



Hydronic Heaters

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List of Cleaner Hydronic Heaters

[Breathe Easier with Cleaner Outdoor Wood-Fired Heaters \(PDF\)](#) (1pg, 451k, [About PDF](#))

Below are 3 lists of cleaner burning hydronic heaters that qualify for the EPA voluntary program. The first table is for models that qualify for the Phase 2 white tag (about 90 percent cleaner than unqualified models). The second table is for models that qualify for the Phase 1 orange tag for "year round" use (about 70 percent cleaner than unqualified models). Please note that although the tag is calculated for year round use, some jurisdictions may not allow "year round" use (i.e., not during summer for just hot water rather than heat). The third table is for models that qualify for the Phase 1 orange tag for "heating season use only." These emissions are calculated as if the model is only used during the heating season. Please note that some jurisdictions do not allow models that only qualify for "heating season use only" because their emissions would be greater if they are used year round.

Please Note that some States and/or local jurisdictions do not allow models that only qualify for "Heating Season Only" use. Also, please note that all data below are according to EPA Method 28 OWHH unless otherwise noted. One manufacturer has asked to use the "cordwood exception" to use the ASTM cordwood test method in lieu of the EPA method. Labels based on the "cordwood exception" expire 12/31/08.

Phase 2 White Tag Models

Manufacturer	Model Name & Number	Heat Output Rating (1)	Efficiency (1)	Annual Average Emission Rate	Heat Input (2) Annual Average Emission Level	Heat Output Annual Average Emission Level	Highest Individual Test Run
Central Boiler	Maxim M250	212,453 BTU/hr	87.8 % high heating value 95.54 % low heating value	1.6 grams/hr 0.07 grams/hr/10,000 BTU output	0.05 lbs/million BTU input	0.06 lbs/million BTU output	4.9 grams/hr
Central Boiler	E - Classic 2300	160,001 BTU/hr	74.94 % high heating value 85.74 % low heating value	6.4 grams/hr 0.06 grams/hr/10,000 BTU heat output	0.20 lbs/million BTU input	0.31 lbs/million BTU output	17.6 grams/hr
Greenwood Technologies, LLC	Aspen 175	66,290 BTU/hr	67.5% high heating value	8.4 grams/hr 0.18	0.18 lbs/million BTU input	0.27 lbs/million	18.0 grams/hr

			77.2% low heating value	grams/hr/10,000 BTU heat output		BTU output	
<u>Hardy Manufacturing Co., Inc.</u>	KBP 270	120,000 BTU/hr	72.3% high heating value 77.9% low heating value	2.96 grams/hr 0.23 grams/hr/10,000 BTU output	0.10 lbs/million BTU input	0.20 lbs/million BTU output	6.03 grams/hr
<u>Northwest Manufacturing, Inc. (Woodmaster)</u>	AFS 900	107,069 BTU/hr		2.49 grams/hr 0.27 grams/hr/10,000 BTU output	0.11 lbs/million BTU input	0.20 lbs/million BTU output	7.38 grams/hr
<u>Silverwinds Metals (Wood Doctor)</u>	WD-HE8000	112,655 BTU/hr	66.3 % high heating value 75.8 % low heating value	6.1 grams/hr 0.09 grams/hr/10,000 BTU output	0.17 lbs/million BTU input	0.26 lbs/million BTU output	17.4 grams/hr

1 - Based on 8-hour test for stick wood models and 4-hour test for continuous feed models.

2 - EPA Phase 2 qualified level is 0.32 pounds of fine particles per million BTU of heat output (weighted average representing the range of burn rates expected in a year) and a maximum individual test run of 18.0 grams per hour. Typically, the maximum individual test run is the maximum heat output burn rate.

Phase 1 Orange Tag "Year Round" Models

Manufacturer	Model Name & Number	Heat Output Rating (1)	Annual Average Emission Rate	Heat Input (2) Annual Average Emission Level	Heat Output Annual Average Emission Level	Highest Individual Test Run
<u>Greenwood Technologies</u>	Aspen 175	66,290 BTU/hr	8.40 grams/hr 0.18 grams/hr/10,000 BTU heat output	0.182 lbs/million BTU heat input	0.27 lbs/million BTU heat output	18.023 grams/hr
<u>Central Boiler</u>	E - Classic 2300	160,001 BTU/hr	6.4 grams/hr 0.06 grams/hr/10,000 BTU heat output	0.20 lbs/million BTU heat input	0.31 lbs/million BTU heat output	17.60 grams/hr
<u>Central Boiler</u>	E - Classic 1200	89,613 BTU/hr	7.5 grams/hr 0.15	0.33 lbs/million BTU heat input	0.59 lbs/million BTU heat output	19.94 grams/hr

			grams/hr/10,000 BTU heat output			
<u>Heatmor</u>	200 SSR	71,923 BTU/hr	20.3 grams/hr 0.42 grams/hr/10,000 BTU heat output	0.35 lbs/million BTU heat input	0.76 lbs/million BTU heat output	33.4 grams/hr
<u>Heatmor</u>	SSR 400	157,784 BTU/hr	31.3 grams/hr 0.29 grams/hr/10,000 BTU heat output	0.41 lbs/million BTU heat input	0.68 lbs/million BTU heat output	30.6 grams/hr
<u>Bioheat Resources</u>	BH500 Eco Energy	73,067 BTU/hr	28.54 grams/hr 0.478 grams/hr/10,000 BTU heat output	0.479 lbs/million BTU heat input	0.77 lbs/million BTU heat output	71.602 grams/hr
<u>Sequoyah Paradise</u>	E3400	101,020 BTU/hr	21.88 grams/hr 0.42 grams/hr/10,000 BTU heat output	0.488 lbs/million BTU heat input	2.37 lbs/million BTU heat output	34.77 grams/hr
<u>Hardy</u>	KB175	66,681 BTU/hr	16.3 grams/hr 0.31 grams/hr/10,000 BTU heat output	0.54 lbs/million BTU heat input	0.87 lbs/million BTU heat output	42.7 grams/hr
<u>Greenwood Technologies</u> (3)	100	18,248 BTU/hr	15.205 grams/hr 1.090 grams/hr/10,000 BTU heat output	0.564 lbs/million BTU heat input	2.046 lbs/million BTU heat output	17.80 grams/hr

1 - Based on 8-hour test for stick wood models and 4-hour test for continuous feed models.

2 - EPA Phase 1 level is 0.60 lbs/million BTU. Emission levels are annual averages unless qualified for heating season use only.

3 - These data are via the "cordwood exception," i.e., according to the ASTM cordwood method in lieu of EPA Method 28 OWHH.

Phase 1 Orange Tag "Heating Season Only" Models

Manufacturer	Model Name & Number	Heat Output Rating (1)	Heating Season Average Emission Rate	Heat Input Heating Season Average Emission Level (2)	Heat Output Heating Season Average Emission Level	Highest Individual Test Run
<u>Greenwood</u>	Aspen 175	66,290	11.58 grams/hr	0.186 lbs/million BTU	0.28 lbs/million	18.023

Technologies		BTU/hr		heat input	BTU heat output	grams/hr
			0.25 grams/hr/10,000 BTU heat output			
<u>Central Boiler</u>	E - Classic 2300	160,001 BTU/hr	8.6 grams/hr 0.08 grams/hr/10,000 BTU heat output	0.21 lbs/million BTU heat input	0.32 lbs/million BTU heat output	17.60 grams/hr
<u>Central Boiler</u>	E - Classic 1200	89,613 BTU/hr	9.1 grams/hr 0.17 grams/hr/10,000 BTU heat output	0.31 lbs/million BTU heat input	0.51 lbs/million BTU heat output	19.94 grams/hr
<u>Sequoyah Paradise</u>	E3400	101,020 BTU/hr	20.10 grams/hr 0.31 grams/hr/10,000 BTU heat output	0.37 lbs/million BTU heat input	1.48 lbs/million BTU heat output	34.77 grams/hr
<u>Greenwood Technologies</u> (3)	100	18,248 BTU/hr	13.643 grams/hr 0.863 grams/hr/10,000 BTU heat output	0.418 lbs/million BTU heat input	1.362 lbs/million BTU heat output	17.80 grams/hr
<u>Alternative Fuel Boilers</u>	EBW150	27,441 BTU/hr	14.14 grams/hr 0.576 grams/hr/10,000 BTU heat output	0.434 lbs/million BTU heat input	0.80 lbs/million BTU heat output	24.05 grams/hr
<u>Bioheat Resources</u>	BH500 Eco Energy	73,067 BTU/hr	28.54 grams/hr 0.478 grams/hr/10,000 BTU heat output	0.479 lbs/million BTU heat input	0.90 lbs/million BTU heat output	71.602 grams/hr
<u>Aqua-Therm</u>	Omega 100	63,807 BTU/hr	23.80 grams/hr 0.515 grams/hr/10,000 BTU heat output	0.551 lbs/million BTU heat input	1.17 lbs/million BTU heat output	26.988 grams/hr

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