

# A-MAIZE-ING HEAT® LDJ Manufacturing, Inc. • Pella, IA

# **BIOMASS FUELED FURNACE** & BOILER





Lowest Maintenance Biomass Unit on the Market

#### **HEATING COST COMPARISON** 1. Current monthly HEATing bill: 5. Equals total BTU's used to HEAT home: \$ (Yearly totals can also be used ) 6. Divided by average BTU content / bu. of corn: 504,000 btu 2. Divided by the price paid per unit: (UL standard BTU value per bu. of corn) Unit = Gallon of propane (LP) got corn? Gallon of fuel oil 7. Equals bu of corn required to HEAT home: \$ KWH of electric (average unit cost) Burn Iti Therm of natural gas (average unit cost) 8. Multiply by the price per bu of corn: 3. Equals current monthly fuel consumption: \$ 9. Equals cost/month to HEAT with corn: gal / kwh / therm 4. Multiply by BTU per unit of this fuel: 10. Top line (1.) Propane 91,000 BTU/gal BTU Fuel Oil 140,000 BTU/gal 11. Minus bottom line (9.) 3,412 BTU/kwh Electric Natural Gas 100,000 BTU/therm 12. Equals SAVINGS per MONTH/YEAR: \$\_

#### EXPERIENCE AN EFFICIENT HEATING ALTERNATIVE ~

...a highly efficient concept, biomass heat. In times of highly uncertain energy costs it makes sense to use a heat source that utilizes a resource that is renewable, readily available, and cost effective. The LDJ **A-Maize-Ing Heat**® furnaces and boilers burn shelled corn, wheat, barley, milo, cherry pits, grain sorghum, wood pellets, and many other bio products.

#### . Efficient, Self-cleaning Unit

The LDJ **A-Maize-Ing Heat®** systems feed the fuel into the bottom of a 5/8-inch thick cast iron burn pot, therefore providing the most efficient fuel consumption. The residual ash then spills over the top of the burn pot into an ash pan for easy removal. This process, in effect, self cleans the combustion chamber.

#### . Thermostatically Controlled:

Your home's thermostat electronically controls the fuel feed system and blower to provide a constantly comfortable living environment. The unit will remain lit as long as the bin contains fuel and will shut down automatically if the fuel supply is depleted. The storage bin holds 14 bushels of corn which is automatically fed into the combustion chamber as needed.

#### · Advantages over Wood:

The A-Maize-Ing Heat® biomass system has many advantages over wood heat. Along with the thermostatic control, the low stack temperatures and absence of creosote buildup eliminates the possibility of chimney fires. There is no daily maintenance. Also, with the available 100,000 or 165,000 variable rate BTU models you can easily heat an entire home or shop. The use of

these biomass fuels also eliminates the mess of bark, insects, splinters, and storage and handling problems associated with wood heat. No chainsaws, wood splitters, or trailers to buy and maintain either.

#### Quality Construction:

The LDJ **A-Maize-Ing Heat**® unit features quality construction for long lasting performance. 14 gauge steel is used on the heat exchanger and a 5/8-inch thick cast iron burn pot ensures long life. A one-year warranty is included on parts and a five year limited warranty on the burner and heat exchanger.

#### . Environmentally friendly:

The LDJ **A-Maize-Ing Heat**° systems utilize a fuel source that is renewable and locally produced. It also emits, when burned, an exchange of carbon dioxide equal to what was taken from the environment in the production of the biomass fuel. There is no harmful carbon monoxide emitted in the process.

#### UL Listed:

Every LDJ A-Maize-Ing Heat® unit has a current UL listing. The original A-maize-ing Heat biomass



systems were the first corn-fired units to be listed by Underwriters Laboratories. Using the dual auger drive system to meter the fuel allows for precise and safe control of combustion. Every change or update LDJ has made has gone through the UL testing and been approved. LDJ's UL listing assures a safe and quality product to every consumer.



Toll Free: 866-535-7667 www.cornheat.com

Authorized Dealer:



# BIOMASS BOILER

#### **BOILER SPECIFICATIONS**

#### Model LDJ991-9 & LDJ991-10

| Model EDGGG! G & EDGGG! !     | •                         |
|-------------------------------|---------------------------|
| Dimensions - Boiler           | 61"H x 22"Diameter        |
| Dimensions - Bin              | 48" H x 36" W x 52" D     |
| Weight - Boiler               | 510 lbs                   |
| Weight - Bin                  |                           |
| Flue Pipe                     |                           |
| Fire Pot                      |                           |
| Bin Capacity                  | 14 bushels                |
| Tank Capacity                 |                           |
| Combustion Blower             |                           |
| BTUs                          | 100,000 OR 165,000        |
| Voltage                       | 110 volts                 |
| Efficiency Rating             | 85%                       |
| Clearance to Combustibles     | .18" from flue connection |
| Thermostat Controlled, UL Lis | ted                       |

# ASME Approved Boiler Tube type steel boiler with a wet leg water jacket surrounding the burner chamber in water. Pressure Relief Valve High Limit Switch Aquastat Relay Burner Switch Storage Bin

Combustion Blower

**Corn Metering Augers** 

#### **Advantages of Hydronic Heat:**

Ash Pan

- Hydronic systems are reliable, clean, efficient without the noise, dust and drafts of hot air systems.
- Operation is automatic indoor temperature is maintained at the desired level, regardless of changes in weather by setting the thermostat.
- Water is the best natural material for conducting heat.
   Temperature changes of water can be accurately controlled and measured so there is less "over shooting" of thermostat settings and less wasted heat.
- There is no hot or cold spaces or drafts in your home.
- With hydronic heat, there is no recirculation of air in the home blowing dust, odors, germs, or spores throughout the house.
- Hydronics is a sealed system so there is no moisture put in or taken out of the home.

### LDJ Exclusive Boiler Improvements

- · Copper auger tube
- New higher torque auger motors
- Updated UL listing UL
- ASME boiler tank
- New and improved owner's manual
- Available in 100,000 BTU & 80,000-165,000 BTU Variable Rate
- · Corn hopper shutoff
- Powder Coated Finished

#### Additional Options

- New 7 bu. Hopper Topper
- New Hopper Screen
- Domestic Water Coil

# BIOMASS FURNACE

#### **FURNACE SPECIFICATIONS**

#### Model LDJ620-9 & LDJ620-10

| Dimensions - Furnace      | 53"Hx27"Wx46"D   |
|---------------------------|------------------|
| Dimensions - Bin          | 48"Hx36"Wx51"D   |
| Weight - Furnace          |                  |
| Weight - Bin              | 50 lbs.          |
| Flue Pipe                 | 6" Class A       |
| Plenum Openings           | 14" x 18"        |
| HEAT Exchanger            | 14 gauge steel   |
| Fire Pot                  | 5/8" Cast Iron   |
| Air Filter                | 20 x 20 x 1      |
| Bin Capacity              | 14 bushels       |
| Combustion Blower         |                  |
| Hot Air Blower            | 1/2 HP - 3 speed |
| BTUs                      |                  |
| Voltage                   | 110 volts        |
| Efficiency Rating         |                  |
| Clearance to Combustibles | :                |
| Top32"                    | Front30"         |
| Side6"                    | Rear18"          |
| Thermostat Controlled, UL | Listed           |

#### Storage Bin 14 bushel capacity for up to 10-day operation on a single load.

# Hot Air & Return Plenum Openings Connects directly to duct

Connects directly to duc work like your existing furnace to transfer heat throughout your home.



<u>& Air Filter</u>
Accessible from back

Combustion Blower

Ash Pan

Easy removal of ashes.

#### Corn Metering Augers

Transfers kernels of corn from storage bin to bottom of combustion chamber.

#### Combustion Chamber

Induced air flow generates maximum efficiency. Burn 99% complete leaving about 1 pound of residue per 100 pounds of corn.

## LDJ Exclusive Furnace Improvements

- Copper auger tube
- Sloped door lip
- New higher torque auger motors
- Powder coated finish
- Updated furnace wiring
- Larger 1/2 hp. room air blower
- Increased plenum size
- Updated UL listing UL
- New and improved owner's manual
- Available in 100,000 BTU & 80,000-165,000 BTU Variable Rate
- Corn hopper shutoff
- Improved heat exchanger
- Coupler system for Left hand/Right hand unit
- Air Conditioning Compatible

#### **Additional Options**

- New 7 bu. Hopper Topper
- New Hopper Screen