Installation and Operation Manual

TRADITIONAL SERIES

Stone Hearth Oven

Gas-Fired, Gas/Wood Combination, European Models

TRADITIONAL SERIES

WS-CS-RND-15-(RFG)-(IR)-(W)-S-CE *(TS-5)*

WS-CS-RND-21-(RFG)-(IR)-(W)-S-CE *(TS-6)*

Wood Stone

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This manual covers all configurations of the Traditional Series Oven: Gas-Fired and Wood/Gas Combination models. Make certain you read the appropriate section for your model.

Highlighted blocks indicate sections relevant to your model

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INSTALLATION AND OPERATION MANUAL
THE WOOD STONE TRADITIONAL SERIES

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

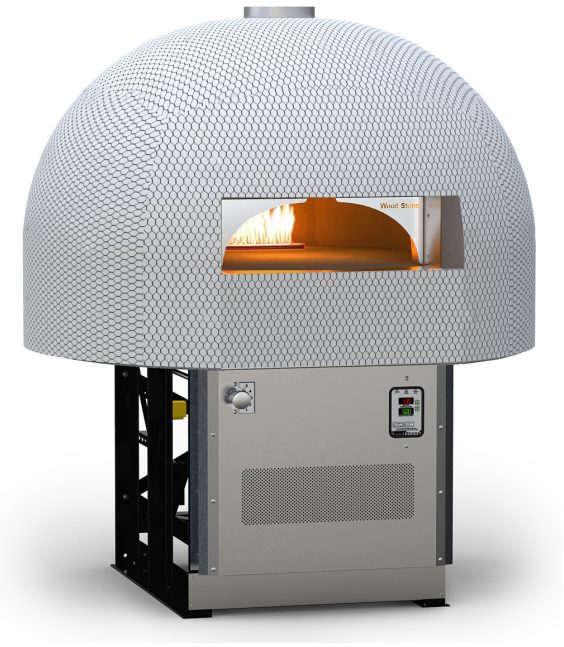
WS-CS-RND-(15)-(RFG)-(IR)-(W)-S-CE-(NG,LP) ***(TS-5)***
WS-CS-RND-(21)-(RFG)-(IR)-(W)-S-CE-(NG,LP) ***(TS-6)***

STONE HEARTH COOKING EQUIPMENT

CE MODELS

GAS-FIRED & GAS/WOOD COMBINATION MODELS

ADDITIONAL COPIES AVAILABLE UPON REQUEST



Shown: WS-CS-RND-15-RFG-IR-S-CE

WOOD STONE TRADITIONAL SERIES GAS-FIRED AND GAS/WOOD COMBINATION OVEN INSTALLATION AND OPERATING INSTRUCTIONS

RETAIN THIS MANUAL FOR FUTURE REFERENCE

Additional copies of this manual from your local distributor.
For prompt responses to service/maintenance questions, call your local distributor.

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.

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

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

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.

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.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

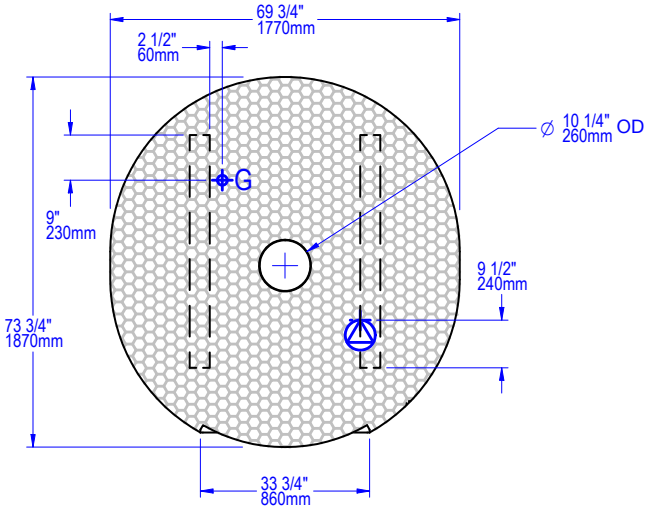
Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

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

Wood Stone's gas-fired ovens have been tested and approved.

CE
0063

Plan view



Overall dimensions shown are accurate for all CS-RND-15 (TS-5) configurations.

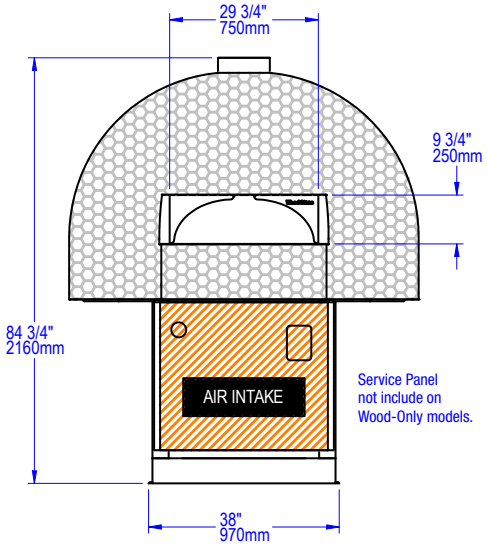
Model shown includes Type 2 Controller, Flame Height Control Knob and Gas Inlet, which are only included on specific configurations.

Air intake: Do not facade or cover over

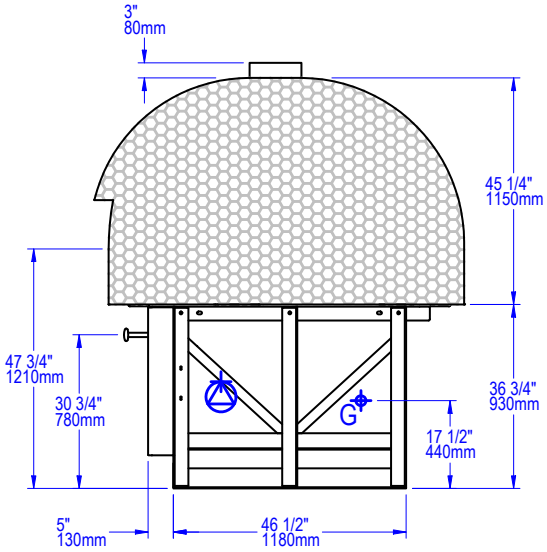
Must be left removable for service

Shipping weight: 3,600 lbs.
1,633 kg

Front view



Side view



UTILITIES SPECIFICATIONS

Gas

19mm (3/4") FBSPT threaded gas inlet
See Gas Specifications on page 13 of this manual.

Maximum gas inlet pressure:
34 mbar
(1/2 psi or 14" W.C.)

Electrical

230 VAC, 2 A, 50 Hz

All utility connections made beneath oven as shown.

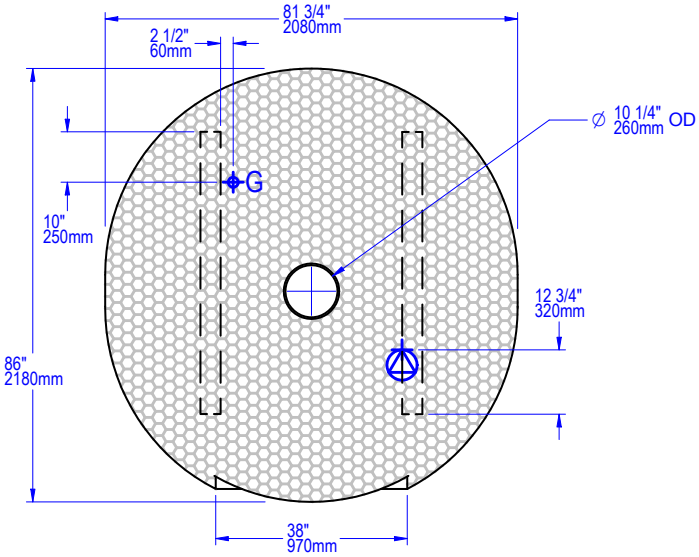
Refer to data plate when installing.

Venting

The oven has been approved as a Type B_{11} appliance and may be direct connected to a power-ventilated, grease-rated chimney. It is also approved as a Type A appliance, designed to be installed under an exhaust hood (canopy). The oven must be vented in accordance with all relevant local and national codes, and in a manner acceptable to the authority have jurisdiction. See Venting section for further details.

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

Plan view



Overall dimensions shown are accurate for all CS-RND-21 (TS-6) configurations.

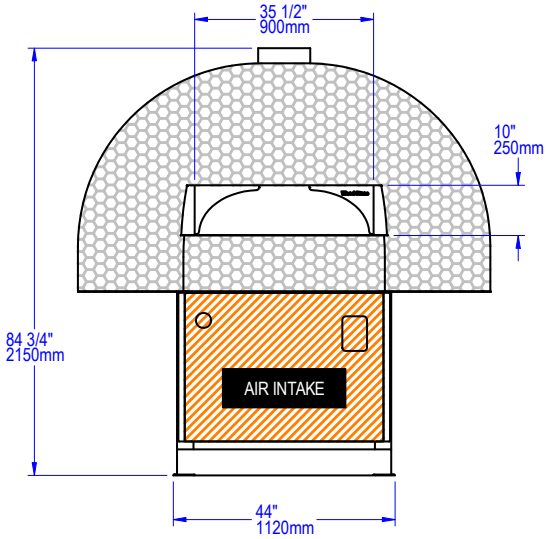
Model shown includes Type 2 Controller, Flame Height Control Knob and Gas Inlet, which are only included on specific configurations.

Air intake: Do not facade or cover over

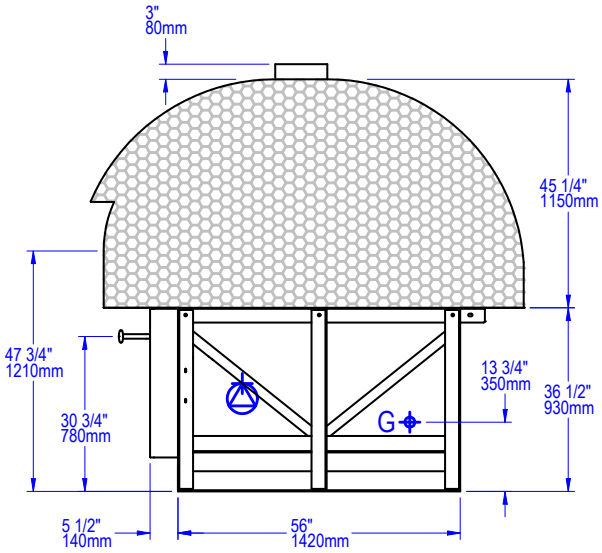
Must be left removable for service

Shipping weight: 4,600 lbs. 2,087 kg

Front view



Side view



UTILITIES SPECIFICATIONS

Gas

19mm (3/4") FBSPT threaded gas inlet
See Gas Specifications on page 13 of this manual.

Maximum gas inlet pressure:
34 mbar
(1/2 psi or 14" W.C.)

Electrical

230 VAC, 2 A, 50 Hz

All utility connections made beneath oven as shown.

Refer to data plate when installing.

Venting

The oven has been approved as a Type B_{11} appliance and may be direct connected to a power-ventilated, grease-rated chimney. It is also approved as a Type A appliance, designed to be installed under an exhaust hood (canopy). The oven must be vented in accordance with all relevant local and national codes, and in a manner acceptable to the authority have jurisdiction. See Venting section for further details.

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

USING A FORKLIFT

Use a forklift with adequate fork lengths and lifting capacity. If necessary, fork extensions must be used so the forks extend through the fork lift pockets to the opposite side of the stand. Lift from either side as shown in figure a. Do not lift from the front or back. The oven is very top heavy, so spread the forks as far apart as possible.

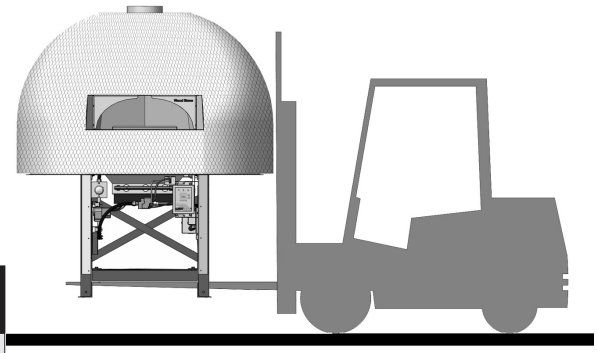


fig. a

⚠WARNING | Minimum Required Forklift Capacities

Model	Approximate shipping weight	Minimum fork length required	Required forklift capacity
WS-TS-5	1633 kg 3600 lbs.	1.5m 5'	2722 kg 6000 lbs
WS-TS-6	2087 kg 4600 lbs.	1.8m 6'	3629 kg 8000 lbs.

USING A PALLET JACK

Once the oven has been removed from the delivery vehicle, it can easily be moved on smooth, flat surfaces using a Pallet Jack. To lift the oven with a Pallet Jack, remove the front and rear angle iron stabilizers from the base of the oven stand and place a stout 90 x 90mm (4" x 4") post through the Fork Pocket as shown in figure b.

THE OVEN IS VERY TOP-HEAVY. MOVING THE OVEN UP OR DOWN A RAMP OR INCLINE ON A PALLET JACK IS NOT SAFE!

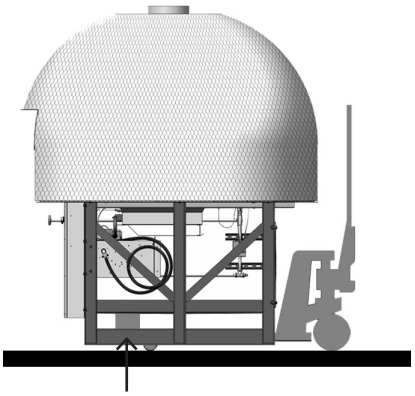


fig. b

USING A CRANE

The oven arrives with four lifting eyes attached. When craning a Wood Stone oven, use a spreader bar with a two-legged sling rigged on each end. The spreader bar should be of a sufficient length to keep the sling from contacting the oven. See figure c.

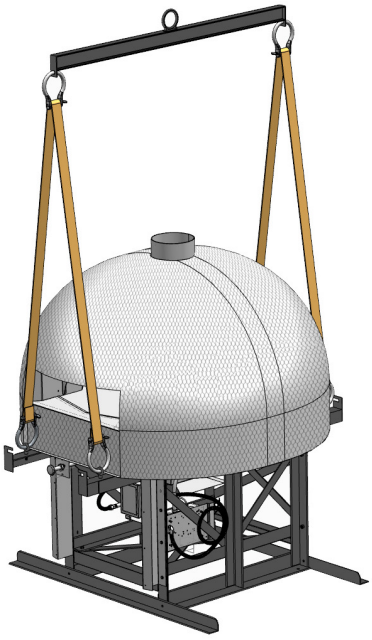


fig. c

DO NOT TURN THE OVEN ON ITS SIDE!

Contact your local distributor if the oven must be turned on its side for specific instructions. Moving a Wood Stone oven can present challenges to even the most experienced riggers. Take your time, use your head, secure the proper equipment and make safety your first priority. Please don't hesitate to call your local distributor for technical support.

CLEARANCES

1. The Wood Stone Mountain Series oven must have a minimum 25 mm (1") clearance to combustibles from all sides, and 152 mm (6") clearance to combustibles from the top. If building materials will contact the oven, they must be completely non-combustible. Please note that standard Drywall (or Sheetrock) is considered a combustible. When non-combustible building materials contact the body of the oven, the respective clearances are transferred to those non-combustibles.
2. Any facade 152 mm (6") to either side of the oven doorway or above, must be constructed of non-combustible building materials.
3. **For gas-only models**, this oven is suitable for installation on combustible floors.

   For gas/wood combination models, this oven is suitable for installation on combustible floors. The minimum hearth extension area to be covered with a non-combustible floor surface must extend 914 mm (36") in front of and 762mm (30") to either side of the oven door opening.

NOTICE: Only non-combustible materials may be applied directly to the oven. For stucco-ready appliances (model numbers including an "-S"), the same clearances as described above apply. Non-combustible stucco mix must be used and applied to a minimum thickness of 25 mm (1").

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.

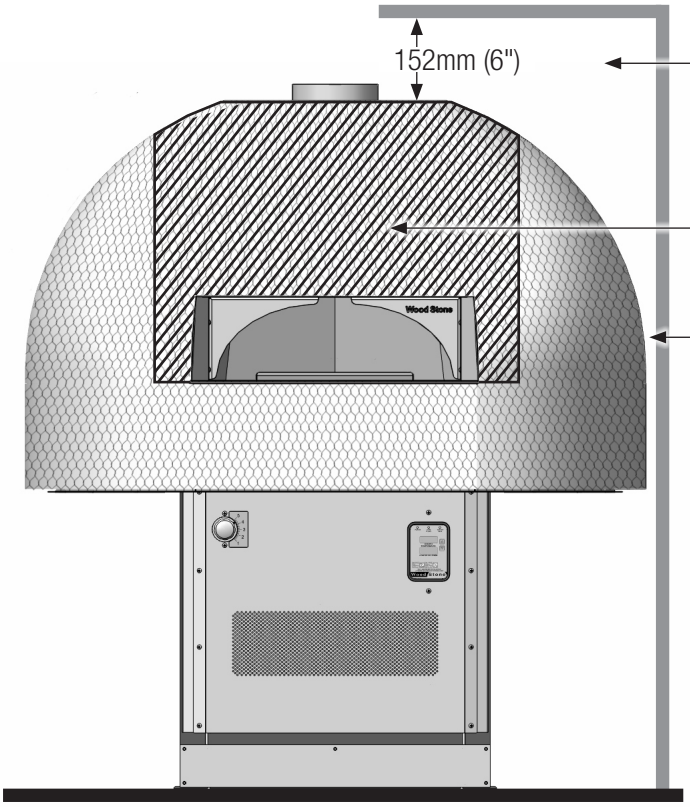
WARNING: DO NOT PACK REQUIRED AIR SPACES WITH INSULATION OR OTHER MATERIAL.

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.

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.

THE FOLLOWING CLEARANCE INFORMATION APPLIES TO ALL WOOD STONE TRADITIONAL SERIES OVENS

Please see **woodstone-corp.com** for floor loading information.



152mm (6") top clearance to combustible building materials.

If enclosing the oven, any facade materials 152mm (6") to either side of the doorway and above must be **NON-COMBUSTIBLE.**

25mm (1") side clearance to combustible building materials.

Note: 0" side and top clearance to non-combustible materials. However, the respective clearances to combustibles are transferred to those non-combustibles.

Gas-only models: Suitable for installation on combustible floors.

For gas/wood combination models, this oven is suitable for installation on combustible floors. The minimum hearth extension area to be covered with a non-combustible floor surface must extend 914 mm (36") in front of and 762 mm (30") to either side of the oven door opening.

Combustible building material

Floor

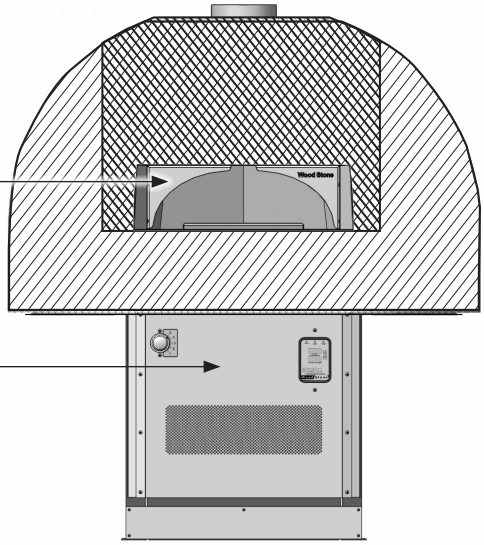
Any facade wall 152mm (6") to either side of the oven doorway and above **MUST** be of non-combustible construction with no exceptions.

Wood Stone ovens are designed and tested to meet the requirements concerning the hygiene aspects of large kitchen appliances using gaseous fuels, so as to eliminate or minimize the risk of contagion, infection, illness or injury arising from the consumption of contaminated food. To operate the oven in accordance, only pizza and bread products may be cooked directly on the floor of the oven. Other types of food may be cooked on or in pans, or other suitable container to prevent spillage onto the oven deck.

If using an exhaust hood over the oven, make sure your facade allows proper access for removal of the hood filters.

Oven Arches
DO NOT REMOVE
Removal will affect structural integrity, heat retention, operation and **void the Warranty**.

A removable service panel or storage box allows access for service of gas and electrical components. If this panel is not used, access and air intake of equivalent dimensions MUST be provided at the front of the oven.



Hatched areas shall not be exposed after installation of facade, i.e. this area must be covered with stucco, tile, or similar non-combustible material.

If the oven is enclosed, any facade wall 152mm (6") to either side of the oven doorway and above **MUST** be of non-combustible construction with no exceptions.

STUCCO

The hatched areas in the graphic above shows the areas of the oven covered with factory-installed wire mesh, ready for the application of stucco (or tile).

Maintain a minimum of 152mm (6") clearance from top and 25mm (1") from side of the appliance to all combustible surfaces.

Stucco premix is available at your local contractor supply store. Follow stucco manufacturer's instructions for correct mixing information.

USE NO LESS THAN 25mm (1") OF STUCCO COATING TO COVER ALL EXPOSED METAL MESH ON THE OVEN.

TILE

We recommend 13mm (1/2") or smaller tiles applied over a suitable non-combustible skim coat. Smaller tiles can more easily conform to the curved shape of the oven. Because of the unique shape of the Traditional Series oven, we recommend employing a skilled tile contractor.

Traditional Series ovens can be finished with any non-combustible decorative material that can be easily affixed to the oven surface, including tile, stone or brick. It is always advisable to consult with the appropriate authority having jurisdiction before proceeding as there may be regulations regarding the suitability of various materials. Temperatures above the oven doorway can reach 93 °C (200 °F). Select materials and adhesives suitable for that temperature.

The surface area of the TS-5 dome is approximately 6.7 m^2 (72 ft^2).

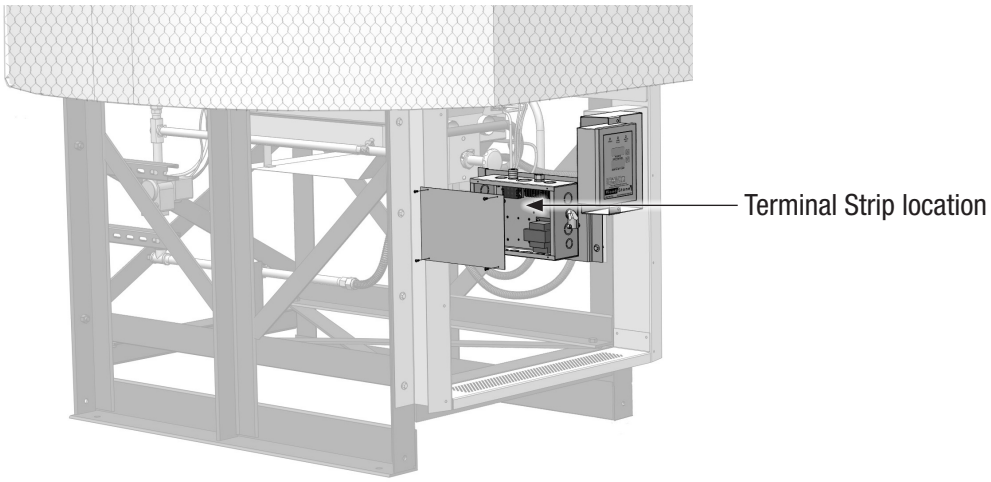
The surface area of the TS-6 dome is approximately 8.4 m^2 (90 ft^2)

ELECTRICAL

The oven is rated at 230 VAC, 2 A, 50 Hz. The rating also appears on the data plate. It is recommended that the oven be connected to its own individual branch circuit. Electrical diagrams are located on the Terminal box and also at the end of this manual.

Electrical Grounding: This appliance must be electrically grounded (earthed) via the third wire ground of the incoming AC power.

Provide Disconnect Device: This appliance must be provided with an all-pole type disconnect device in the incoming power supply so that the appliance can be completely isolated from the power supply.



GAS

SV-1 and SV-2 are the gas control valves that operate the underfloor infrared burner and the interior radiant burner, respectively. RFG ovens do not have an SV-1 valve.

SV-1 is the gas control valve that operates the Underfloor Infrared (IR) Burner. The manifold pressure is checked at the outlet port on the SV-1 gas valve.

SV-2 is the gas control valve that operates the interior Radiant Burner. SV-2 is located at the rear left beneath the oven. The manifold pressure test port for the Radiant Burner is a 3mm (1/8") NPT plugged tap located at the base of the T-junction between the SV-2 and the Radiant Burner.

The burner manifold pressure has been adjusted and tested at the factory. A variety of factors can influence this pressure, so be sure to test the burner manifold pressure and adjust the valve as necessary to achieve the specified pressure.

GAS CONNECTION

Wood Stone Mountain Series ovens are equipped 19mm (3/4") FBSPT gas connection. Have a licensed gas installer provide the hookup 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 to check for leaks. **DO NOT USE FLAME TO TEST FOR LEAKS!**

All gas piping up to the oven must have a minimum inside diameter of 19mm (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.

Natural Gas (NG): Maximum inlet gas pressure must not exceed 34 mbar (14" W.C. or 1/2 psi)

Propane (LP): Maximum inlet gas pressure to the oven, after the external regulator (if used), must not exceed 34 mbar (14" W.C. or 1/2 psi)

GAS INLET PRESSURE

For ovens running on natural gas, an inlet pressure of 17.5 to 25 mbar (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 34 mbar (14" W.C. or 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 25 to 30 mbar (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 34 mbar (14" W.C. or 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.

NATURAL GAS (NG)

Gas Supply and Pressure

TRADITIONAL SERIES MODELS

EN 437 Gas Group	I_{2H}	I_{2L}	I_{2HS}	I_{2ELL}	I_{2EK}
Inlet Pressure (mbar)	20	25	25	20	20/25

Declared Input (kW)	I_{2H}	I_{2L}	I_{2HS}	I_{2ELL}	I_{2EK}
TS-5-RFG-CE-NG	30.8	30.8	30.8	30.8	26.3
TS-5-RFG-IR-CE-NG	55.1	55.1	55.1	55.1	47
TS-6-RFG-CE-NG	30.8	30.8	30.8	30.8	26.3
TS-6-RFG-IR-CE-NG	55.1	55.1	55.1	55.1	47

Factory Specified Pressures at Gas Valve Outlet (mbar)	I_{2H}		I_{2L}		I_{2HS}		I_{2ELL}		I_{2EK}	
	SV-1	SV-2	SV-1	SV-2	SV-1	SV-2	SV-1	SV-2	SV-1	SV-2
TS-5-RFG-CE-NG	-	11.8	-	11.8	-	11.8	-	11.8	-	11.8
TS-5-RFG-IR-CE-NG	8.7	11.8	8.7	11.8	8.7	11.8	8.7	11.8	8.7	11.8
TS-6-RFG-CE-NG	-	11.8	-	11.8	-	11.8	-	11.8	-	11.8
TS-6-RFG-IR-CE-NG	8.7	11.8	8.7	11.8	8.7	11.8	8.7	11.8	8.7	11.8

SCOPE OF APPROVALS

G20/G25.3 @ 20/25 mbar - $I_{2EK(20)}$ - NL
G20 @ 20 mbar - $I_{2H(20)}$ - AT, CH, CZ, DK, EE, ES, FI, GB, GR, HR, HU, IE, IT, LT, LV, NO, PT, RO, SE, SI, SK and TR
G20 @ 20 mbar - $I_{2HS(20)}$ - HU
G20 @ 20 mbar - I_{2ELL} - DE
G20/25 @ 20/25 mbar - I_{2E+} - BE and FR

Natural Gas (NG): Maximum inlet gas pressure must not exceed 34 mbar (14" W.C. or 1/2 psi)

PROPANE (LP)

Gas Supply and Pressure

TRADITIONAL SERIES MODELS

EN 437 Gas Group	I_{3+}	$I_{3B/P}$	$I_{3B/P}$	I_{3P}
Inlet Pressure (mbar)	28-30/37/50*	30/37*	50*	30/37/50*

Declared Input (kW)	I_{3+}	$I_{3B/P}$	$I_{3B/P}$	I_{3P}
TS-5-RFG-CE-LP	27.5	33.6	33.6	27.5
TS-5-RFG-IR-CE-LP	46.6	57	57	46.6
TS-6-RFG-CE-LP	27.5	33.6	33.6	27.5
TS-6-RFG-IR-CE-LP	46.6	57	57	46.6

Factory Specified Pressures at Gas Valve Outlet (mbar)	I_{3+}		$I_{3B/P}$		$I_{3B/P}$		I_{3P}	
	SV-1	SV-2	SV-1	SV-2	SV-1	SV-2	SV-1	SV-2
TS-5-RFG-CE-LP	-	15.6	-	15.6	-	15.6	-	20
TS-5-RFG-IR-CE-LP	17.5	15.6	17.5	15.6	17.5	15.6	22.4	20
TS-6-RFG-CE-LP	-	15.6	-	15.6	-	15.6	-	20
TS-6-RFG-IR-CE-LP	17.5	15.6	17.5	15.6	17.5	15.6	22.4	20

SCOPE OF APPROVALS

G31 @ 37 mbar* - $I_{3P(37)}$ - BE, CH, CZ, ES, FR, GB, GR, HR, IE, IT, LT, NL, PL, PT, SI, SK, TR
G31 @ 50 mbar* - $I_{3P(50)}$ - AT, BE, CH, CZ, DE, ES, FR, GB, NL, SK
G30 @ 28-30 mbar, 37 mbar* - $I_{3+(28-30/37)}$ - BE, CH, CY, CZ, ES, FR, GB, GR, IE, IT, LT, PT, SI, SK, TR
G30 @ 30 mbar - $I_{3B/P(30)}$ - AT, BE, CY, CZ, DE, DK, EE, FR, GB, HR, HU, IT, LT, NL, NO, PL, RO, SE, SI, SK
G30 @ 50 mbar* - $I_{3B/P(50)}$ - AT, CH, CY, CZ, DE, FR, SK

Propane (LP): Maximum inlet gas pressure to the oven, after the external regulator (if used), must not exceed 34 mbar (14" W.C. or 1/2 psi)

Wood Stone ovens should be vented in accordance with pertinent national, regional and local codes concerning such appliances; check venting plans with the authority having jurisdiction before proceeding with installation.

The above statement taking precedence, Wood Stone Corporation recommends the following two venting options:

1. This Wood Stone Traditional Series oven can be vented as a Type A appliance (with no flue connection), designed to be installed under an exhaust hood (canopy). The hood must be connected to a grease-rated duct system. The venting system must be designed and installed in accordance with all relevant codes pertaining to grease and smoke producing commercial cooking appliances. Ovens that utilize solid fuel must be vented separately from any non-solid fuel burning appliances. There may be requirements for interlocking the oven or its gas supply with the ventilation system. Check with your local code official. Airflow should be adjusted according to the requirements specified by the hood manufacturer and/or local codes.

OR

2. The oven is also approved as a Type B_{11} appliance, designed to be connected directly to a chimney which is installed in accordance with all relevant local and national codes. The chimney system must be installed and constructed to the same requirements as a duct that serves grease and smoke producing commercial cooking appliances. If venting the oven with this method, the oven must be vented independently of other equipment. A suitable fan should be used at the end of the duct run to ensure proper draft in all conditions. Wood Stone does not recommend using an in-line type fan. When installed, the fan speed/ air flow should be adjusted to attain the appropriate duct pressure at the oven flue collar (see Duct Pressure section below).

Model numbers containing a "**-W"** (other than the first letter of the model number) should be vented in accordance with codes concerning solid fuel appliances. Due to the dangers of creosote buildup and sparks entering the duct, these models should be vented separately from all other kitchen equipment or in such a manner acceptable to the authority having jurisdiction.

Solid fuel exhaust contains creosote and other substances that accumulate in ducting, creating a risk of fire. The rate of accumulation will vary with respect to flue gas temperature, wood type and moisture content. Frequent, regularly scheduled, thorough flue cleaning is the best way to minimize the risk of flue fires.

Wood Stone recommends cleaning and inspection at least monthly on any ventilation system serving solid fuel equipment.

WOOD STONE RECOMMENDS THAT THE OPERATOR REFER TO THE EXHAUST HOOD MANUFACTURERS FOR INSPECTION, MAINTENANCE AND CLEANING.

DUCT PRESSURE

- **For gas-fired ovens without solid fuel: 0.25 mbar (0.1" w.c.)**
- **For any oven utilizing solid fuel: 0.35 mbar (0.14" w.c.)**

This pressure may be checked by inserting the pressure test probe up through the oven doorway to the point where the duct is connected to the oven flue collar.

FAN TEMPERATURE RATING

The fan must be of a suitable temperature rating.

For gas-fired ovens without solid fuel, the fan must be rated for a **minimum of 150 °C** (300 °F) continuous.

For gas-fired ovens utilizing solid fuel, the fan must be rated for a **minimum of 232 °C** (450 °F) continuous.

INTERLOCK SYSTEM

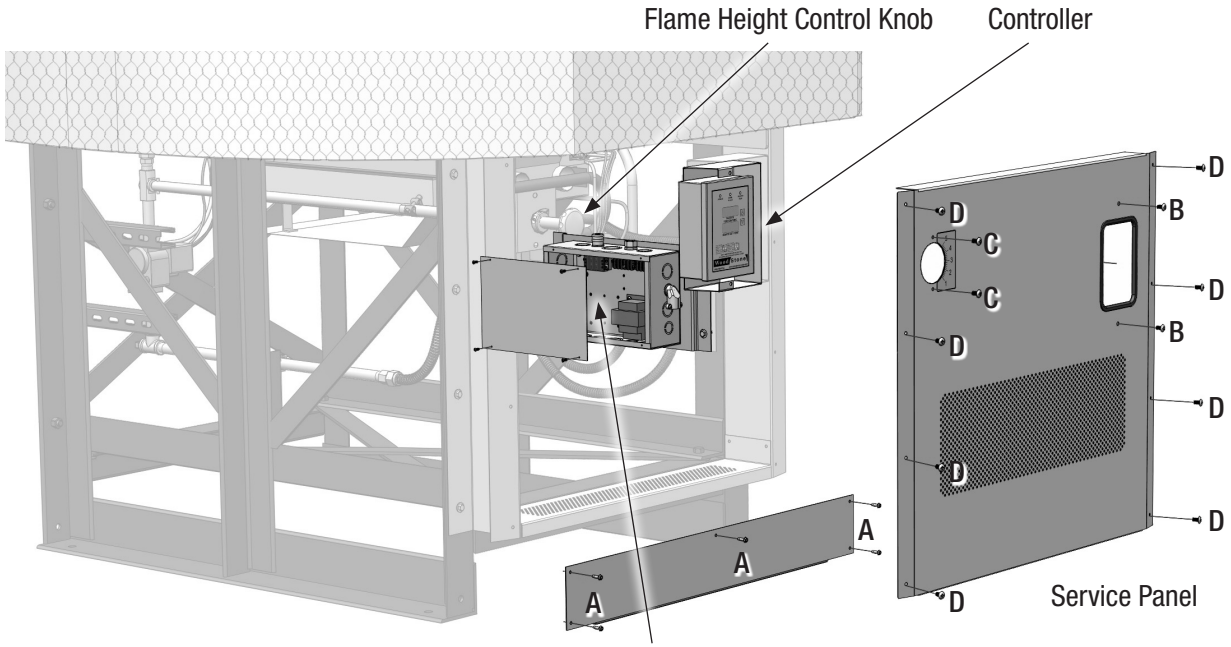
There may be requirements for interlocking the oven or its gas supply with the ventilation system. Check with your local code official.

m³/sec REQUIREMENTS (DIRECT CONNECT)

Model	RFG-W, RFG-IR-W, W-IR	RFG, RFG-IR
WS-MS-5-CE	.24 m³/sec (500 cfm)	.21 m³/sec (450 cfm)
WS-MS-6-CE		

Install the venting system in accordance with the duct manufacturer's instructions and in accordance with all local codes. All field built components should be built to the applicable codes and standards and are subject to the approval of the authority having jurisdiction.

STANDARD FRONT PANEL AND TOE KICK ASSEMBLY INSTRUCTIONS



Transformer Box
Contains terminal strip for incoming power supply.
NOTE: Have licensed electrician make this electrical connection.

A Hex-head self-tapping screw. Used to attach Toe Kick. 5 total.

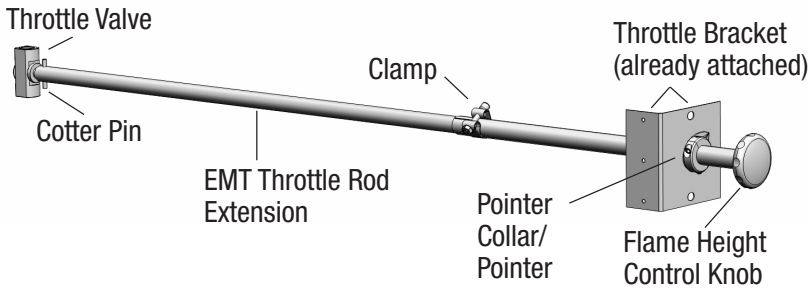
B Phillips head 1/4-20 screw. Used to attach Service Panel to Controller bracket. 2 total.

C Phillips head #10 screw. Used to attach Service Panel to Throttle Knob Bracket. 2 total.

D Phillips head self-tapping screw. Used to secure the sides of the Service Panel. 8 total.

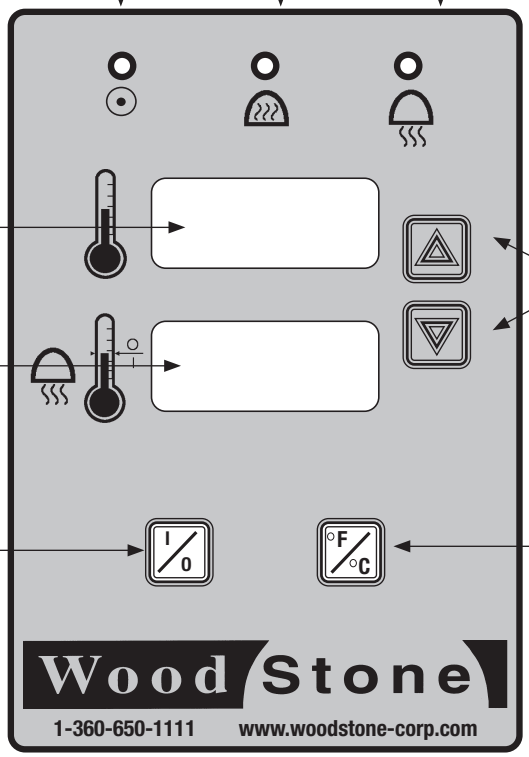
SERVICE PANEL THROTTLE ASSEMBLY

The Flame Height Control Knob position can be adjusted inward or outward by loosening the Clamp and sliding the throttle knob assembly to the desired position. Be sure to retighten the Clamp once the Flame Height Control Knob is in the desired position.



CONTROLLER FUNCTIONS

TYPE 2
RFG-IR-(W) AND W-IR MODELS



Power Indicator Light
Indicates the oven is turned ON.

Dome Flame Indicator Light
Indicates the pilot for the radiant flame has lit.

Hearth Heat Indicator Light
Indicates that the pilot for the Underfloor IR burner is lit. This light will go OFF whenever the hearth temperature is above the Hearth Set Point.

Hearth Temperature Display
The floor (hearth) temperature will be displayed when the oven is turned on. Sensor is embedded 25mm (1") below the hearth surface. Display will read "LO" when the temperature is below 38 °C (100 °F).

Hearth Set Point Display
Indicates set point temperature of the Underfloor IR burner.

ON/OFF button
Press to turn oven ON/OFF

Arrow buttons
Pressing appropriate directional arrow to adjusts Hearth Set Point temperature up or down.

Temperature unit selector
Toggles between Fahrenheit and Celsius temperature scales in display screens.

TYPE 4
RFG-(W)

Hearth Temperature
The hearth (floor) temperature will be displayed when the oven is turned ON. Display will read "LO" when the temperature is below 38 °C (100 °F).

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

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

DETERMINING THE APPROPRIATE FLAME HEIGHT

For each specific configuration of oven there is a system that determines what the desired flame height will be. Each flame height corresponds to a saturated floor temperature. Several factors need to be accounted for in order to determine this relationship for each oven. Burning wood simultaneously in the oven will influence the settings below.

USING THE FLAME HEIGHT INDICATOR SCALE

Heat Up Flame: Set the Flame Height Control Knob at "5" (highest setting) on the Flame Height Index Scale until desired temperature is reached.

Holding Flame: Set the flame height to "3" (~203–230mm (8–9" flame)) on the Flame Height Index Scale for desired temperature of 300–315 °C (570–600 °F). Set the flame height to "2" (~127–152 °C (5–6" flame)) on the Flame Height Index Scale for desired temperature of 232–250 °C (450–480 °F).

Cooking Flame: After introducing the pizza/product into the oven, visually raise the flame to approximately 75mm (3") higher than the Holding Flame.

Return the Flame Height Control Knob to the Holding Flame position after removing the pizza/product from the oven.

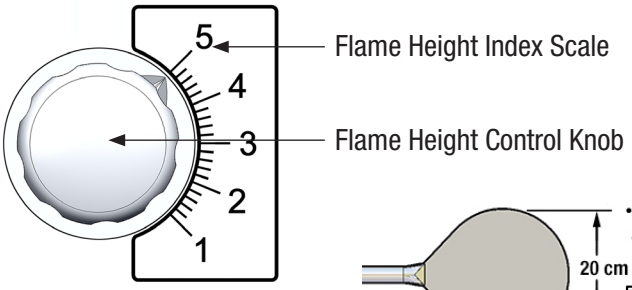
THE COOKING FLAME HAS TWO PURPOSES:

1. To bake the top of the pizza/product as fast as the bottom of the pizza/product.
2. To help replace heat to the floor (hearth) that is lost during production cooking.

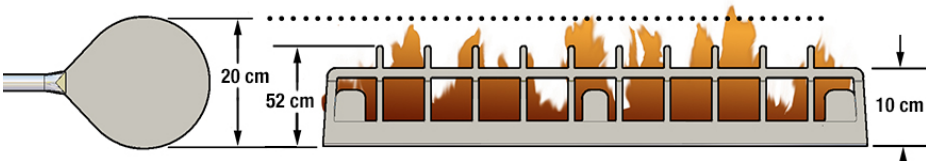
Note: The settings recommended on the Flame Height Index Scale for specific flames are based on ovens that have been installed according to specifications. Individual results may vary slightly.

FLAME HEIGHT INDICATOR

Comprised of two parts



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



TIP: You can visually estimate flame heights using the Wood Stone utility peel, which is 20 cm (8") tall when standing on edge in front of the flame. Then relate height to the corresponding number on the Flame Height Index Scale.

DAILY MAINTENANCE

OVEN INTERIOR

Wood Stone recommends the use of long-handled brushes for sweeping up surface debris that will accumulate on the floor of the oven during use. Use a natural fiber brush—always brushing away from the radiant burner well. For deeper cleaning, use a brass bristled brush. The oven floor can be then cleaned with a damp rag wrapped around the brass bristled brush head.

DO NOT USE ICE OR EXCESSIVE WATER ON THE FLOOR; THIS IS TO PREVENT THERMAL SHOCKING OF THE STONE. NEVER USE ANY TYPE OF CHEMICAL CLEANER ON THE FLOOR AS THEY CAN DAMAGE THE CERAMIC.

There is a stainless steel curb 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.**

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.**

IMPORTANT: DO NOT USE EXCESSIVE AMOUNTS OF LIQUID WHEN WIPING ON OR AROUND THE CONTROL BOX. ALSO 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.

PERIODIC THERMAL CLEANING (GAS-FIRED OVENS)

ESTABLISHING A THERMAL CLEANING SCHEDULE

Wood Stone ovens are typically operated at temperatures which preclude the need for cleaning of the interior walls and ceiling (the dome) of the oven. If however, you routinely operate the oven at floor temperatures lower than 232 °C (450 °F) you may notice a buildup on the interior walls and/or ceiling of the oven. If this is the case, use the following procedure to periodically clean the oven. The frequency of thermal cleaning will be determined by the amount of buildup experienced. The amount and rate of buildup will largely be determined by the type of food that is cooked in the oven, and by how long the oven is operated at temperatures low enough to allow buildup to occur.

THERMAL CLEANING

Gas-fired Oven: If a Wood Stone gas-fired oven is operated at low temperatures, it is possible that grease from food could condense on the walls and ceiling of the oven. To remove the grease that has accumulated on the walls and ceiling of the oven, simply turn the radiant flame to its highest setting. Monitor the floor temperature displayed on the controller. When the floor reaches 315 °C (600 °F), lower the flame slightly; maintain the oven floor temperature near 315 °C (600 °F) for about an hour. Once the oven dome appears clean, allow the oven to return to its normal operating temperature and continue normal operation.

INITIAL RFG-IR-(W) OVEN START-UP PROCEDURE

Wood Stone recommends completing this start-up procedure before burning any wood.

IMPORTANT: If at any time you feel that either or both of the burners are not operating properly, turn the oven off and call for service. Before servicing, disconnect the electrical supply at the breaker and turn off the gas supply at the appliance's individual gas shutoff valve. In the event of a power failure, no attempt should be made to operate the oven.

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.

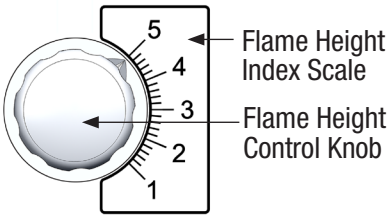
BEFORE GETTING STARTED

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. Remove the Night Heat Retention Door(s). Push the ON/OFF 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 (Hearth Set Point at 38 °C (100 °F), radiant flame at its lowest setting). Leave the Hearth Set Point at 38 °C (100° F) throughout the entire first day.
3. After one hour, raise radiant flame to 25% (~60 cm (6") flame, "2" on the Flame Height Index Scale) using the Flame Height Control Knob. Hold this setting for 4 hours.

FLAME HEIGHT INDICATOR



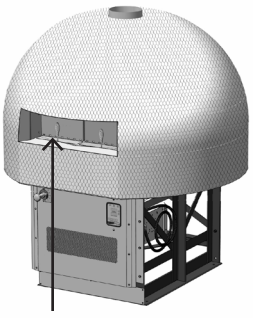
4. After 4 hours at 25% flame, raise to 50% flame (~20 cm (8") flame, "3" on the Flame Height Index Scale) using the Flame Height Control Knob and hold for at least another 4 hours or until the temperature reaches 260 °C (500 °F).
5. Once the temperature reaches 260 °C (500 °F) the oven is ready for use. If you will be shutting the oven down, see the instructions that follow.

TURNING OFF THE OVEN

1. Push ON/OFF button. All gas will go off. Put the Night Heat Retention Door(s) in place to retain heat.

NOTE: Always wait 5 minutes before restarting the oven. **Never run the oven with the Night Heat Retention Door(s) in place.**

NOTE: You may notice some small "crazing" cracks in the ceramic dome and floor after a few heat-ups and cool-downs. This is normal and will not affect the longevity or performance of the oven. If cracks of 1/8" or more develop, contact your local distributor for evaluation.



Night Heat Retention Doors

NOTE: Never operate this appliance with the stainless steel Night Heat Retention Door in place. It should only be used when the oven is turned OFF.

NEVER PLACE ANYTHING IN OR ABOVE THE RADIANT FLAME

DAILY OPERATION FOR RFG-IR-(W) MODELS

IMPORTANT: If at any time you feel that the burner is not operating properly, TURN THE OVEN OFF and call for service. Before servicing, disconnect the electrical supply at the breaker and turn OFF the gas supply at the appliance's individual gas shutoff valve. In the event of a power failure, no attempt should be made to operate the oven.

DAILY STARTUP

Press the I/O button to start the oven. The radiant burner will ignite. The infrared Underfloor IR burner will ignite if the actual floor temperature is below the Hearth Set Point temperature to which the controller is adjusted.

Green light indicates the system is energized.

Green light indicates the pilot flame for the radiant burner is lit.

Green light indicates that the pilot flame for the Underfloor IR burner is lit.
This light will go OFF whenever the actual floor temperature is above the Hearth Set Point.

TURNING OFF THE OVEN

Push the I/O button on the controller to turn the oven OFF.

Both burners will go out and the digital readout on the controller will go out.

ADJUSTING THE RADIANT (DOME) FLAME

To adjust the radiant flame: The radiant flame is always on (when the oven is operating) and can be adjusted to any flame intensity between its highest and lowest setting. Simply turn the knob located to the lower left of the doorway, beneath the mantle. This burner is the primary heat source for the oven. The infrared under floor burner will act as an assist, to maintain desired floor temperatures during periods of high food production.

HOW TO READ FLOOR TEMPERATURE

The floor temperature is continuously displayed by the controller in the upper window. This reading is being taken by a thermocouple about 25mm (1") below the floor surface, so the actual surface temperature may be different, and is best measured using a non-contact (IR) thermometer. **Note:** The display will read "LO" when the temperature is below 38 °C (100 °F).

ADJUSTING THE FLOOR SET POINT

To adjust the oven's thermostatic floor temperature setting, simply press the arrow button corresponding to the direction in which you would like the setting to go. If the thermostatic Hearth Set Point is raised above the actual hearth temperature, the underfloor IR burner should activate. It is only possible to program the floor's thermostatic Hearth Set Point to temperatures from 38 °C (100 °F) to 426 °C (100–800 °F). Once proper temperatures for your application have been established, there should be little or no need to change the Hearth Set Point.

For additional information on temperature control, see the FLAME HEIGHT CONTROL section of this manual.

FOR MODELS APPROVED TO ALSO BURN WOOD

See the BURNING WOOD section of this manual for information on burning wood. Models listed to burn wood will have a -W at the end of the model number.

INITIAL RFG-(W) OVEN START-UP PROCEDURE

Wood Stone recommends completing this start-up procedure before burning any wood.

IMPORTANT: If at any time you feel that either or both of the burners are not operating properly, turn the oven OFF and call for service. Before servicing, disconnect the electrical supply at the breaker and turn OFF the gas supply at the appliance's individual gas shutoff valve. In the event of a power failure, no attempt should be made to operate the oven.

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.

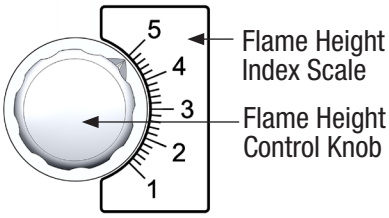
BEFORE GETTING STARTED

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. Remove the Night Heat Retention Door(s). Push the ON/OFF 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 with the radiant flame at its lowest setting.
3. After one hour, raise radiant flame to 25% (~16 cm (6") flame, "2" on the Flame Height Index Scale) using the Flame Height Control Knob. Hold this setting for 4 hours.
4. After 4 hours at 25% flame, raise to 50% flame (~20 cm (8") flame, "3" on the Flame Height Index Scale) using the Flame Height Control Knob and hold for at least another 4 hours or until the temperature reaches 260 °C (500 °F).
5. Once the temperature reaches 260 °C (500 °F) the oven is ready for use. If you will be shutting the oven down, see the instructions that follow.

FLAME HEIGHT INDICATOR

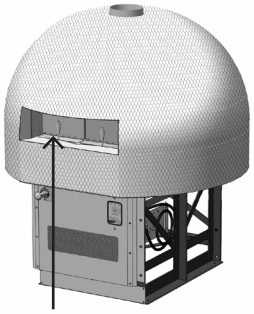


TURNING OFF THE OVEN

1. Push ON/OFF button. All gas will go OFF. Put the Night Heat Retention Door(s) in place to retain heat.

NOTE: Always wait 5 minutes before restarting the oven. **Never run the oven with the Night Heat Retention Door(s) in place.**

NOTE: You may notice some small "crazing" cracks in the ceramic dome and floor after a few heat-ups and cool-downs. This is normal and will not affect the longevity or performance of the oven. If cracks of 3mm (1/8") or more develop, contact your local distributor for evaluation.



Night Heat Retention Doors

NOTE: Never operate this appliance with the stainless steel Night Heat Retention Door in place. It should only be used when the oven is turned OFF.

NEVER PLACE ANYTHING IN OR ABOVE THE RADIANT FLAME

DAILY OPERATION FOR RFG-(W) MODELS

IMPORTANT: If at any time you feel that the burner is not operating properly, TURN THE OVEN OFF and call for service. Before servicing, disconnect the electrical supply at the breaker and turn OFF the gas supply at the appliance's individual gas shutoff valve. In the event of a power failure, no attempt should be made to operate the oven.

DAILY STARTUP

1. Remove the Night Heat Retention Door(s).
2. Push ON/OFF button. Using the Flame Height Control Knob, turn the radiant flame to its highest setting. Check your temperature after approximately one hour. If you are close to your desired temperature, reduce your flame to the holding flame setting that corresponds to your desired temperature. See the FLAME HEIGHT CONTROL section that follows to determine the proper setting that will correspond to your desired temperature. The Hearth Temperature readout will display "LO" until the oven floor reaches 100 °F.

Green light indicates the system is energized.

Green light indicates the pilot flame for the radiant burner is lit.

ADJUSTING THE RADIANT (DOME) FLAME

To adjust the radiant flame: The radiant flame is always on (when oven is operating) and can be adjusted to any flame intensity between its highest and lowest setting. Simply turn the knob located to the lower left of the doorway, beneath the mantle.

HOW TO READ FLOOR TEMPERATURE

The floor temperature is continuously displayed by the controller in the upper window. This reading is being taken by a thermocouple about 25mm (1") below the floor surface, so the actual surface temperature may be somewhat different, and is best measured using a non-contact (IR) thermometer. **Note:** The display will read "LO" when the temperature is below 38 °C (100 °F).

For additional information on temperature control, see the FLAME HEIGHT CONTROL section of this manual.

FOR MODELS APPROVED TO ALSO BURN WOOD

See the BURNING WOOD section of this manual for information on burning wood. Models listed to burn wood will have a -W at the end of the model number.

TURNING OFF THE OVEN

1. Push the ON/OFF button. All gas will go OFF, including the pilots.
2. Put the Night Heat Retention Door(s) in place to retain heat.

INITIAL W-IR OVEN START-UP PROCEDURE

The W-IR model is a wood burning oven with an Underfloor Infrared burner to assist in speeding heat-up and to assist in managing hearth temperature. The wood fire in this oven is the main heat source.

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 BUILDING THE FIRE

Note: W-IR ovens use the Type 2 Controller shown in the GAS CONTROLLERS section of this manual.

Set the thermostatic Hearth Set Point to 38 °C (100 °F) (factory settings). Note that the Hearth Temperature display will read "LO" until the oven reaches 38 °C (100 °F). To adjust the oven's thermostatic hearth temperature setting, simply the Up or Down arrow button corresponding to the direction in which you would like the setting to go. If the thermostatic Hearth Set Point is raised **above** the actual Hearth Temperature, the Underfloor IR burner should activate. **Note:** It is only possible to program the floor's thermostatic Hearth Set Point to temperatures from 38–427 °C (100–800 °F). Once the proper temperature for your application have been established, there should be little or no need to change the Hearth Set Point.

DAY ONE

1. Build a small kindling fire 2.25–3 kg (5–7 lbs) of heavy hard wood. We suggest using a "fire starter" (paraffin/sawdust stick) to start the fire. Begin with (3) small pieces of wood (about 25–76mm (1–3") diameter and 356–406mm (14–16") in length). Build the fire directly on the floor of the oven against the side or back of the dome. The fire should be built far enough inside and of a size that doesn't permit the flame to go up the flue. See the BURNING WOOD SAFELY section of this manual for more detail. Slowly bring the oven temperature up to 150–200 °C (300–400 °F). Maintain this fire for 4–5 hours.
2. Once the oven temperature has reached and maintained a temperature of 150–200 °C (300–400 °F) for 4–5 hours, increase the oven temperature by increasing the size and amount of wood being used. Based on what is already burning, gradually increase the amount of wood per hour. This will bring the oven temperature up to 260–288 °C (500–550 °F).

NOTE: THE MORE WOOD ADDED TO THE FIRE, THE HOTTER THE OVEN WILL GET. It is recommended that on the first day of heat-up, the oven does not exceed 288 °C (550 °F) within the first 8 hours. If your goal is to cook at higher temperatures, the oven should only be brought up to 288 °C (550 °F) on day one. Once the oven has reached 288 °C (550 °F), more wood may be added to the fire as necessary to bring the oven to the desired operating temperature. The amount of wood required to bring the oven to the specified temperatures may vary depending on the type and quality of the wood. **Never use any type of flammable liquid or fuel to start a fire in a Wood Stone oven. Doing so could cause a dangerous situation and/or damage to the oven ceramic.**

AFTER THE FIRST DAY HEAT-UP: Raise the Hearth Set Point  to desired hearth temperature. If the goal is to cook between 260–288 °C (500–550 °F), the Hearth Set Point should be 288 °C (550 °F). Remember, the wood fire is the main heat source.

During the first few days of operation, small amounts of water may appear dripping from the oven. This is normal and will stop within a few days.

Small "crazing" cracks may occur with normal heating and cooling. They will not effect the performance or durability of the oven. If cracks of 3mm (1/8") or more develop, contact your local distributor for evaluation.

DO NOT OVER-FIRE THIS OVEN. IF FLAMES ARE SPILLING OUT OF THE DOOR OPENING, OR IF OVEN FLOOR TEMPERATURE EXCEEDS 454 °C (850°F), THEN YOU ARE OVER-FIRING THE OVEN.

BUILDING THE FIRE *(see Wood Burning section later in this manual for additional information)*

Build a small kindling fire of 2.25–3 kg (5–7 lbs) of heavy, hardwood. We suggest using a fire starter (paraffin/sawdust stick) to start the fire. Begin with (3) small pieces of wood (about 25–76mm (1–3") diameter and 356–406mm (14–16") in length). The fire should be located on side of the oven chamber opposite the radiant gas burner. The fire may be burned at the back of the oven at the center provided the coal bed is kept at least 305mm (1 ft.) away from the Radiant Burner. Wood may be burned at a rate not to exceed 6.8 kg (15 lbs) per hour.

Use only seasoned hardwoods with a moisture content of 15–20%. Use of soft woods, such as pine, cedar, hemlock etc., and wet or "green" wood, will cause a build-up of residue throughout the exhaust system. (See the FUELWOOD FACTS section of this manual, or consult your local distributor for information on what types of wood can be used for oven fuel.)

The fire should be ignited a couple of hours before the oven needs to be at cooking temperature, and can be located practically anywhere in the oven, far enough inside and of a size that doesn't permit the flame to go up the flue. Once the oven is being used daily, the fire can be ignited using still glowing coals from the previous day's fire. The oven is heated more evenly and effectively by the fire positioned on the side rather than in the rear of the oven.

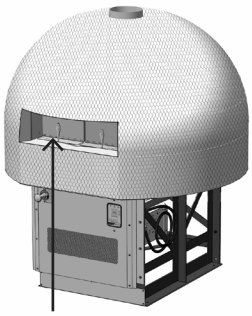
Adding about 2.25–3 kg (5–7 lbs) of wood per hour should bring the oven temperature up about 38 °C (100 °F) per hour (this will vary slightly depending on the type and moisture content of the wood and the size of the oven).

The floor temperature is indicated in the Hearth Temperature display on the Controller and should not exceed 454 °C (850 °F). Once the desired temperature is reached, maintain it by adding wood as needed. Do not toss or throw wood against back or side walls of oven—this will damage the oven and void the warranty.

At the end of the work day, turn OFF the oven and put removable stainless steel Heat Retention Night door(s) into door opening to hold heat in the oven overnight. These door(s) are used for nighttime heat retention only. **Do not operate the oven with doors in place.**

HOW TO READ HEARTH TEMPERATURE

The floor temperature is continuously displayed by the Controller in the top window labeled . This reading is being taken by a thermocouple about 25mm (1") below the floor surface, so the actual surface temperature may be somewhat different.



Night Heat Retention Door(s)

MANAGING THE FIRE / TEMPERATURE

These suggestions will normally produce a floor temperature of 260–315 °C (500–600 °F). If you need to achieve higher temperatures, use a little more wood. For lower temperatures, use a little less wood.

TS-5 & TS-6: To maintain temperature: 1–1½ logs with 203–305mm (8–12") of open flame working on the coal bed.

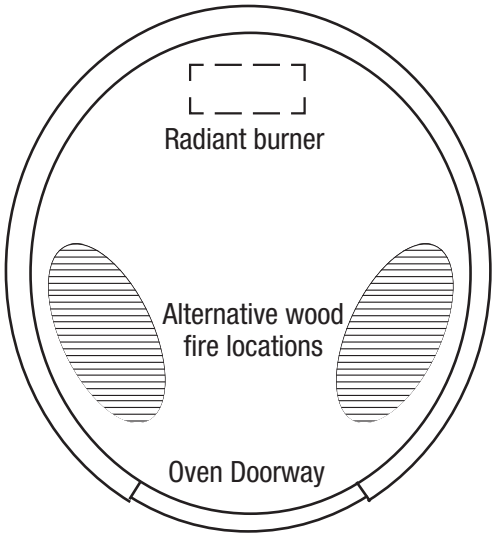
TURNING OFF THE BURNER

Push the ON/OFF button on the Controller to turn the Underfloor IR burner OFF. The burner will go out and the digital readout on the Controller will go blank.

Select Wood Stone Traditional Series models (with a "-W" in the model number) are approved to allow the burning of wood in the cooking chamber in addition to the gas burners. When burning wood, the fire should be placed to one side of the oven chamber, as close to the door opening as is possible (this is often described as the 8 o'clock or 4 o'clock position). Burn a maximum of 6.8 kg (15 lbs.) of wood per hour.

If flames spill out of the doorway, or the oven temperature exceeds 454 °C (850 °F), you are over firing the oven.

Make every effort to keep ash and other debris out of the radiant burner well. Do not use the radiant burner as a "backstop" when shoveling ash and/or coals out of the oven. **Burner problems resulting from debris or ash in the burner well will not be covered by the oven warranty.** Using the oven floor brush and ash shovel, move debris only toward the oven doorway and dispose of safely.



NOTE: Ovens burning solid fuel require a more frequent maintenance schedule. Call with questions regarding maintenance frequency.

DO NOT USE THE RADIANT BURNER TO IGNITE WOOD OR SUPPORT THE WOOD FIRE.

The interior floor and dome of the oven do not require creosote or soot removal. The oven flue and exhaust system will require inspection and cleaning. The exhaust system must be inspected and cleaned per the manufacturer's and or local code official's recommendations. **Wood Stone recommends cleaning and inspection at least monthly on any ventilation system serving solid fuel equipment.**

IMPORTANT SAFETY CONSIDERATIONS WHEN BURNING SOLID FUEL

Solid fuel exhaust contains creosote and other substances that accumulate in ducting, creating a risk of fire. The rate of accumulation will vary with respect to flue gas temperature, wood type and moisture content. Frequent, regularly scheduled, thorough flue cleaning is the best way to minimize the risk of flue fires.

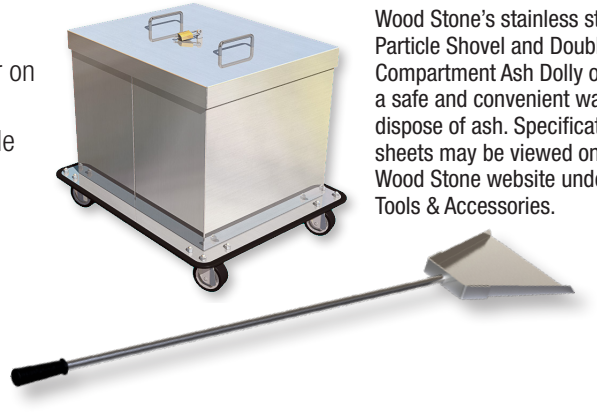
CREOSOTE - AND THE NEED FOR ITS REMOVAL

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool oven flue of a slow-burning fire. As a result, creosote residue accumulates in the duct. When ignited, this creosote makes an extremely hot fire. The duct serving this oven should be inspected at least twice a month during the first two months of operation, to establish rate of creosote buildup and necessary cleaning schedule. If creosote or soot has accumulated, it should be removed to reduce the risk of a flue fire. The interior floor and dome of the oven do not require creosote or soot removal. The oven flue and exhaust system will require inspection and cleaning.

The exhaust system should be inspected and cleaned per the manufacturer's and or local code official's recommendations. **Wood Stone recommends cleaning and inspection at least monthly on any ventilation system serving solid fuel equipment.**

DISPOSE OF ASH PER THE FOLLOWING:

1. Place ashes into a metal container with a tight fitting lid.
2. Place the closed container of ashes on a non-combustible floor or on the ground.
3. Place the closed container of ashes well away from all combustible materials, pending final disposal.
4. Retain the ashes in the closed container until all the cinders have thoroughly cooled. Ashes can then be disposed of safely.



Wood Stone's stainless steel Particle Shovel and Double Compartment Ash Dolly offer a safe and convenient way to dispose of ash. Specification sheets may be viewed on the Wood Stone website under Tools & Accessories.

STARTING THE FIRE

Build a small kindling fire of 2.25–3 kg (5–7 lbs) of heavy, hardwood. We suggest using a fire starter (paraffin/sawdust stick) to start the fire. Begin with (3) small pieces of wood (about 25–76mm (1–3") diameter and 356–406mm (14–16") in length). The fire should be located on side of the oven chamber opposite the radiant gas burner. The fire may be burned at the back of the oven at the center provided the coal bed is kept at least 305mm (1 ft.) away from the Radiant Burner. Wood may be burned at a rate not to exceed 6.8 kg (15 lbs) per hour.

Use only seasoned hardwoods with a moisture content of 20% or less. Use of soft woods, such as pine, cedar, hemlock etc., and wet or "green" wood, will cause a build-up of residue throughout the exhaust system. (See the FUELWOOD FACTS section later in this manual, or consult factory for information on what types of wood can be used for oven fuel.)

The fire should be ignited a couple of hours before the oven needs to be at cooking temperature. Once the oven is being used daily, the fire can be ignited using still glowing coals from the previous day's fire.

The oven is heated more evenly and effectively by the fire positioned on the side rather than in the rear of the oven. Adding about 2.25–3 kg (5–7 lbs) of wood per hour should bring the oven temperature up about 138 °C (100 °F) per hour (this will vary slightly depending on the type and moisture content of the wood and the size of the oven).

The floor temperature is indicated by the Digital Hearth Temperature Readout and should not exceed 454 °C (850 °F). Once the desired temperature is reached, maintain it by the addition of wood as needed. Do not toss or throw wood against back or side walls of oven—this may void the warranty. At the end of the work day, put removable Night Heat Retention Door(s) into door opening to hold heat in the oven overnight.

DO NOT OVER-FIRE THIS OVEN. IF FLAMES ARE SPILLING OUT OF THE DOOR OPENING, OR IF OVEN FLOOR TEMPERATURE EXCEEDS 850 °F, THEN YOU ARE OVER-FIRING THE OVEN.

MANAGING THE FIRE / TEMPERATURE

These suggestions will normally produce an oven floor temperature of 260–315 °C (500–600 °F). If you need to achieve higher temperatures, use a little more wood. For lower temperatures, use a little less wood.

TS-5, TS-6: To maintain temperature: 1–1½ logs with 203–305mm (8–12") of open flame working on the coal bed.

IMPORTANT NOTES

- One pound of properly cured, heavy, hardwood produces the potential of 1.9 kW (6,500 BTU/hr).
- The temperature sensor (thermocouple) is located at the center of the floor, one inch under the surface. The thermocouple will give false readings if the fire is placed on top of it.
- If at anytime the oven is allowed to cool to room temperature for an extended period of time, this heat-up procedure will need to be repeated to avoid thermal shocking of the refractory stone which can cause excessive cracking.

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.

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 AWAY FROM THE OVEN WHILE IT IS IN USE.

DO NOT USE PRESSED WOOD PRODUCTS IN WOOD STONE EQUIPMENT AS THEY MAY DAMAGE THE CERAMICS.

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

***** Cord/Stere conversion
1 cord = 3.6 steres
1 stere = .27 cords

****** 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 local distributor).

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.

Cost per month = A x C

Cost per day = $\frac{A \times C}{30}$

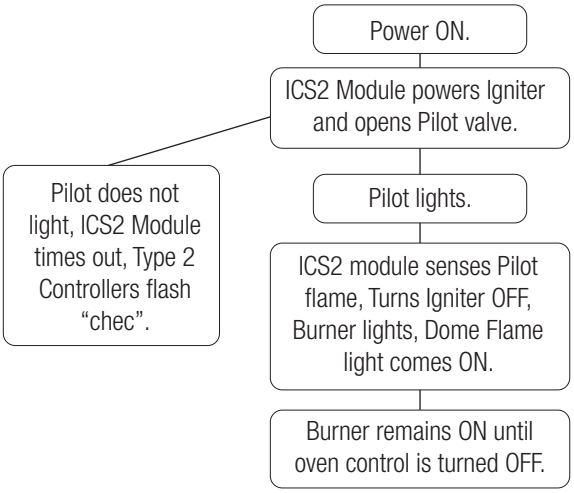
Cost per hour = $\frac{\left(\frac{A \times C}{30}\right)}{12 \text{ hr day}}$

A = Cost/cord (from wood supplier)
B = kg/cord (from above table)
C = Cords/mth (from experience, or call distributor for estimate)

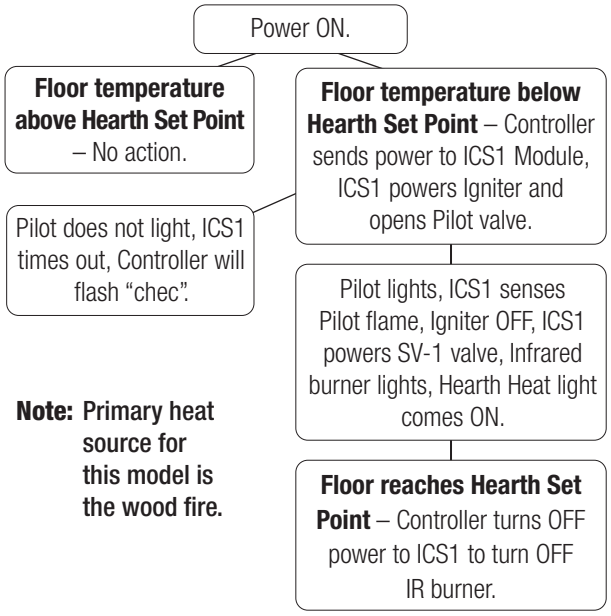
When burned, a kilo of any wood releases approximately 4.2 kWh (14300 BTU/hr), so it is better to compare the price of wood by the pound rather than by the cord. A full cord of wood measures 1.2 m x 1.2 m x 1.2 m when stacked.

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

RFG-(W) CE OVEN BURNER OPERATION SEQUENCE

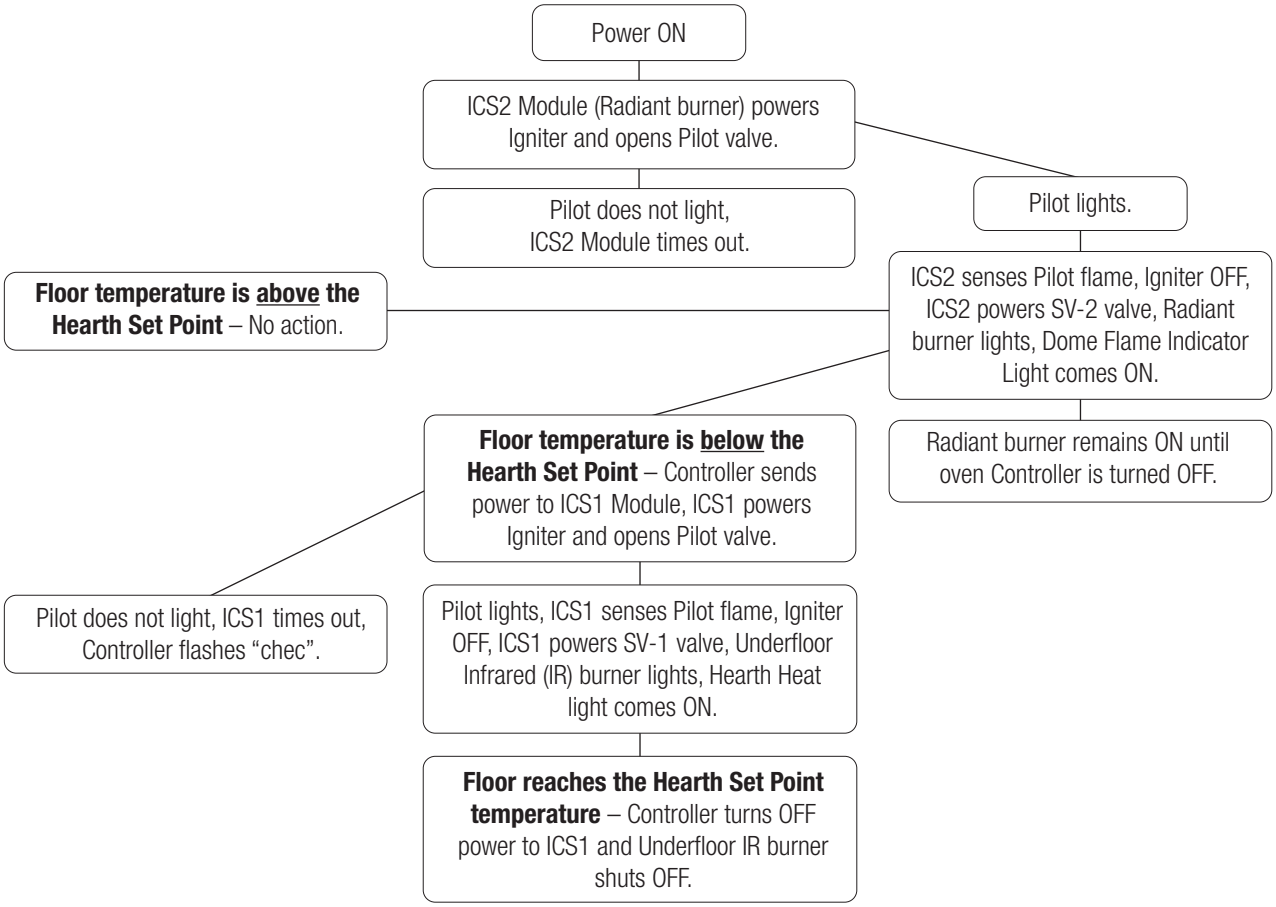


W-IR CE OVEN BURNER OPERATION SEQUENCE



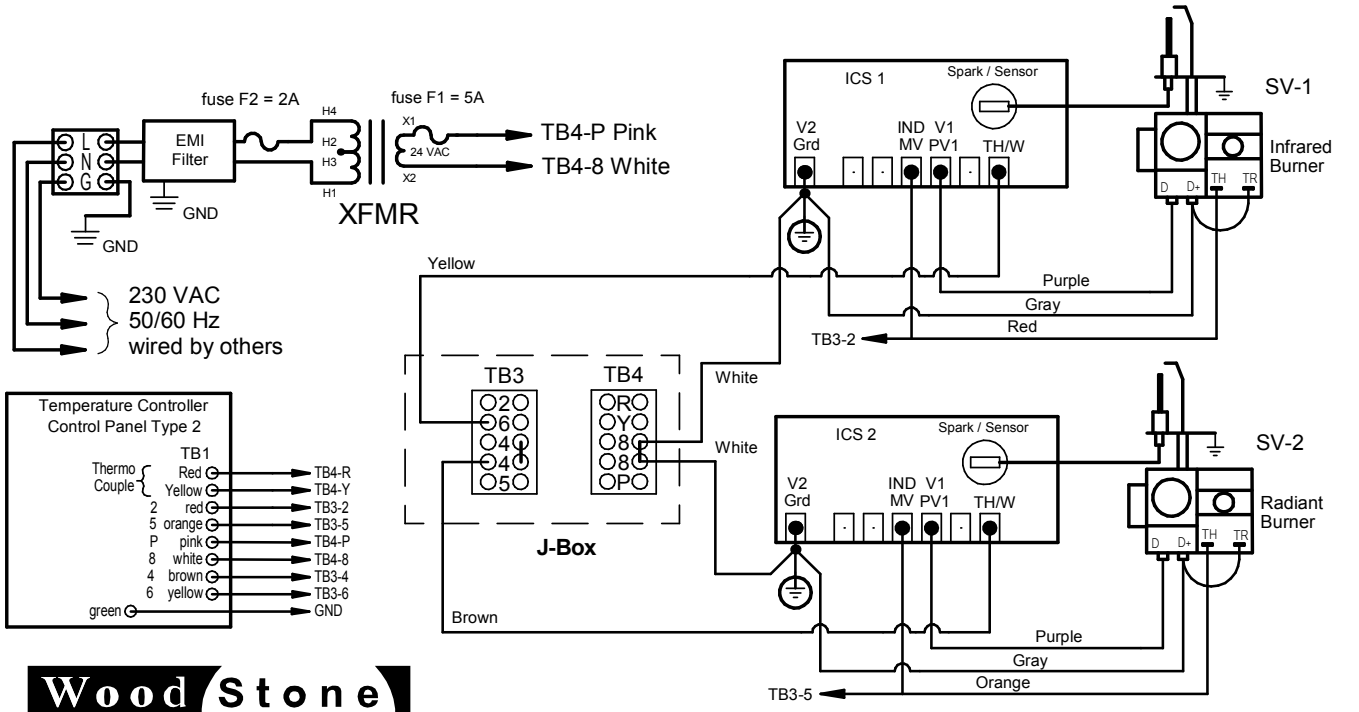
Note: **Primary heat source for this model is the wood fire.**

RFG-IR-(W) CE OVEN BURNER OPERATION SEQUENCE



PROBLEM	CAUSE/SOLUTION
Controller will not turn on **ALL MODELS**	**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 your local distributor for assistance.
Radiant flame does not light **RFG-(W)** **W-IR** **RFG-IR-(W)**	**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 your local distributor for assistance. **3.** Damaged igniter or gas valve. Contact your local distributor for assistance. If the oven is being started for the first time: Has all air been bled from the gas line? Is the switch on the SV-2 valve in the "ON" position? **NOTE:** Valve is located beneath the oven at the rear, towards the side where the radiant burner is located.
Flame cuts out **RFG-(W)** **RFG-IR-(W)**	**1.** Debris in burner. **2.** Oven is being run with the Night Heat Retention Door in place. Door must be removed whenever the oven is turned on. **3.** Wind blowing into the oven, or other venting issue.
Underfloor IR burner is not running. "Hearth Heat" light is OFF. **RFG-IR-(W)** **W-IR**	Hearth temperature is above the Hearth Set Point.
Hearth Temperature is above the Hearth Set Point. **RFG-IR-(W)** **W-IR**	Underfloor IR burner did not fire when the floor temperature dropped below the Hearth Set Point. Contact your local distributor for assistance.
"Chec" display on Controller **RFG-IR-(W)** **W-IR**	Underfloor IR burner did not fire when the floor temperature dropped below the Hearth Set Point. Contact your local distributor for assistance.
"Chec" display on Controller **RFG-(W)**	See "Radiant flame does not light" above.

RFG-IR-(W) CE (TYPE 2 CONTROLLER)



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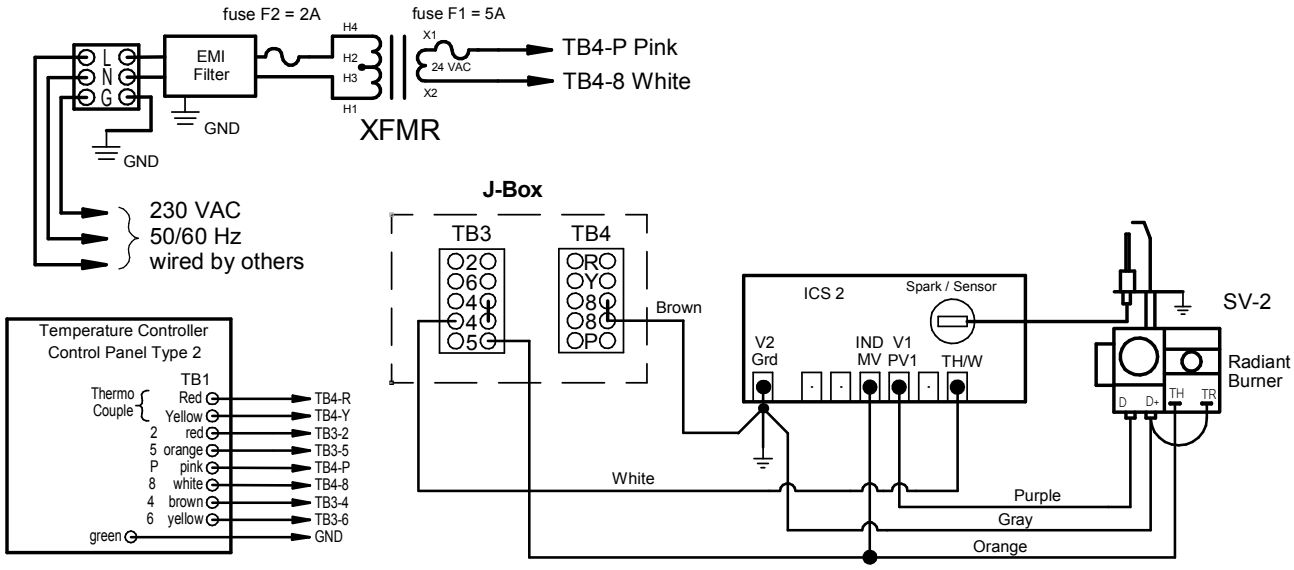
DIAG #: WD066 Rev. 2
DATE: 3/12/2018

RRFG-(W)-CE WITH TYPE 2 CONTROLLER



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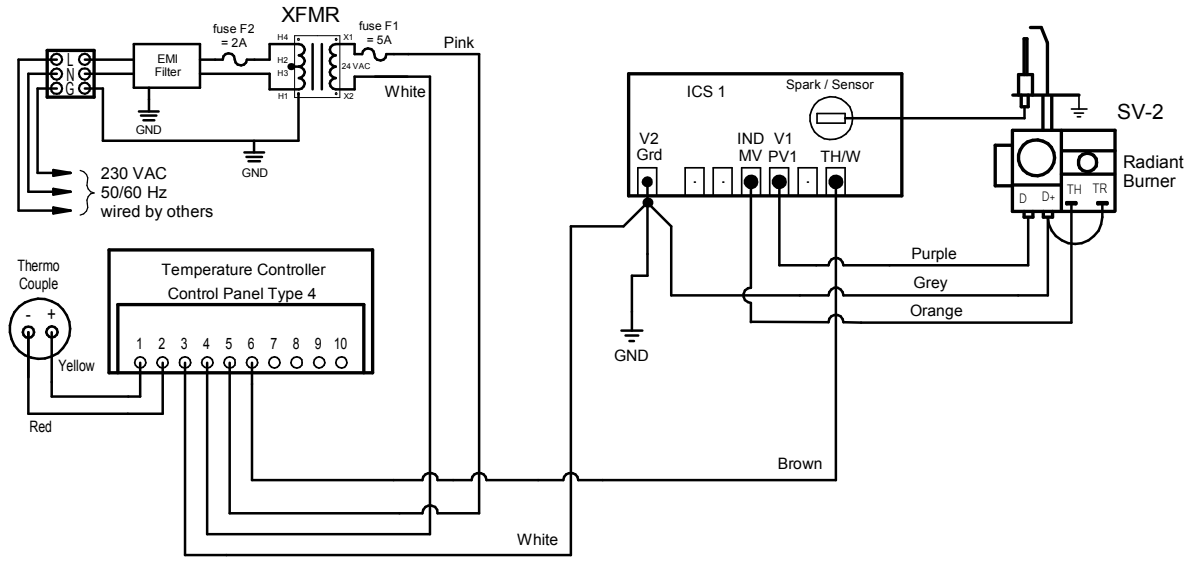
DIAG #: WD069 Rev. 2
DATE: 3/12/2018

RFG-(W)-CE WITH TYPE 4 CONTROLLER



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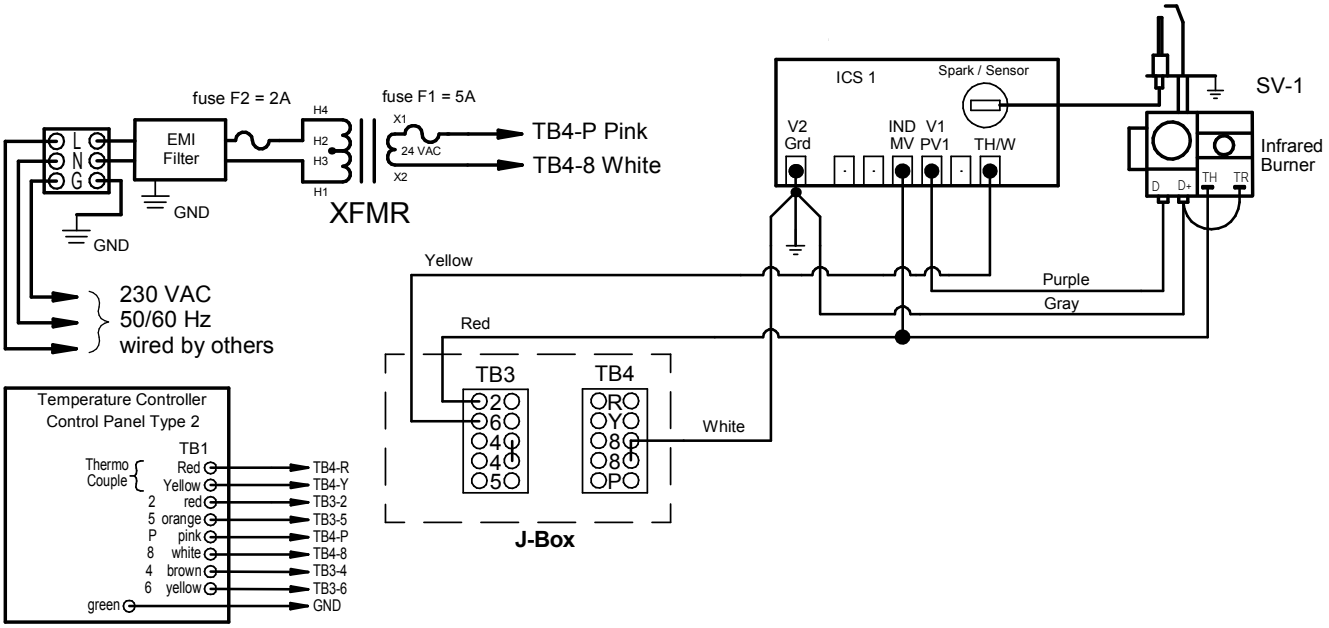
DIAG #: WD071 Rev. 2
DATE: 3/12/2018

W-IR CE (TYPE 2 CONTROLLER)



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DIAG #: WD063 Rev. 2
DATE: 3/12/2018

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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.
CONTACT YOUR LOCAL DISTRIBUTOR FOR WARRANTY SERVICE

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.
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:

Contact your local distributor.

Wood Stone

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