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Installation  
and  
Operating  
Instructions

2M-Z20327 Rev. A 10/05/15

## ULTRA-MAX GAS RADIANT CHARBROILER MODELS

8124RCBB, 8136RCBB,  
8148RCBB, 8160RCBB, and 8172RCBB

## ULTRA-MAX GAS LAVA ROCK CHARBROILER MODELS

8024CBB, 8036CBB,  
8048CBB, 8060CBB, and 8072CBB

**WARNING:** 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.

**WARNING:** This appliance shall be installed in accordance with current regulations and used only in well-ventilated space. Refer to instructions before installing and using this appliance.

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

In addition, there should be posted, in a prominent location, detailed instructions to be followed in the event the operator smells gas. Obtain the instructions from the local gas supplier.



## SAFETY SYMBOL



These symbols are intended to alert the user to the presence of important operating and maintenance instructions in the manual accompanying the appliance.

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## RETAIN THIS MANUAL FOR FUTURE REFERENCE NOTICE

Using any part other than genuine Star factory supplied parts relieves the manufacturer of all liability.

Star reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements, additions or replacements for previously purchased equipment.

Due to periodic changes in designs, methods, procedures, policies and regulations, the specifications contained in this sheet are subject to change without notice. While Star International Holdings Inc., Company exercises good faith efforts to provide information that is accurate, we are not responsible for errors or omissions in information provided or conclusions reached as a result of using the specifications. By using the information provided, the user assumes all risks in connection with such use.

## MAINTENANCE AND REPAIRS

Contact your local authorized service agent for service or required maintenance.

Please record the model number, serial number, voltage and purchase date in the area below and have it ready when you call to ensure a faster service.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_  
Voltage \_\_\_\_\_  
Purchase Date \_\_\_\_\_

### Authorized Service Agent Listing

Reference the listing provided with the unit

OR

for an updated listing go to:

**Website:** [www.star-mfg.com](http://www.star-mfg.com)  
**E-mail** [customerservice@star-mfg.com](mailto:customerservice@star-mfg.com)

### Service Help Desk

**Business Hours:** 8:00 am to 4:30 p.m. Central Standard Time

**Telephone:** (314) 678-6303

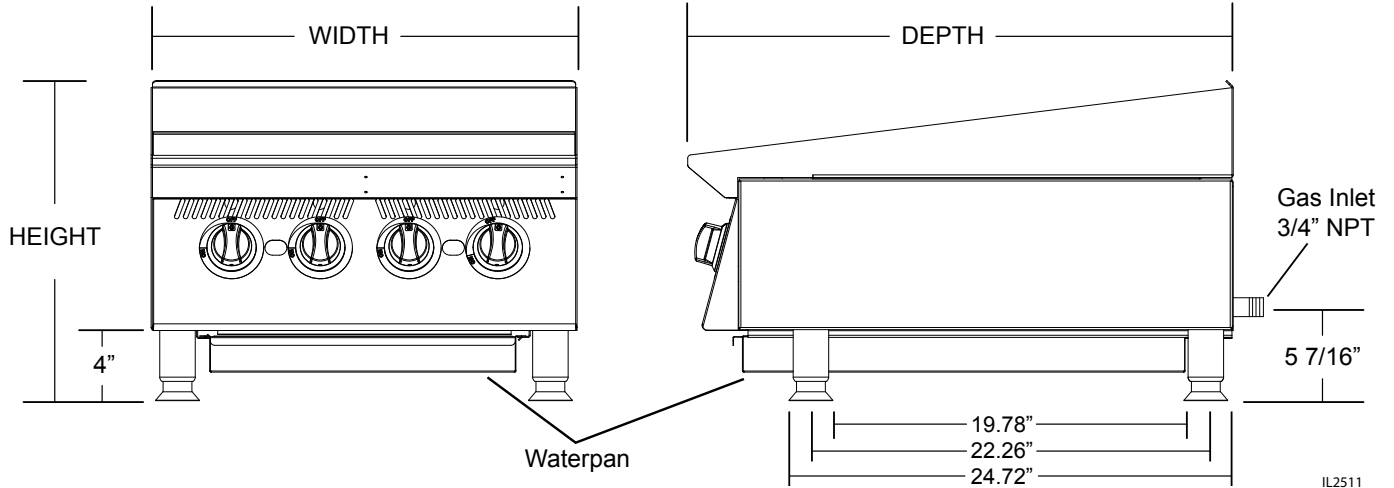
**Fax:** (314) 781-2714

**E-mail** [customerservice@star-mfg.com](mailto:customerservice@star-mfg.com)

**Website:** [www.star-mfg.com](http://www.star-mfg.com)

**Mailing Address:** Star International Holdings Inc., Company  
10 Sunnen Drive  
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U.S.A

# Ultra-Max Gas Charbroiler



## Specifications

Model	Manual Controls	BTUH	Grid Area	Approx Weight		Dimensions		
				Installed	Shipped	Width	Depth	Height
<b>RADIANT</b>								
8124RCBB	4	80,000	603 sq in (3,890 sq cm)	196 lbs (88.9 kg)	262 lbs (118.9 kg)	24" (61 cm)	30 5/8" (77.8 cm)	18" (45.7 cm)
8136RCBB	6	120,000	906 sq in (5,845 sq cm)	273 lbs (123.8 kg)	349 lbs (158.2 kg)	36" (91.4 cm)		
8148RCBB	8	160,000	1,209 sq in (7,800 sq cm)	358 lbs (162.3 kg)	442 lbs (200.4 kg)	48" (122 cm)		
8160RCBB	10	200,000	1,512 sq in (9,754 sq cm)	441 lbs (200 kg)	541 lbs (245.3 kg)	60" (152.4 cm)		
8172RCBB	12	240,000	1,815 sq in (11,710 sq cm)	596 lbs (269.9 kg)	731 lbs (330.9 kg)	72" (182.9 cm)		
<b>LAVA ROCK</b>								
8024CBB	4	80,000	603 sq in (3,890 sq cm)	196 lbs (88.9 kg)	262 lbs (118.9 kg)	24" (61 cm)	30 5/8" (77.8 cm)	18" (45.7 cm)
8036CBB	6	120,000	906 sq in (5,845 sq cm)	273 lbs (123.8 kg)	349 lbs (158.2 kg)	36" (91.4 cm)		
8048CBB	8	160,000	1,209 sq in (7,800 sq cm)	358 lbs (162.3 kg)	442 lbs (200.4 kg)	48" (122 cm)		
8060CBB	10	200,000	1,512 sq in (9,754 sq cm)	441 lbs (200 kg)	541 lbs (245.3 kg)	60" (152.4 cm)		
8072CBB	12	240,000	1,815 sq in (11,710 sq cm)	596 lbs (269.9 kg)	731 lbs (330.9 kg)	72" (182.9 cm)		

2M-Z20327, Ultra-Max Gas Char-broiler

## GENERAL INSTALLATION DATA



This equipment is designed and sold for commercial use only by personnel trained and experienced in its operation and is not sold for consumer use in and around the home nor for use directly by the general public in food service locations.

The Ultra-Max™ series gas charbroiler is equipped for the type of gas indicated on the nameplate mounted on the front panel. All units are shipped from the factory for use with natural gas. The unit can easily be converted for use with propane gas: see propane gas.

### **-IMPORTANT-**

**Be sure to remove all paper protection and packing material from unit prior to lighting.**

**INSTALL IN NON-COMBUSTIBLE LOCATIONS ONLY! Clearance from non-combustible construction must be 3" minimum from back and sides. For servicing, 6" is recommended from back of unit.**

**The installation of the Appliance must conform to the NATIONAL FUEL GAS CODE "ANSI Z223.1 - LATEST EDITION" AND ALL LOCAL GAS COMPANY RULES AND REGULATIONS.**

**IN CANADA INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT CAN/CGA-B149.1 NATURAL GAS INSTALLATION CODE OR CAN/CGA-B149.2 PROPANE INSTALLATION CODE AND LOCAL CODES WHERE APPLICABLE.**

### **NOTICE**

When this appliance is installed with casters, it must be installed with the casters supplied, a connector complying with either ANSI Z21.69 or CAN/CGA-6.16 and a quick-disconnect device complying with either ANSI Z21.41 or CAN1-6.9. It must also be installed with restraining means to guard against transmission of strain to the connector, as specified in the appliance manufacturer's instructions.

**For your protection, we recommend a qualified installing agency install this appliance. They should be familiar with gas installations and your local gas requirements. In any case, your gas company should be called to approve the final installation.**

This appliance, its pressure regulator and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSIG. This appliance and its pressure regulator 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 to or less than 1/2 PSIG.

### **EXHAUST CANOPY**

Open hearth broilers inherently create a good deal of heat and smoke and should be installed under an efficient exhaust hood with flame proof filters. A vertical distance of not less than 48" shall be provided between the top of the appliance and filters or any other combustible material. Exhaust installation must conform to local codes.

### **AIR SUPPLY**

Provisions for adequate air supply must be provided.



**Air for combustion enters from the bottom of the unit. Do not obstruct this area.**

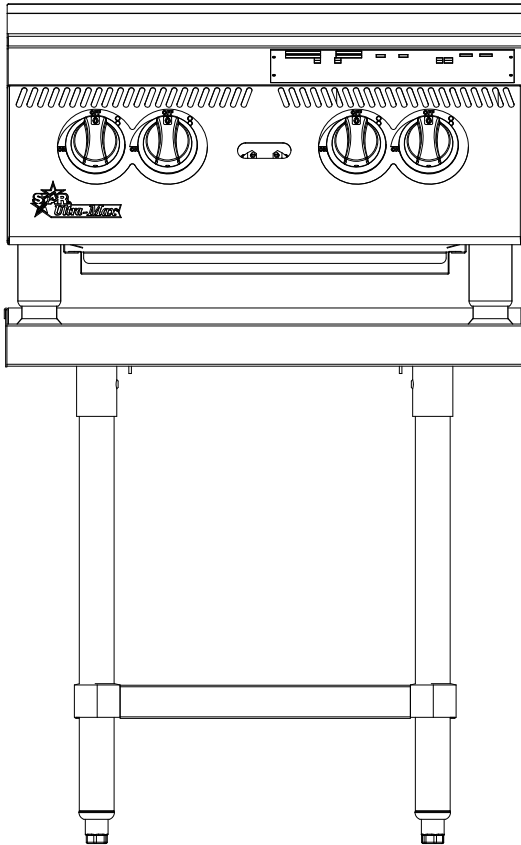
### LEVELING UNIT

This charbroiler is supplied with 4 feet or floor stand legs which must be screwed into the body. Unit must be level. Level unit by adjusting the (4) feet which have an adjustment of 1-3/4" for accurate and perfect line-up with other units.

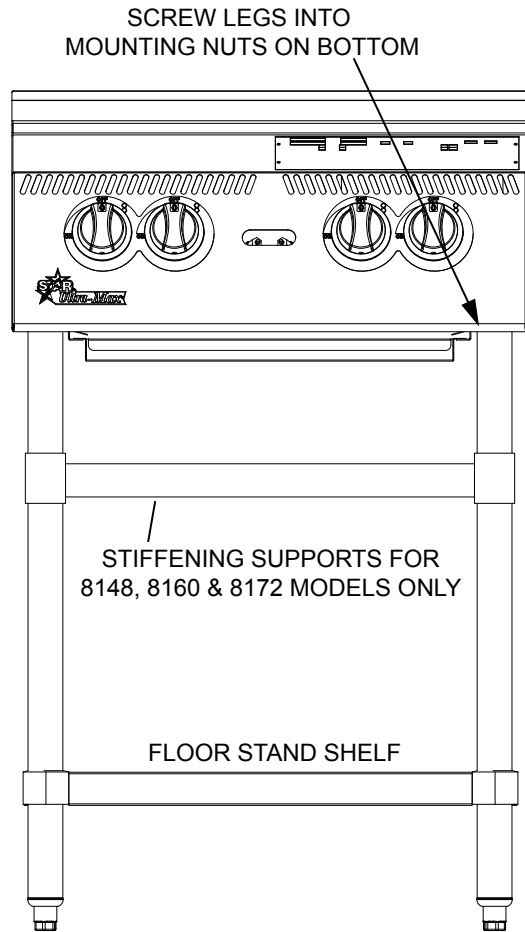


### CAUTION

**DO NOT INSTALL WITHOUT ATTACHING FEET OR SUPPLIED STAND LEGS AND SHELF - DO NOT REMOVE FEET.**



**COUNTER TOP MODEL  
ON OPTIONAL EQUIPMENT STAND**



**FLOOR STAND MODEL**

IL2505

**Caster Kits:** Casters can be used with floor stand models or optional equipment stand. For installation, carefully mark and cut off from the bottom of each leg using a straight cutting saw and de-burr the inside tube wall prior to installing the caster. Cut leg should measure 19" tube length, not overall length. Casters add about 6-1/4" of height to the unit. Be sure to use approved strain relief means for protecting gas line connection. If an appliance is equipped with casters and is gas connected with a quick connect coupling, all personnel must be aware that there is a restraint on the appliance and if disconnected for service or cleaning it must be reconnected as originally installed prior to use.

## GENERAL INSTALLATION DATA (continued)

### PLACING RADIANTS - RCBB SERIES

After the unit is unpacked and installed, place 1 radiant above each burner. Install each radiant on 2 slots of the rear wall and on 1 pin of the front wall of the liner weld assembly. Refer to the exploded view in this manual for orientation of the radiants.

### PLACING LAVA ROCKS- CBB SERIES

Open the lava rock bags and place rock evenly on the lower internal grates - not the top cooking grates. Spread the lava rock evenly on the grates approximately 1 layer thick. Do not cover the grates with more than two layers of lava rock. Do not put more than 5 pounds of rock per foot, or for every two burners. **NOTE: To much rock will deflect the heat downward.**

### GAS PIPING

Gas piping shall be of such size and so installed as to provide a supply of gas sufficient to meet the full gas input of the appliance. If the appliance is to be connected to existing piping, it shall be checked to determine if it has adequate capacity. Joint compound shall be used sparingly and only on the male threads of the pipe joints. Such compounds shall be resistant to the action of L.P. gases. **WARNING:** Any loose dirt or metal particles which are allowed to enter the gas lines on this appliance will damage the valve and affect its operation. When installing this appliance, all pipe and fittings must be free from all internal loose dirt.

### GAS PRESSURE REGULATOR

A convertible pressure regulator is provided with each charbroiler. It should be connected to the inlet pipe at the rear of the unit. The gas supply is then connected to it. The supply pressure to the regulator is not to exceed 1/2 PSIG. It is shipped set for 5" water column manifold pressure for use with natural gas.

### MANUAL SHUT OFF VALVE

A manual shut off valve should be installed upstream from the manifold and within six feet of the charbroiler.

### CONNECTING GAS SUPPLY LINE

The gas inlet of the charbroiler is sealed at the factory to prevent entry of dirt. Do not remove this seal until the actual connection is made to the gas supply line.

### PROPANE GAS - CONVERSION

This charbroiler is equipped with fixed orifice hoods and is shipped from the factory for use with natural gas. To convert to propane gas, install the burner orifice hoods, located in the water pan, as follows:

1. Remove grates, radiants and burners.
2. Remove the burner orifice hoods (NAT #47) and install the orifice hoods (LP #55) supplied.
3. Replace the burners, radiants, and grates.
4. Set manifold pressure to (10) inch water column. A 1/8" pipe plug on the burner manifold can be removed for attaching a pressure gauge. Remove the slotted, or hex-threaded plug from the pressure regulator. Invert the plug and re-install. The letters "LP" should now be visible on the plug. The regulator is now set for 10" (25.4 cm) water column. Attach the conversion label, supplied with the unit, close to the nameplate.

### CHECKING FOR GAS LEAKS

Check entire piping system for leaks. Soap and water solution or other material acceptable for the purpose, shall be used in locating gas leakage.



**Matches, candle flame or other sources of ignition shall not be used for locating gas leaks.**

### PILOT LIGHTING INSTRUCTIONS

The charbroiler is equipped with standing pilots, and should be lit immediately after the gas is turned on.

1. Turn off main valve to unit.
2. Turn off all knobs and pilot valves and wait 5 minutes to clear gas.
3. The pilot lights on this broiler have been pre-set at the factory. Turn the adjustable screw counterclockwise to open and clockwise to close.

4. Turn on main valve and light all pilots.
5. Adjust pilot light flames as small as possible, usually about 1/2" high, but high enough to light burner immediately when burner valve is turned on high.
6. Turn burner knobs to desired setting.
7. To turn burners off, turn knobs off.

## **BURNER IGNITION AND ADJUSTMENT**

1. To ignite burners turn burner valve knob counter clockwise to "ON" position.
2. Slowly decrease openings of air shutters to give a soft blue flame having luminous tips, then slowly increase openings to a point where the yellow tips disappear and a hard blue flame is obtained.

## **GENERAL OPERATING INSTRUCTIONS**

### **WATER PAN**

The water pan is located at the bottom of the unit, and is easily removed from the front of the unit. 1/4" of water should be added to the water pan and added as necessary. The water pan helps prevent flare ups and catches grease.

### **BURNER OPERATION**

Each burner is controlled by an individual high-low, on-off valve. A variety of broiling temperatures may be obtained by turning the burner valve knob to any position between on and off. It is possible through this arrangement to have a high heat or searing section, while having a low heat finishing or holding section. For the searing operation, turn the valve counter clockwise for the section to a position of "ON" or close to it. For holding or finishing, turn the valves closer to the "OFF" position on the dial. You select the heat pattern you like, and set the valves accordingly. Be sure burners are staying fully lit when set in low positions.

### **LIGHTING**

When broiler is first lit, it will smoke for approximately 20-30 minutes until the preservation oils and impurities are burned off.

### **BROILING**

Turn valves on and pre-heat unit on "ON" before attempting to broil. You will have to experiment with the grate settings and the valve settings for your particular food products. Check water pans frequently and add a sufficient amount of water when necessary. Hot water vapors rising from the water pans and through the combustion chamber helps reduce flare ups. Exercise care when using your broiler.

### **TILTING THE GRATE**

Raise or lower the grate to the next step by lifting the grate at the back of the charbroiler where the grate rests. Use potholders or gloves to reposition.

**CHARBROILERS ARE HOT! NEVER ATTEMPT TO CHANGE THE GRATE POSITION WHILE FOOD PRODUCTS ARE COOKING. FLARE UPS CAN OCCUR UNEXPECTEDLY. TURN OFF CHARBROILER, AND ALLOW THE CHARBROILER TO COOL.**

### **SHUTTING DOWN INSTRUCTIONS**

Turn the burner valve knobs to the off position to turn burners off and close manual valve gas shutoff.

## **CLEANING**

Clean regularly. Remove grate section to sink for washing. Brush out carboned particles. Remove and wash water pan. Wipe exterior surfaces with detergent and a cloth. A non-abrasive cleaner can be used on caked areas.

### **LAVA ROCK**

Monthly or as needed remove the rock and place in a 5 gallon bucket of water and let sit overnight. Clean lava grates at this time. Grease and debris will separate from the rock, drain and place the 2" pieces back into position, refresh with new rock as needed.



**CAUTION**