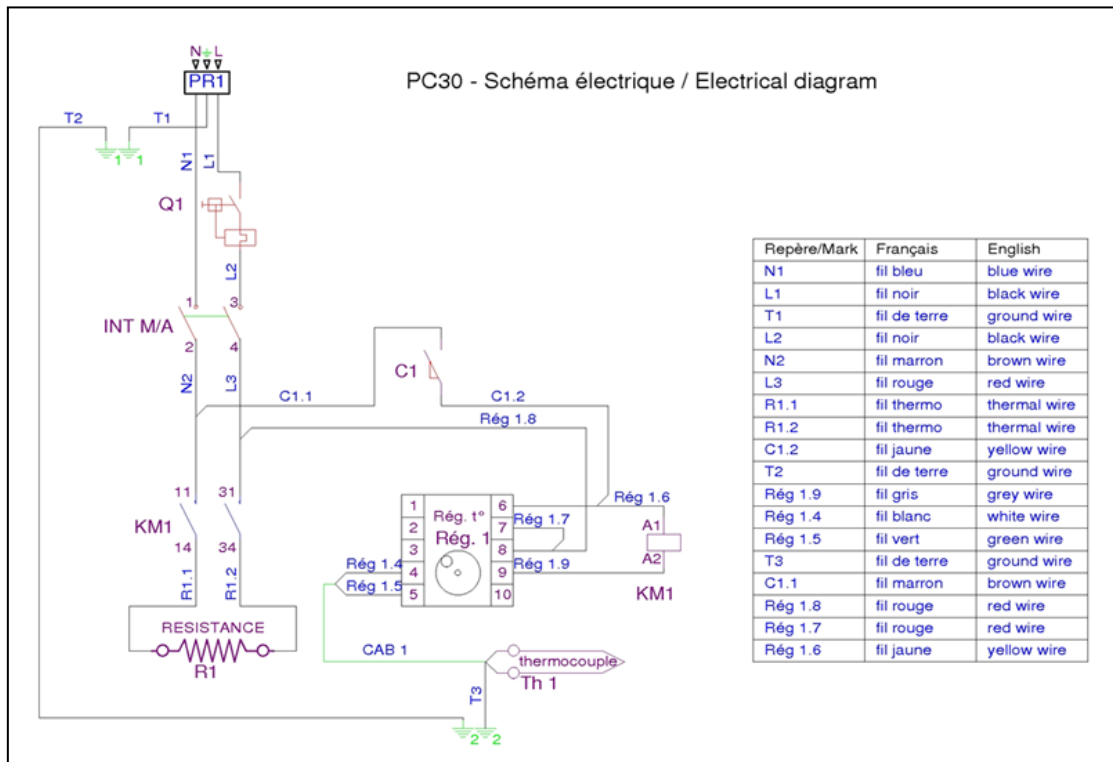
*Translation into English from original in French*

## A. EQUIPMENT DESCRIPTION



<b>N°</b>	<b>DESCRIPTION</b>
1	Chimney outlet
2	Power socket
3	Thermal fuse
4	Thermocouple cover
5	Heating indicator
6	Heating regulator
7	Power switch ON/OFF

## B. ELECTRICAL DIAGRAM



## C. INSTRUCTIONS FOR USE

### 1. SAFETY INSTRUCTIONS

#### 1.1. USE

PC 30 burnout furnace is intended use to heating the coated cylinders. This furnace has to be operated only by dental professionals.

PC 30 has to use in the conditions and for the uses described in this manual. Any other use that will be made of it (such as firing other materials, heating food products, etc.) is considered inappropriate. In this case, the manufacturer declines all liability and immediately cancels the equipment warranty.






According to the product’s instructions and functionalities, **it is imperative to read carefully the instructions for use before furnace installation and use.** Retain the manual for future reference.

#### 1.2. SAFETY INSTRUCTIONS

Pictograms’ meaning used in these instructions for use:

 General warning	 Electrical hazard	 Burn hazard - Hot surface
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Observe following safety instructions:

	<ul style="list-style-type: none"> <li>- During operation and after use, <b>the furnace surfaces and door may reach high temperatures: do not touch.</b></li> <li>- Wear suitable gloves for handling cylinders after heating.</li> </ul>
	<ul style="list-style-type: none"> <li>- The unit has to be connected to an <b>electrical installation in accordance</b> with the applicable standard in the country in which it is being used. This installation has to provide <b>protection against overcurrent, overload and ground faults.</b></li> <li>- <b>This furnace requires its own power line and has to be connected to a circuit breaker.</b></li> <li>- <b>Connect it directly to the mains socket.</b> Do not use multiple sockets.</li> <li>- Ensure that the <b>connection cables</b> are in perfect condition to prevent short circuits.</li> <li>- Before any <b>technical intervention</b>, the unit has to be switched off (with the breaker) and disconnected from the mains power supply.</li> <li>- <b>Do not spill liquid</b> on the ventilation openings or inside the furnace.</li> </ul>
	<ul style="list-style-type: none"> <li>- The furnace must be placed on a <b>flat surface</b>, keeping sufficient clearance around the unit to <b>ensure proper ventilation.</b></li> <li>- <b>Do not block the ventilation openings</b> to avoid overheating.</li> </ul>
	<ul style="list-style-type: none"> <li>- The heating chamber contains <b>insulating material</b> composed of high temperature insulation wool (alkaline earth silicate), a substance not classified as dangerous according to Regulation 1272/2008/EC (CLP). Handle carefully.</li> <li>- <b>Dust can be released: remove with a vacuum cleaner - do not blow or use compressed air.</b></li> </ul>
	<ul style="list-style-type: none"> <li>- Use only <b>genuine spare parts.</b> The use of non-original spare parts voids any warranty for your device.</li> <li>- <b>Do not introduce stranger objects inside</b> the unit during the maintenance operations. It is forbidden to modify the material without authorization.</li> <li>- <b>Do not execute different operations of maintenance</b> from those brought back in the manual. Whichever operation not included in this manual, can involve risks.</li> <li>- For whichever information concerning installation, maintenance and use, contact the <b>customer’s service UGIN DENTAIRE.</b></li> </ul>

### 1.3. WASTE DISPOSAL

Observe the waste disposal regulations for electrical and electronic equipment: do not dispose of with household waste.

The unit is subject to Directive 2012/19/EU on waste electrical and electronic equipment and to the laws of the country in which it is being used, and must be disposed of in accordance with applicable regulations.

The insulating material are composed of high temperature insulation wool (alkaline earth silicate), a substance not classified as dangerous according to Regulation 1272/2008/EC (CLP), and classified as non-hazardous waste for disposal. However, such a waste is normally dusty and so must be properly packaged before for disposal. Check any national or regional applicable regulations.

## 2. EC DECLARATION OF CONFORMITY

The equipment's EC declaration of conformity is provided as appendix of instructions for use.

### Content of the declaration EC:

- Name and address of the manufacturer:  
UGIN DENTAIRE. 25 rue de la Tuilerie. 38170 SEYSSINET-PARISSET – FRANCE
- UGIN DENTAIRE declares, on its own exclusive responsibility, that the product:
  - Burnout furnace **PC 30**
  - Serial number: *see the equipment's EC declaration of conformity*
- Fulfills the essential requirements of health and safety of the following directives:
  - Machinery directive 2006/42/EC
  - Electromagnetic compatibility directive 2014/30/EU

### 3. TECHNICAL INFORMATION

#### 3.1. TECHNICAL DATA

PC 30 burnout furnace is intended use to heating the coated cylinders. This furnace has to be operated only by dental professionals and in the conditions described in this manual (*see chapter 1.1 and 3.2*).

<b>TECHNICAL DATA</b>	
<b>Maximum temperature</b>	
- in constant use	1050°C / 1922°F
- temporary peak	1150°C / 2102°F
<b>Temperature rise</b>	0 to 900°C: 45 minutes
<b>Regulation</b>	Removable electronic regulator ( <i>safety device if breaking of thermocouple</i> )
<b>Heating element</b>	Iron – Chromium - Aluminium
<b>Thermocouple</b>	type k
<b>Numbers of cylinders</b> ( <i>diameter 80 mm, length 55 mm</i> )	2 to 3
<b>Voltage</b>	230 V – 50/60 Hz
<b>Power consumption</b>	1400 W
<b>Dimensions (furnace)</b>	
- height	410 mm
- width	340 mm
- depth	315 mm
<b>Heating chamber dimensions</b>	
- height	100 mm
- width	160 mm
- depth	160 mm
<b>Weight</b>	20 kg
<b>Noise level</b>	< 70 dB(A)

### 3.2. CONDITIONS OF USE, TRANSPORT AND STORAGE

- **Authorised conditions of use**
  - Ambient temperature: +5°C to +40°C
  - Humidity range: maximum relative humidity 80% for temperatures until 31°C, without condensation and decrease linear until 50% to 40°C, without condensation
  - Ambient pressure: up to an altitude of 2000 m above sea level
- **Authorised conditions of storage**
  - Ambient temperature: -20°C to +65°C
  - Humidity range: maximum relative humidity 80%
  - Ambient pressure: up to an altitude of 2000 m above sea level
- **Conditions to transport**
  - Wait the complete cooling before packing/transporting
  - Use the original packaging only, with the protective elements
  - Take hold the furnace by its base
  - Install the furnace in the packaging with the protective elements. Also protect the accessories for transportation

### 3.3. ACCESSORIES

- **Accessories delivered with the furnace** *(included in the packaging)*

<i>DESCRIPTION</i>	<i>CODE UGIN</i>
Refractory plate	FCH05THE0015

- **Accessory recommended** *(not delivered with the furnace – to order separately)*

<i>DESCRIPTION</i>	<i>CODE UGIN</i>
Fumes extractor	FCH01EXT0001

## 4. INSTALLATION AND START-UP

### 4.1. UNPACK

- Unpack PC 30 and check that it is in perfect order (furnace and accessories).
- Any defects can be reported to the carrier.
- Remember to get the carrier to sign the delivery note.

*NOTE: keep the original packaging to transport the furnace (see chapter 3.2).*



## 4.2. INSTALLATION

- Install in a room aired. Observe the conditions indicated in chapter 3.2.
- Place the furnace on a level and aired surface. Keep a distance from other objects around not less than 10cm. Keep it away from heat sources (for example, radiators and/or other equipment that release heat). Avoid vibrations and shocks.
- Do not install in a place with explosion hazard.
- Its forbidden placing inflammables, toxic, volatile or explosives around the furnace.



**This unit requires its own power line and has to be connected to a circuit breaker.**

**Grounding is mandatory** to avoid accidents and the dangers of overheating the power line.

Due to the power of furnace: **connect it directly to the mains**, do not use multiple sockets (risk of electrical interference).

### ▪ Fumes extractor installation

UGIN DENTAIRE recommends installing a fumes extractor on the PC 30 in order to achieve optimal gas evacuation. It will be installed in place of the chimney outlet. It is recommended to use the **UGIN DENTAIRE fumes extractor**.

#### Installation procedure:

- Remove the chimney outlet (No. 1): unscrew.
- Instead install the fumes extractor: screw.
- Make sure that the mains voltage complies with the voltage indicated on the rating plate, connect it to the mains with an adapter cable to a 10/16A grounded power socket.
- To start and stop the UGIN DENTAIRE fumes extractor: connect/disconnect the adapter cable from the mains socket.

**IMPORTANT:** with PC 30 only can be connected a fumes extractor which has an external control independent of the furnace and a maximum power of 20W.

*If non-observance of these instructions: risk of material damage (the resistance, particularly) and may voids any warranty for your device.*

## 4.3. START-UP

*NOTE: for marks, see chapter A – equipment description.*


- Connect the power cord to the power socket (No. 2).
- Make sure that the mains voltage complies with the voltage indicated on the rating plate, connect the power cord to a 10/16 A grounded power socket.
- Activate the ON/OFF switch (No. 7).

## 5. USE – REGULATION OPERATION

NOTE: for marks, see chapter A – equipment description.

<p><b>Heating regulator</b> (n° 6)</p>	<p>The heating regulation is mad through an electronic regulator with a built-in operational amplifier. Power is applied to the muffle by a relay.</p>
<p><b>Heating indicator</b> (n° 5)</p>	<p>This indicator is lit (RED) during the rise in temperature, then changes colour (GREEN) during the heating regulation.</p>
<p><b>Power switch ON/OFF</b> (n° 7)</p>	<p>This controls the general power of the furnace.</p>


## 6. MAINTENANCE AND TROUBLE-SHOOTING

	<p><b>Before to carry out the maintenance work and/or cleaning:</b></p> <ul style="list-style-type: none"> <li>- <b>disconnect from the main power supply</b> (<i>switch OFF and unplug to mains socket</i>),</li> <li>- <b>wait the cooling at room temperature</b> after use (<i>risk of burns and/or damage</i>).</li> </ul>
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### 6.1. MAINTENANCE

Observe the following recommendations to ensure the longevity of the device:

- Clean the machine outside with a soft, dry cloth.
- Do not use abrasive, solvents or flammables products for cleaning (outside and inside).
- Visual inspection of heating chamber and refractory plate before use.  
If necessary, clean with a vacuum cleaner to remove any particles (dust) - do not use compressed air.  
If damaged or cracked: do not use and replace-it.
- **PRECAUTIONS FOR USE:** some investments (alcohol based) are extremely aggressive to the heating elements of the muffle and the thermocouple.  
To avoid premature wear of these elements, we recommend to **preheat the cylinders in a special preheating furnace at 200°C for 1 hour**. If you do not have a preheating furnace, you can also use a metallic heating platform used on a gas stove for 20 to 30 minutes.

	<p><b>IMPORTANT:</b> we recommend to <b>keep a thermocouple in reserve</b>, to avoid the furnace’s immobilization due to wear of this element.</p>
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## 6.2. TROUBLE-SHOOTING

<i>Operational failure</i>	<i>Cause</i>	<i>Procedure to be followed</i>
<b>The furnace does not heat</b>	<p><b>1. Thermocouple.</b> The heating regulator has a security that turns off the heat in case of thermocouple breakage. In this case the indicator stays off.</p>	<ul style="list-style-type: none"> <li>- Check the continuity of the thermocouple with an Ohmmeter or a sound test.</li> <li>- If you do not have such device, a visual examination will inform you on the level of wear (the wire should not be cut).</li> <li>- Replace the thermocouple: see chapter 6.3.</li> </ul>
	<p><b>2. Heating regulator</b> Heating indicator stays lit continuously, but there is not temperature rise.</p>	<ul style="list-style-type: none"> <li>- Remove the back panel and check resistance at the muffle (35 ohms) with a multimeter.</li> <li>- If the resistor is damage: replace it (see chapter 6.4).</li> </ul>
<b>The furnace heats continuously</b>	<p><b>1. Of that happens just after changing the thermocouple.</b> It is because the positive or negative wires have been reversed.</p>	<ul style="list-style-type: none"> <li>- Connect correctly the thermocouple's polarity: + : green wire / - : white wire</li> </ul> <p><i>NOTE: the negative wire (white) is slightly magnetic (check with a magnet).</i></p>
	<p><b>2. It can also come from a defective heating regulator.</b></p>	<ul style="list-style-type: none"> <li>- Replace the heating regulator: contact the after-sale service.</li> </ul>

In all cases, if the failure persists, contact the after-sale service.

### 6.3. THERMOCOUPLE REPLACEMENT

- **Disconnect** the furnace from the main power supply (switch OFF and unplug to mains socket).
  - If necessary, **wait the cooling** at room temperature before to replace.
  - **Unscrew the thermocouple cover** (No. 4).
  - **Unscrew the thermocouple** and disconnect the two wires attached to it.
  - **Place the new thermocouple** and re-connect the two wires, making sure to hook up the wires correctly (respect the polarity): **+ : green wire / - : white wire**.
- NOTE: the negative wire (white) is slightly magnetic.*
- Let the furnace **heat up at a steady 200°C** to check if is working properly. It is then ready for use again.

### 6.4. MUFFLE REPLACEMENT



#### IMPORTANT – Personal Protective Equipment

PC 30 contains insulating material composed of high temperature insulation wool (alkaline earth silicate), a substance not classified as dangerous according to Regulation 1272/2008/EC (CLP).

The muffle replacement requires contact with the heating chamber and the insulation plates. The personnel involved must be equipped with the appropriate **personal protective equipment**.

It is recommended to wear respiratory protection (mask type FFP2), protective coverall, gloves and goggles. For cleaning, use a vacuum cleaner - do not use a broom and/or compressed air.

- **Disconnect** the furnace from the main power supply (switch OFF and unplug to mains socket).
  - If necessary, **wait the cooling** at room temperature before to replace.
  - **Dismounting the thermocouple**: unscrew the thermocouple cover, the thermocouple and disconnect the two wires attached to it.
  - **Unscrew the rear panel**.
  - **Remove the insulation plates**.
  - **Disconnect the muffle connections**.
  - **Take the insulation wool** off the upper half.
  - **Get the muffle out**, from the rear.
  - **Install the new muffle**, taking care to keep the resistor terminal at least 5 cm away from heating element.
  - **Reassemble the various components** by reversing the dismounting order.
- Warning: during the placement of thermocouple, respect the polarity (re-connect the wires correctly: + : green wire / - : white wire) (see chapter 6.3).*
- **Dehydrate the furnace** by heating it up at **200°C for 1 hour**. It is then ready for use again.





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