

Installation and Operation Manual



DUCK OVEN

Speciality Oven

Gas-Fired, Gas/Wood Combination Models

DUCK OVEN WS-DO-5048

Wood Stone

WOOD STONE CORPORATION

1801 W. Bakerview Rd.
Bellingham, WA 98226 USA

Toll Free 800.988.8103

Tel 360.650.1111

Fax 360.650.1166



TABLE OF CONTENTS

Duck Oven 3
Cautions & Warnings 4
Specifications 6
Moving the Oven 7
Installation Clearances 8
Venting 9
Utility Connections 10
Utility Specifications 11
Controls 13
Operation 14
Burning Wood 17
Daily Maintenance 18
Troubleshooting Guide. 19
Fuelwood Facts 20
Interlock Diagram 21
Electrical Diagrams 22
Limited Warranty 23



INSTALLATION AND OPERATION MANUAL FOR THE WOOD STONE DUCK OVEN

NATURAL GAS OR PROPANE FUELED STONE HEARTH OVEN WS-DO-5048-RFG-LR-(W) MODELS

ADDITIONAL COPIES AVAILABLE UPON REQUEST



WD-DO-5048-LR-W
Shown with optional firebox

**INSTALLATION AND OPERATING INSTRUCTIONS FOR THE
WS-DO-5048-RFG-LR-(W) WOOD STONE DUCK OVEN****RETAIN THIS MANUAL FOR FUTURE REFERENCE**

Additional copies of this manual at woodstone-corp.com.

For prompt responses to service/maintenance questions, call us at @ 1-800-988-8103.

READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING 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.

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.

DO NOT USE PRODUCTS NOT SPECIFIED FOR USE WITH THIS OVEN.

FOR YOUR SAFETY: Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

POUR VOTRE SÉCURITÉ: Ne pas entreposer ni utiliser d'essence ou d'autres vapeurs de liquides inflammables ou des liquides dans les environs de ce ou de tout autre appareil.

When this oven is not properly installed, a fire may result. To reduce the risk of fire, follow the installation instructions. It is recommended that this oven be installed, maintained and serviced by authorized professionals.

CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or freshen a fire in this oven. Keep all such liquids well away from the oven when in use.

Always keep the area under and around this appliance free and clear of any and all combustible materials.

**DISCONNECT POWER TO THE OVEN BEFORE SERVICING OR CLEANING.
NO ATTEMPT SHOULD BE MADE TO OPERATE THIS APPLIANCE DURING A POWER FAILURE**



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.

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.

AVERTISSEMENT: L'installation, le réglage, la modification, la réparation ou l'entretien incorrect de cet appareil peut causer des dommages matériels, de blessures ou la mort. Lire attentivement les instructions d'installation, de fonctionnement et d'entretien avant de procéder à son installation ou entretien.

This product must be installed by a licensed plumber or gas fitter when installed within the Commonwealth of Massachusetts.

SAVE THE INSTRUCTIONS

Wood Stone's Duck Oven models have been tested and approved by Intertek Testing Services and are ETL listed to ANSI Z83.11:2016 Ed.4 / CSA 1.8:2016 Ed.4 and to NSF/ANSI 4:2016.



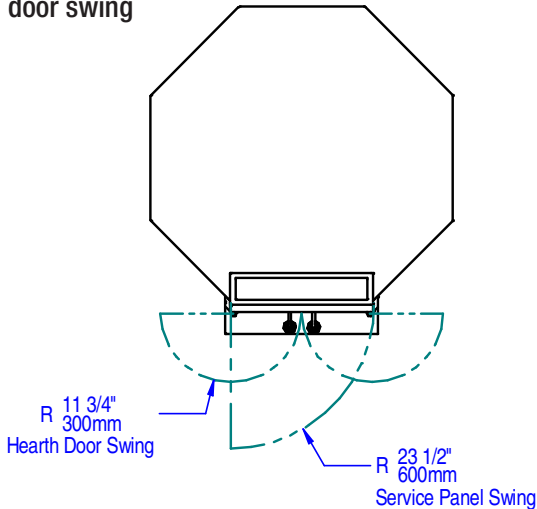
Intertek
ANSI Z83.11:2016 Ed.4
CSA 1.8:2016 Ed.4



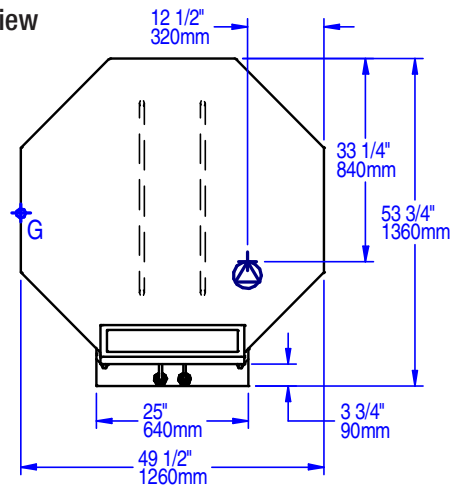
Intertek
ANSI/NSF STD 4



Plan view w/
door swing



Plan view

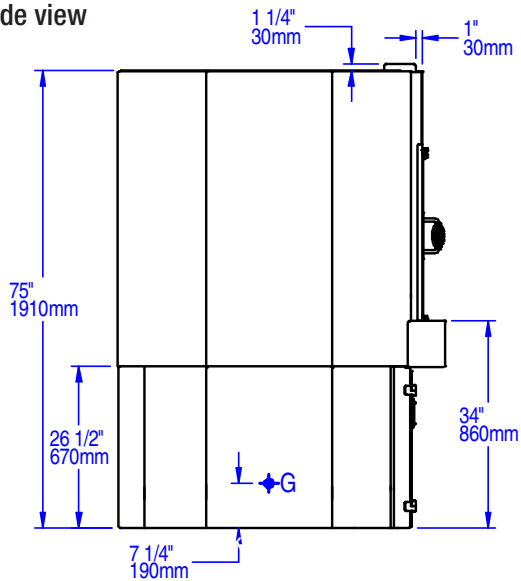


- Air intake: Do not facade or cover over
- Must be left removable for service

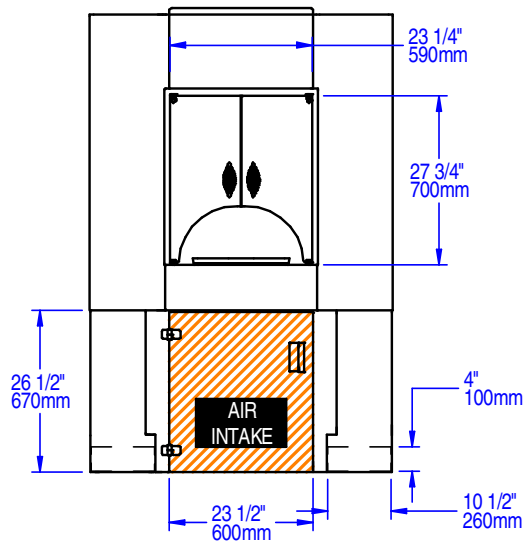
Actual weight:
2,830 lbs.

Shipping weight:
3,300 lbs.

Side view



Front view



UTILITIES SPECIFICATIONS

Gas ϕ G

3/4 inch gas inlet (FNPT)
100,000 BTU/hr Natural Gas (NG)
OR
100,000 BTU/hr Propane (LP)
Maximum gas inlet pressure
1/2 psi (14 inches W.C.)

Electrical ϕ

120 VAC, 1 A, 60 Hz
Optional: 220-240 VAC, 1 A, 60 Hz
Utility connection locations as shown.
Remove front service panel for access. Use side utility knockouts (provided) to route utilities.
Refer to data plate when installing.

Venting

The WS-DO-5048 must be vented with a Listed Type 1 exhaust hood, or one constructed in accordance with NFPA 96 and all relevant local and national codes. The oven must be vented in accordance with all relevant local and national codes, and in a manner acceptable to the authority having jurisdiction.

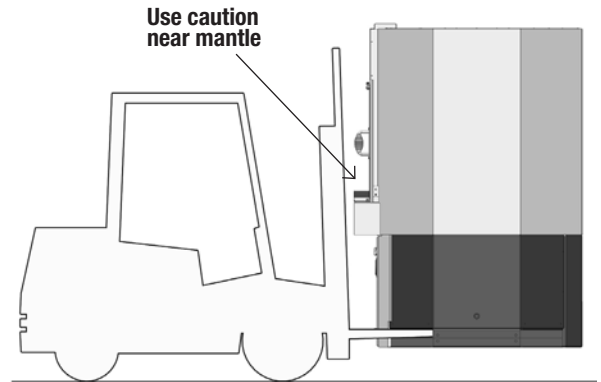
Important: "-W" models must be vented as solid-fuel oven.



⚠ WARNING Minimum Required Forklift Capacities			
Model	Approximate Ship Weight	Required Forklift Capacity	Min. Fork Length
DO-5048	3,300 lbs	6,000 lbs	5'

USING A FORKLIFT

Duck ovens are very top-heavy. **If the oven tips it can cause severe injury or death. Never use a hand truck to move the oven.** If the oven must be moved over an inclined surface, a forklift or other suitable means should be employed. If the installer does not have the equipment or experience required to move the oven safely, we recommend securing the services of a qualified rigging company.



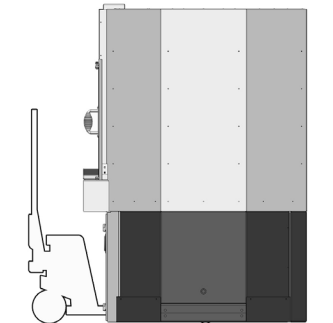
The oven may be moved using with a forklift using the forklift pockets provided at the front and rear of the unit.

Use a forklift with adequate fork lengths and lifting capacity. When using a forklift, always use the forklift pockets. Lifting the oven any other way with a forklift may result in damage. Use extreme caution and make sure that the forks extend all the way through the pockets provided. Fork length must be at least 5' long. If it is necessary to approach the oven from the front, be sure the mast does not contact the mantle (shelf). 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.

USING A PALLET JACK

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.**





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.

1. The Wood Stone Duck Oven must 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 Sheetrock) 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.
2. 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.
3. 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 area above, and 6" to either side of the view window, must be non-combustible materials.



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.

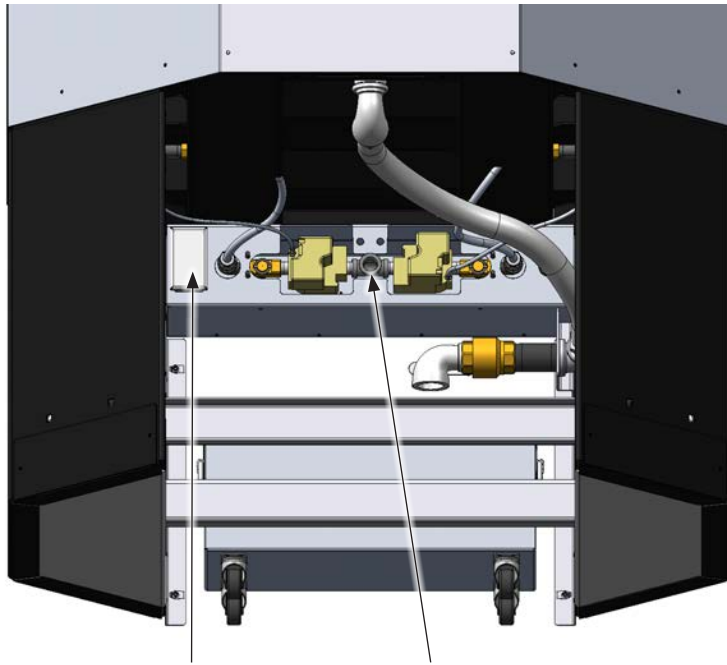
Duck Ovens with “-W” in the model number must be vented as a solid fuel appliance.

It is never appropriate to use “B vent” in any part of an exhaust system connected to a Wood Stone oven. All duct material must be manufactured to the specifications of a grease duct. Due to the possibility of sparks entering the duct, exhaust systems serving solid-fuel equipment **MUST NOT** be combined with exhaust systems serving non-solid fuel equipment.

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



VIEW FROM REAR—THROUGH BACK PANEL



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 FNPT gas inlet.

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.

To access rear of Control Box: Remove 5 screws fastening rear chase of compartment below oven, and, using finger hole in center of chase, slide chase out from behind the grease drain pipe assembly.

Knockouts are provided on the sides and rear panel of the oven stand for the electrical supply. If necessary, holes may be drilled in these 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 oven burner, or block the access to the space under the oven for service. The area beneath the burners must 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.



GAS SPECIFICATIONS

FACTORY SPECIFIED INDIVIDUAL BURNER MANIFOLD PRESSURES FOR WS-DO MODELS		
Model	Natural Gas (NG)	Propane (LP)
DO-5048	5" W.C.	10" W.C.

MAXIMUM HOURLY BTU INPUT RATES FOR WS-DO-LR MODELS		
Model	Natural Gas (NG)	Propane (LP)
DO-5048-LR	100,000	100,000

This oven requires no modifications or adjustments for use at high altitudes.

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 or The Natural Gas Installation Code CAN/CGA-B149.1 as applicable.

SV-2 and SV-3 are the gas control valves that operate the Radiant Burners. The manifold pressures are checked at the outlet port on the individual gas valves.

The burner manifold pressures have been adjusted and tested at the factory. A variety of factors can influence these pressures, so be sure to test the individual burner manifold pressures and adjust the valves as necessary to achieve the required pressures.

NOTE: The gas valves are shipped in the **ON** position.

GAS CONNECTION

The Duck Oven is equipped with a 3/4-inch FNPT gas connection. Have a licensed gas installer provide the hook-up and test all fittings and pipe connections for leaks. Use approved gas leak detectors (soap solutions or equivalent) over and around the fittings and pipe connections. **DO NOT USE A FLAME TO TEST FOR LEAKS!**

All gas piping up to the oven must have a minimum inside diameter of 3/4", including all fittings and shut off valves, which should be of the full flow type.

Wood Stone recommends that the oven be equipped with a manual, individual shutoff valve, located between the oven and the main gas supply, and that this shutoff valve (supplied by others) be left readily accessible. Wood Stone also recommends that inspection and maintenance of the burners and gas piping connections of this appliance be performed at regularly scheduled intervals and only by professional gas appliance service agencies.

Maximum inlet gas pressure must not exceed 14" W.C. (1/2 psi)

GAS INLET PRESSURE

For ovens running on natural gas, an inlet pressure of 7 to 10" W.C. is recommended to ensure optimum oven performance. Incoming gas pressure below this range will affect oven performance, the lower the pressure the greater the negative impact. If the gas supply pressure is greater than 14" W.C. (1/2 psi), an external regulator, supplied by others, is **REQUIRED** to lower the gas pressure to the acceptable range. Issues caused by low or high gas pressure are installation issues, and will not be covered under the Warranty.

For ovens running on LP, the recommended inlet pressure to ensure optimum oven performance is 10 to 12" W.C. Incoming gas pressure below this range will affect oven performance, the lower the pressure the greater the negative impact.

If the gas supply pressure is greater than 14" W.C. (1/2 psi), an external regulator, supplied by others, is **REQUIRED** to lower the gas pressure to the acceptable range. Issues caused by low or high gas pressure are installation issues, and will not be covered under the Warranty.



For all installations, follow best practices for proper gas line pipe sizing for the line serving the oven. To insure proper operation, all gas piping and fittings leading up to the oven should have an inside diameter equal to or greater than that of the oven gas connection. Also make sure that a readily accessible shut off valve (supplied by others) is installed near the oven, and in accordance with all applicable codes. Shut off valves must be of the full-flow type, and not introduce any restriction into the gas line.

The connection to the oven should be hard-piped whenever feasible. If this is not possible, use a properly sized flexible connector approved for this application. When using a flexible connector make sure that its design does not present any reduction in pipe diameter or other restriction. Oven issues caused by improper pipe sizing, improper shut off valves, restrictive connectors, or any other deficiency in the gas supply design or installation will not be covered under the oven warranty.

GAS CODE LIMITATIONS

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 or The Natural Gas Installation Code CAN/CGA-B149.1 as applicable.

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 14" W.C. (1/2 psi) (3.45 kPa).

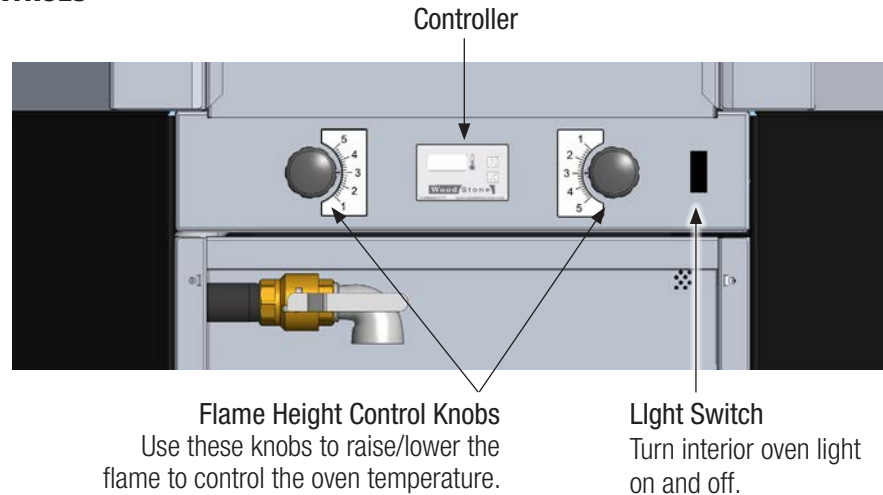
The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve (supplied by others) during any pressure testing of the gas supply piping system at test pressure, equal to or less than 14 W.C. (1/2 psi) (3.45 kPa).

ELECTRICAL SPECIFICATIONS

Electrical grounding: This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical code, ANSI/NFPA 70 or the Canadian Electrical Code, CSA C22.1 as applicable.



LOCATION OF CONTROLS



Flame Height Control Knobs
Use these knobs to raise/lower the flame to control the oven temperature.

Light Switch
Turn interior oven light on and off.

CONTROLLER FUNCTIONS

Cooking Chamber Air Temperature

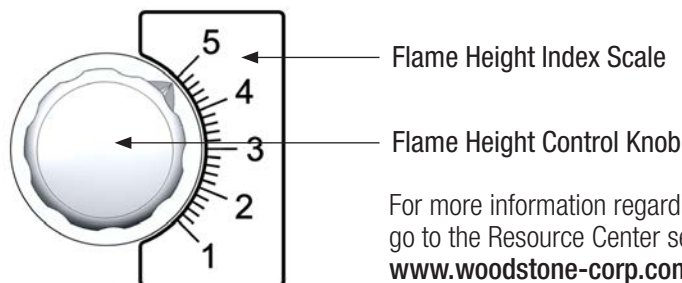
The cooking chamber air temperature will be displayed when the oven is turned on. The thermocouple is enclosed within a long slender stainless steel tube in the rear of the cooking chamber. Display will read "LO" when the temperature is below 100 °F.



Temperature units
Press and hold to switch between Fahrenheit and Celsius.

ON/OFF button
Press to turn oven on and off.

FLAME HEIGHT INDICATOR



For more information regarding Flame Height Control, go to the Resource Center section of our web site at: www.woodstone-corp.com



INITIAL OVEN START-UP

Your oven was cured at the factory. However in the course of shipment, storage on site, etc. the ceramic materials will have absorbed moisture. It is critical that the procedure below be followed to ensure that this moisture is driven from the ceramic in a controlled fashion. This will minimize cracking and prevent damage to the oven that could otherwise occur by bringing the oven to temperature rapidly the first time it is used. This initial procedure need only be followed the first time the oven is fired and/or if the oven has not been used for an extended period of time.

BEFORE GETTING STARTED

1. Make sure main gas supply is ON (valve parallel with gas line).
2. Make sure that the venting system has been tested and approved for operation and is on.

FIRST DAY

1. Push the I/O button on Controller. It may take awhile for the gas to purge all the air from the gas lines.
2. Allow oven to operate at the factory settings for 1 hour (radiant flame at its lowest setting).
3. After one hour, using the Flame Height Control Knob, raise radiant flame to ~6 inch flame ("2" on the Flame Height Index Scale). Hold this setting for 4 hours.
4. After 4 hours, using the Flame Height Control Knob, raise to ~8 inch flame ("3" on the Flame Height Index Scale) and hold for at least another 4 hours or until the temperature reaches 500 °F.
5. Once the temperature reaches 500 °F, the oven is ready for use.

SUBSEQUENT DAYS

1. Turn the radiant flame(s) to 100% height until the desired cooking temperature is achieved. The oven hearth is displayed on the Controller display.

GENERAL DAILY OVEN OPERATION

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 Control Knob to control the amount of heat in the oven.

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.

NEVER PLACE ANYTHING IN OR ABOVE THE RADIANT FLAME

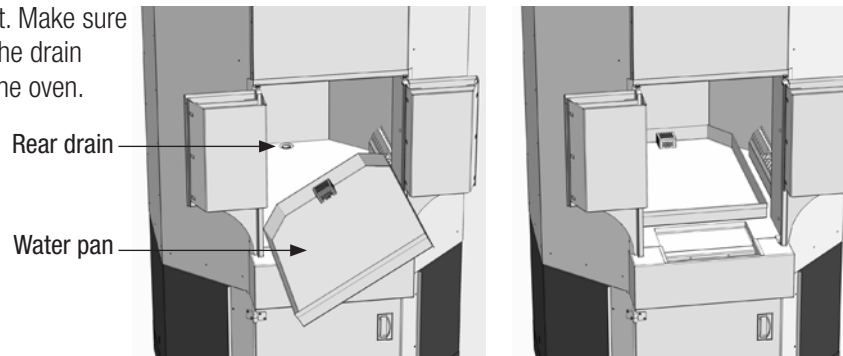


WATER PAN

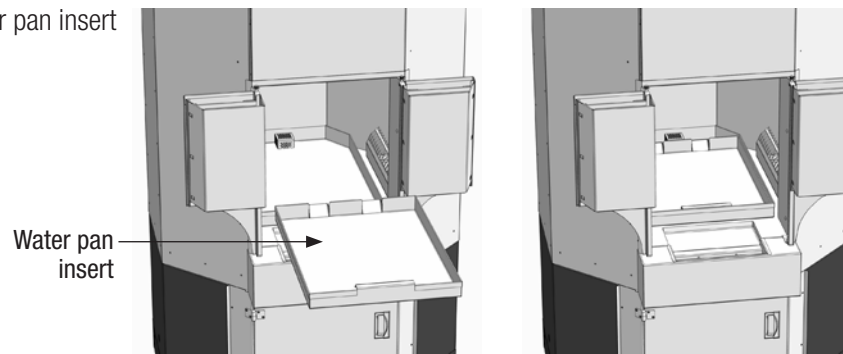
The oven is equipped with a two piece water pan assembly to safely capture grease residue from the cooking process. **TO MINIMIZE THE RISK OF FIRE**, the water pan insert must be installed and filled with water at all times when cooking is taking place in the oven. The water pan insert must be checked and refilled periodically throughout the day as the water level will drop due to evaporation.

NOTE: Hinged hearth door model shown. Follow these same instructions for guillotine-style hearth door models.

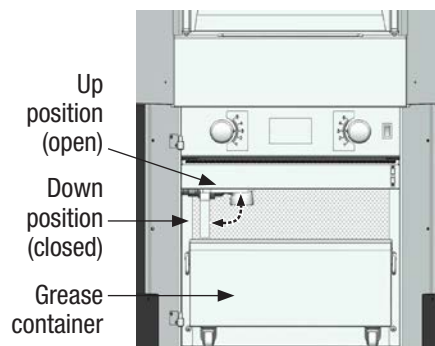
1. Install water pan first. Make sure it is positioned over the drain outlet at the rear of the oven.



2. Then install the water pan insert as shown.



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



4. Place the handle in the closed (handle in the 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—the water will drain through opening to the back down to the grease container below.



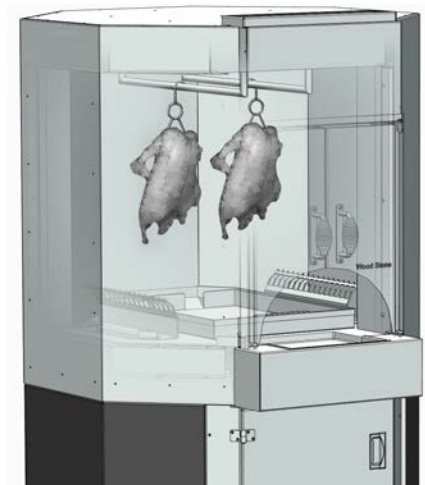
5. Fill the water pan completely with water. Then heat the oven to the desired temperature with hearth doors closed. (Guillotine-style models: make sure the door is in the down position.)



6. Open doors to load the oven. (For guillotine-style models: raise hearth door.)



7. Using the Duck Hook provided, hang the birds on the rods as shown.





For smoke and flavor, typically 4–5 lbs. of wood can be burned at a time in the firebox. See the FUELWOOD FACTS section for information regarding wood selection.

Shown:
Model WS-DO-5048-LR-RFG-W

**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 be removed, and the oven door(s) must be closed. If your oven has a wood fire box, the Wood Grate Cradle that holds the cast-iron grate will need to be removed.

WARNING: Before attempting to thermal clean the oven, drain the water pan and remove it from the oven. If equipped, remove the steel firebox as well. Put the cleaning door in place. Close both oven hearth doors. Turn both flames up to their highest position. Allow the oven to run in this manner for at least 2 hours to burn off any grease accumulation on the oven deck and sidewalls. After 2 hours, or longer if necessary, turn off the oven. Remove the thermal cleaning door and allow the oven to cool back down to normal cooking temperature. This could take a number of hours. It is recommended that this procedure be performed at the end of the day to allow ample time for the oven to cool.

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



PROBLEM	CAUSE/SOLUTION
Controller will not turn on	<ol style="list-style-type: none"> 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. 2. If Controller still does not turn on, please contact Wood Stone for assistance.
Flame does not light	<ol style="list-style-type: none"> 1. Is gas turned on to the oven? Is gas shut-off valve turned all the way on? 2. Debris in burner. Burner may require cleaning. Contact Wood Stone for assistance. 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"> - Has all air been bled from the gas line? - Is the switch on the SV-2 and SV-3 valve in the ON position? <p>NOTE: Valves are locate on the back of the Control Box, beneath the oven.</p>
Flame cuts out	<ol style="list-style-type: none"> 1. Debris in burner. 2. Oven is being run with the night door in place. Night Heat Retention Door must be removed whenever the oven is turned on. 3. Wind blowing into the oven, or other venting issues.
Display reads "OPEN"	<ol style="list-style-type: none"> 1. Thermocouple is not plugged into Control Box. 2. Damaged thermocouple. Contact Wood Stone for assistance.

Please contact Wood Stone at 1-800-988-8103 should service be necessary, or if you have any questions about your oven. Our service hours are 8am to 5pm Pacific 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.



WHAT TYPE OF WOOD SHOULD YOU USE TO FIRE YOUR SOLID FUEL COOKING EQUIPMENT?

The answer to this question depends on several considerations: geographical location, availability and relative cost of various fuelwood species and individual preferences regarding the flavor qualities of various wood types. There are a wide variety of good fuelwood species in all geographic locations. Each species of wood has different characteristics. The table below should help weigh the pros and cons of various types of wood. Wood from conifers (pine trees) is not recommended due to its poor fuelwood characteristics (low weight, low-med heat, poor coaling, high sparking and high residual creosote).

Wood Type	Heat	Lb/Cord	Lighting	Coaling	Sparks	Fragrance*
Alder	Med-Low	2500	Fair	Good	Moderate	Slight
Apple	High-Med	4400	Fair	Excellent	Few	Excellent
Ash	High	3500	Fairly Difficult	Good-Excellent	Few	Slight
Beech	High	3800	Difficult	Excellent	Few	Good
Birch (white)	Medium	3000	Easy	Good	Moderate	Slight
Cherry	Medium	2000	Fair	Excellent	Few	Excellent
Elm	High	2300	Very Difficult	Good	Very Few	Fair
Hickory	Very High	4200	Fairly Difficult	Excellent	Moderate	Excellent
Maple (red)	High-Med	3200	Fairly Difficult	Excellent	Few	Good
Maple (sugar)	High	3700	Difficult	Excellent	Few	Good
Mesquite	Very High		Very Difficult	Excellent	Many	Excellent
Oak (live)	Very High	4600	Very Difficult	Excellent	Few	Fair
Oak (red)	High	3700	Difficult	Excellent	Few	Fair
Oak (white)	Very High	4200	Fairly Difficult	Excellent	Few	Fair
Pecan	High		Fair	Good	Few	Good

*The desirability of various fragrances is largely a matter of personal preference.

Whichever type of wood you use, **MAKE SURE YOU KNOW THE MOISTURE CONTENT.** Properly seasoned wood contains 20% moisture or less. If wood contains more than 20% moisture, it should not be accepted for use. Wood should be stored off the ground and out of the rain in an environment that allows good air circulation so that the drying process can continue. Wet wood is the most common operational difficulty associated with wood-fired cooking equipment. Wood Stone's optional Mini-Ligno E Wood Moisture Meter can save you from paying for water when you thought you were paying for wood (see the Tools & Accessories section of woodstone-corp.com, contact your dealer or Wood Stone).

Calculate your approximate monthly, daily and hourly fuel-wood costs using the following formulas:
The cost of well-seasoned hardwood varies greatly with geographical location.

$$\text{Cost per month} = A \times C \quad \text{Cost per day} = \frac{A \times C}{30} \quad \text{Cost per hour} = \frac{A \times C}{30 \times 12 \text{ hr day}}$$

A = Cost/cord (from wood supplier)

B = lb/cord (from above table)

C = Cords/mth (from experience, or call Wood Stone for an estimate)

When burned, a pound of any wood releases approximately 6500 BTU/hr, so it is better to compare the price of wood by the pound rather than by the cord. A full cord of wood measures 4' x 4' x 8' when stacked.

$$\text{Cost per lb} = \frac{A}{B}$$

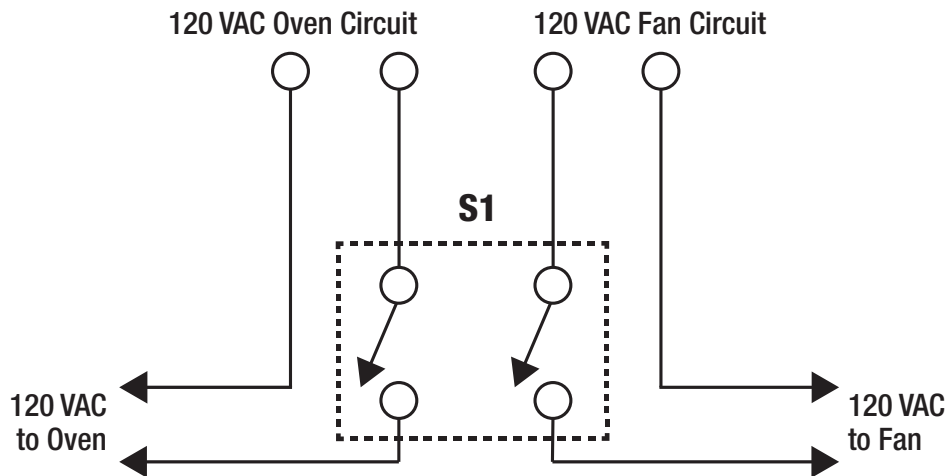
Do not use pressed wood products in Wood Stone equipment. They may damage the ceramics and void the warranty.



INTERLOCK OF OVEN CONTROL TO AN EXHAUST FAN

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

Wired by others



S1 is a Double Pole, Single Throw (DPST) switch provided by others.

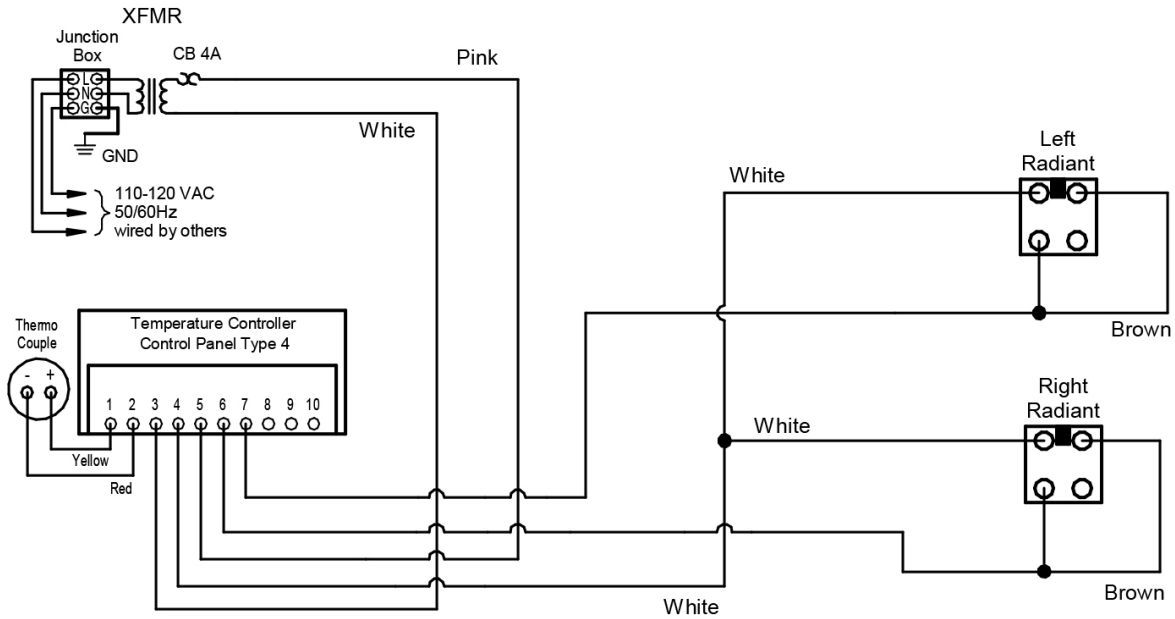
S1 is a double pole, single throw switch (provided by others) that interrupts in-coming power to both the oven and the fan. The intent is to prevent the operation of the oven's gas burner in the event the fan is shut off.

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.

For additional interlock options, see the Wood Stone Interlock Options supplement in the Manuals section on the website, woodstone-corp.com, or contact Wood Stone for additional information.



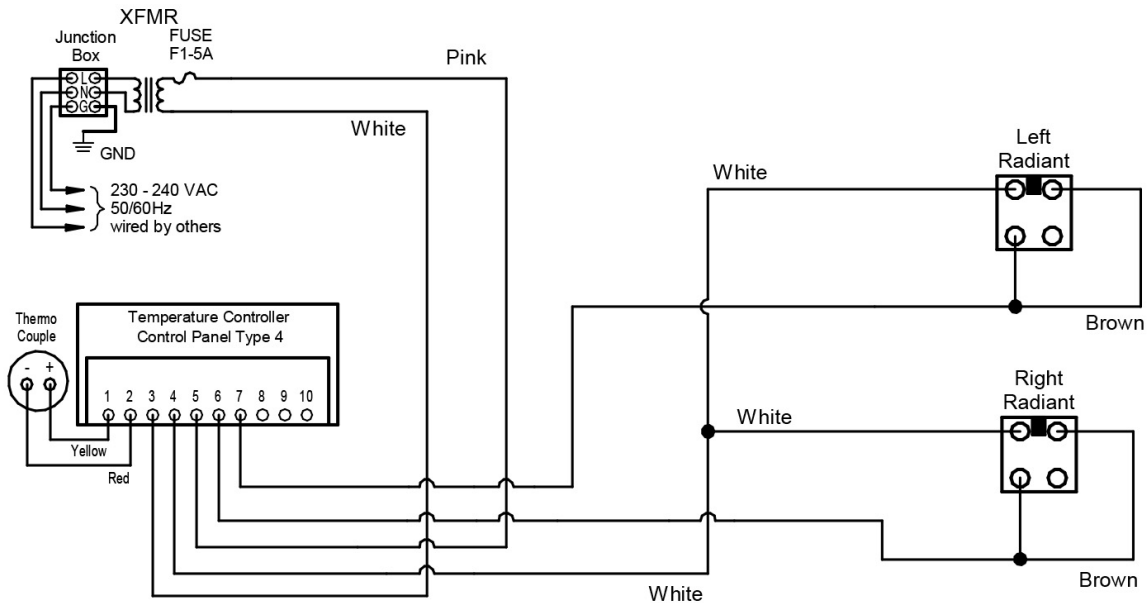
110-120 VAC



Bellingham, WA +1(360)650-1111 www.woodstone-corp.com

DIAG #: WD082 Rev. 0
DATE: 4/24/2014

220-240 VAC



Bellingham, WA +1(360)650-1111 www.woodstone-corp.com

DIAG #: WD083 Rev. 1
DATE: 11/2/2015

**ALL WARRANTY SERVICE MUST BE PRE-APPROVED BY WOOD STONE**

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.

Please contact the factory first at 1.800.988.8103 or 1.360.650.1111, seven days a week. Our normal business hours are 8am to 5pm Pacific time Monday–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.

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 and Operation Manual.
2. In the event the equipment is improperly or inadequately maintained. Proper maintenance is the responsibility of the user; proper maintenance procedures are prescribed in the Wood Stone Installation and Operation Manual. Burner problems resulting from debris or ash in the burner well will not be covered by the warranty. Call with questions regarding maintenance frequency.
3. In the event that the failure or malfunction of the appliance or any part thereof is caused by abnormal or improper 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 the ceramic firebox.
8. In wood-fired equipment configurations, in the event that pressed log products of any type have been burned in the equipment.
9. In coal-fired oven configurations, in the event any type of coal other than anthracite coal fuel has been used. Other types of coal may damage the ceramic, and this damage will not be covered under this warranty.
10. Damage resulting from the use of chemical cleaning products in the oven, as well as any damage from liquids or chemicals, including water, 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, contact:

Wood Stone Corporation, Attn: Service Department, 1801 W. Bakerview Rd., Bellingham, WA 98226 USA
Phone 1.800.988.8103 or 1.360.650.1111



WOOD STONE CORPORATION

1801 W. Bakerview Rd.
Bellingham, WA 98226 USA

Toll Free 800.988.8103

Tel 360.650.1111

Fax 360.650.1166

www.woodstone-corp.com

An ongoing program of product improvement may require us to change specifications without notice.