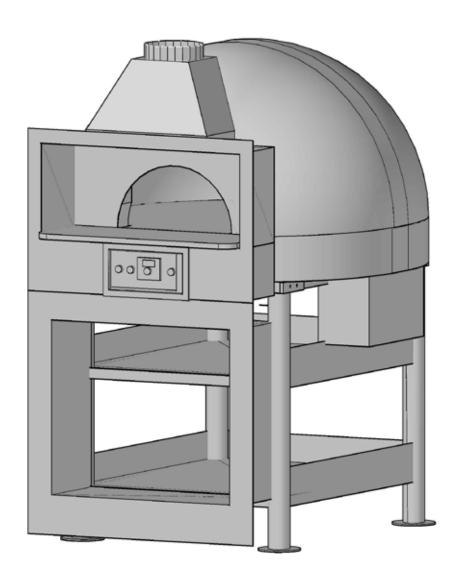
# Marra Forni: Square Facade

# **Installation/Operation Manual**





10310 Southard Drive Beltsville, MD 20705

Bus. 1.888.239.0575 Fax. 240.667.7991

info@marraforni.com marraforni.com

# DO NOT THROW THIS MANUAL AWAY. REVIEW WARRANTY BEFORE INSTALLING OVEN.



# Thank You for Purchasing a Marra Forni Oven

Our Neapolitan ovens are available in four different standard sizes: 90cm,110cm,140cm, and 150cm. Ovens are available outside of these dimensions (by custom order) to suit your restaurant's needs. **This oven has been extensively tested and approved by the ETL and NSF.** As an added option available to you, this versatile oven may be converted from wood-burning to gas, or converted for dual usage. A Marra Forni oven from Euro Restaurant Solutions enhances your menu and decor, while always providing dependable service and performance.

The guidelines found in this manual for the venting system are intended for solid fuel appliances, although they may also be referenced for gas ovens. If preferred, you may also burn a small amount of wood on the opposite side of our gas burner (if equipped) for aesthetic value and to add smoky flavor.

#### **WARNINGS**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

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.

Never use this appliance as a space heater to heat or warm the room. Doing so will result in carbon monoxide poisoning and overheating of the oven.

Never cover any openings in the oven bottom or cover an entire rack with materials such as aluminum foil. Doing so blocks air flow through the oven and may cause carbon monoxide poisoning. Aluminum foil linings may also trap heat and cause a fire hazard.

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

If using gas as your source of heat, you must post a statement in a prominent location for the event that the user smells gas. This information can be obtained by consulting your local gas supplier.

Please keep this manual for future reference for operating your oven. If you are in need of maintenance and/or repairs, please contact us directly at **1.888.239.0575.** 







### IMPORTANT INFORMATION

Minimum clearances for combustible and non-combustible construction:

Combustibles: Sides: 2" Back: 2" Non-Combustibles: Sides: 0" Back: 0"

On the bottom half of the oven there must be a minimum opening of 24" x 24" to allow air to enter the burner housing for proper combustion. If this opening is not sized to accommodate proper combustion, it may cause damage to the burner system. Installation of a sealed enclosure around the oven shell may also cause starving of the burner system. The use of return air or other ventilation systems within a sealed enclosure surrounding the oven can also disturb operations. For more information, please call **1.888.239.0575.** Never obstruct the flow of combustion and ventilation air to the oven.

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 with the Canadian electrical code csa c22.1, as applicable. Installation must conform with local codes, or with the national fuel gas code ansi z223.1, the natural gas installation code can/cga-b149.10 including:

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

#### Requirements for Proper Use of Gas Burner for Oven

- > 120 VAC 2.5 AMP outlet, 3/4" gas outlet
- > Gas inlet pressure to oven: 7 inches W.C. for natural gas
- > Gas manifold pressure is factory set to 3.5 inches W.C. for natural gas
- > Gas regulating valve (i.e. Maxitrol RV 48, 3-6) and shut off valve are by others
- > All models have a rating of 70,000-100,000 BTU

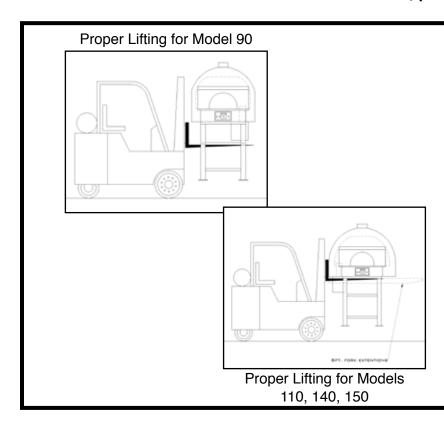
#### Requirements for Oven Installation

Following instructions on page 7, move oven to desired location and SLOWLY lower oven. It is imperative that your oven is level, thus a level floor is preferred. If necessary, shim oven until firm. Once oven is securely placed and level, remove the horizontal front angle. Use Ramset Redheads that are a minimum of three inches in length to insert through base plates. Complete oven installation intructions are shown on page 8. Exercise caution when moving the oven; it is top heavy.

### LIFTING & MOVING YOUR OVEN

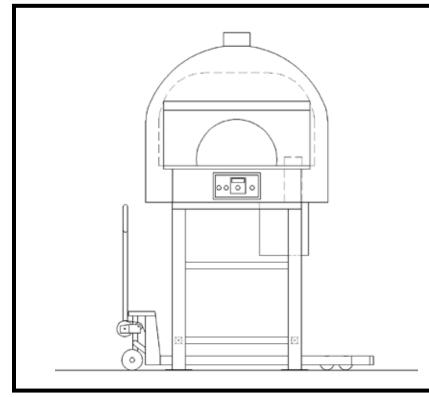
**IMPORTANT:** Only trained professionals using the proper machinery and handling equipment should lift and move the oven. Damage to the appliance, voiding of warranty, and personal injury may occur due to improper handling.

Forklift ovens from sides. For Model 90, pick up from center crossbars.



#### 1. USING A FORKLIFT

Before attempting to lift or move the oven, ensure that the forklift capacity can accommodate the weight of the oven, and that the forks are long enough to securely lift the oven with BOTH horizontal steel tubes, ensuring that no contact with the oven shell is made. The oven should be approached from either the front or the back to ensure even weight distribution. BE SURE TO KEEP FORKLIFT STRAIGHT. Guide forks through the inside of the steel support legs and carefully position underneath the horizontal steel tube members. Proceed to lift and move oven slowly.



#### 1. USING A PALLET JACK

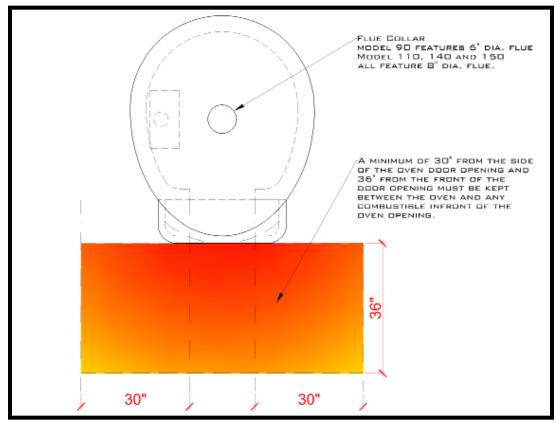
Ensure that the pallet jack capacity DOES accommodate the oven's weight, and that the jack is long enough to securely lift the oven with BOTH horizontal bottom steel tubes. The oven should be approached from either the front or back to ensure an even weight distribution. Guide the pallet jack through the inside of the bottom of the steel support legs and carefully position underneath previously mentioned horizontal steel Proceed to lift slowly and move oven as needed. Use 21" wide pallet jack for the Model 90. For all other models use regular pallet jacks that meet the necessary capacity.

### **OVEN INSTALLATION INSTRUCTIONS**

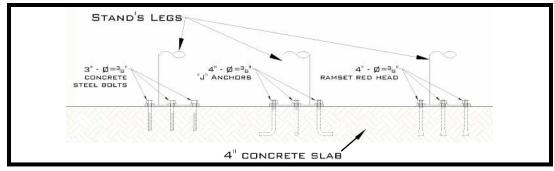
1. Select location for oven to be installed, marking an outline on the floor to ensure that you have adequate space. Floor space must extend to longest points of oven (circumference).

WARNING: INSULATION & OTHER MATERIALS MUST BE KEPT OUT OF THE CLEARANCE SPACES SURROUNDING THE OVEN.

2. Ensure that there is plenty of clearance between the ceiling and your oven. A basic installation with direct venting requires a minimum height of 83 inches. All combustible sidewalls projecting beyond the front of the oven opening must be be given a clearance of 30" from the side of the oven door opening, and 36" from the front of the oven door, as shown.



3. OPTIONAL: After completing steps 1-3, drill holes for the anchor bolts at a minimum of 3 inches deep using the base plates as a guide. Insert Ramset Redheads to fasten plates to concrete floor.



4. Non-combustible materials such as brick, ceramic tile, stainless steel, marble and other decorative metals may be used to face the outside surface of the oven dome if desired.

NEVER USE COMBUSTIBLE MATERIALS OR ADHESIVE TO DECORATE THE FACADE OF YOUR OVEN.

### **CURING**

Curing is necessary to ensure that your oven is free of moisture. The interior of the oven will appear dry upon arrival, but there is still a small amount of moisture in the bricks and mortar. If you neglect to cure your oven, the oven will become damaged during use. If you do not have your oven delivered pre-cured, you MUST follow these steps. The curing process takes a total of 5 days to complete.

IMPORTANT: NEVER burn liquid fuel, or any treated, coated, or laminated woods. The ONLY acceptable type of wood to use is dry, medium, or hard firewood.

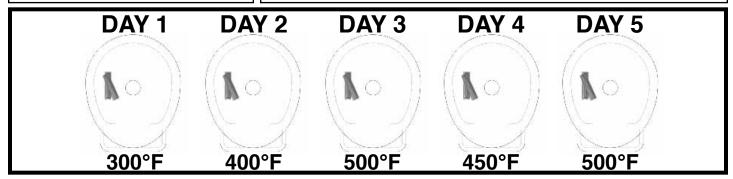
#### **GAS OVEN CURING**

- •Day 1: Burn at 300°F for 3 hours, turn oven off.
- Day 2: Repeat process at 400°F.
- Day 3: Repeat process at 500°F.
- •Day 4: Repeat process at 600°F.
- •Day 5: Repeat process at 700°F.

The diagram below illustrates gas oven curing.

#### **WOOD-FIRED OVEN CURING**

- •Day 1: Burn two pieces of wood until they disintegrate.
- •Day 2: Follow Day 1 procedure, then add a third piece of wood. Allow to burn completely.
- •Day 3: Follow Day 2 procedure, then add a fourth piece. Allow to burn down, then add a fifth. Burn completely.
- •Day 4: Burn two pieces, followed by one piece of wood at a time until you reach your desired temperature
- •Day 5: Oven is now cured, add wood as necessary until you reach desired temperature.



### **OVEN CARE & CLEANING**

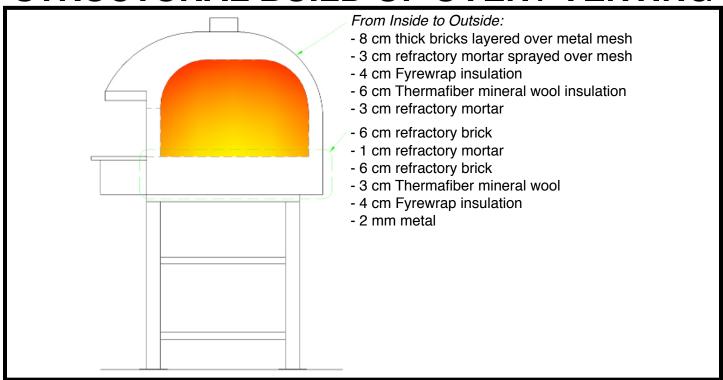
**Oven Floor**: As needed, brush stray debris from the oven floor using a long-handled floor brush. If something spills on the floor of the oven, allow it to burn and dry up, then remove residue with the floor brush. Speed up drying by placing hot coals onto the spill. For the removal of fine particles (ex. flour, ash), wrap a warm, damp cloth around the brush head and briskly wipe the floor. Do not scrape the oven with metal tools. Sharp edges or corners will damage the oven.

**For Stainless Steel Surfaces**: The oven tools, mantle, door(s) and doorway must be cleaned using warm soapy water. Do not use abrasive metal scouring pads as they will scratch the stainless steel. Avoid the use of excess water when cleaning the face of the digital readout or oven controller.

**Duct**: Regular cleaning and maintenance of the exhaust system are necessary to prevent hood and/ or duct fires. The frequency of inspection and cleaning will depend upon hours of use and type and moisture content of the wood used for fuel. Avoid flue fires by maintaining a set cleaning schedule.

**Door**: This is used for heat retention. Spread out the coals before putting the door in place.

### STRUCTURAL BUILD OF OVEN / VENTING



A UL-listed grease or building heating appliance chimney installation (referred to as direct venting), and Type I exhaust hood installed per NFPA 96 and UMC standards for Ventilation Control and Fire Protection of Commercial Cooking Operations are the only two methods of venting permitted for commercial Marra ovens. Of the two options, direct venting is more common, although an exhaust hood is required in some areas (consult local ordinances). Venting must comply with ETL regulations. For gas ovens, always ensure that there are no obstructions to the flow of combustion and ventilation, including the cylinder enclosures. Please refer to your exhaust hood manufacturer's guidelines for inspection, maintenance and sanitation procedures.

**A UL Listed Grease Duct/Building Chimney Heating Appliance** can be connected to the chimney opening of the oven. A minimum 50v0 C.F.M.-listed power ventilator for restaurant exhaust appliances is required. A minimum temperature rating of 300°F is required for the power ventilator.

Type I Exhaust hood standards for ventilation control and fire protection of commercial cooking operations are as follows: Steel baffle (NOT MESH) grease filters must be used and placed at the rear of the hood. The following specifications must also be met:

- There must be at least 10" between the front of the oven face and the front of the hood.
- According to UMC there must be 42" between the oven heart and the face of the filter.
- The side of the hood must extend a minimum of 6" to either side of the oven door opening.
- If required, a type 1 hood must be placed above the cooking opening and set atop the oven. Minimum hood dimensions are 36" wide and 37" deep, 22" high for Models 90 and 110, and 40" wide, 37" deep and 22" high for 140 and 150. **Duct Velocity = 1500-2500 FPM Vol.: 800-1000 CFM**

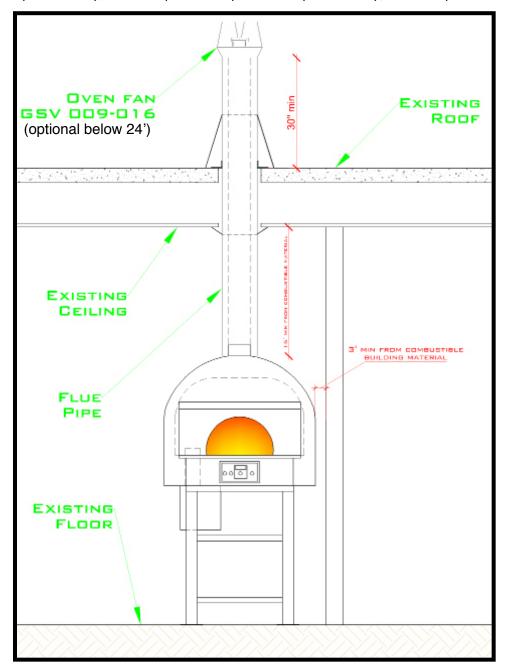
Refer to Lennox Chimney Supply instructions for specific Direct Venting installation requirements. A field-built duct, constructed and installed to NFPA 96 or International Mechanical Code grease duct specifications, may also be used. **Volume: 150-200 CFM** 

www.SecurityChimneys.com

### **DIRECT VENTING - NEAPOLITAN MODEL**

**DIAMETER OF INSIDE GREASE DUCT BY OVEN SIZE:** 

.90M (6" DUCT), 1.10M (8"DUCT), 1.40M (8" DUCT), 1.50M (8" DUCT).



#### **Grease Duct Heating Appliance Lennox Secure Stack CIX**

The above diagram depicts the installation required for a direct venting application that complies with ETL guidelines.

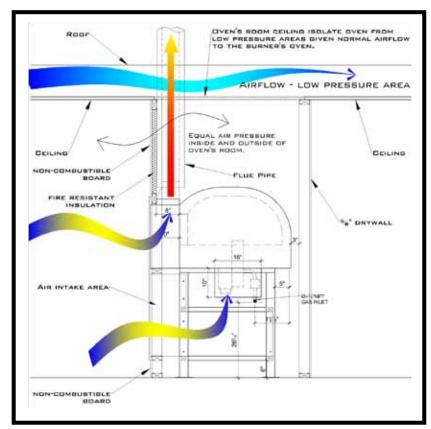
Be sure to contact your local authorities to explore local jurisdiction regarding fire rated duct shafts.

Note: The chimney must be installed in accordance with the manufacturer's grease duct installation instructions. To maintain the ETL listing of the oven, the system must be a UL listed fire-wrapped grease duct in either stainless steel, black iron, or a listed building heating appliance duct.

### **IMPORTANT**

#### PROCEDURES AND INSTALLATION FOR COMBUSTION AIR INTAKES

FOR GAS AND WOOD-BURNING OVENS



#### **Proper Installation**

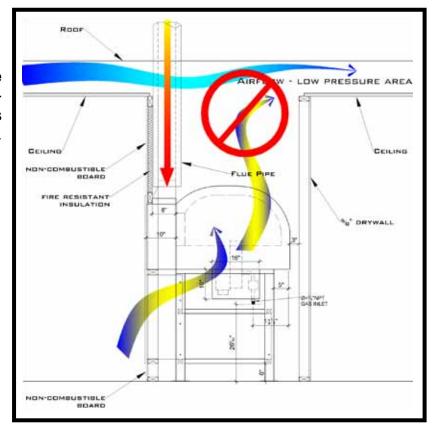
Build a room specifically for the oven that will isolate the oven from the low pressure air, but leave an open air intake area.



#### Improper Installation

The combustion is diverted from the oven burner. The room is open to a low-pressure area, therefore the exhaust is pulled backwards through the oven burner.

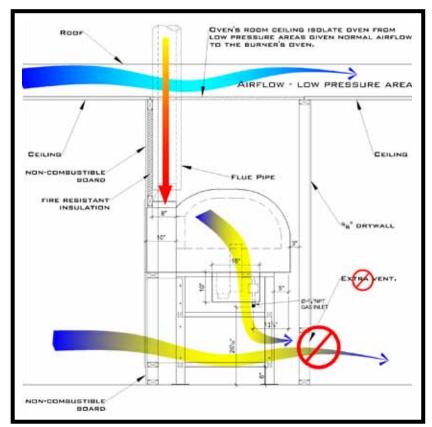




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#### PROCEDURES AND INSTALLATION FOR COMBUSTION AIR INTAKES

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#### **Improper Installation**

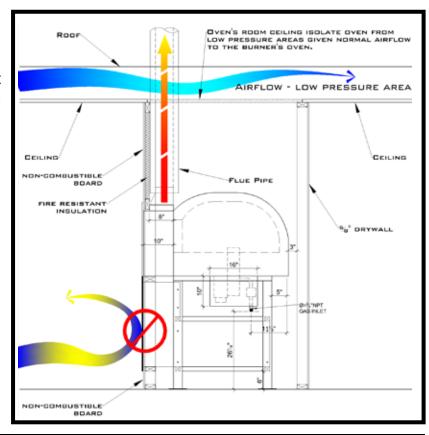
DO NOT add a vent to increase air supply. This will disrupt air flow to the oven as the air moves from normal to low pressure.



#### Improper Installation

If the air intake area is blocked, insufficient combustion will result in burner malfunction and poor oven performance.

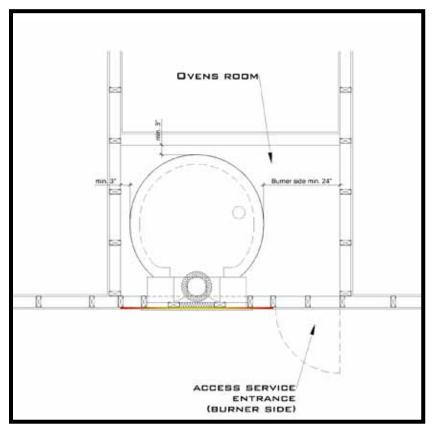




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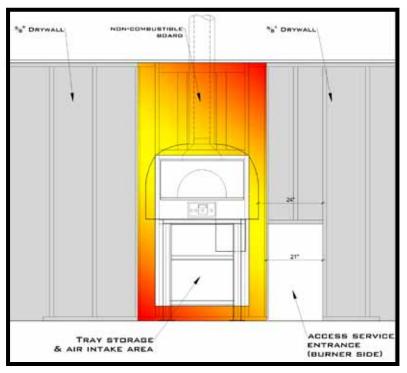
In the oven's room, make sure to leave a 24" space allowance on the burner side for regular service. The service area must be within the same wall where the face of the oven is located.



#### **Proper Installation**

Apply non-combustible board in between the oven's facade and the ceiling, as well as a minimum of 6" on both sides of the facade.





### GAS INSTALLATION

- 1. A gas oven should only be connected to the type of gas for which it is equipped.
- 2. Before operating the oven, please ensure that there are no leaks in any of the pipes or joints by using a soap and water solution. DO NOT CHECK FOR LEAKS UTILIZING AN OPEN FLAME.
- 3. To check the manifold pressure, a 1/8 pressure tap can be found on the combustion gas control. For the proper setting, refer to the nameplate. This control is preset at the factory before shipping.
- 4. Connect a 3/4" gas supply to oven. On all threaded joints, be sure to use a pipe joint compound that is nonreactive to gas. We recommend that you have a service shutoff valve installed outside of the oven at the time of installation.
- 5. Connect your gas burner control box to your 120 VAC, 60hz, 2.5 AMP, 1 PH power supply. ALWAYS BE SURE THAT THE SYSTEM IS PROPERLY GROUNDED.

### **OPERATING INSTRUCTIONS**

(FOR WOOD OR GAS OVENS)

- 1. READ INSTRUCTIONS CAREFULLY. Improper use of this oven may result in fire and/or personal injury. All operators and supervising personnel MUST READ AND THOROUGHLY UNDERSTAND THESE INSTRUCTIONS. This oven is to be operated by trained and qualified personnel only and never left unattended. This oven is a heat-producing appliance and may cause severe burns if the inside is touched.
- 2. This unit is designed to be used as a gas or wood-fired oven. Only pizza and/or bread products should directly touch the hearth. Please refer to the manufacturer's operation guidelines for instructions on cooking other foods.
- 3. DO NOT OVER-FIRE. If flames spill out from the door opening or the oven temperature exceeds 1000°F, you are over-firing. DO NOT fully close the door while a fire is in the oven. This cuts off oxygen, causing the fire to erupt when the door is removed.
- 4. Keep a wood fire-rated fire extinguisher close to the oven at all times. Ensure that all personnel and supervisors are aware of its location and use, as well as what to do in case of a fire emergency. DO NOT use liquid fuels to begin a fire, DO NOT use liquids to extinguish a fire.
- 5. The fire may be poked and stirred with a wood handling tool whenever you add fuel. Doing so will help air to move through the fuel bed for proper combustion.
- 6. After the oven has reached cooking temperature, clean your cooking area as described in the DISPOSAL OF ASHES section before commencing cooking procedures. Non-dough based foods must be placed on appropriate cookware before being set in the oven.
- 7. To prevent sparks from entering ductwork, exhaust systems serving Solid Fuel equipment MUST NOT be combined with exhaust systems serving other (non-solid fuel) cooking equipment. Consult local authorities for regulations concerning proper exhaust installation.

### **GUIDELINES FOR OVEN USE**

- 1. DO NOT USE PRODUCTS NOT SPECIFIED FOR USE WITH THIS OVEN.
- 2. Be sure to only burn seasoned or dried, untreated solid wood fuel in the oven. NEVER BURN OTHER FUELS IN THE OVEN SUCH AS LIQUIDS, CHARCOALS OR GARBAGE.
- 3. Firewood stored in the vicinity of the oven must be kept in a tightly sealed metal container; see maintenance instructions and NFPA 96 guidelines. Keep the container closed at all times when not adding or removing wood. Store the container a considerable distance from the oven and far away from sources of heat or ignition. The container must be a minimum of 6" off of the floor. DO NOT STORE EASILY IGNITED ITEMS WITH FIREWOOD.
- 4. If installed WITH an exhaust hood, provisions must be made to supply sufficient combustion air into the oven during use. Combustion air must be supplied in accordance with local codes and the Uniform Mechanical Code, as well as NFPA 96. The exhaust hood and make-up air blowers must be on at all times when firing. If the exhaust hood power ventilator fails, close the oven door to extinguish the fire and prevent temperature buildup in the hood duct, which can activate the emergency suppression system. Exhaust hoods must extend a minimum of 12" from the opening of the oven. NEVER close the oven door fully unless there is an emergency.
- 5. Use only non-combustible hearth tools and cooking implements inside the oven (we offer an entire line of Marra Forni pizza making tools).
- 6. NEVER ELEVATE THE FIRE. Fires should always be built directly on the hearth.

# WOOD FIRE MAINTENANCE INSTRUCTIONS

WARNING: READ ALL INSTRUCTIONS CAREFULLY. IMPROPER USE OR MAINTENANCE OF THIS APPLIANCE MAY RESULT IN A BUILDING FIRE OR PERSONAL INJURY

- 1. Always be sure to keep all fuel, furnishings, and other combustible objects away from the oven (refer to the combustible clearance distances found on page 8 of this manual).
- 2. DISPOSAL OF ASHES Using a metal container with a tight-fitting lid, ashes from the ash pan should be placed away from all combustible materials (including floors and walls) until ready for final disposal. Be sure to keep ashes in the closed container until all of the cinders have completely cooled. Once cool, ashes can be disposed of by burying in soil or dispersing locally.
- 3. After ashes have been removed, the hearth may be wiped down with clean damp cloths.
- 4. Always be sure to store your wood away from any source of heat or flame in a cool, dry place. If you decide to store your wood outside, be sure to keep it covered to protect it from precipitation. If you store your wood inside, it must be kept in a covered metal container at least 6 inches off of the floor. Always be sure to keep any combustible materials (paper, rags, etc.) away from the wood. Refer to NFPA 96 for wood storage procedures.

### **WOOD FIRE MAINTENANCE INSTRUCTIONS**

(CONTINUED)

- 5. Be sure to thoroughly clean the area around the oven of all wood, wood shavings, embers, ashes and other refuse at the end of each shift. Also make sure that all floor mats (mats must be non-combustible), are picked up and carefully swept, as well as the floor. After you have swept around the unit, dampen the brooms to ensure that any hot coals are extinguished and then store away from any combustible materials.
- 6. **FORMATION/REMOVAL OF CREOSOTE-** Tar and organic vapors produced when wood burns slowly can combine with moisture to form creosote. Creosote vapors condense in the comparatively cool oven flue and exhaust hood duct of a slow burning fire, resulting in the accumulation of creosote residue in these places. Creosote makes an extremely hot fire when ignited.

At least twice monthly the oven flue, exhaust duct and power ventilator should be inspected to determine if creosote buildup has occurred. If any creosote and/or grease has accumulated, it should be immediately removed to reduce the risk of fire. You should only hire experienced duct servicing personnel (qualified in the removal of both creosote and grease from flues and ducts) to perform the inspection and cleaning. You should adjust the inspection and cleaning schedule as needed to prevent the buildup of creosote and/or grease. If excessive buildup is found to occur between inspections, more frequent inspections and cleanings are needed. Increases in the rate of the creosote and grease accumulation can be caused by a change in the use of the oven, changes in the type or moisture content of the firewood that you are using, etc.

Clean the oven, exhaust hood, and grease filters on a daily basis. Grease filters can be removed and cleaned in a dishwasher or sink. For inspection, maintenance, and cleaning of the venting system, please refer to the NFPA 96 requirements and/or the manufacturer's instructions for the exhaust hood or grease duct.

# NEVER CLEAN OR INSPECT OVEN UNIT, HOOD, OR VENT WHILE THE OVEN IS BEING FIRED OR IS STILL HOT!

- 7. The entire unit and vent system should be inspected frequently to ensure proper fit, operation and soundness of parts. If there are malfunctioning parts, leakages, deterioration, or any other problems, contact Marra Forni to schedule a time to inspect and repair the unit. If there is a problem with the ventilation system, contact a qualified ventilation repair service to inspect and repair the system. IF THERE ARE ANY PROBLEMS DO NOT OPERATE THE UNIT. Only qualified personnel should perform any maintenance on this oven.
- 8. For solid fuel cooking, refer to NFPA 96 for proper inspection, cleaning and maintenance procedures. Save these instructions.

If you choose to burn both wood and gas, ensure that your wood is burned on the opposite side of the oven from the gas burner. WOOD AND GAS MUST NOT BE BURNED SIMULTANEOUSLY. Your main source of heat should be the gas burner, wood should be burned exclusively for flavoring and aesthetic value.

# TO IGNITE OVEN (GAS)

#### DOOR MUST BE REMOVED BEFORE OPERATING OVEN

- 1. Turn On exhaust and make-up air blowers (if applicable).
- 2. Turn the service shut-off valve On.
- 3. Turn combination gas control knob to On.
- 4. Set thermostat to desired temperature setting (500 to 600 degrees Fahrenheit).
- 5. Turn on electrical switch. This generates a spark that ignites the gas at the main burner.

# **SHUTTING DOWN OVEN (GAS)**

- 1. For TEMPORARY shut down, turn off electrical switch.
- 2. For COMPLETE shut down, turn combustion gas control knob to Off.

# TO FIRE OVEN (WOOD)

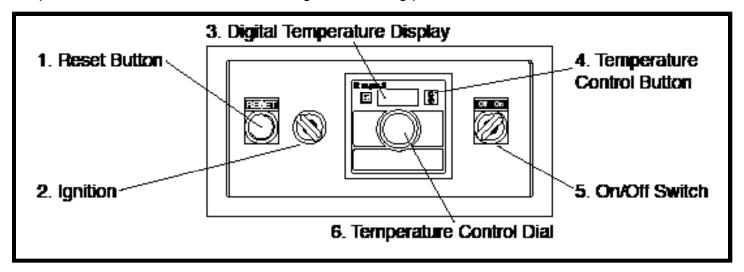
- 1. Turn On exhaust fan and make-up blowers (if applicable)
- 2. Place a firestarter block on the hearth with a small amount of wood and kindling overtop. Light your firestarter and be sure that you never use more than four pieces of wood.

CAUTION: FLAMMABLE LIQUIDS, SUCH AS GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID AND SIMILAR PRODUCTS SHOULD BE KEPT AWAY FROM THE OVEN WHEN IN USE AND NEVER USED TO START OR "FRESHEN UP" A FIRE.

- 3. Add larger pieces of firewood (WELL-SEASONED OR DRIED WOOD ONLY) when the kindling is burning well.
- 4. Maintain your desired heat rate by adding wood as needed, being careful to never over-fire the unit. Signs of over-firing include temperatures in excess of 1000°F and having flames spill out of the oven door.

# **USING THE GAS BURNER CONTROL PANEL**

- 1. Move the On/Off Switch (5) to the "On" position.
- 2. Flip the Ignition Switch (2) to ignite the gas coming out of the main burner inside of the oven.
- 3. Press the Temperature Control Button (4). The digital temperature display (3) will flash.
- 4. Set the desired cooking temperature by turning the Temperature Control Dial (6).
- 5. Once the temperature is set, release the dial and allow the temperature to flash, confirming that the temperature is set. The oven will now begin the heating process.



# GAS BURNER MAINTENANCE

**WARNING:** Fire or injury may result from improper oven maintenance. Do not clean or service oven, hood, or vent while oven is in use. Contact Marra Forni or a local service company to perform all maintenance and repairs.

- 1. Clean the oven regularly with recommended cleaning agents. Remember to disconnect the power supply from the gas burner control box before any cleaning or servicing.
- 2. To remove burner for cleaning:
  - 1. Disconnect cable from spark igniter.
  - 2. Unscrew the fitting for the gas supply line (fitting is located near burner assembly). The gas supply line connects the gas valve to burner assembly.
  - 3. Tilt the opposite end of burner up and slide burner down from burner enclosure.
  - 4. Use a wire brush to clean all of the jet holes until they are clean and free of debris.
- 3. To replace burner after cleaning:
  - 1. Insert the end opposite to the gas connection first, then the remainder of the burner until the burner rests horizontally in burner enclosure.
  - 2. Connect gas supply line to burner, then connect cable to spark igniter.

NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.
USE A SOAP/WATER SOLUTION TO CHECK PIPING FOR ANY LEAKS.

### **DAILY THERMAL CLEANING PROCEDURES**

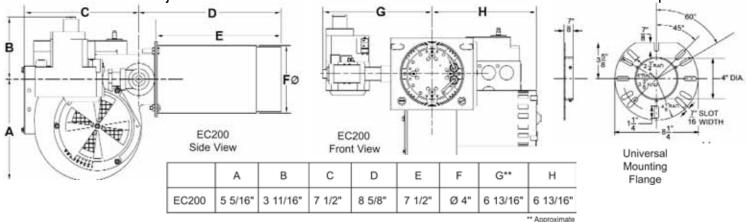
- 1. Increase your oven temperature to 850°F.
- 2. Leave your oven door slightly open (at least 3"). This can be achieved by tilting your oven door at a 45° angle. NEVER close the door when the burner is on. If closed, the oven interior will turn black and a back flash may occur. Wait for two hours, then turn your oven off and close the door. DO NOT use cleaning agents in the oven.

### SHUTTING DOWN THE OVEN

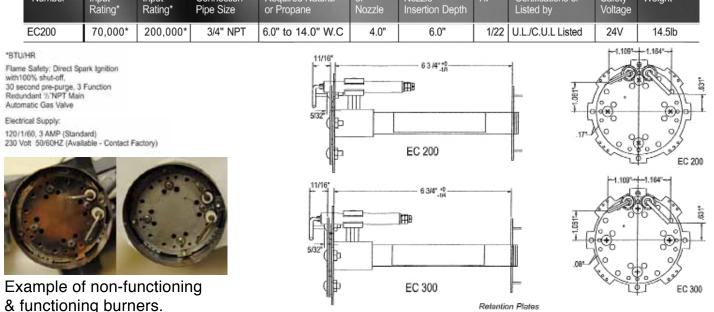
- 1. Turn the main power to the "Off" position.
- 2. If you are shutting down the oven for the night, turn off the gas control valve to prevent gas buildups. Save these instructions for future reference. If you have questions, call 1.888.239.0575

### GAS BURNER SPECIFICATIONS

Gas ovens feature an EC200 gas burner that maximizes usable deck space with its compact design. The burner has an adjustable external air shutter with a visual indication of the air shutter position.



Model Number	Minimum Input Rating*	Maximum Input Rating*	Gas Connection Pipe Size	Gas Pressure Required Natural or Propane	Diameter of Nozzle	Maximum Nozzle Insertion Depth	Motor HP	Design Certifications or Listed by	Primary Safety Voltage	Weight
EC200	70,000*	200,000*	3/4" NPT	6.0" to 14.0" W.C	4.0"	6.0"	1/22	U.L./C.U.L Listed	24V	14.5lb

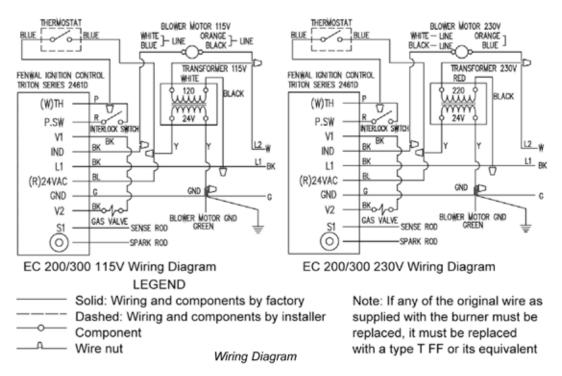


### GAS BURNER FULL SPECIFICATIONS

Below are the full factory specifications for the type of burner used on Marra ovens. This gas burner features a 3/4" NPT connection and is capable of 200,000 BTU/h output. It is UL and CUL listed, and works with both natural gas and propane models.

NATURAL or PROPANE Gas							
Air Delivery	EC 200						
(Approximate air delivery at zero draft)	40.0 SCFM*						
Maximum Firing Rate**	200 MBH***						
Minimum Firing Rate**	70 MBH***						
Tube Diameter	4 inches						
Tube Length	7.50 inches						
Combustion Chamber Size	Recommended Minimu	ım W & H					
100 MBH ***	8" W x 8" H						
200 MBH ***	10" W x 10" F	1					
300 MBH ***	14" W x 14" F	1					
Gas Pressure Required							
NATURAL or PROPANE	6.0" to 14.0" W.C.	6.0" to 14.0" W.C.					
Electrical Supply Standard	120/1/60, 2.0 Amps	120/1/60, 3.0 Amps					
	230 volts 50/60 hz ****	230 volts 50/60 hz ****					
Flame Safety	24V Electronic Flame Safe	ty, with 100% shut-off, 30-					
	second pre-purge.						
Main Automatic Valve	3 Function Redundant	3 Function Redundant					
Notes:  * SCFM=Standard Cubic Feet/Minute  ** Ratings based on 1,000 BTU/cu. ft. NATURAL, 2500 BTU/cu. ft. PROPANE at Sea Level.  ***1 MBH=1,000 BTU/Hr.  **** Available - Contact Factory  Derate burner for altitudes over 2,000 feet by 4% for each 1,000 feet above sea level.							

# **GAS BURNER WIRING DIAGRAM**



## **GAS BURNER SERVICE**

Caution: If the gas supply pressure is below its specified range during adjustment, an overfire condition could result when normal pressure returns, particularly if the regulator adjustment screw is bottomed out. ALWAYS confirm that at least the minimum rated gas pressure is being supplied to the burner during regulator adjustments, and NEVER bottom out the regulator screw.

--If the pressure regulator fails to maintain a constant manifold gas pressure within ±0.1" W.C., and it is confirmed that the inlet gas pressure to the Combination Gas Valve is a steady 14.0" W.C. minimum with the flame on, the regular portion of the gas valve is defective and the entire gas valve must be replaced.

**Caution:** If the combination gas valve has been moved or replaced, perform testing for leaks with the burner running.

**Caution:** If leakage through the gas valve occurs on standby, as evidenced by the presence of any flame, the entire gas valve needs to be replaced.

XIV - Electronic Control
Operation-Power Up/Standby: Upon applying power (24v) to 24VAC, the control will reset, perform a self-check, initiate full time flame sensing, flash the diagnostic LED for up to four seconds, and enter the thermoscan state.

---Heat Mode: when a call for heat is received from the thermostat, the control will check the internal blower motor interlock switch for normally open contacts. The combustion blower is then energized and once the internal blower motor interlock switch contacts close, a pre-purge delay begins. Following the prepurge period, the gas valve is energized and spark will commence for the trial ignition period. ---When flame is detected during trial for ignition, spark should shut off immediately while the gas valve and combustion blower remain The thermostat, internal blower energized. motor interlock switch, and main burner flame are constantly monitored. When the thermostat is satisfied and the call for heat ends, the main valve is de-energized immediately, the control senses the loss of flame signal and initiates an (optional) post-purge period before deenergizing the combustion blower.

---Failure to Light (Lockout): Should the main burner fail to light, or flame is not detected during the trial for ignition period, the control will go into Lockout. The valve will be turned off immediately, and the combustion blower will be turned off following an optional post purge period.

**Caution:** Explosion hazard. Can cause serious injury or death. This device can malfunction if it gets wet. Never try to use a device that has been wet or submerged.

## **GAS BURNER MAINTENANCE**

#### Maintenance

---The motor features permanently lubricated ball bearings and requires no routine oiling or maintenance.

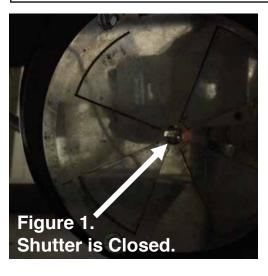
---Check burner flame periodically. A proper natural gas flame will appear blue at the burner face with orange/yellow tips. If the flame is too rich, it will appear billowy and yellow with hazy tips. If too lean, it will appear short and all blue. If the flame does not appear proper, contact a qualified service technician.

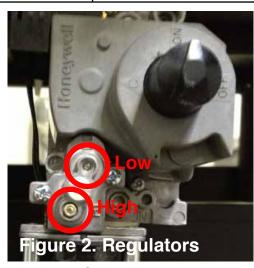
Caution: If flame is observed when burner is on standby, or if the ignition spark or gas valve operator comes on before the motor reaches operating speed, immediately turn off the Main Manual Shut-off Valve and power to the burner. A condition has developed that must be corrected. Contact a service technician.

**Caution:** If PROPANE is used and the burner is located in a confining space, install a gas leak warning device. Propane gas is heavier than air and can settle in low areas or confined spaces. This can cause a dangerous condition.

### **TROUBLESHOOTING**

Problem	Solution
1. The flame is blue.	1. Check to make sure that the shutter is closed. The shutter should remain closed at all times. See Figure One.
2. The flame is stuck on "High" or "Low" setting.	2. Make sure the blue & black wires are connected to the gas valve. After you are sure that all wires are properly connected, test the temp. control dial.
3. The burner shuts itself off.	3. Check the low flame. See Figure 2 for details on how to do this. You may need to adjust the low flame regulator.
4. The burner will not light, and there is no flame in the oven.	4. Is the gas in the oven turned on? Turn the oven off, and then on again to reset. Make sure that the combination gas valve is turned ON.
5. Reset light is ON.	5. Check the low flame regulator. You may need to adjust the low flame regulator, to make sure that sufficient gas is reaching the oven.
6. The control box will not turn on.	6. This means that no power is connected to the oven. Check for blown fuses on the back of the control box. If the control box still does not turn on, please contact a Marra Forni representative.
7. The display reads "Open."	7. Make sure that the Thermocouple is plugged into the control box.
8. The flame is too small or too large.	8. Adjust the high and low flame regulators.
9. The spark igniter does not work.	9. Light the end of a piece of paper on fire and hold over the burner to light the oven. Use this process to light the oven until you are able to call Marra Forni and be issued a replacement burner.









#### NOTE: ELECTRICAL AND FLAME CHECKS MUST BE MADE IN THE ORDER LISTED.

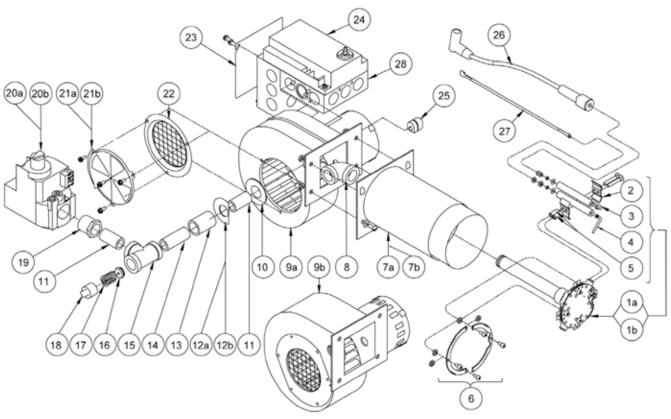
- 1. Check status of electronic burner control diagnostic indicator LED.
  - A. LED On = electronic burner control fault.
  - B. 1 flash = air flow fault.
  - C. 2 flashes = flame with no call for heat.
  - D. 3 flashes = ignition lockout.
- 2. Confirm that both main manual shut off valve and manual gas knob on combination gas valve are in the ON position. Make sure that the thermostat, operating controls and safety controls are calling for heat. Check associated wiring and connectors before replacing a component. Whenever the burner fails to light during the 7 second ignition trial, or if the flame is lost during the burner run cycle and not reestablished within 37 seconds (30 sec. pre-purge), the electronic burner control will shut OFF the combination gas valve and lock out the burner. To reset, set the operating control to OFF or set the thermostat below set point for at least 30 seconds.
- 3. Confirm that:
  - A. Burner is properly grounded (Green wire to ground).
  - B. Line voltage is present between wires L1(Black) and L2(White). If not, check line power source.
  - C. Line voltage is present between L1 (Black) and Ground (Green).
  - D. There is no voltage present between L2 (White) and Ground (Green).
- 4. Confirm that 24V are present at:
  - A. Transformer, 24V secondary side (Yellow wires). If not present, replace transformer.
  - B. R terminal on burner control and Ground.
  - C. First Blue wire in electrical box labeled "T"(thermostat) and Ground, 2nd Blue wire in electrical box labeled "T" (thermostat) and Ground. If power is only present at one Blue wire, check thermostat and wiring.
  - D. TH terminal on electronic burner control and Ground. If no power is present at TH terminal, check thermostat and wiring.
- 5. Blower motor should now be ON. If ON, proceed to step 7. If not ON:
  - A. Confirm that line power is present at IND wires at the electronic burner control.

NOTE: IND wires exit the back side of the electronic burner control and one IND wire goes to the line

power outside of the blower motor (White and Blue wires for 115V, White and Black for 230V).

- B. Confirm that line power neutral (L2, White) is connected to motor neutral wires (Orange and Black wires for 115V, Orange and Blue wires for 230V). If line power is being delivered to the blower motor and it is not running, replace the motor.
- 6. With blower motor running, confirm that 24V power is present at PSW terminal on the electronic burner control and Ground. If power is not present, check wires and wire connections of the internal motor interlock switch (2 red wires exiting motor). If the blower motor is running and the internal blower motor interlock switch is open, replace the blower motor.
- 7. After 30 second blower motor pre-purge, confirm 24V power at V1 terminal on electronic burner control and Ground. If power is not present, replace electronic burner control. NOTE: After the prepurge period, the controller will simultaneously energize the gas valve and send power to the spark rod, causing an ignition spark at the end of the rod. CAUTION: Spark generating circuit is HIGH VOLT-AGE! If an ignition spark is not present at the tip of the rod, turn the power supply OFF. Inspect ignition wire/connectors, spark rod & positioning, spark rod gap and spark rod ceramic insulator. Adjust, repair or replace as necessary. If an ignition spark is still not present, perform a spark test on the electronic burner control per the manufacturer's instructions. If it fails, replace electronic burner control.
- 8. Once ignition spark is present, main flame should be present. If not present:
  - A. Confirm that there is no air in gas line. If so, purge air from gas line.
  - B. Confirm that 24V power is being delivered to the gas valve (V1 and V2 on electronic burner control).
- C. Check for adequate flame current signal strength with an electrical meter (Refer to the electronic burner control manufacturers specification sheet that is supplied with the burner as noted in Section VIII, sub-section 6).
- 9. Once main flame is established and flame current signal strength is good, proceed to "Part 2 Service, Section VIII Burner set-up/ adjustment" to finalize the burner set-up.

## GAS BURNER PARTS ISOMETRIC VIEW



Item	#Part #	Description	Qty
1a	5236-20	EC200 Burner Head Assembly	1
1b	5236-19	EC300 Burner Head Assembly	1
2	5232-25	Flame and Spark Rod Bracket	2
3	5236-16	EC200/EC300 Spark Rod Assembly	1
4	5236-18	EC200/EC300 Flame Rod Assembly	1
5	8452-44	Bracket Spacer	2
6	5236-43	Air Restrictor Pack Includes Orifice (.173),	
		Orifice Spring and Hardware	1
7a	5236-13	EC200 Blast Tube	1
7b	5236-14	EC300 Blast Tube	1
8	8495-04	1/2* Elbow	1
9a	8437-57	EC200 Motor Blower Assembly	
		(Includes Wheel and Motor)	1
	5236-64	EC200 Blower Wheel	1
	5236-66	EC200 Blower Motor	1
9b	8437-56	EC300 Motor Blower Assembly	
		(Includes Wheel and Motor)	1
	5236-65	EC300 Blower Wheel	1
	5236-67	EC300 Blower Motor	1

Parts	List	for
EC2	00	

Item :		Descriptions	Qty
10	5236-26	EC200/EC300 Washer	
		EC200	4
		EC300	7
11	8487-50	1/2" Close Nipple	2
12a	5236-17	EC200 Special Washer	1
12b	5236-15	EC300 Special Washer	1
13	8493-67	1/2" Full Coupling	1
14	8487-52	1/2" X 2" Long Nipple	1
15	8494-02	1/2" Tee	1
16	5726-72	R Main Spud-173 Dr (#17) Orifice	1
17	6622-30	Orifice Spring	1
18	8496-17	1/2" Square Solid Plug Male	1
19	8492-51	3/4" X 1/2" Hex Bushing	1
20a	8419-70	EC200 -Redundant Combination	
		Slow Opening Valve	1
20b	8419-75	EC300 Direct Spark Gas Valve	
		Slow Opening Valve	1
21a	5236-48	Air Shutter Assembly EC200	1
21b	5236-47	Air Shutter Assembly EC300	1
22	5236-35	Inlet Ring And Air Screen Weldment	
		EC200 Only	1
23	8480-37	4" X 4" Box Cover	1
24	8429-51	EC200/300 Control	1
25	8484-75	Strain Relief	1
26	8505-93	SAEJ2031 Ignition Cable Assembly	1
27	8505-94	Flame Rod Wire Assembly	1
28	5236-23	Control Assembly	
		(Includes Control; Transformer and Box)	1
	Not Show	on.	
	8452-16	Mounting Flange Kit	
	8447-30	120/208/240-24V 40V Transformer	
	7400-20	Wire Kit	

Important: Availability of parts as well as specifications are subject to change without notice. Please consult factory for item availability. Avoid errors in parts selection, when ordering, use complete Midco Part number and description. Furnish burner model number, bill of material number and date code from the Specification Plate located on the burner.

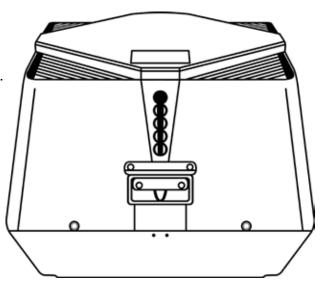
### **OVEN FAN GSV 009-016**

#### **Description**

Exhaust fan for installation at the chimney termination point, vertically or as side-wall venting. Assures a negative pressure in the entire chimney or stack system. Discharges vertically (horizontally if side-wall venting) at a high velocity. The fan housing is hinged and the top can be opened for easy service/access to stack.

#### Material

The housing is made of cast aluminum with a thickness of 3/16" and is corrosion resistant. One coat of gray hammerpaint finish is applied. Axial vanes in stainless steel, dynamically and statically balanced to assure low noise levels and vibration-free operation.



#### Motor

It features a split capacitor motor which is totally enclosed. Class H insulated, IP54 Protection Class. Sealed ball bearings. Variable Speed. Thermal overload protection.

#### **Standard Equipment**

2"x4" or 4"x4" junction box with cover and conduit Bird Screen

#### Optional Equipment

5amp or 8amp fan speed control.

Gasket.

Fan proving switch.

#### Listings

ETL listed to:

UL705 - Standard for Power Ventilators

UL762 - Standard for Power Roof Ventilators for Restaurant Exhaust Appliances
ULC-S645-93 - Standard for Power Roof Ventilators and Commercial/Institutional Kitchen Exhaust
Systems

#### **Approvals**

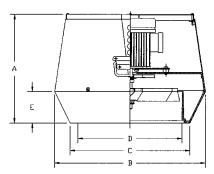
**CE Compliant** 

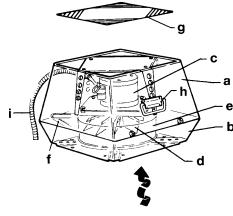
#### Warranty

2 year factory warranty on the entire fan 10 year warranty against corrosion perforation Manufactured at an ISO9001 certified plant

# **OVEN FAN GSV 009-016 Specifications**

Model			GSV 009	GSV 012	GSV 014	GSV 016		
Discharge			Vertical					
Fan Type			Axial Vane					
Max. Discharg	ge Velocity	FPM	2,351	2,592	2,593	2,169		
Actual Discha	rge Velocity	FPM	5.9 x CFM	2.9 x CFM	1.9 x CFM	1.2 x CFM		
Voltage		V AC		1 x	120			
RPM				16	00			
Amps		Α	0.5	1.4	2.9	5.8		
Power Ratings	S	kW	0.025	0.10	0.16	0.35		
Weight	_	lbs	28	46	60	86		
		kg	12	18	26	35		
Dimensions	Α	in	9.85	11.03	13.20	14.97		
_		mm	250	280	335	380		
	B x B	in	12.21	15.37	19.11	22.85		
_		mm	310	390	485	580		
	CxC	in	9.46	12.22	15.17	18.32		
_		mm	240	310	385	465		
	DØ	in	8.63	10.72	13.04	14.26		
_		mm	219	272	331	362		
	E	in	2.76	3.15	3.94	4.53		
<sup>-</sup>		mm	70	80	100	115		
Temperature Rating Interm.		575°F/300°C						
Cont. 482°F/250°C								
Motor Starter	Required		No	No	No	No		
Variable Spee	d Motor		Yes	Yes	Yes	Yes		



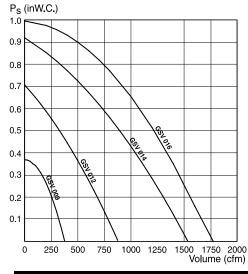


#### **Sound Diagram**

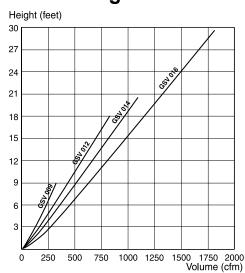
Model	Lw dB (measured in accordance with ISO 3744)						Lp	
	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)
GSV 009	57	55	54	49	40	35	26	26
GSV 012	64	62	61	55	51	46	40	33
GSV 014	71	70	68	61	56	50	44	40
GSV 016	76	76	70	65	60	55	49	44

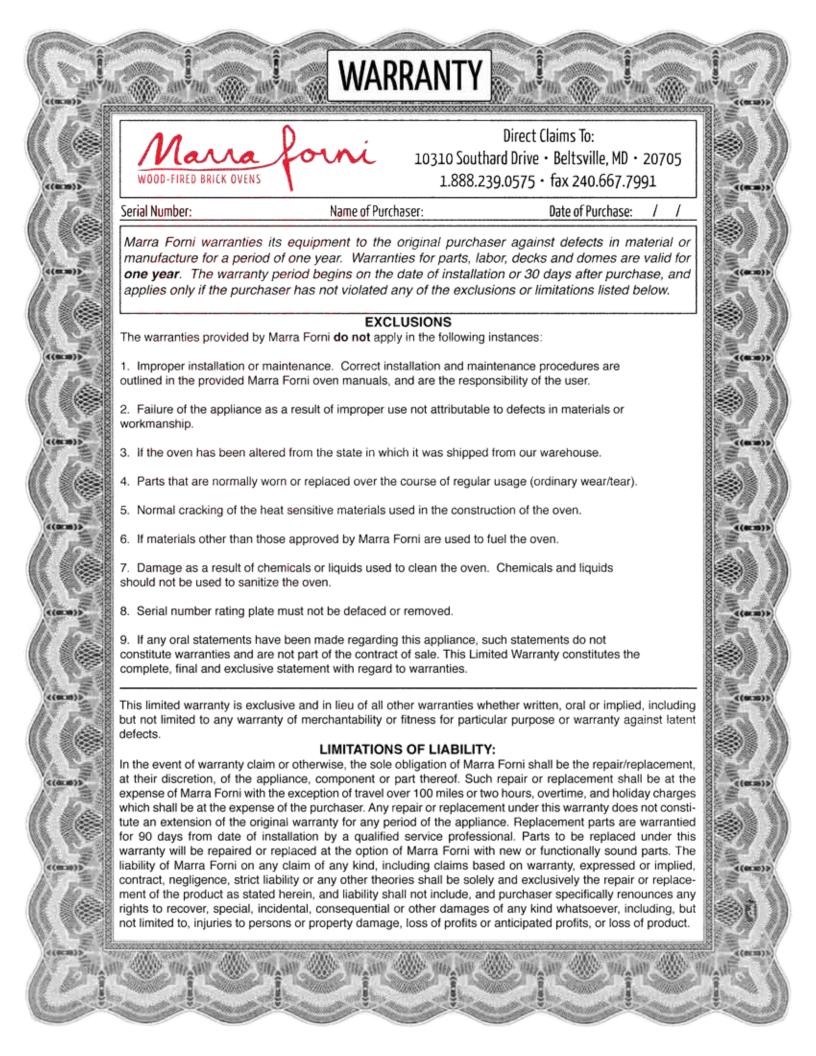
a Top Section
b Bottom Section
c Motor
d Axial Vane
e Inlet for Axial Vane
f Locking Hinge
g Bird Screen
h Carrying Handle
i Wiring Conduit

#### **Capacity**



#### Plume Height





#### **UL, CSA, ETL & CE FACT SHEET**

Marra Forni products that feature these logos meet rigorous standards for electrical safety and electromagnetic emissions. The acronyms are as follows:

**UL:** Underwriters Laboratories, Inc. **CSA:** Canadian Standards Association

ETL: Formerly ETL Testing Laboratories, now Intertek Testing Services

**CE:** Conformance European

Underwriters Laboratories, Inc. is an independent nonprofit organization that tests products for safety and certifies them. UL has developed more than 800 standards for safety, and millions of products and their components are tested to UL's safety standards. If a Marra Forni product is UL listed, you know it has passed UL's stringent tests for electrical safety. UL's web site can be found at http://www.ul.com.

The Canadian Standards Association is a nonprofit association serving business, industry, government and consumers in Canada as well as the global marketplace. Along with their other duties, CSA develops standards that enhance public safety. A Nationally Recognized Testing Laboratory (NRTL), CSA also familiarizes themselves with U.S. requirements. According to OSHA regulations, the CSA-US mark qualifies as an alternative to the UL mark. The ETL mark is an alternative to both the CSA and UL marks.

Intertek Testing Services, formerly known as ETL, has been conducting electrical performance and reliability tests since 1896. Intertek Testing Services acquired ETL in 1996. ITS is recognized by OSHA as a Nationally Recognized Testing Laboratory, just like UL, CSA and several other independent organizations. ITS tests products according to nearly 200 safety and performance standards. The ETL listed mark and C-ETL listed mark are accepted throughout the U.S. and Canada when denoting compliance with nationally recognized standards such as ANSI, IEC, UL and CSA. This mark indicates that the product has been tested to and has met the minimum requirements of a widely recognized (concensus) U.S. product safety standard, that the manufacturing site has been audited, and that the applicant has agreed to a program of periodic factory follow-up inspections to verify continued conformance. If the mark includes a small "US" or "C," it follows product safety standards of the United States and/or Canada, respectively.

The European Commission describes the CE mark as a "passport" that allows manufacturers to circulate industrial products freely within the internal market of the European Union. The CE mark certifies that the products have met E.U. health, safety and environmental requirements that ensure workplace and consumer safety. All manufacturers in the E.U. and abroad must affix the CE mark to those products covered by the "New Approach" directives in order to market their products in Europe. Once a product receives the CE mark, it can be marketed throughout the E.U. without undergoing further modification. An important document related to CE is the Declaration of Conformity (DOC). It is a statement that a company authority must sign to say that their device meets the requirements of the directive. The DOC must include a list of any standards used to justify the claim of compliance with the directive.

If a Marra Forni product is stamped "CE," the product does not emit excessive radiation (microwave or RF), and is not overly sensitive to picking up radiation. In summary, the certification marks on our products are your assurance that the product meets rigorous standards for electrical safety and electromagnetic emissions. It poses no shock hazard (except as noted on the product or manual), and it will not cause EM interference with other devices beyond a certain distance.



#### **Ten Things That Make Us Great**

- 1. Our Italian-style prep tables are drafted by designers who understand the needs of Neapolitan pizza makers and have taken care to organize the space to meet those specifications.
- 2. All of our ovens are produced and fully assembled in Naples, Italy. They are not shipped in loose pieces and then assembled in the United States.
- 3. Our decks do not crack. Many brick oven owners know that at some point their deck will crack and require costly repairs or replacement (customers will not be pleased to bite down on a pebble of cement during their meal). Marra Forni uses refractory bricks that allow for expansion and contraction during the frequent temperature shifts which happen thousands of times over the life of the oven.
- 4. Our ovens are some of the lightest weight brick ovens in the industry, yet do not sacrifice quality. Many people never take weight load into consideration, but a lighter oven allows for greater flexibility when looking into leasing a new space. Our wide range of sizes for all of our products accommodates any volume of pizza making.
- 5. Our products are preferred by professionals as well as teachers of the industry, including but not limited to Verace Pizza Neapolitana, all of the American Pizza Team, Whole Foods, and the Tony Gemignani School of Pizza.
- 6. Marra Forni forked dough mixers "fold" the dough rather than mixing it. This prevents the dough from becoming heated from the friction of being mixed, guaranteeing you a "cleaner" dough and a fresher-tasting end result. Let your oven cook your dough, not the mixer!
- 7. Our company is based in the United States and we stock all of our units, which means a faster ship time for our customers.
- 8. We offer our clients the option to fully customize the outside of their oven with an endless variety of tile colors and textures. We can even apply patterns, or the name of your restaurant on the front of your oven. With Marra Forni, your oven is more than just an appliance, it is a work of art.
- 9. Unprecedented technological advances enable our curing cases to boast "One Touch" salami making. Our Stagionello curing cases are unmatched for their hygiene, speed and authentic preprogrammed recipes that allow you to broadly expand your culinary offerings.
- 10. When your kitchen worksurface begins to more accurately resemble an oil slick, look no further than our stainless steel dressing containers. Not only do they offer a more organized space for your chefs, they also lend a front-of-house-worthy presentation to oils, dressings and vinegars.



10310 Southard Drive Beltsville, MD 20705

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