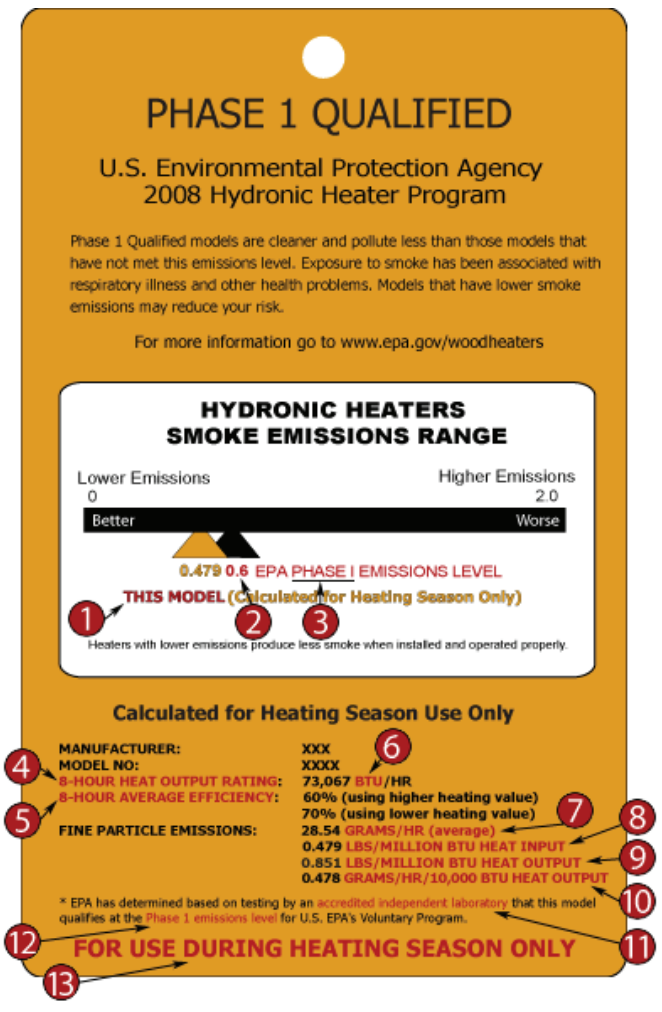
Understanding the Orange Tag

This orange tag identifies hydronic heaters that meet EPA's Phase I emissions levels for the voluntary program. Models that carry this tag have been tested by an EPA-accredited laboratory and are cleaner than other models.

The following are definitions for specific parts of the hang tag to help you as the consumer, better understand how your model was rated. To view the definitions, click on or place your mouse on the red number directly on the hang tag graphic.



1 **"This Model" Designation** - shows the pollution emission level (measured in lbs/million BTU heat input) for this particular model. This number resulted from the emissions test used to compare the heater with the EPA qualifying emissions level.

2 **0.6 EPA Phase 1 Emissions Level** - the heater must meet this level to qualify for the EPA Phase 1 voluntary program. This level is calculated in lbs/million BTU input (i.e., wood fuel burned).

3 **Phase I** - is the initial step of EPA's phased program to provide better choices to consumers of models that are cleaner and more efficient than unqualified models.

4 **8-Hour Heat Output Rating** - describes how much heat this model can provide in eight hours (measured in BTU/hour).

5 **8-Hour Average Efficiency** - is the useful heat output expressed as a percent of heat input (i.e., fuel burned). This value is shown for higher heating value (which includes the heat content of the moisture in the fuel) and for lower heating value (which does not include the heat content of the moisture in the fuel).

6 **BTU** - is short for British Thermal Unit. A BTU is a measure of an amount of heat. Specifically, a BTU is the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

7 **Grams/hour** - shows the amount of pollution (measured in grams) per unit of time (measured in hours). This number is essential for estimating air quality and health impacts. For comparison, most unqualified hydronic heaters are estimated to emit 100-300 grams/hour whereas most current EPA-certified woodstoves emit less than 4 grams/hour and some emit less than 2 grams/hour.

8 **XX lbs/ Million BTU Heat Input** - shows the amount of particle pollution per amount of fuel burned. For comparison, most unqualified hydronic heaters are estimated to emit 1.5-5.0 lbs/million BTU heat input whereas most current EPA-certified woodstoves emit 0.8-1.5 lbs/million BTU heat input.

9 **XX lbs/ Million BTU Heat Output** - shows the amount of particle pollution per amount of heat produced.

10 **Grams/Hour/10,000 BTU Heat Output** - shows the particle pollution per hour per every 10,000 BTU of heat output. This calculation takes into consideration varying sizes of units. In general, larger models typically emit more pollution but they also provide more heat output if the efficiency is the same. Although EPA's primary interest is reducing emissions to protect public health, EPA is also encouraging manufacturers to increase the efficiency of their heaters which typically reduce emissions for a given heat output. For comparison, many unqualified hydronic heaters are estimated to have combustion efficiencies of only 30-40 percent whereas most current EPA-certified woodstoves and wood pellet stoves have efficiencies of 67-80 percent.

11 **Accredited Independent Laboratory** - EPA has provided official authorization for certain hydronic heater testing labs in the United States. An important criterion is that these labs are independent of the manufacturers. Also, this accreditation is determined by reviewing a lab's performance, their capabilities for completing specific types of testing, and accurately and fully compiling results data.

12 **Emissions Level** - designated by EPA as a maximum of 0.60 lbs of particle pollution per million BTU heat input. EPA established this number with input from various stakeholder groups such as industry manufacturers, EPA-accredited woodstove testing laboratories, state air quality agencies, and the Northeast States for Coordinated Air Use Management (NESCAUM).

13 **Seasonal vs. Year-round burning** - an hydronic heater is rated for either seasonal or year-round burning. A "year-round" unit has been tested and meets the criteria for potential usage 12 months of the year. A "seasonal" rating designation is for units that are specified for use *only* during winter months (approximately October through April).