



# Installation and Operation Manual

## **SPECIALTY OVENS**

*Dual Burner Stone Hearth Oven*



## **DUCK OVEN**

WS-DO-5048-RFG-LR

WS-DO-5048-RFG-LR-W



# WoodStone

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### INSTALLATION AND OPERATION MANUAL FOR THE WOOD STONE DUCK OVEN

#### NATURAL GAS OR PROPANE FUELED STONE HEARTH OVEN

WS-DO-5048-RFG AND WS-DO-5048-RFG-W MODELS

**ADDITIONAL COPIES AVAILABLE UPON REQUEST**



THIS APPLIANCE IS FOR PROFESSIONAL USE BY QUALIFIED PERSONNEL. THIS APPLIANCE MUST BE INSTALLED BY QUALIFIED PERSONS IN ACCORDANCE WITH THE REGULATIONS IN FORCE. THIS APPLIANCE MUST BE INSTALLED WITH SUFFICIENT VENTILATION TO PREVENT THE OCCURRENCE OF UNACCEPTABLE CONCENTRATIONS OF SUBSTANCES HARMFUL TO HEALTH IN THE ROOM IN WHICH IT IS INSTALLED. THIS APPLIANCE NEEDS AN UNOBSTRUCTED FLOW OF FRESH AIR FOR SATISFACTORY COMBUSTION AND MUST BE INSTALLED IN A SUITABLY VENTILATED ROOM IN ACCORDANCE WITH CURRENT REGULATIONS. THIS APPLIANCE SHOULD BE SERVICED BY QUALIFIED PERSONNEL AT LEAST EVERY 12 MONTHS, OR SOONER IF HEAVY USE IS EXPECTED.



### INSTALLATION AND OPERATING INSTRUCTIONS FOR THE WS-DO-5048-RFG-LR WOOD STONE DUCK OVEN

**DO NOT THROW THIS MANUAL AWAY**

#### RETAIN THIS MANUAL FOR FUTURE REFERENCE

Additional copies of this manual and prompt responses to service/maintenance questions are available from Wood Stone @ 1-800-988-8103.

**IMPORTANT:** Consult your local gas supplier for a statement outlining a procedure to be followed in the event you smell gas. Post the statement in a prominent location.

**FOR YOUR SAFETY:** Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance. Also, always keep the area under and around this appliance free and clear of any and all combustible materials.

It is recommended that this oven be installed, maintained and serviced by authorized professionals.

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can result in property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

**WARNING:** This product must be installed by a Licensed Plumber or Gas Fitter when installed within the Commonwealth Of Massachusetts.

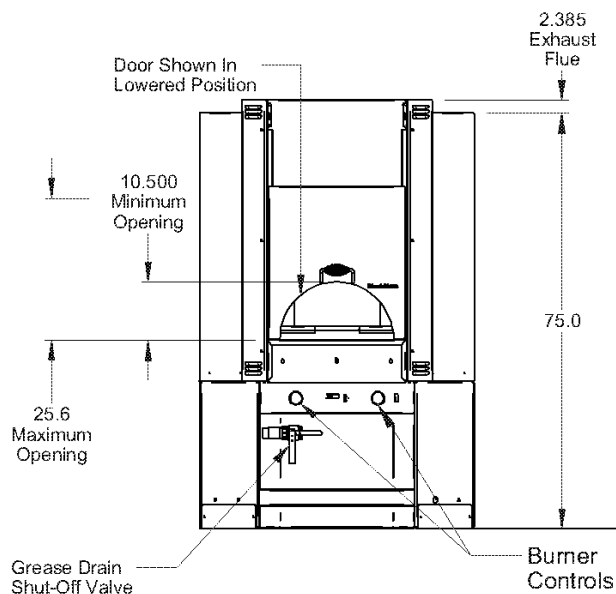
Wood Stone's gas-fired (wood optional) Duck Ovens have been tested and approved by Intertek Testing Services, and are ETL Listed to ANSI Z83.11b - 2006, CSA 1.8b-2006, UL Subject 2162, ULC Subject 1482-M1990, and to NSF/ANSI Standard 4 - 2007.



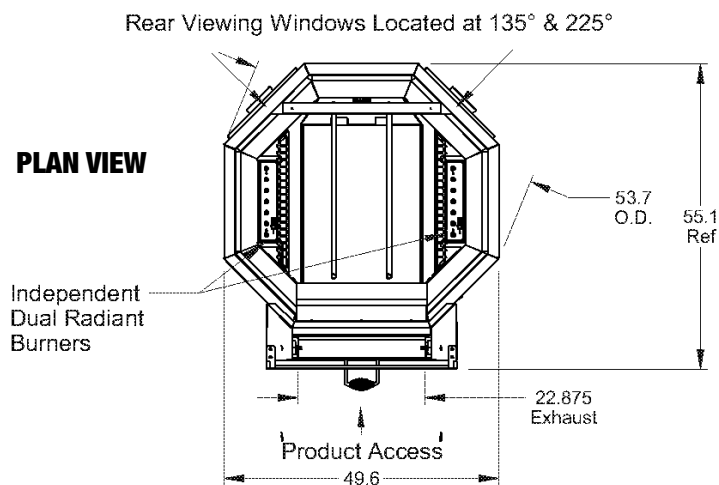
Please read this entire manual before you install the oven. Failure to follow instructions may result in property damage, bodily injury or even death. Contact your local building or fire officials about restrictions and installation inspection in your area.



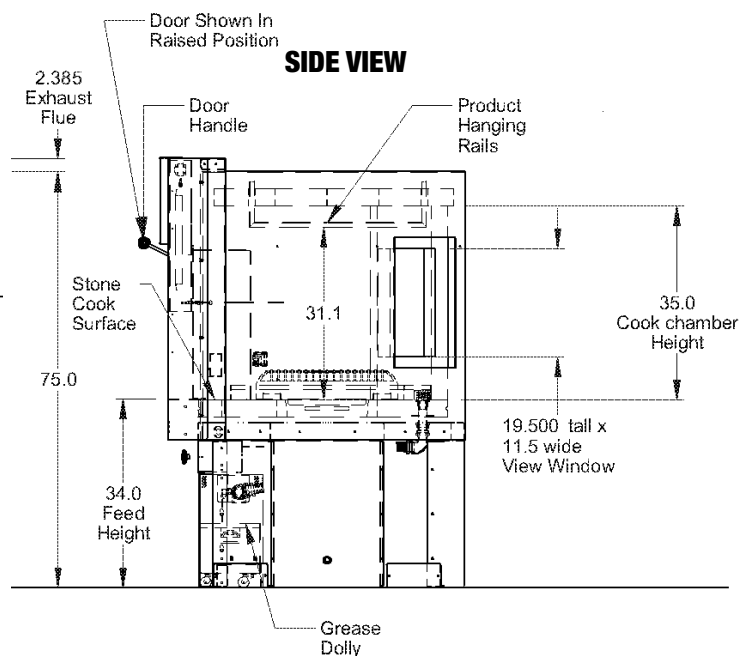
### FRONT VIEW



### PLAN VIEW



### SIDE VIEW



### UTILITIES SPECIFICATIONS

Gas-3/4 inch gas inlet (female threaded)  
 100,000 BTU Natural Gas Supply OR  
 100,000 BTU Propane (LP) Supply  
 Maximum gas inlet pressure-  
 1/2 psi (14 inches WC)

**Unit Weight: 2830 lbs.**

### Electrical-

120 VAC, 2 amp 50/60 Hz  
 Optional- 240 VAC, 1 amp 50/60 Hz  
 All utility connections made on the back of the oven control box. Remove front or rear panel for access, use utility knockouts (provided) to route gas and electrical supplies. Refer to data plate when installing.



**WARNING:** Do Not pack required air space (clearance) with insulation or other materials. When non-combustible building materials contact the body of the oven, the clearances to combustibles are transferred to those non-combustibles.

**IF THIS OVEN IS NOT PROPERLY INSTALLED A FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THESE INSTALLATION INSTRUCTIONS. A MAJOR CAUSE OF OVEN RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.**



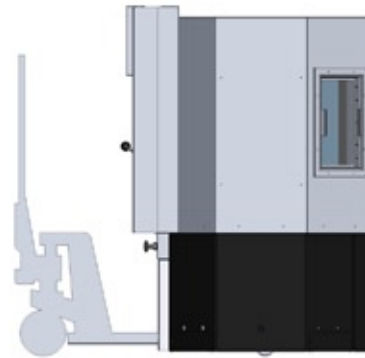
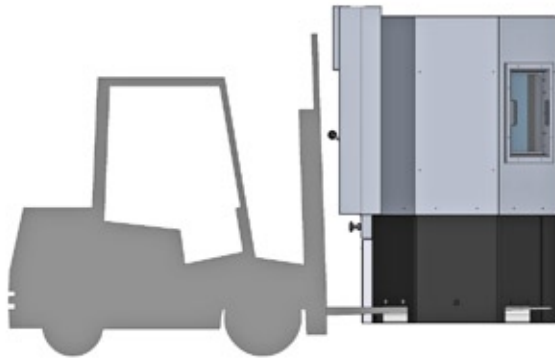
**WARNING:** Installation and servicing of this product could expose you to glasswool/ceramic fibers as well as Calcium Silicate dust. **ALWAYS WEAR RESPIRATORY AND EYE PROTECTION WHEN INSTALLING OR SERVICING THIS APPLIANCE.** Please read this entire manual before you install the oven. Failure to follow instructions may result in property damage, bodily injury or even death. Contact your local building or fire officials about restrictions and installation inspection in your area.

- a.** The Wood Stone Duck Oven should have a **minimum 1-inch clearance to combustibles from all sides, 7-inch clearance to combustibles from the top, and 6-inch clearance from the exhaust transition and flue collar.** If building a facade that will contact the oven, use completely non-combustible materials. Any facade wall built above or to either side of the doorway must be of non-combustible construction. Please note that standard drywall (or sheet rock) is considered a limited combustible. Any walls perpendicular to the front of the oven in the area 30 inches to either side of the doorway and 36 inches in front of the oven should have a non-combustible surface.
- b.** This oven should be installed on a non-combustible floor surface. The non-combustible floor surface must extend 36 inches in front of and 30 inches to either side of the oven doorway.
- c.** If equipped, do not cover the glass viewing windows. If constructing a facade wall around the oven, provide openings for the viewing windows. Seal the openings to the oven using a non-combustible insulation and an appropriate flashing, (i.e. steel or ceramic tile).



The oven may be moved using with a forklift using the forklift pockets provided at the front and rear of the unit. The oven may also be moved using a pallet jack. To move the oven with a pallet jack, first remove the lower front panel. The pallet jack can then be positioned beneath the two bolted on steel cross members just above the floor. If the oven is to be installed against a wall, you may need to leave access to the back of the oven to complete the utility connections.

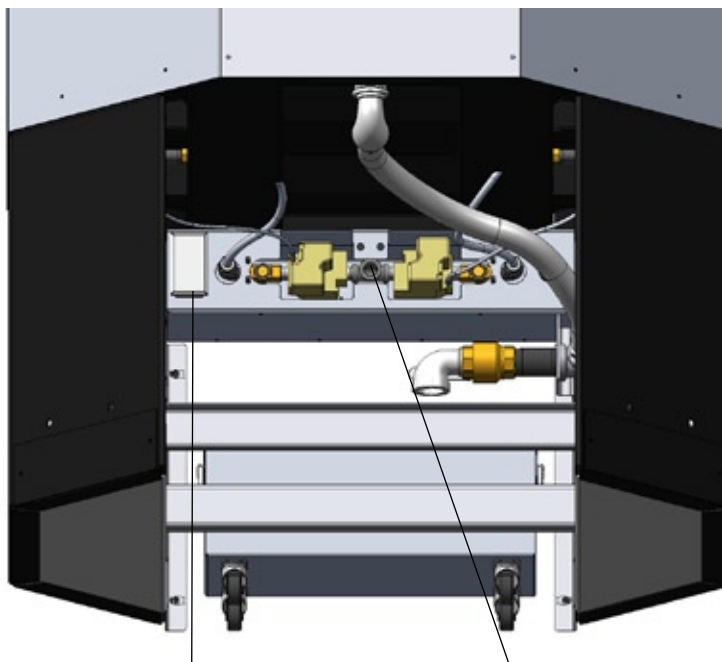
**CAUTION:** These ovens are extremely heavy. If using a pallet jack to move the oven **DO NOT ATTEMPT** to move the oven over anything but a smooth flat surface. **ATTEMPTING** to move the oven with a pallet jack over anything but a smooth flat surface could cause the oven to tip over resulting in potential serious injury, damage to the oven and property damage.







Make utility connections, at the rear of the control box. Gas and electrical connections must comply with all relevant national and local codes, and in a manner acceptable to the authority having jurisdiction.



Make the electrical connection to the terminals in this junction box. \*Correct voltage is specified on this junction box and the equipment data plate

Connect the incoming gas supply to the 3/4 inch NPT (female) gas inlet.

Knockouts are provided on the sides and rear panel of the oven stand for the incoming gas and electrical supplies. If necessary, holes may be drilled in the (b) panels for the incoming gas and electrical. Gas and electrical supplies should be routed in such a way that they do not interfere with the removal of the the oven burner, or block the access to the space under the oven for service. The area beneath the burners must to be kept clear of conduit and piping to allow for removal of the burner for service.

A 3/4 inch full-flow gas shut-off valve should be installed on the gas supply near the oven in such a way that it is readily accessible.



This appliance must be electrically grounded in accordance with local code, or in the absence of local code, with the national electrical code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable. An electrical diagram is provided inside the bottom cover of the control box, and at the end of this manual.

The installation of this appliance must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1, the Natural Gas installation Code CAN/CGA-B149.1 or the Propane Installation Code, CAN/CGA-B149.2, as applicable including:

1. The appliance and its individual shutoff valve (supplied by others) must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.45 kPa).
2. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve (supplied by others) during any pressure testing of the gas supply piping system at test pressure, equal to or less than 1/2 psi (3.45 kPa).

The incoming gas supply pressure must not exceed 1/2 psi (14 inches WC). If the incoming gas pressure exceeds 1/2 psi, an external gas regulator must be installed in the supply line. If the supply pressure is less than 1/2 psi, no external regulator is required.

The installer should bleed any air out of the gas line supplying the oven. All gas connections and fittings on the oven should be leak checked with an approved soap solution.

Checking the burner manifold pressure. The burner manifold pressure has been set at the factory, however it should be checked by the installer. The pressure should be checked at the outlet tap on the Honeywell gas valve, located on the back of the control box. Once the manometer is connected, turn the oven on and use the knob on the oven to adjust the flame to its maximum height. Then check the manifold pressure.

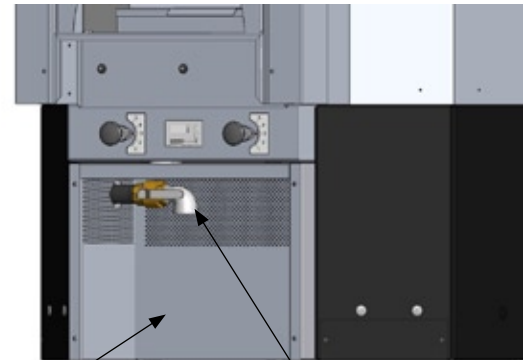
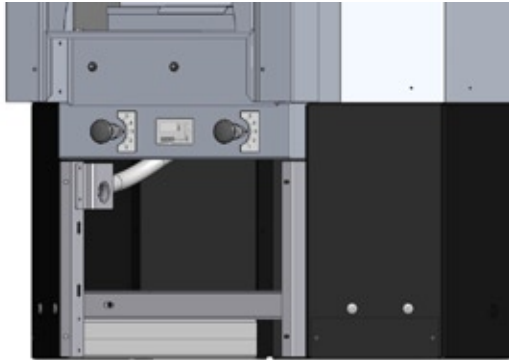
Natural Gas (NG) Models- 5" WC

Propane (LP) Models - 10"WC

This information can also be found on the data plate located beneath the oven.



Install the front panel using the screws provided. Then install the grease drain valve. Tighten the pipe assembly, making sure the outlet is pointing downward.



Front Panel

Grease Valve Assembly



The Wood Stone Duck Oven must be vented with a Listed Type 1 Exhaust Hood or one that is constructed and installed in accordance with NFPA 96 and all relevant Local and National Codes. Always submit your venting plans to the authority having jurisdiction before proceeding with installation.

Duck Ovens with -W in the model number must be vented as a solid fuel appliance.

**DO NOT BLOCK THE COOLING VENTS LOCATED ON THE OUTER PERIMETER OF THE TOP OF THE OVEN.**



### INITIAL OVEN STARTUP

#### FIRST DAY

1. Make sure main gas supply is on (valve parallel with gas line).
2. Push I/O button on controller. It may take a while for the gas to purge all the air from the gas lines.
3. Once the burner ignites, make sure the flame is at its lowest setting and allow the oven to operate at this setting for about 1 hour.
4. After 4 hours, raise radiant flame to 25% (~ 5-inch flame), hold this setting for 4 hours.
5. After 4 hours at 25% flame, raise to 50% flame and hold for another 4 hours. The oven can be left at this setting all night.

#### SECOND DAY

1. Turn the radiant flame(s) to 75% height until the desired cooking temperature is achieved.

#### GENERAL DAILY OVEN OPERATION

**THE OVEN DOME TEMPERATURE IS DISPLAYED ON THE CONTROLLER READOUT.**

#### END OF THE DAY

Push I/O button, all gas will go off, even the pilot. Drain the water pan by lifting the water pan insert so water flows through the drain at the back of the oven, make sure the grease drain valve is open allowing water and grease to drain from the water pan inside the oven. Remove the water pans from the oven and clean nightly. Lower the oven door to help retain heat in the oven.

#### BEGINNING OF THE DAY

Re-install the water pans inside the oven. Fill the water pan completely with water before cooking in the oven. Push I/O button and turn the radiant flame to its highest setting. Oven should reach the desired cooking temperature within two hours. Use the flame height knob to control the amount of heat in the oven.

**NEVER PLACE ANYTHING IN OR ABOVE THE RADIANT FLAME**

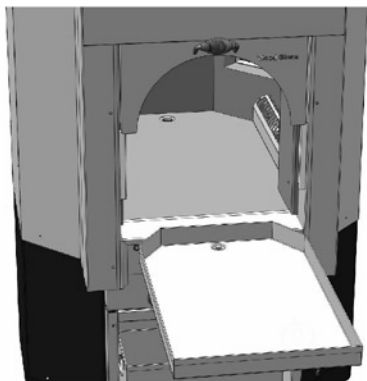
**SEE DIAGRAMS ON NEXT PAGE**



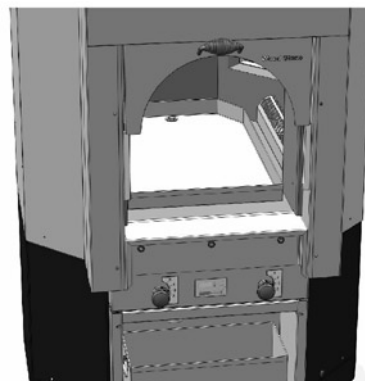
### WATER PAN

The oven is equipped with a two piece water pan assembly to safely capture grease residue from the cooking process.

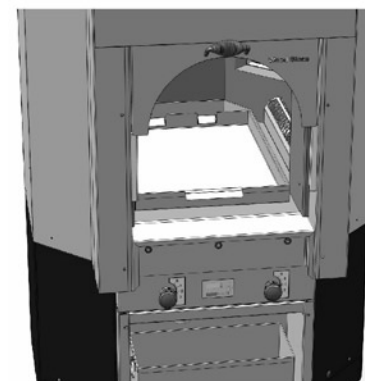
**TO MINIMIZE THE RISK OF FIRE**, the water pan insert must be installed and filled with water at all times when cooking is taking place in the oven. The water pan insert must be checked and refilled periodically throughout the day as the water level will drop due to evaporation.



Water pan is installed first. Make sure it is positioned over the drain outlet at the rear of the oven.



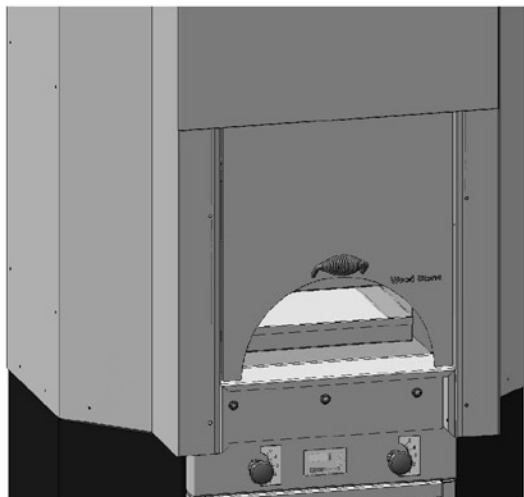
Then install the water pan insert as shown.



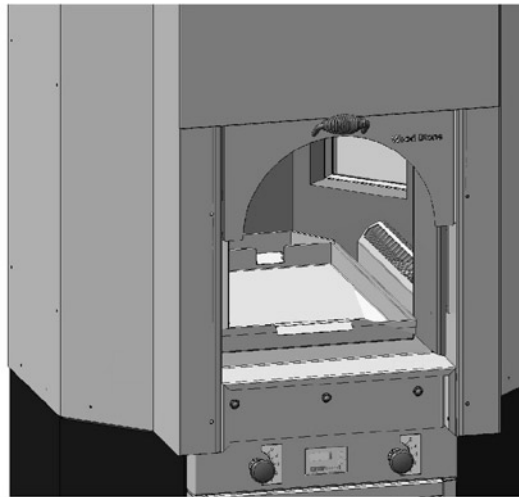
Make sure to place the grease container beneath the grease drain valve. Open the drain valve as shown (handle in up position) to drain the water pan when necessary. Leave the valve in the open position when operating the oven.



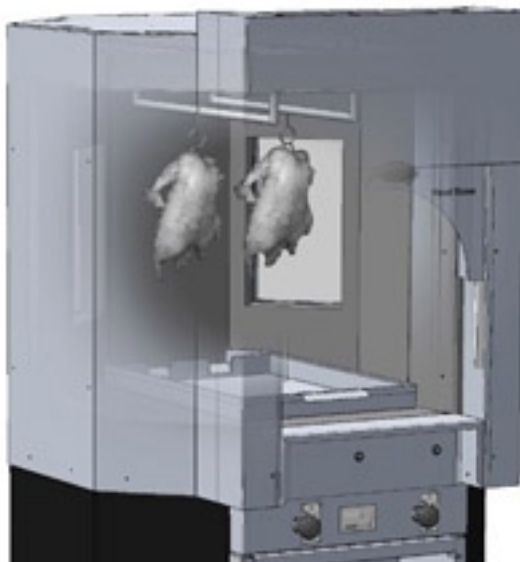
Place the handle in the closed (down) position when removing the grease container to empty it, otherwise always leave the valve open. To drain the water pan insert, lift it up at the front and the water will drain through opening at the back down to the grease container below.



Fill the water pan completely with water. Then heat the oven to the desired temperature with door in the down position.



Raise the door to load the oven.



Using the tool provided, hang the birds on the rods as shown.

**PLEASE CONTACT WOOD STONE IF YOU HAVE ANY QUESTIONS!**



For smoke and flavor, typically 4-5 lbs. of wood can be burned at a time in the firebox.





### OVEN INTERIOR

Wood Stone recommends the use of a brass bristled brush for sweeping aside excess food particles that will accumulate on the floor of the oven during use. The oven floor can be cleaned with a damp rag.

**DO NOT POUR OR SPRAY LIQUIDS ONTO THE OVEN DECK OR INTO THE OVEN INTERIOR AS THIS CAN DAMAGE THE CERAMIC AND WILL VOID THE WARRANTY.**

There is a stainless steel burner guard to prevent food from falling on and thereby obstructing the gas orifices of the radiant flame. If food gets into the radiant flame well and the flame is visibly obstructed, turn the oven off immediately, and call for service.

**DO NOT USE THE RADIANT BURNER WELL AS A DUMP FOR DEBRIS OR TRASH INCINERATION; MAKE EVERY ATTEMPT TO KEEP DEBRIS FROM DROPPING INTO THE WELL.**

### OVEN EXTERIOR

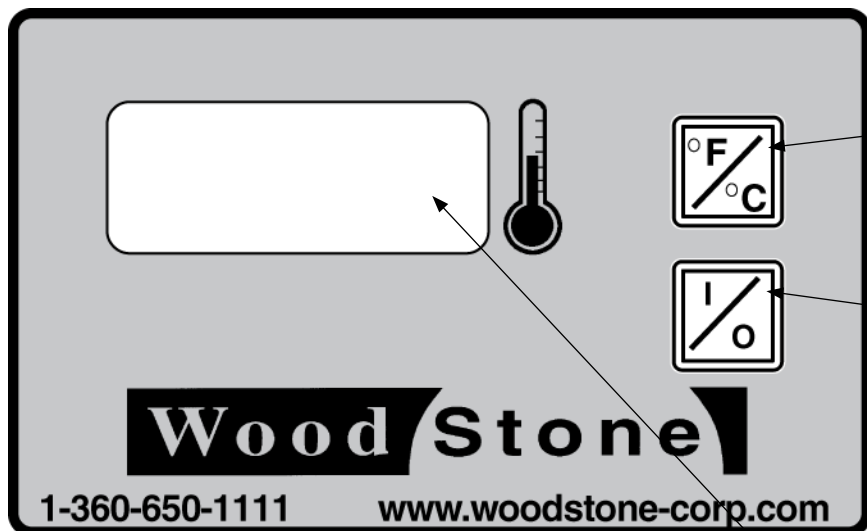
All painted and stainless steel surfaces should be cleaned as necessary using an approved mild detergent, hot water and a soft cloth or sponge. Stubborn residues may be removed using a nonmetallic scouring pad. When scouring stainless steel surfaces, scrub with the grain of the metal to prevent scratching. Do not use any type of scouring pad on glass surfaces.

### USING THE THERMAL CLEANING DOOR

A removable thermal cleaning door is included with the oven. By placing this door into the opening of the oven and turning flames up all the way the user can raise the oven temperature to the point that it will pyrolytically self clean thermal cleaning). When cleaning the oven in this manner it is mandatory that the water pan and grease pan are removed, and the oven door must be all the way down. If your oven has a wood fire box, the cleaning door will sit in front of the fire box toward the oven.

**WARNING:** Before attempting to thermal clean the oven, drain the water pan and remove it from the oven. Allow the temperature of the oven to reach at least 650 F degrees and hold that temperature for at least 1 hour. This will allow any grease accumulation to burn off. Remove the heat-up door and turn the flames down to bring the oven back to normal cooking temperature.

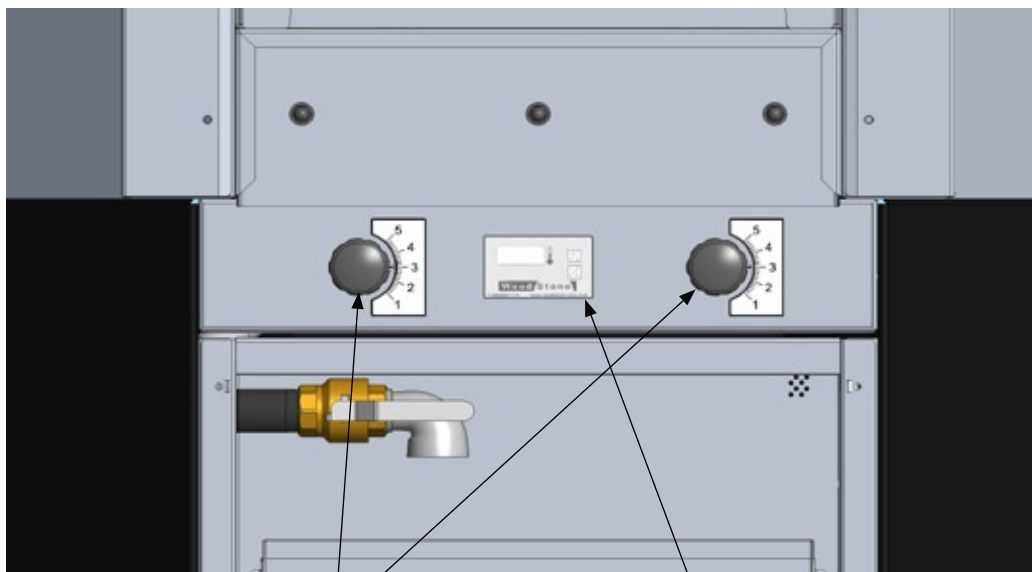
**CAUTION:** The thermal cleaning door will be HOT. Be careful when removing it from the oven.



**TEMPERATURE UNITS**-Press and hold to switch between Fahrenheit and Celsius.

**'ON/OFF' BUTTON**- Press to turn oven on and off

**OVEN TEMPERATURE**- The oven temperature will be displayed here, any time the oven is turned on. Display will read 'LO' when the temperature is below 100 F.



**FLAME HEIGHT CONTROL KNOBS**- Use this knob to raise/lower the flame to control the oven temperature.

**CONTROLLER**

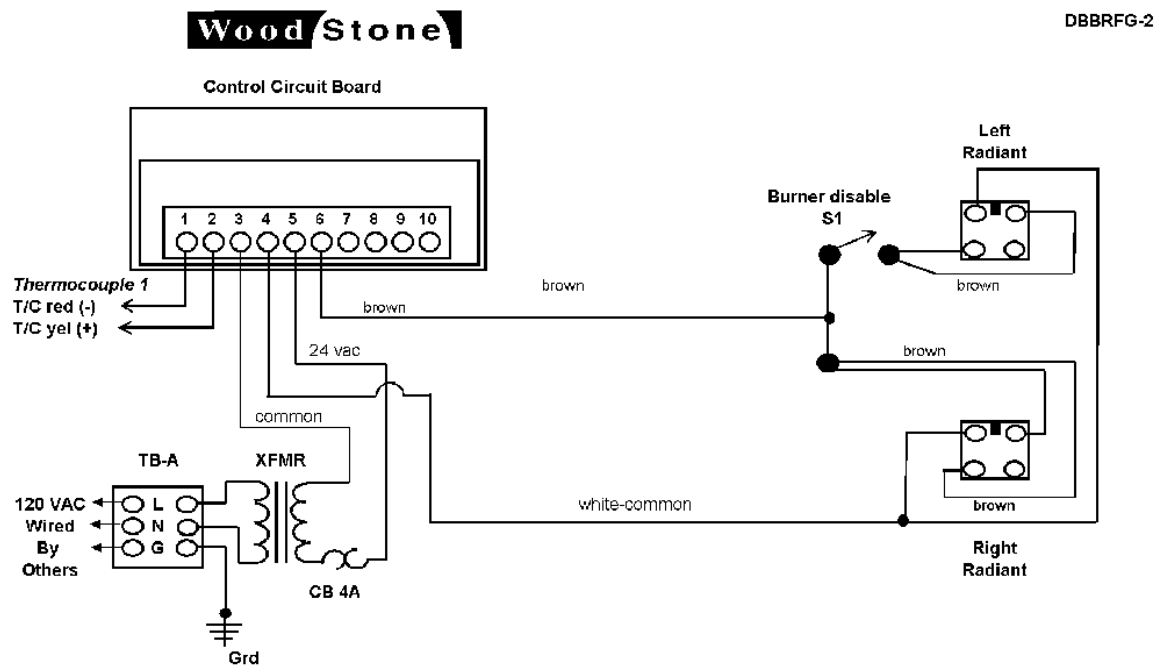


PROBLEM	CAUSE/SOLUTION
Controller will not turn on	<ol style="list-style-type: none"> <li>1. Incoming power to oven turned off. Check circuit breaker for circuit supplying the oven. Check that any wall switches external to the oven that control oven power are turned on. Check that any interlocks external to the oven are turned on.</li> <li>2. If control still does not turn on, please contact Wood Stone for assistance.</li> </ol>
Flame does not light	<ol style="list-style-type: none"> <li>1. Is gas turned on to the oven? Is gas shut-off valve turned all the way on?</li> <li>2. Debris in burner. Burner may require cleaning. Contact Wood Stone for assistance.</li> <li>3. Damaged igniter or gas valve. Contact Wood Stone for assistance. If the oven is being started for the first time: <ul style="list-style-type: none"> <li>• Has all air been bled from the gas line?</li> <li>• Are the switches on the Honeywell gas valves in the 'ON' position?</li> </ul> </li> </ol> <p>Note: (Valves are located on the back of the control box, beneath the oven.)</p>
Flame cuts out	<ol style="list-style-type: none"> <li>1. Debris in burner.</li> <li>2. Oven is being run with the night door in place. Night door must be removed whenever the oven is turned on.</li> <li>3. Wind blowing into the oven, or other venting issues.</li> </ol>
Display reads 'OPEN'	<ol style="list-style-type: none"> <li>1. Thermocouple is not plugged into control box.</li> <li>2. Damaged thermocouple - call Wood Stone.</li> </ol>

Please contact Wood Stone at 1-800-988-8103 should service be necessary, or if you have any questions about your oven. Our office hours are 8am to 4:30pm Pacific Standard Time. Follow the recorded instructions for Emergency Service if you require assistance during non-business hours. A Wood Stone technician will promptly respond to your call.

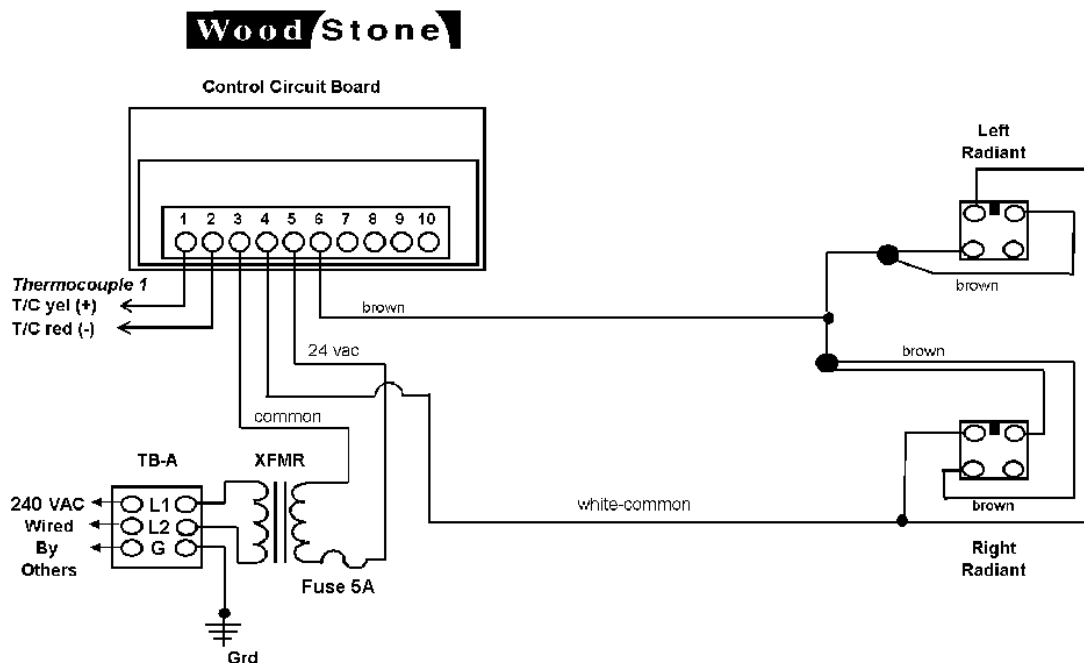


## DUAL BURNER DUCK OVEN 120 VAC MODEL





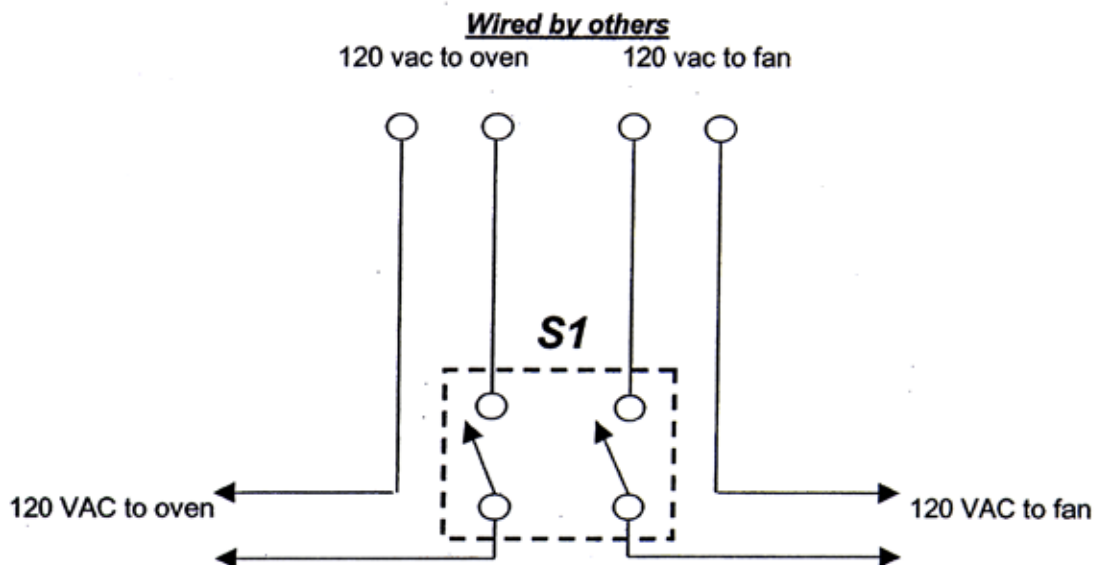
### DUAL BURNER DUCK OVEN 240 VAC MODEL





### INTERLOCK OF OVEN CONTROL TO AN EXHAUST FAN

This connection is intended to interrupt power to the oven until the fan is turned on.



S1 is a double pole - single throw switch (provided by others) that interrupts incoming power to both the oven and the fan. The intent is to prevent the operation of the oven in the event the fan is shut off.

Any interruption of the power to the oven will cause the oven (including all burners and pilots) to shut off, and it will be necessary to restart the oven by pressing the start switch once power is restored.

No other connection to the oven control system is condoned by Wood Stone and may affect the oven warranty and cause damage to the oven controls.



**ALL WARRANTY SERVICE MUST BE PRE-APPROVED BY WOOD STONE  
PLEASE CONTACT THE FACTORY FIRST**

**Please call 1-800-988-8103 or 1-360-650-1111 seven days a week. Our normal business hours are 8am to 4:30pm Pacific Standard time Monday through Friday. If calling during non-business hours, follow the recorded instructions for emergency service and a Wood Stone technician will get back to you promptly. Wood Stone warrants its equipment to the original purchaser against defects in material or manufacture for a period of one year from the original date of purchase subject to the following exclusions and limitations.**

### EXCLUSIONS

The warranties provided by Wood Stone do not apply in the following instances:

1. In the event that the equipment is improperly installed. Proper installation is the responsibility of the installer; proper installation procedures are prescribed by the Wood Stone installation manual.
2. In the event the equipment is improperly maintained. Proper maintenance is the responsibility of the user; proper maintenance procedures are prescribed in the Wood Stone installation manual.
3. In the event that the failure or malfunction of the appliance or any part thereof is caused by abnormal use or is otherwise not attributable to defect in material or manufacture.
4. In the event that the appliance, by whatever cause, has been materially altered from the condition in which it left the factory.
5. In the event that the rating plate has been removed, altered or obliterated.
6. On parts that would be normally worn or replaced under normal conditions.
7. Normal cracking due to expansion and contraction stress relief in either the dome or oven deck.
- 8. In the event that pressed log products of any type have been burned in the equipment.**
9. Damage resulting from the use of chemical cleaning products in the oven, as well as any damage from liquids or chemicals being poured or sprayed into the oven.

If any oral statements have been made regarding this appliance, such statements do not constitute warranties and are not part of the contract of sale. This Limited Warranty constitutes the complete, final and exclusive statement with regard to warranties.

**THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR WARRANTY AGAINST LATENT DEFECTS**

### LIMITATIONS OF LIABILITY:

In the event of warranty claim or otherwise, the sole obligation of Wood Stone shall be the repair and/or replacement, at the option of Wood Stone, of the appliance or component or part thereof. Such repair or replacement shall be at the expense of Wood Stone with the exception of travel over 100 miles or two hours, overtime, and holiday charges which shall be at the expense of the purchaser. Any repair or replacement under this warranty does not constitute an extension of the original warranty for any period of the appliance or for any component or part thereof. Parts to be replaced under this warranty will be repaired or replaced at the option of Wood Stone with new or functionally operative parts. The liability of Wood Stone on any claim of any kind, including claims based on warranty, expressed or implied, contract, negligence, strict liability or any other theories shall be solely and exclusively the repair or replacement of the product as stated herein, and such liability shall not include, and purchaser specifically renounces any rights to recover, special, incidental, consequential or other damages of any kind whatsoever, including, but not limited to, injuries to persons or damage to property, loss of profits or anticipated profits, or loss of use of the product.

### TO SECURE WARRANTY SERVICE:

If you claim a defect covered by this Limited Warranty, direct your claim to:  
Wood Stone Corporation 1801 W. Bakerview Rd. Bellingham, WA 98226 USA Attn: National Service Manager