

# “Cleanest-Burning Wood Furnace In The World”

No wood burner on the market burns cleaner than the Kuuma Vapor-Fire 100, in-house furnace, according to the manufacturer.

The hot air furnace recently tested out at 86 percent heat transfer efficiency, 98 percent combustion efficiency, and produced less than a gram per hour of particulates. At a slow burn it did even better with an overall combustion efficiency of 98.1 percent. The smaller Vapor-Fire 200 scored even better than the model 100 at 99.4 percent. These results make both stoves eligible for tax credits of up to \$1,500 for purchase and installation.

Daryl Lamppa says the furnace is unique to the industry. “Ours is the only non-boiler, wood gasification furnace in the industry that we are aware of.”

Unlike other true gasification burners, logs in the fire chamber of the Kuuma burn at a controlled rate from front to back. Controlled release gas and vapors result in near complete combustion. Kuuma furnaces are designed to burn on low (3 to 4 lbs. of wood per hour), medium (5 to 7 lbs./hr.) or high (8 to 9 lbs./hr.), depending on outside temperatures.

Heated air is fed into the furnace plenum for distribution throughout the house. Lamppa explains that the fan in the plenum runs at a constant 250 cfm once the furnace is hot enough. When the house thermostat calls for more heat, it kicks up to 1,500 cfm until the thermostat reaches the desired level.

Lamppa explains that it's the 24-volt, computer-controlled, constant burn that produces a near complete burn with practically no polluting particles. It's when wood smolders that creosote and other pollutants are produced.

“If you see smoke, you have creosote being produced,” says Lamppa. “Ours produces practically no visible smoke once the fire starts and no creosote when using

seasoned firewood. We take our stovepipes apart once a year and just blow the dust out.”

Although Lamppa and his father Herb have been making the Kuuma Vapor-Fire 100 for 28 years, they only recently sought efficiency certification. “We knew it burned clean, but in order for it to qualify for the 2009 to 2010 Home Energy-Efficiency Improvement tax credit, it needed to be certified. We now know this is the cleanest-burning wood furnace in the world.”

To qualify for the tax credit, wood stoves and furnaces must have a thermal efficiency rating of 75 percent or above and emissions of less than 7.5 grams per hour for non-catalytic models and 4.1 grams per hour for catalytic models. At 84 percent thermal efficiency, the non-catalytic Kuuma 100 is 5 percent ahead of even the most efficient catalytic wood stove on the EPA certified list of tax credit approved wood stoves. At less than a gram of particulates, no other non-catalytic stove comes close and only a handful of pellet/catalytic models burn cleaner. As low as .45 grams per hour and an average of .7 grams per hour.

Another sign of an efficient burning furnace is that you burn less wood, notes Lamppa. Even with a continuously burning design, he says the Kuuma takes half the wood of a conventional non-gasification furnace.

“We had a mild winter this year, and I left my furnace set at the low setting all winter,” says Lamppa. “I have a 3,200-sq. ft. house, and I only burn 4 to 5 cords of wood a year.”

The Kuuma Vapor-Fire 100 combustion chamber is only 23 in. long by 15 1/2 in. wide by 20 in. high. The fire door is 12 in. by 12 in. and takes a maximum wood length of 22 in. Even with that limited size, Lamppa says that when set on medium burn, a single hardwood fill will last for



**The Kuuma Vapor-Fire 100 hot air furnace recently tested out at 86 percent heat transfer efficiency, 98 percent combustion efficiency, and produced less than a gram per hour of particulates.**

10 to 12 hours. Hardwood coals will last another 6 to 12 hours. When reloading the chamber, coals are simply pulled forward before fresh wood is added. Once the door is shut, the logs quickly ignite and burn at the preset rate.

“I have customers who tell me they light their furnace once in the fall and never light another match all winter,” says Lamppa.

The Kuuma Vapor-Fire 100 is priced at \$4,350. It stands 50 in. high, 32 in. wide and 52 1/2 in. deep. The slightly smaller Kuuma Vapor-Fire 200 is priced at \$3,850.

Contact: FARM SHOW Followup, Lamppa Manufacturing, P.O. Box 422, Tower, Minn. 55790 (ph 218 753-2330; toll free 800 358-2049; lamppmfg@gmail.com; www.lamppakuuma.com).

**Reader Inquiry No. 03**

## Short Season Open-Pollinated Corn

“Most open-pollinated corn is grown in southern areas with longer growing seasons. Beneficial varieties for growers with a short season have not been widely available. We're changing that with faster finishing, OP corn varieties that will let growers that have a short season to profit from open-pollinated corn,” says Vaughn Emo, Avoca, N.Y. of Green Haven Open-Pollinated Seed Group.

Green Haven Open-Pollinated Seed Group is a nationwide organization of seedsmen based in western N.Y. They are focusing on improving OP varieties for silage,

grain and wildlife plots. Many varieties are available certified organic.

Green Haven works with 75,85,87,90,100, and 110 day open pollinated field corn seed. Open-pollinated corn is said to be higher in protein and sugar than regular hybrids, giving livestock farmers higher feed value. Of course, the biggest advantage is that farmers can select their own seed from this year's crop to plant next year. Open pollinated sweet corn, pop corn and pumpkin seed are also available.

For a free brochure contact FARM SHOW



Followup, Green Haven Open-Pollinated Seed Group, 8225 Wessels Rd, Avoca, N.Y. 14809 (ph 607 566-9253; email:opcorn@gmail.com; www.openpollinated.com).

**Reader Inquiry No. 04**