

# MAXIM<sup>®</sup>

Outdoor Wood Pellet and Corn Furnace

*Eliminate high heating bills*



*Heat your entire home and water. Can be installed safely outdoors next to your home.*



[MaximHeat.com](http://MaximHeat.com)

**Up to \$1500\***  
Federal Tax Credit  
See back page for details



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## Welcome to Central Boiler

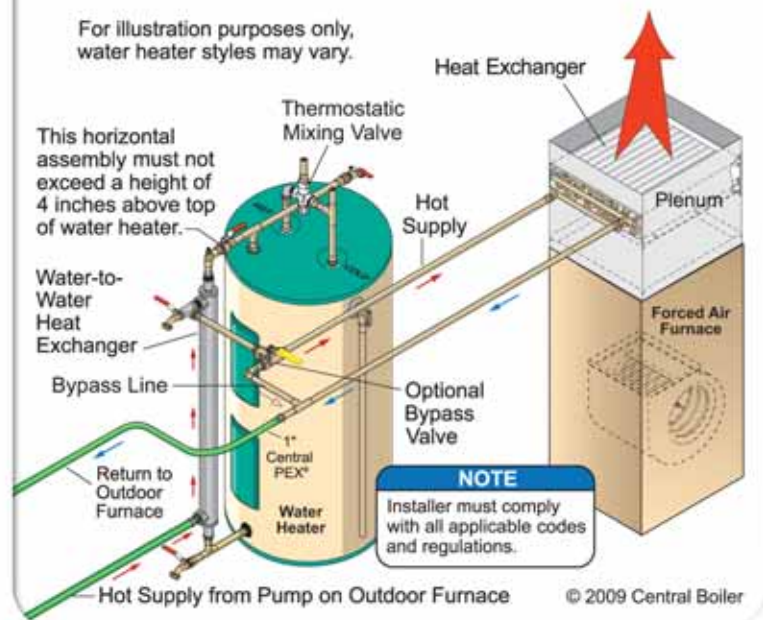
We have been in business since 1984 and are North America's largest manufacturer of outdoor furnaces. Our products are continually improved and refined. We make it our goal to provide our customers with the finest outdoor wood pellet and corn furnaces available anywhere. For you as a consumer the Maxim offers many advantages. Corn and wood are renewable and inexpensive. Conventional sources of heat such as propane, natural gas, fuel oil and electricity deplete our irreplaceable fossil fuels. They are also subject to constant price fluctuations. Our Maxim outdoor furnace takes the combustion outside. By keeping the fire outside the home, it eliminates the dangers and mess associated with traditional indoor wood or corn stoves. Our innovative, industry-leading design maximizes efficiency. Our Maxim offers you an alternative that will save you money. This brochure will provide answers to questions you may have about our clean, efficient approach to hydronic heat. Please browse through this brochure to learn how you can benefit from a Maxim wood pellet and corn furnace for your home or business.

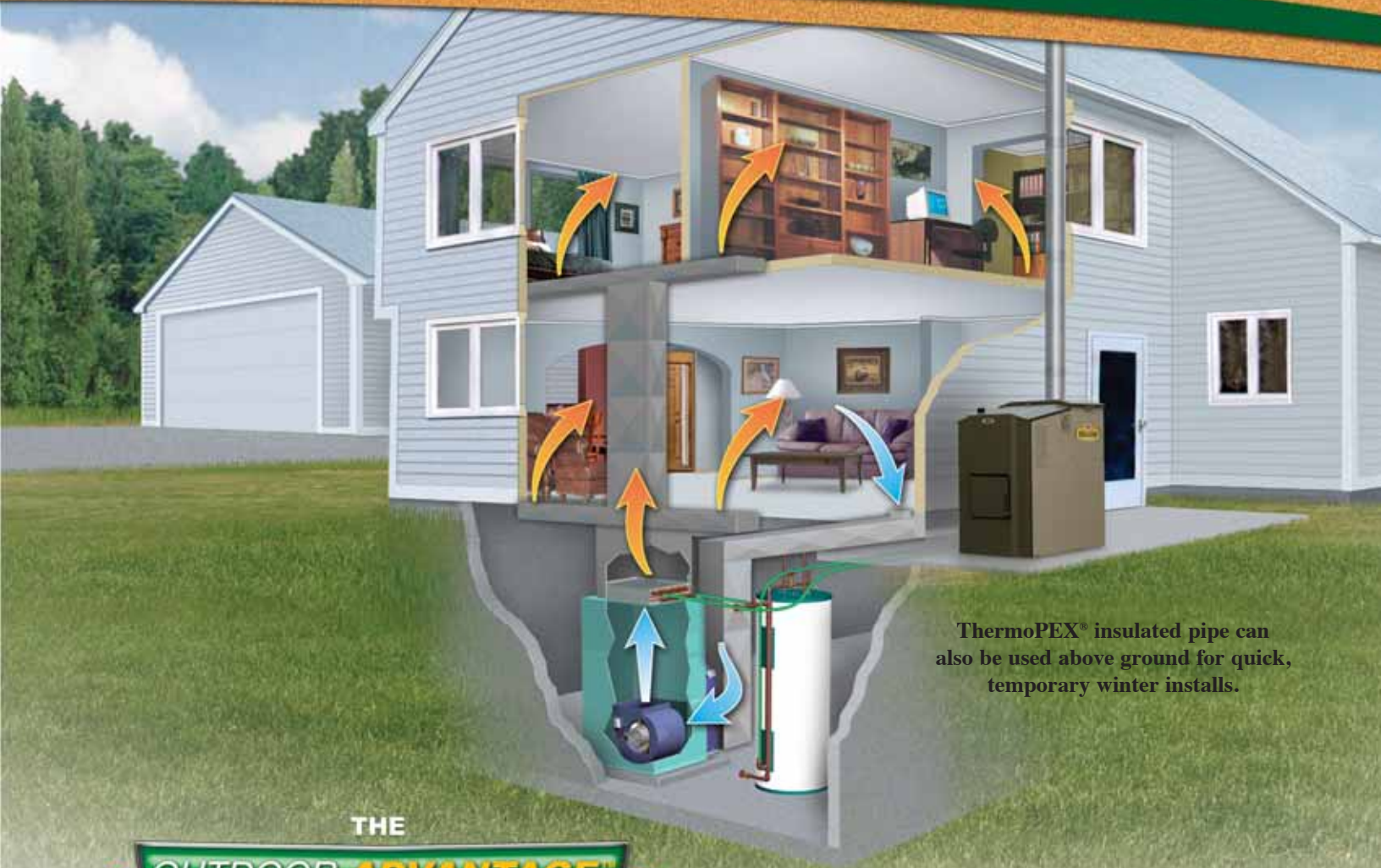
## The Maxim Outdoor Furnace Can Work for You

The Maxim outdoor wood pellet and corn furnace is installed outside, next to your home like a central air conditioning unit or up to 500 feet away, and works with any existing heating system. A water jacket surrounds the furnace firebox and heated water is circulated to the home or building through insulated underground tubes. Water-to-air or water-to-water heat exchangers or direct circulation conveys the heat into the structure's forced-air furnace, boiler or radiant floor heating system. This allows for normal thermostatic control of temperature for safe, even and comfortable heat. The ability to heat multiple buildings and domestic water can reduce your heating bills. Outside burning removes the threat of devastating chimney fires and the dangerous carbon monoxide buildup or oxygen depletion which affects your indoor air quality. It also eliminates the smoke, ashes, odors and soot buildup on walls and ceilings inside your home that indoor burning creates.

## Forced Air System with Water Heater

For a closer look at other heating applications, refer to pages 8-11.





ThermoPEX® insulated pipe can also be used above ground for quick, temporary winter installs.

THE

**OUTDOOR ADVANTAGE™**

- Can heat for a week on a single fuel load, or longer with an optional hopper.
- Saves as much as three-fourths of current heating costs.
- Located outdoors next to your home, like a central air conditioning unit, it won't take up valuable indoor living space.
- Located safely outside, so there is no possibility of carbon-monoxide poisoning or mess inside your home.
- Can be used with any existing heating system.
- Can heat an entire home and domestic hot water.

**Factors that affect your fuel burn rate**

**High Fuel Consumption**

*Increased heat loss*

- Poorly insulated building(s)
- Cold air infiltration
- Colder temperature

*Decreased heat loss*

- Well insulated building(s)
- Minimal cold air infiltration
- Warmer temperature

**Lower Fuel Consumption**



6" Insulated Chimney - Two stainless steel chimney sections standard.

## Maxim Model M250

**Large Top Loading Hopper Door -**  
Allows easy access to the hopper for filling and is lockable.

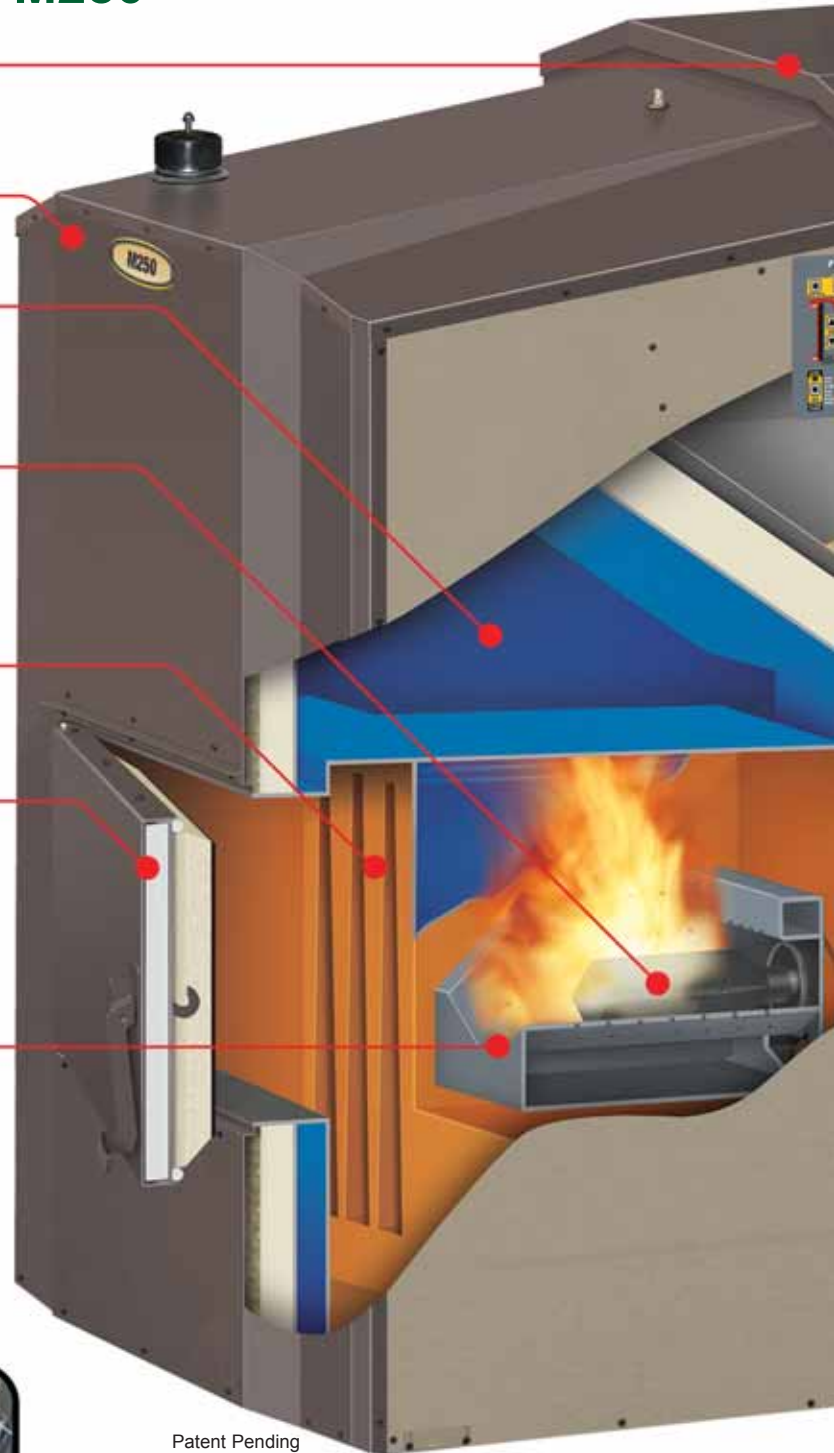
**Durable, Weatherproof, Powder-coated Finish -**

**Water Jacket -**  
Provides a proven balance between firebox volume and water capacity for optimum performance and safety.

**Rotating Aerator - (Patent Pending)**  
Located in the center of the burn chamber, the aerator is submerged in the fuel bed and supplies oxygen to the fuel for the most complete combustion, allowing the furnace to achieve efficiencies over 95%.

**High Efficiency Heat Exchange System -**  
The engineered design requires less maintenance and provides maximum heat conversion.

**Triple Insulated, Lockable Access Door -**  
The door is triple insulated to hold the heat in the furnace for maximum efficiency.



View inside the firebox



Interior view of rear access area shown with two pumps (sold separately)

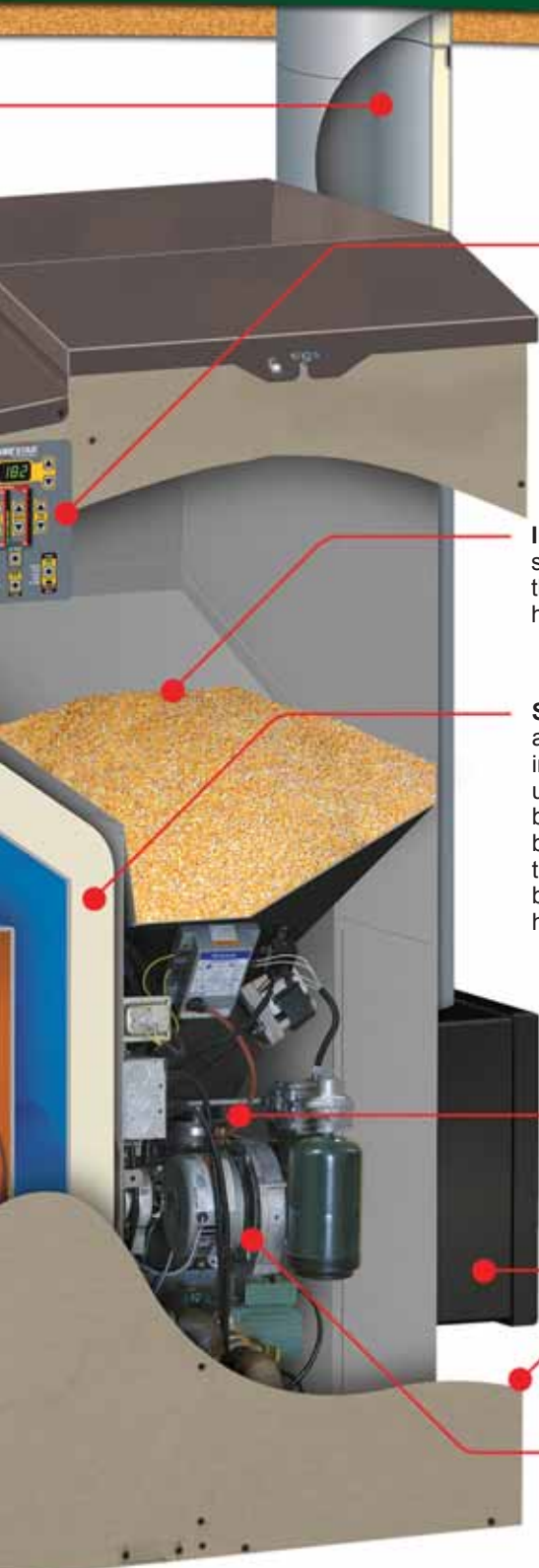


Interior view of hopper shown with door open

Patent Pending

Safety tested and listed





**FireStar™ Electronic Controller** - Provides you with easy operation of your Maxim outdoor wood pellet and corn furnace with just the touch of a button. The **Automatic Power Ignition** and the **Auto Relight** feature, use propane to reliably start the fire as needed, eliminating the need for hand starting or use of starting gels. The water temperature, heat output and air settings are adjustable so you can customize the settings for your personal heating requirements. The heat output is self-modulating and automatically adjusts between low, medium and high settings as your heat demand changes. The LED display informs you of the current system water temperature as well as operational status messages.

**Integrated 11-Bushel Hopper** - The large self-contained 11-bushel hopper means filling the furnace less often, allowing the furnace to heat for days on a single fuel load.

**Sprayed-on Urethane Foam Insulation** - 100% airtight and waterproof. There is no match for the urethane insulation we use on our furnaces. The sprayed-on urethane foam insulation provides a waterproof, airtight barrier that does not degrade or compress like fiberglass batt insulation does. The urethane foam provides 2-3 times the effective "R" value of conventional fiberglass batt insulation. Consider that the most efficient water heaters use urethane foam.

**Sealed and Permanently Lubricated Gear Drive with High Torque Motors** - No chains, no sprockets, no hassles.



**Rear Exhaust Outlet with Convenient Access**

**Easy Access Panel** - Provides convenient access and housing for up to two pumps.

**Variable Speed Fan** - For more effective air to fuel ratio, higher efficiency and better combustion.

**Optional 43 Bushel Hex Hopper and Larger External Bin**



**Larger External Bin** - Allowing the furnace to heat for months on a single loading.



**43 Bushel Hex Hopper** - Allows user to access fuel supply with **Optional Transfer Auger**.

**Safety and Less Mess** - Installed outside, in a garage or a shed,\* the non-pressurized furnace removes the mess and combustion associated with traditional indoor wood or corn stoves from inside the home.

**Heating Capacity** - Self modulating and adjusts between low, medium and high settings as the heat demand changes. The M250 has a Btu range of up to 250,000.

\*Must be installed in accordance with all applicable codes and regulations.

### Let's Compare Insulation...

|  | Urethane | Fiberglass Batt |
|--|----------|-----------------|
| <b>Waterproof</b>                      | ✓        |                 |
| <b>Airtight</b>                        | ✓        |                 |
| <b>Effectively Covers All Surfaces</b> | ✓        |                 |
| <b>Maintains "R" Value</b>             | ✓        |                 |
| <b>Higher "R" Value</b>                | ✓        |                 |





## Central Boiler's Test Laboratory

Within Central Boiler's Research and Development Department lies the most complete testing laboratory in the industry. Over the years, Central Boiler has developed many industry firsts. Since 1984, our R&D Department has been developing and testing products before the changes reach the assembly line. This facility

has the ability to collect and analyze a wide range of data, including emissions and efficiency. This state-of-the-art Test Laboratory allows our highly skilled engineers to develop the best. At Central Boiler, research, development, testing and refining are part of the everyday process - not a one time event.

### Conversion Factors

#### Heat Content of Common Fuels

Shelled Corn = 392,000 Btu/bushel

Fuel Oil = 140,000 Btu/gallon

Propane = 92,000 Btu/gallon

Natural Gas = 100,000 Btu/therm

Electricity = 3,413 Btu/kWh

Wood Pellets = 320,000 Btu/40 lb bag  
or 16,000,000 Btu/ton

Source: University of Minnesota Extension Service

#### One Bushel of Corn

= 2.8 gallons Fuel Oil  
= 4.26 gallons Propane  
= 3.92 therms Natural Gas  
= 114.85 kWh Electricity

#### One 40 lb Bag of Wood Pellets

= 2.3 gallons Fuel Oil  
= 3.5 gallons Propane  
= 3.2 therms Natural Gas  
= 94 kWh Electricity

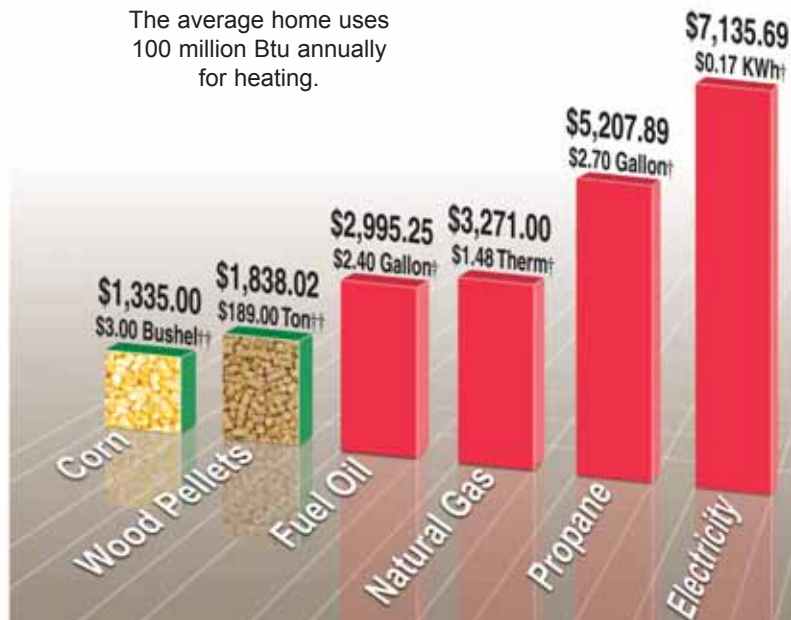
Comparisons with 80% efficiencies. Conversion factors were determined by dividing the Btu content of wood pellets or corn by the Btu content of another fuel.

Fuel Btu contents, heating appliance efficiencies and pricing will determine overall heating costs and comparisons.

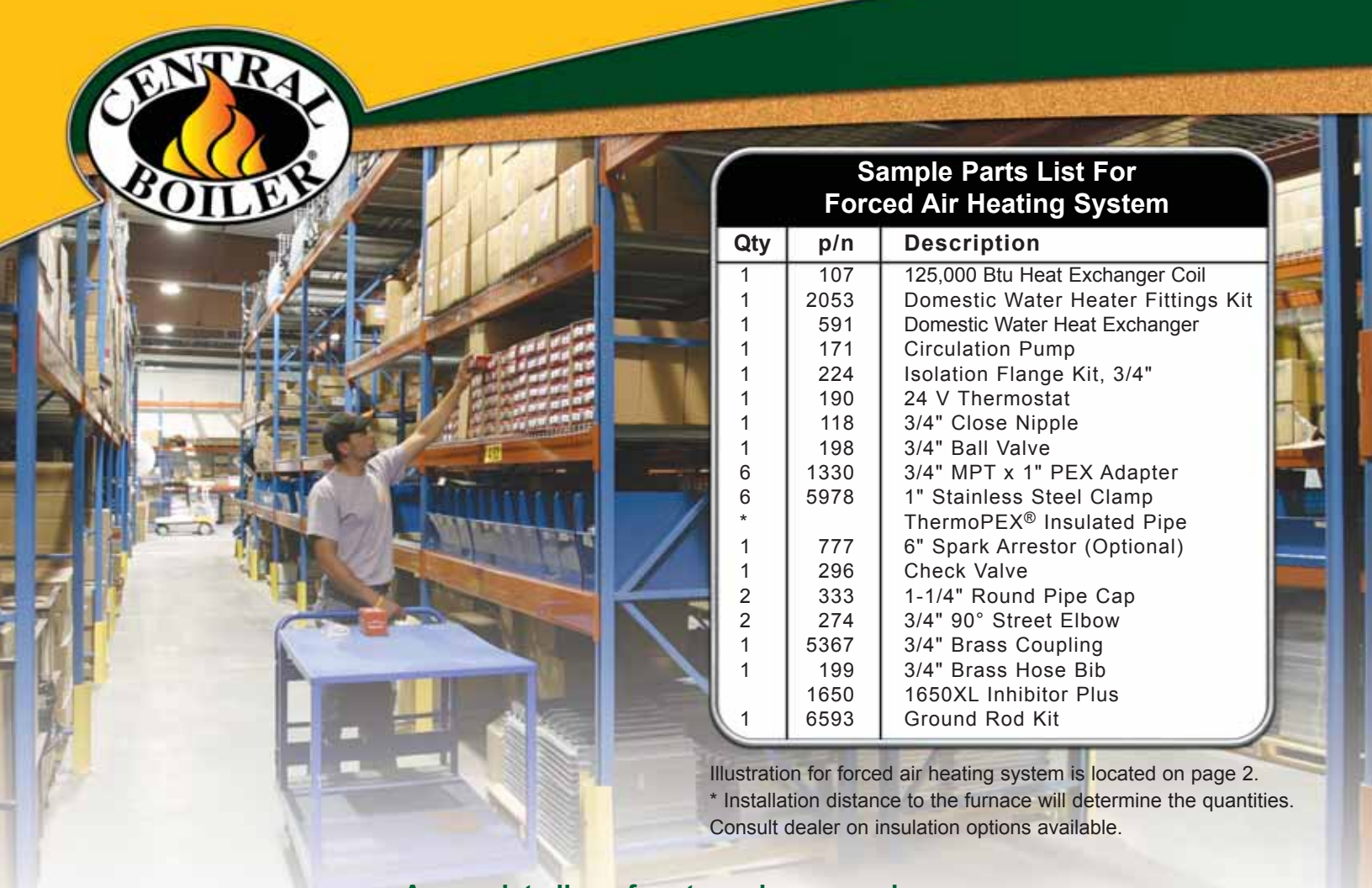
### Fuel Cost Comparison

Heat and Hot Water Annual Fuel cost

The average home uses 100 million Btu annually for heating.



†New Hampshire Office of Energy and Planning as of January 5, 2009.  
††Prices are approximate and will vary based on location.  
Appliance efficiency will affect annual fuel cost.



### Sample Parts List For Forced Air Heating System

| Qty | p/n  | Description                        |
|-----|------|------------------------------------|
| 1   | 107  | 125,000 Btu Heat Exchanger Coil    |
| 1   | 2053 | Domestic Water Heater Fittings Kit |
| 1   | 591  | Domestic Water Heat Exchanger      |
| 1   | 171  | Circulation Pump                   |
| 1   | 224  | Isolation Flange Kit, 3/4"         |
| 1   | 190  | 24 V Thermostat                    |
| 1   | 118  | 3/4" Close Nipple                  |
| 1   | 198  | 3/4" Ball Valve                    |
| 6   | 1330 | 3/4" MPT x 1" PEX Adapter          |
| 6   | 5978 | 1" Stainless Steel Clamp           |
| *   |      | ThermoPEX® Insulated Pipe          |
| 1   | 777  | 6" Spark Arrestor (Optional)       |
| 1   | 296  | Check Valve                        |
| 2   | 333  | 1-1/4" Round Pipe Cap              |
| 2   | 274  | 3/4" 90° Street Elbow              |
| 1   | 5367 | 3/4" Brass Coupling                |
| 1   | 199  | 3/4" Brass Hose Bib                |
|     | 1650 | 1650XL Inhibitor Plus              |
| 1   | 6593 | Ground Rod Kit                     |

Illustration for forced air heating system is located on page 2.  
\* Installation distance to the furnace will determine the quantities.  
Consult dealer on insulation options available.

### A complete line of parts and accessories

For the maximum performance and life of your furnace, always insist on using Central Boiler authorized system parts and accessories.

There is no need to chase from here to there for your parts, accessories and maintenance tools. Central Boiler has them all. Central Boiler has thousands of square feet of space dedicated to

inventory which our dealer network may access. Overnight, second day, three day, and ground delivery are available to our dealers five days a week.

To locate your nearest Maxim dealer, either visit our website at [MaximHeat.com](http://MaximHeat.com) and use the dealer locator or call 1-800-248-4681.

### Push-Fit Fittings - A Connection System for Copper or PEX Pipe

These top-quality, brass Push-fit Fittings reduce outdoor furnace system installation time and are easy to use. There's no faster way to plumb a job or make a repair - wet or dry. Just insert the pipe and the stainless steel teeth bite down and grip tight, while

a specially formulated O-ring compresses to create a perfect seal. Using the simple disconnect tool, fittings can be easily changed and reused.



- Instant push-fit connection for increased ease-of-use: No soldering, clamps, unions, or glue required.
- Fits copper tubing and PEX: Connects both types in any combination.
- Integral tube liner for PEX installations: Integrated design means no loose components and ensures secure, reliable connection.
- Designed for hydronic heating as well as potable water distribution.

See Heating Accessories catalog for complete listing.



## ThermoPEX® Insulated Piping System

ThermoPEX is a flexible pre-insulated piping system that saves energy and maximizes the efficiency of your outdoor wood furnace. ThermoPEX consists of two 1-inch oxygen barrier Central PEX® pipes or two 1-1/4 inch oxygen barrier PEX pipes (supply and return) that are insulated with high-density urethane insulation and a thick, durable, waterproof, UV-protected polyethylene outer jacket. The corrugated design allows flexing for easier installation. ThermoPEX is the best insulated piping system available for your outdoor wood furnace.

Oxygen barrier Central PEX is a high-density, cross-link pipe, rated for 180 degrees F at 100 psi. It is compatible with standard PEX insert fittings which cost much less than competitors' compression fittings. PEX pipes are marked to easily identify supply and return lines.

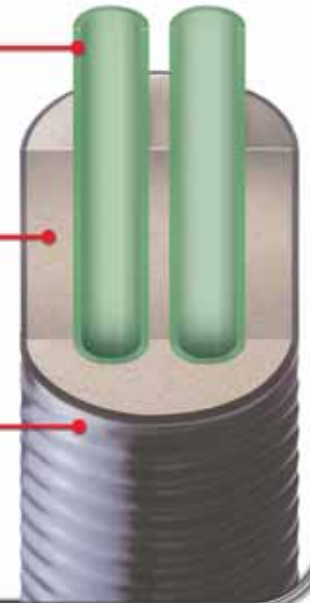
The high-density urethane insulation provides the ultimate control against heat loss. The high thermal efficiency of the urethane allows for a smaller overall size than some competitors, and provides lower heat losses per foot. The special proprietary formulation of the high density urethane insulation used in ThermoPEX provides ultimate control against heat loss.

The ThermoPEX high-density polyethylene outer jacket is thick, durable and seamless. It provides the necessary protection and is waterproof. It is corrugated for flexibility and can be easily routed around obstacles. It is also UV protected and can be installed above ground. It eliminates concerns with ground moisture or water affecting insulating properties of the urethane insulation.

**Pipe**

**Insulation**

**Outer Jacket**



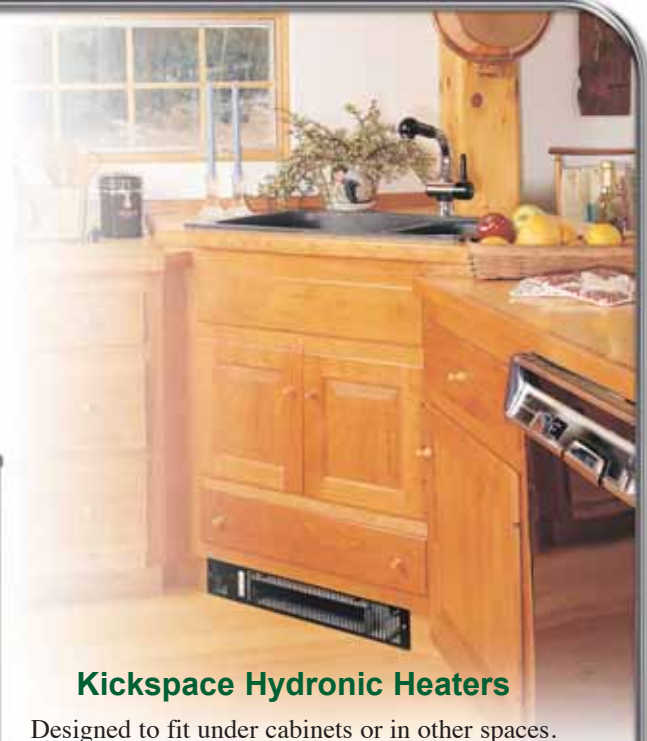
## Select Steel Panel Radiators

Will keep most any room comfortable and in style.



## Fan Forced Hydronic Heaters

All-Around Comfort that's Quick and Easy to Control.



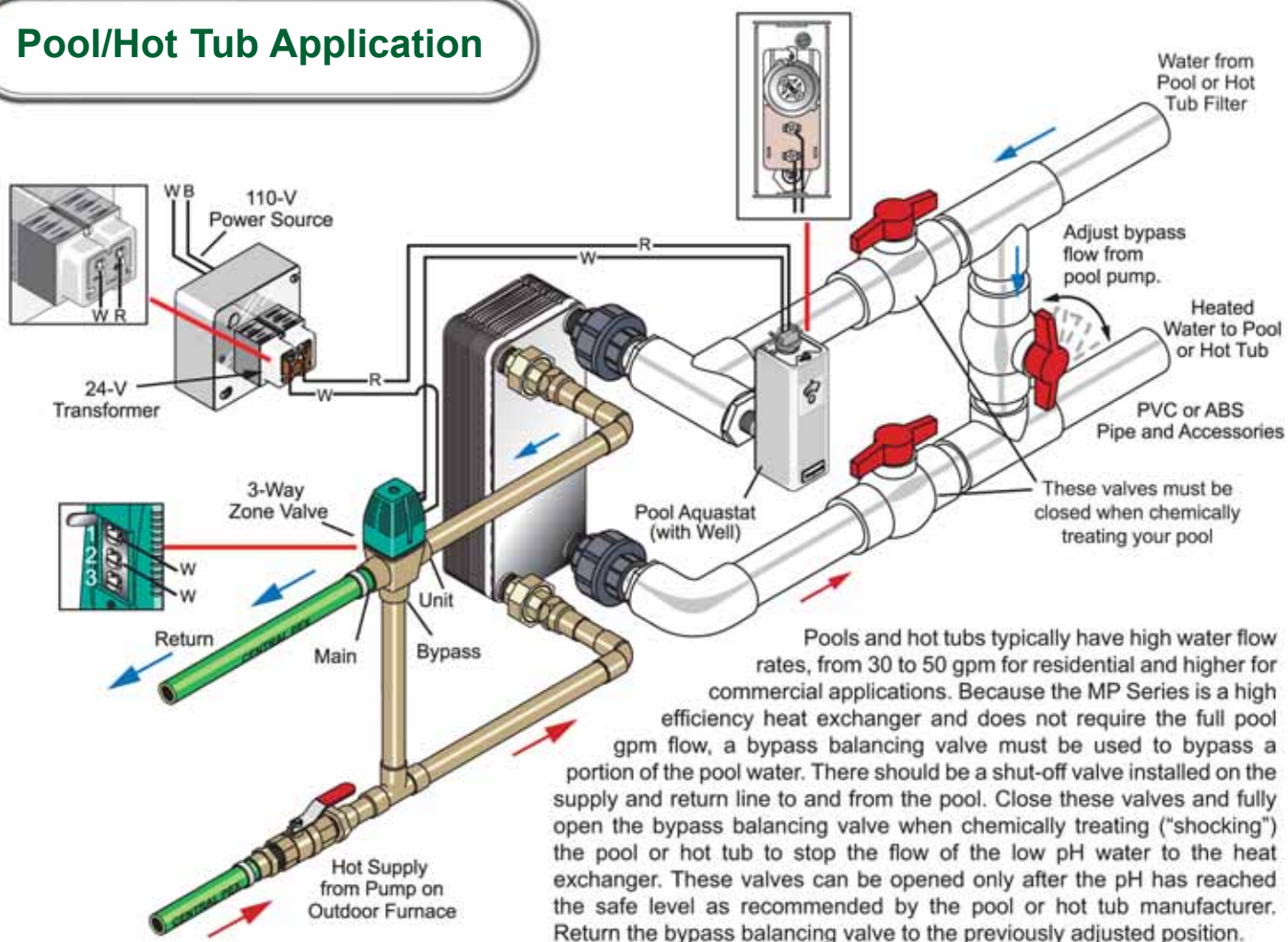
## Kickspace Hydronic Heaters

Designed to fit under cabinets or in other spaces.

A perfect solution to warm up those cold spots in your home. Whether it is your entry, kitchen or patio door area these radiators and fan forced hydronic heaters will provide comfort that's efficient, quick and easy to control. They are quiet, elegant, stylish, and designed to blend in, making the best possible use of space.

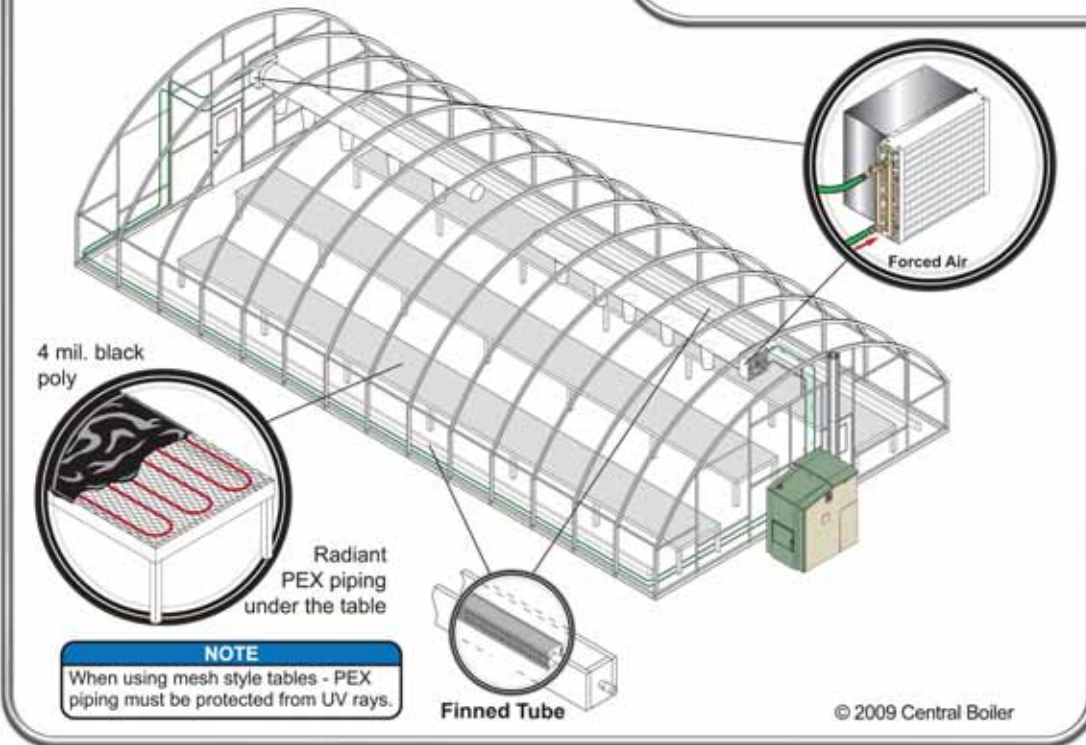


## Pool/Hot Tub Application



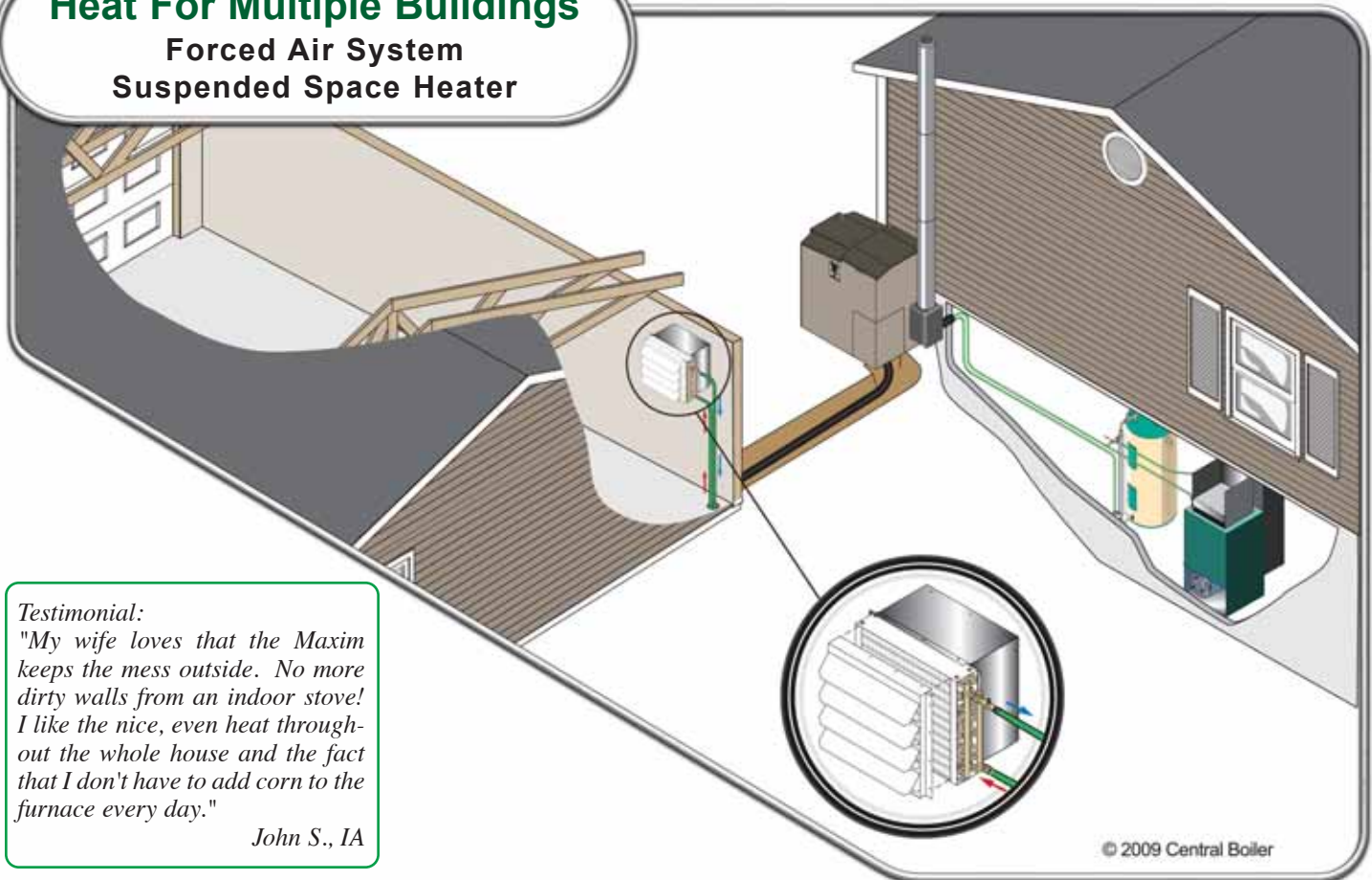
Pools and hot tubs typically have high water flow rates, from 30 to 50 gpm for residential and higher for commercial applications. Because the MP Series is a high efficiency heat exchanger and does not require the full pool gpm flow, a bypass balancing valve must be used to bypass a portion of the pool water. There should be a shut-off valve installed on the supply and return line to and from the pool. Close these valves and fully open the bypass balancing valve when chemically treating ("shocking") the pool or hot tub to stop the flow of the low pH water to the heat exchanger. These valves can be opened only after the pH has reached the safe level as recommended by the pool or hot tub manufacturer. Return the bypass balancing valve to the previously adjusted position.

## Greenhouse Heating Options Suspended Space Heater



*Testimonial:*  
 "Installing my Maxim last winter was the best thing I have ever done. Even with the high prices of corn I was able to cut my heating bill by 60%. Plus I was able to heat my home and garage with the same unit and keep the furnace outside. I am so impressed with how clean the unit burns and how great my dealer was to work with."  
 Melvin F., MN

## Heat For Multiple Buildings Forced Air System Suspended Space Heater



*Testimonial:*  
 "My wife loves that the Maxim keeps the mess outside. No more dirty walls from an indoor stove! I like the nice, even heat throughout the whole house and the fact that I don't have to add corn to the furnace every day."  
 John S., IA



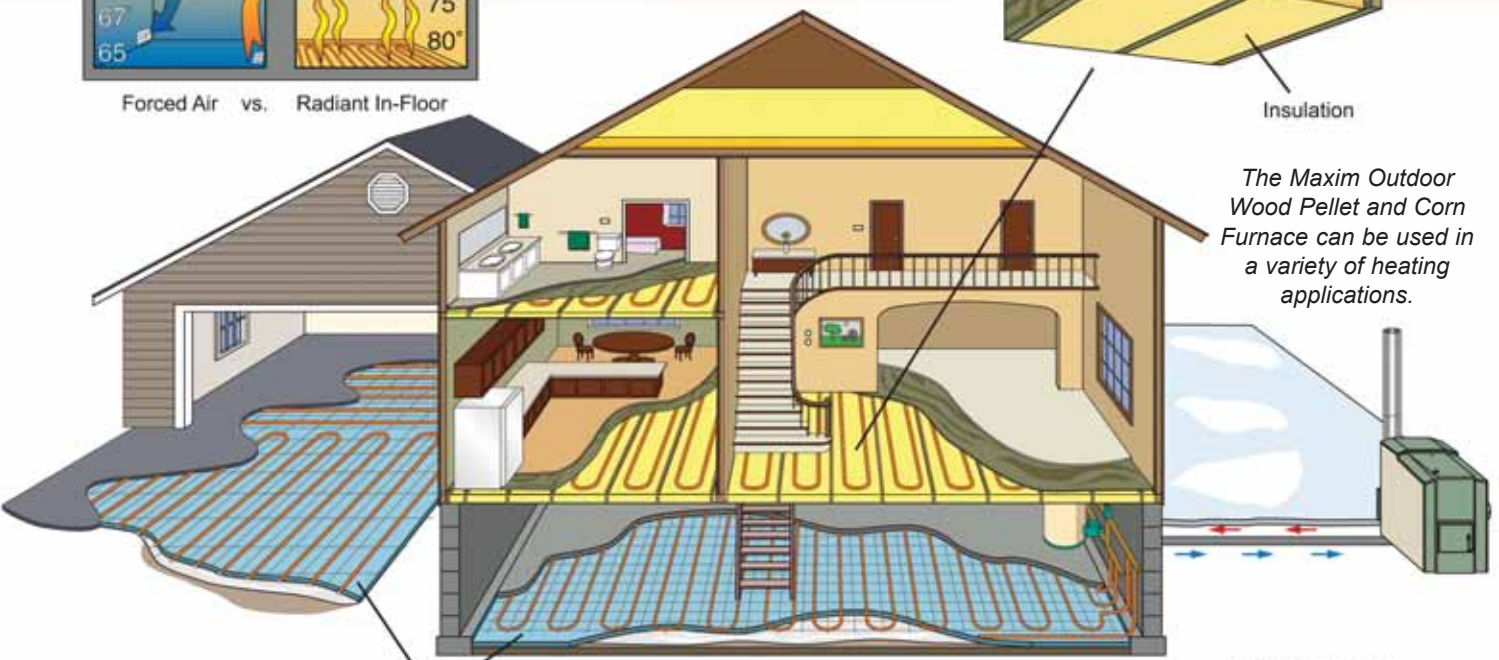
Forced Air vs. Radiant In-Floor

### Multi Zone In-Floor



Insulation

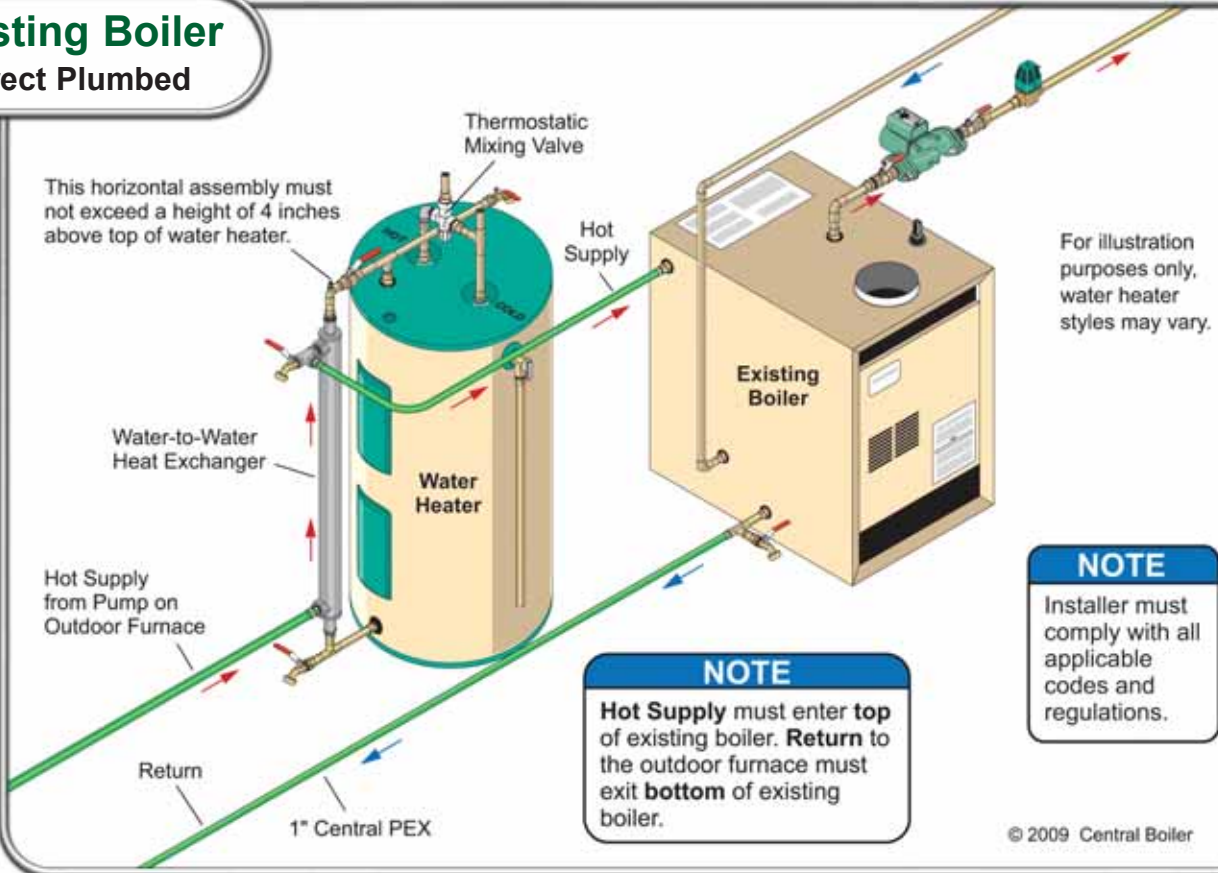
*The Maxim Outdoor Wood Pellet and Corn Furnace can be used in a variety of heating applications.*



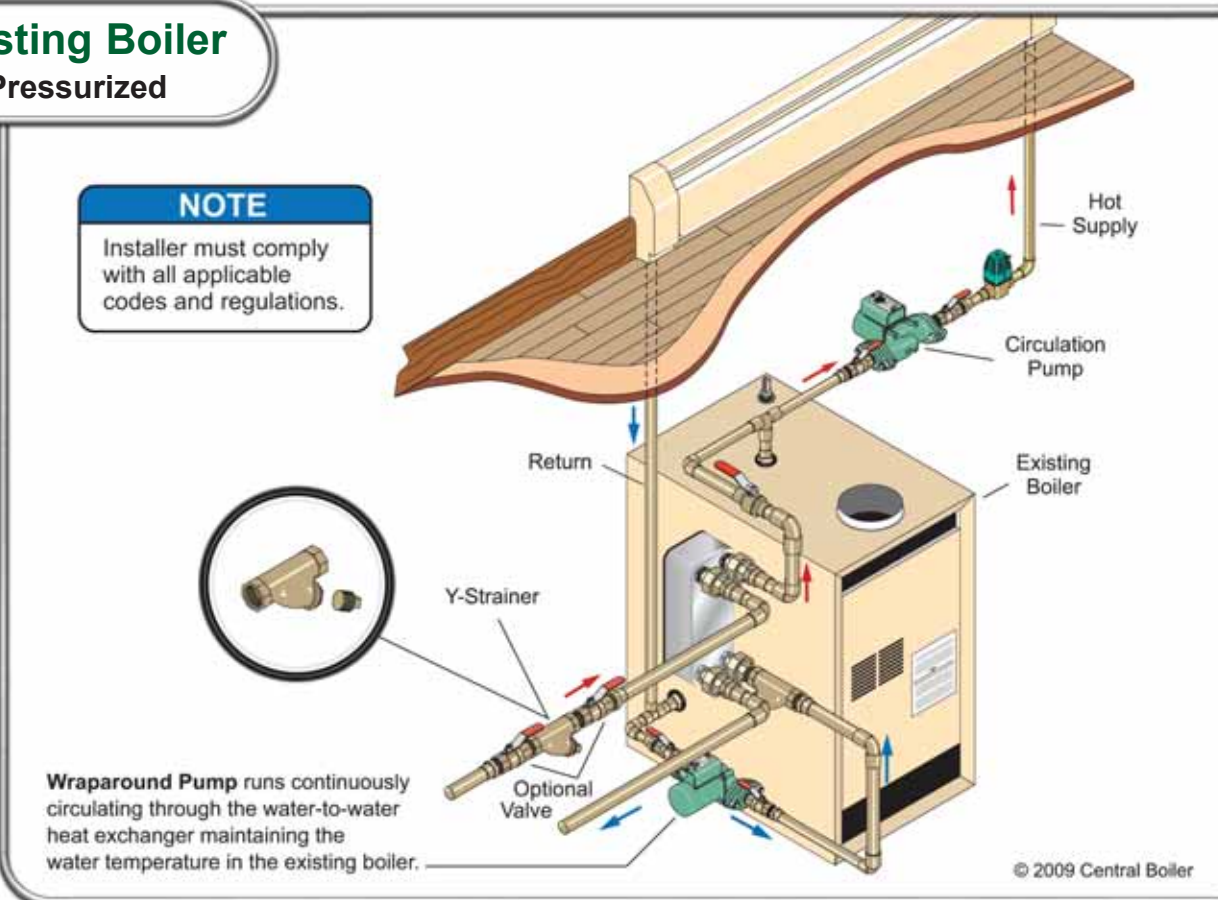
Closed-cell Polystyrene Thermal Insulation

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## Existing Boiler Direct Plumbed



## Existing Boiler Pressurized





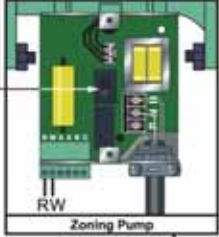
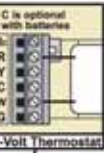
## Radiant Heat

### Single Zone 8-Loop with Water Heater

This horizontal assembly must not exceed a height of 4 inches above top of water heater.

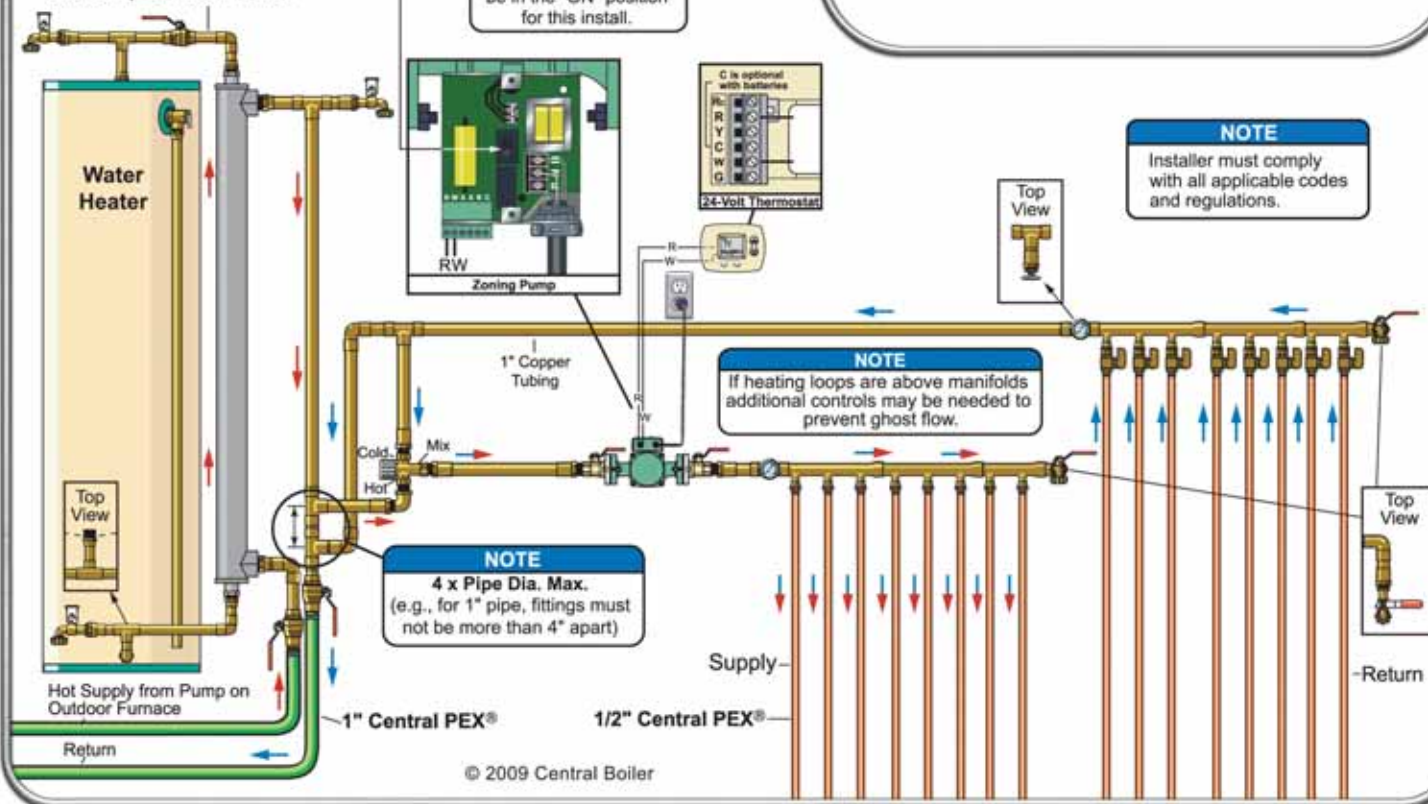
**NOTE**  
ON / OFF switch must be in the "ON" position for this install.

**NOTE**  
Installer must comply with all applicable codes and regulations.



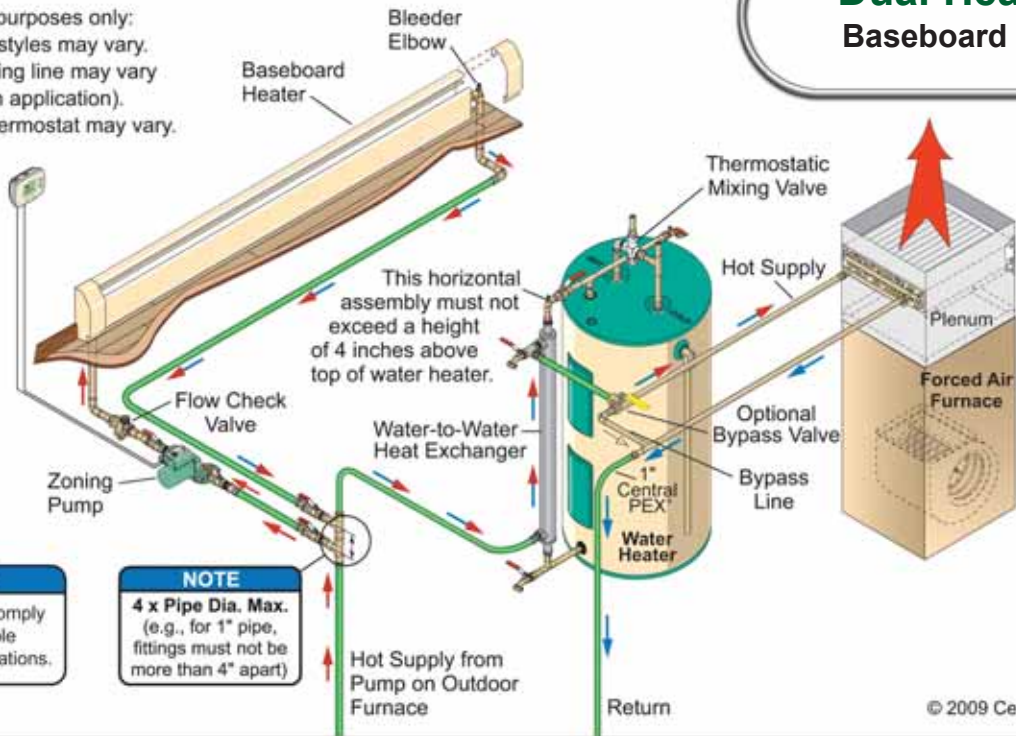
**NOTE**  
If heating loops are above manifolds additional controls may be needed to prevent ghost flow.

**NOTE**  
4 x Pipe Dia. Max. (e.g., for 1" pipe, fittings must not be more than 4" apart)



## Dual Heat System Baseboard / Forced Air

- For illustration purposes only:
- Water heater styles may vary.
  - Size of incoming line may vary (depending on application).
  - Location of thermostat may vary.



### NOTE

Installer must comply with all applicable codes and regulations.

### NOTE

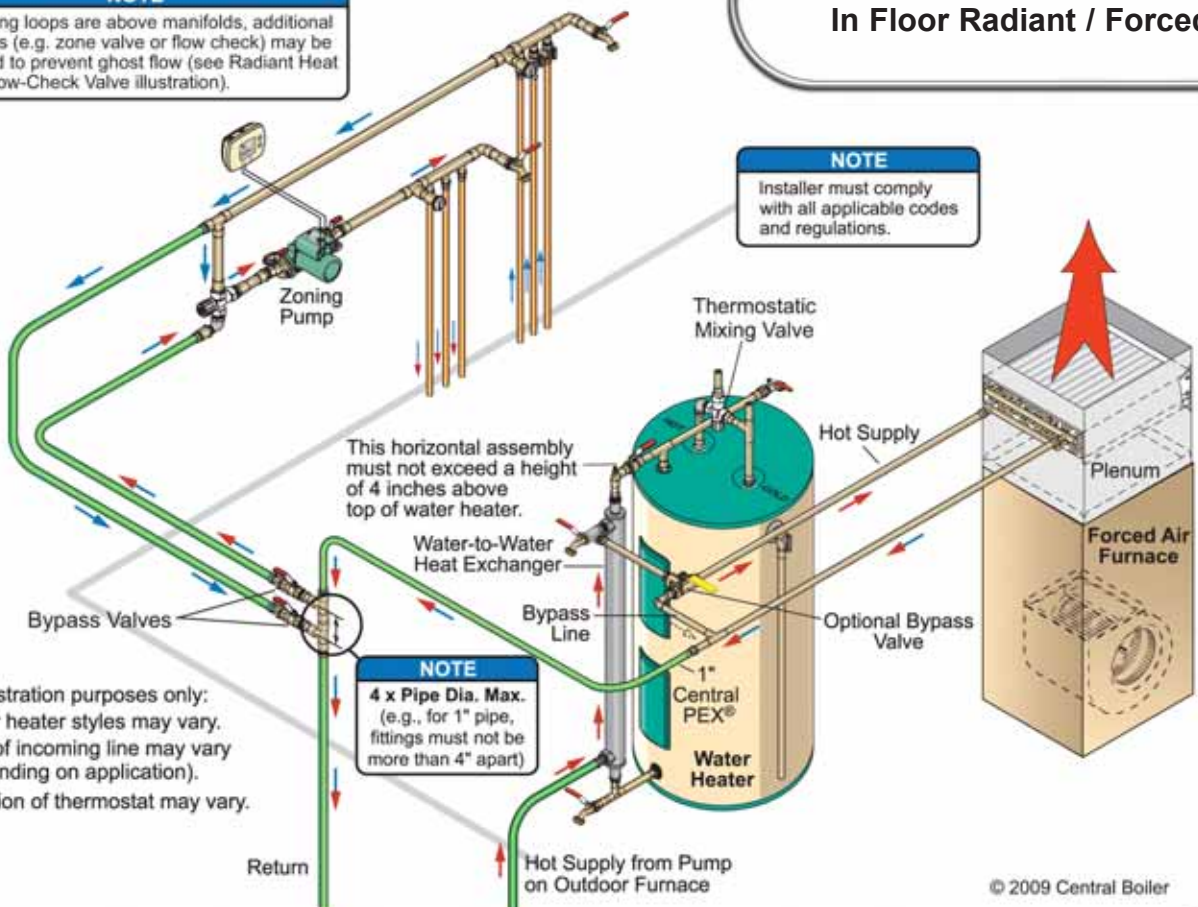
4 x Pipe Dia. Max. (e.g., for 1" pipe, fittings must not be more than 4" apart)

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## Dual Heat System In Floor Radiant / Forced Air

### NOTE

If heating loops are above manifolds, additional controls (e.g. zone valve or flow check) may be needed to prevent ghost flow (see Radiant Heat with Flow-Check Valve illustration).



### NOTE

Installer must comply with all applicable codes and regulations.

- For illustration purposes only:
- Water heater styles may vary.
  - Size of incoming line may vary (depending on application).
  - Location of thermostat may vary.

### NOTE

4 x Pipe Dia. Max. (e.g., for 1" pipe, fittings must not be more than 4" apart)

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## Qualified Individuals Working Together for a Common Purpose: A High Quality Finished Product

Central Boiler is located in Greenbush, Minnesota and was established in 1984 and is North America's largest manufacturer of quality outdoor furnaces. Based upon a desire to create safer and more efficient heating products, the company's innovations and patents have established Central Boiler as a leader in product quality. The uncompromising attitude to manufacture the best and always strive to make it better is at the core of the company's growth. Central Boiler has a dealer network that has now established itself throughout the United States and Canada.

## Why You Should Choose the Maxim® Outdoor Wood Pellet and Corn Furnace by Central Boiler

It's a choice that can improve your family's living environment and standard of living while eliminating the fire hazards and time-consuming chore of tending a traditional indoor wood stove.

The Maxim outdoor wood pellet and corn furnace can heat 100% of your home and water.\* By virtually eliminating your heating costs, the Maxim can often pay for itself in the first two years of use.\*\* Over a ten year period, a homeowner or business may save \$15,000 to \$75,000 or more in heating costs.

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For the maximum performance and life of your furnace, always insist on using Central Boiler authorized system parts and accessories.

See Owner's Manual for proper chimney height and installation.

Minimum chimney height is determined by proximity to other buildings. Consider location and direction smoke may travel with prevailing winds before installing your furnace.

Content of this publication is information in possession of Central Boiler at the time of the design and may not represent what was previously manufactured. Product specifications and appearance subject to change.

Must be installed in accordance with all applicable codes and regulations.

Central Boiler, Inc. is not a tax advisor. Taxpayers claiming a tax credit should consult a tax professional with any questions. Central Boiler is not responsible or liable for the taxpayer's ability to receive tax credits.

\*Heat load must be identified if Maxim is intended to heat 100% of home and water. Outdoor furnace and system must be properly sized and installed.

\*\*Savings based on cost of corn or wood pellets and heat load.

p/n 2411

## Environmental Benefits

The Maxim is beneficial for the environment because burning wood pellets or shelled corn is natural. Both are totally renewable resources and, when burned, result in no net increases in carbon dioxide. On the other hand, fossil fuels when burned release carbon dioxide which would otherwise be trapped in the earth. The burning of fossil fuels causes a net increase in carbon dioxide which is believed to be responsible for the heat-trapping greenhouse effect.

In addition to the clean-burning characteristics, burning shelled corn further benefits the environment because it is typically grown locally. The small amount of ash left over from burning shelled corn in the Maxim can even be used to fertilize garden areas.

Wood pellets are environmentally friendly not only because of their clean-burning characteristics, but also because they are typically made from materials generated in saw mills or furniture manufacturing factories that were once discarded in landfills or left to rot on the forest floor.

## Limited Warranty

An optional five-year limited warranty is available on Maxim outdoor furnaces that are registered at the time of purchase. Central Boiler leads the industry with its commitment to stand behind its outdoor furnaces.

*See Warranty Registration form for details.*

## Authorized Maxim Dealers located across the U.S. and Canada

When you're looking for a wood pellet or corn heating system for any need, your Maxim dealer is there to serve you. Your Maxim dealer can answer your questions, provide you with literature about the Maxim outdoor wood pellet and corn furnace and help you choose the model right for your heating needs. To locate a Maxim dealer in your area, reference the dealer locator on the internet at [MaximHeat.com](http://MaximHeat.com).

**Your Authorized Maxim Dealer**