BEECH OVENS™
WORLD LEADER IN SPECTACULAR COOKING EQUIPMENT

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Operation-Cooking (extract 5)

RND - REC - RGO Oven Series.

To obtain the best results from your Beech Oven, please read this manual in it's entirety before operation.

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Introduction

This manual outlines the recommended methods and procedures for installation and operation of a Beech Oven. Improper installation, adjustment, alteration, service or maintenance can result in property damage, injury or death. It is strongly advised that any personnel involved with the installation, commissioning or maintenance of the oven, read this manual in its entirety before installing or servicing this equipment.

Failure to follow the recommendation of the content of this manual, or the advice of Beech Oven personnel, may result in property damage, serious injury or death.

Failure to follow the recommendation of the content of this manual, or the advice of Beech Oven personnel, will **void the manufacturers warranty and liability.**

A warranty document is supplied with every Beech Oven. It is compulsory that this document be completed and returned to Beech Oven's Head Office in a timely manner. Failure to do so will void the warranty of your product.

The following information is compiled to ensure that your Beech Oven is installed and maintained to provide it's safest and most efficient performance at all times.

All measurements shown are as a guide only. Refer to design documentation and technical specifications for correct dimensions.

Contact Information

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Firing up to Cook

From cold, allow the oven approximately 3 hours to heat up initially. Thereafter, warm up should take about 60 minutes, depending on the size of the oven. This time can be reduced by using gas.

The oven temperature is basically controlled by the size of the fire or the set point temperature (SV) of the gas system and the draft up into the flue system.

The flue suction should be sufficient to not allow smoke into the kitchen during normal operation. It is a fine balance. When firing with wood, the time of maximum smoke is at ignition time in the morning. *(To reduce the amount of smoke produced when lighting, dry the wood in the oven cavity overnight. Be sure to keep the wood clear of embers.)*

Optimum temperature for pizzas is approx 250-350°C. If pizzas do not cook in around five (5) minutes, the oven is too cool and a larger fire may be required. *Check the troubleshooting guide if a larger fire does not increase the temperature.*

The pizzas should be rotated and moved about to cook them evenly. The chef soon becomes familiar with the radiated and reflected heat properties of the oven and moves the pizzas around to suit these different heat zones.

Most restaurants place the pizza base directly on the oven floor although they can be placed on trays for time enough to toast the base a little before finishing off directly on the oven floor. Others leave the pizzas on trays for the whole process. This is a decision for the Executive Chef.

The oven can be used for cooking foods other than pizzas and many chefs experiment with different wood types to get interesting flavours. Food can be roasted in cooking trays and fried in black metal pans.

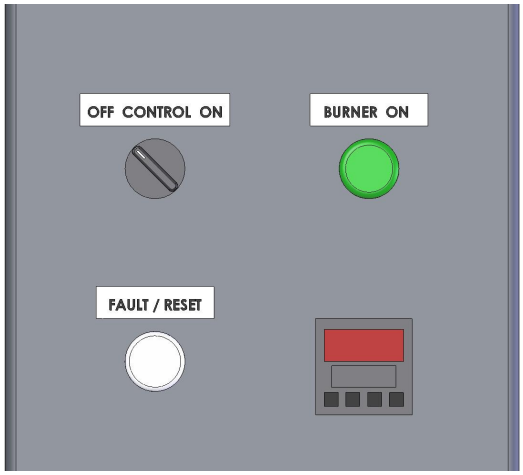
If required, we can arrange the services of an experienced Wood Fired Oven chef for training purposes.

For any enquiries please feel free to call or email Beech Oven's Head Office. sales@beechovens.com.au

Gas Control Cabinet Functions

Main Control Switch

The Main Control Switch has three positions:



OFF
Both temperature controller & burner are off in this position.

CONTROL
The temperature controller only is energized. In this position the temperature controller will read the current oven temperature (PV) and the set point temperature (SV). The current oven temperature (PV) is monitored at the stone hearth *(floor)* level. The actual oven temperature will be higher than indicated. This is useful if firing on timber to easily see the cooking temperature. This is a read out only and has no control over the oven temperature with the control switch in this position.

ON
In this position the oven will start automatically, cycling the gas system to maintain the preset temperature or set point temperature (SV) of the oven.
The operation of the gas flame will cycle automatically from Low Flame to High Flame or Off as required to maintain the set point temperature.

*See **Digital Temperature Controller** description below for more details.*

Burner On Indicator Light

This light is lit when the **ON** position is selected on the main control switch and a flame is preset inside the oven.

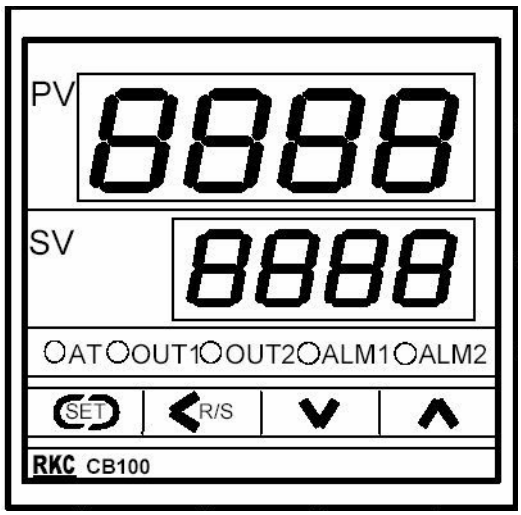
*The main control switch should always be set to **OFF** when any service work or inspections occur. Disconnect power from the wall socket. All service work should be carried out by a qualified and authorized technician.*

Fault/ Reset button

In the event of the burner failing to light, the Fault/ Reset button will light and the burner will go into 'lock-out mode'. In this mode, the oven is 100% safe; no gas can flow.

To restart the burner from 'lock-out mode' *(white light on)* press the white light 'reset' button. If the burner fails to light after three attempts, turn the control switch to **OFF** and refer to the troubleshooting section of this manual or call in a service professional.

Digital Temperature Controller



The Digital Temperature controller has two main functions. To display the current oven temperature (PV- Present Value) and an adjustable setting to enable the operator to determine the desired oven operating temperature (SV - Set point value).

(2)

To change the set point (SV) temperature up or down;

- Press **SET**
- Press ◄**R/S** to move the degree of change. *(i.e. to change tens or hundreds)*
- Press the ▲ (up) or ▼ (down) arrows until desired temperature is selected
- Press **SET** to enter the information

See the following section for the different temperature control procedures.

Temperature Control Procedures

Typical cooking temperature for pizza is 250-350℃ and for breads 200-250℃. The burner controls on this oven have been designed to enable the operator to fire the oven using Gas, Wood or a combination of both.

Using Gas only

In this situation the burner will start on High Flame *(intensive flame)* and heat the oven to the preset (SV) temperature on the Digital Temperature controller. Once the oven has reached this temperature, the burner will automatically turn to Low Flame *(less intensive, maintaining flame).*

This flame will maintain the oven temperature until the temperature starts to fall below the set point (SV) at which time the High Flame will cut in and heat the oven back to set point (SV).

Should the temperature continue to rise on Low Flame, the gas burner will cease to burn at approximately 20℃ above the set point temperature. It will automatically start again once the temperature falls below the set point temperature. This cycle will continue as long as the oven is in the **ON** position.

Using Gas and Wood

The above mentioned cycle is the same if using a combination of both fuels. However, once the oven has reached set point and turned to Low Flame, should the temperature continue to rise, *(due to the burning wood)* the gas burner will cease to burn at approximately 20℃ above the set point temperature. The Gas system will then be in standby mode, waiting for the temperature to fall below the set point temperature. It will automatically start again once the temperature falls below the set point temperature.

It is strongly advised not to burn wood on top of the Thermocouple or erratic Gas operation will result.

Using Wood only

Using Wood only in an oven that has a gas back-up system is quite an acceptable and common practice. The Digital Temperature controller can tell you the present oven temperature (PV) when the operating switch is set in the **CONTROL** position.
This is very useful for gauging the fuel requirements of the oven.

Gas Ovens

The gas flame modulates from **OFF**, **LOW FLAME** and **HIGH FLAME** keeping the oven at the desired set point (SV) temperature. *(250-350°C)*

Once the oven reaches cooking temperature the pizzas can be placed in the oven with or without trays within 150mm of the fire and in layers out.

Combined Wood and Gas

When firing using combined Wood and Gas, if the gas back-up burner does not appear to be firing much, it may just mean that there is sufficient heat from the wood fire to satisfy the thermocouple, not requiring the gas burner operation.

Wood Fired Ovens

As described in Preheating with Wood, start a small fire in the mouth of the oven with kindling and proceed making the fire with progressively larger pieces of wood. When the large wood *(100mm-125mm diameter)* logs are burning, push the fire to the back or side of the oven chamber.

To reduce the amount of smoke produced when lighting, dry the wood in the oven cavity overnight. Be sure to keep the wood clear of embers.

As the wood embers reduce, more wood should be placed on the fire. When there appears to be too much ash, simply drag this out and place in your steel ash receptacle.

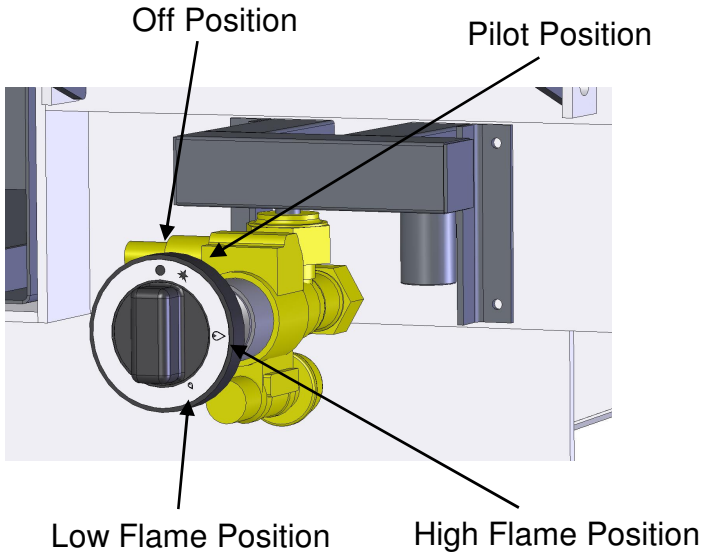
There is, however, a surprisingly small amount of ash compared to the amount of wood consumed. Most restaurants only clean out once a day in the morning at start-up. The quantity of ash reduces when using better quality hard wood fuel.

NOTE: *Removing ash should always be done with great care as hot embers may be hidden in the ash.*

Char Grill

The following instruction relates to those ovens fitted with the Char Grill option. The Char Grill is a fully independent gas system connected directly to the main Gas supply and is not directly controlled by the Gas Control cabinet.

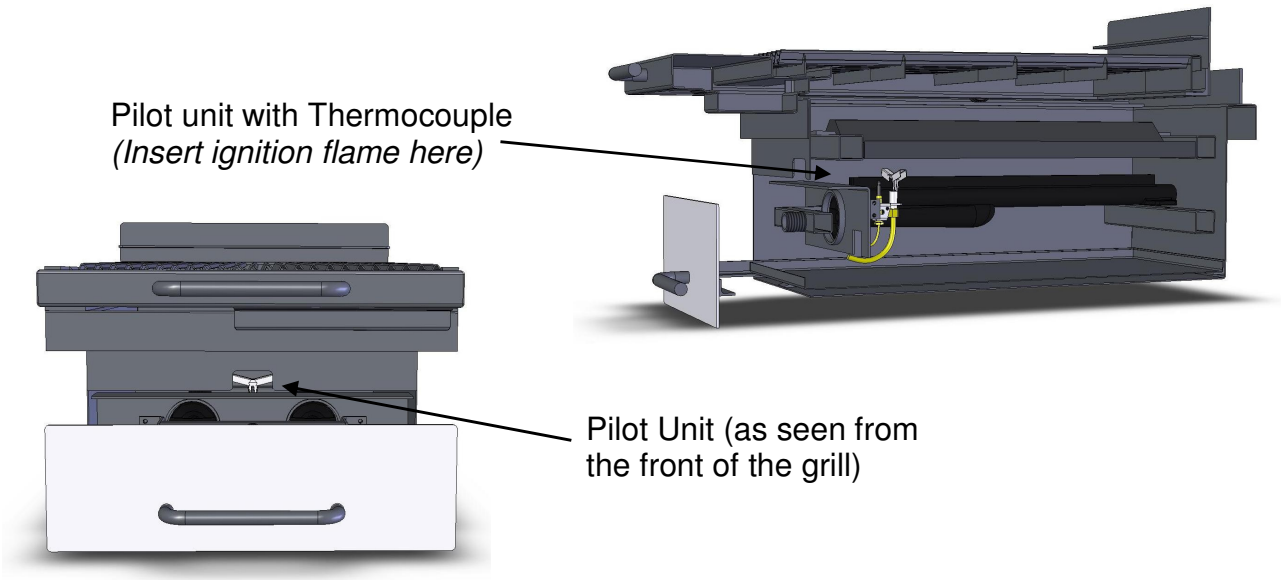
The Char Grill is manually operated using the Main valve located directly below the hearth.



Lighting the burners (Char Grill)

Press slightly and turn the Main valve counter-clockwise to ✸ *(Pilot)* position and press fully in.

While pressing the Main valve in, hold a manual ignition flame *(lighter or match)* to the pilot unit located below the hearth.



Continue to press the main valve for twenty (20) seconds. *(This is to allow the thermocouple enough time to sense a flame and open the main burner's gas supply.)*

Release the main valve. *(The pilot flame should now stay alight.)*

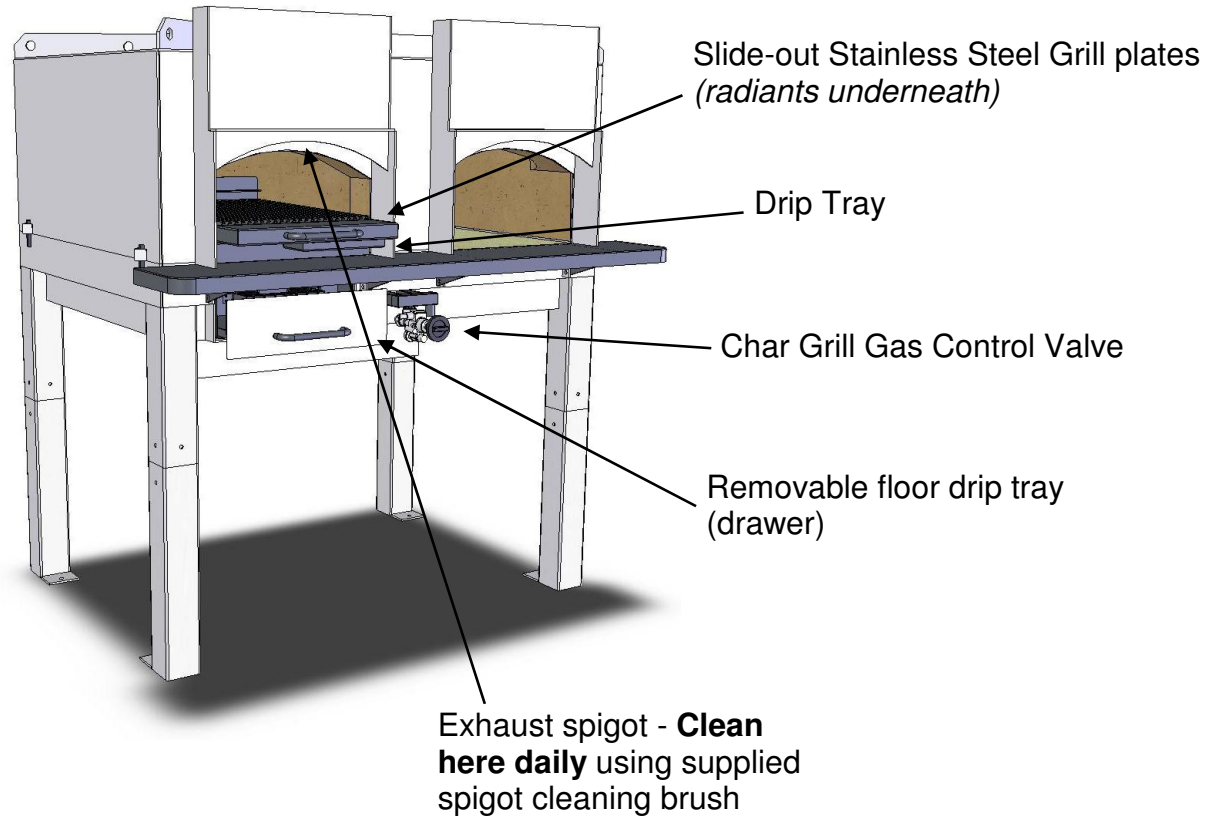
To choose between High and Low Flame, slightly depress the main valve and turn to the required flame.

For the four (4) burner Char Grill, repeat for both pilots.

To turn off, depress the main valve slightly and turn to ● *(**OFF**)* position.

*(The Char Grill can be safely left in the Pilot position when not in use, though it is recommended to turn to the ● (**OFF**) position when finishing for the day.)*

All Beech Ovens supplied with a char grill option are supplied with a spigot cleaning brush. This long handled brush should be used daily to clean any excess soot or grease from the exhaust spigot above the mouth of the grill. This area can get contaminated with flammable material from the grilling process. **Fire risk occurs with poor maintenance.** *(Refer to **Flue Fires** section in this manual.)*



Finishing for the Day

When you have finished for the day, simply turn the main Gas control switch to **OFF** and if you wish, spread the coals. This is not always necessary. Any size fire can be left burning safely. Some owners put another log on to keep the oven hot overnight. It is safe to leave the fire burning and the gas switched **ON** or **OFF**.

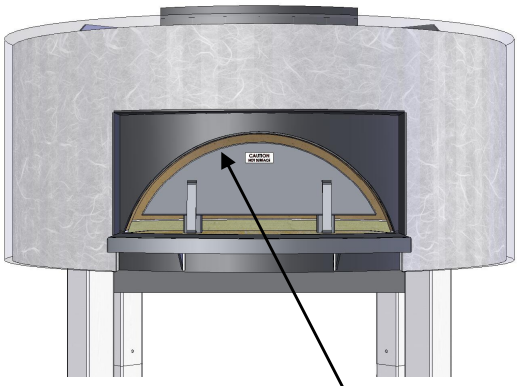
A stainless steel Plug Door is supplied and recommended for the oven to keep the heat in overnight.

*See the following section **Plug Door Placement***

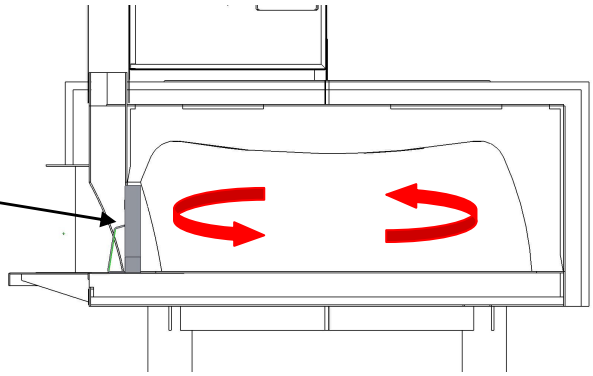
Plug Door placement

The stainless steel Plug Door is a loose fitting door used to retain the majority of heat within the oven when the oven is not in use. It is **NOT** designed to entirely block the opening, as this could potentially overheat the oven, or allow build up of dangerous gases inside the oven cavity.

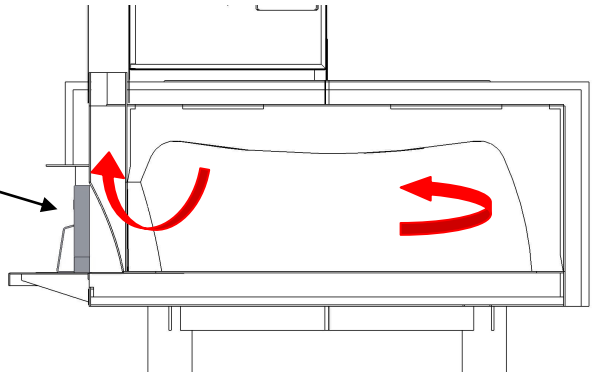
It is advisable to use the Plug Door in the main oven opening(s) whenever the oven is not being used to conserve energy. This is important especially overnight when no fire is present.



Correct positioning.
This helps to reduce heat and energy loss.



Incorrect positioning.
Heat and energy is lost from the oven into the flue.



Remember to replace the special low profile Char Grill plug door in the Char Grill whenever it is not being used to reduce heat and energy loss from this opening.