



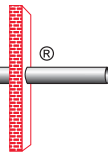
**Efficiency**  
*High Efficiency,  
Gas Fired  
Heating Boiler*



**Taking Comfort  
And Efficiency To  
The Next Level**



# Efficiency



## An Investment You'll Feel Right At Home With

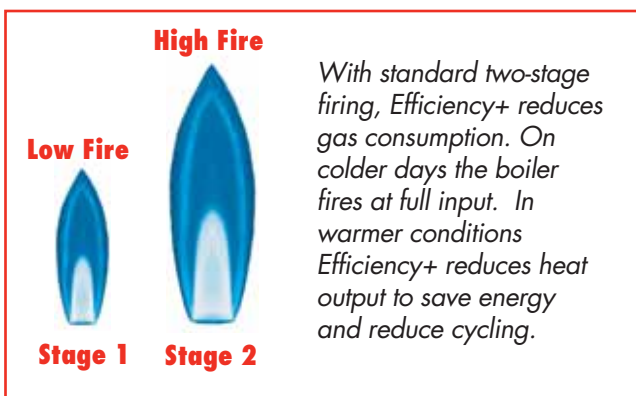
Heating your home or business is one of the biggest investments you'll ever make...and you deserve a heating system that delivers unmatched comfort, dependability and energy savings, year after year. That's why Efficiency+ from Lochinvar is the smart choice for heating.

Efficiency+ more than lives up to its name, with an outstanding 84% thermal efficiency. It has two-stage firing that saves fuel by closely matching heat output to system demand, maximizing operating efficiency.

Efficiency+ is available in five models, with inputs ranging from 100,000 to 300,000 Btu/hr. Most competitive models don't exceed 170,000 Btu/hr, thus requiring two units to equal the output of just one Efficiency+.

### Two-Stage Firing

During the majority of the heating season less than full boiler input is required to satisfy a heat load. For this reason Lochinvar has developed a two-stage firing system. Two-stage firing — standard equipment on all Efficiency+ boilers — provides dramatic fuel savings by reducing heat output 50%. That means when outdoor temperatures become warmer, the boiler will use less fuel to maintain comfortable indoor temperatures. Two-stage firing is ideal for applications utilizing indoor/outdoor reset—and is advantageous in systems where the Efficiency+ is used with an Efficiency Mate indirect heater to produce domestic hot water.



### Trouble-Free Operation

There's nothing more irritating than a boiler that sputters out when you need it most. That's why Efficiency+ has an integrated boiler control that ensures safe burner operation and prevents nuisance flame-failures. It continuously monitors flame performance and can quickly restart the ignition sequence automatically.



Plus the boiler control has internal diagnostic lights for easier troubleshooting.

The unit's pre-mix burner ensures clean, quiet combustion in all atmospheric conditions. Efficiency+ is "environmentally friendly," with the lowest NOx rating in the industry.

Efficiency+ is also designed to operate on low gas pressure — a key consideration in regions where natural gas supply pressure is in the 4 - 5 inch range.

Thanks to its direct-vent capabilities, you don't need an existing chimney — or any chimney improvements — to get money-saving boiler heat. Efficiency+ draws its combustion air directly from outside your home—and it can vent out a sidewall. You get the benefits of direct venting without any special equipment...no induced draft fan or powered vent cap. When it comes to retro-fit applications, Efficiency+ is your best investment.

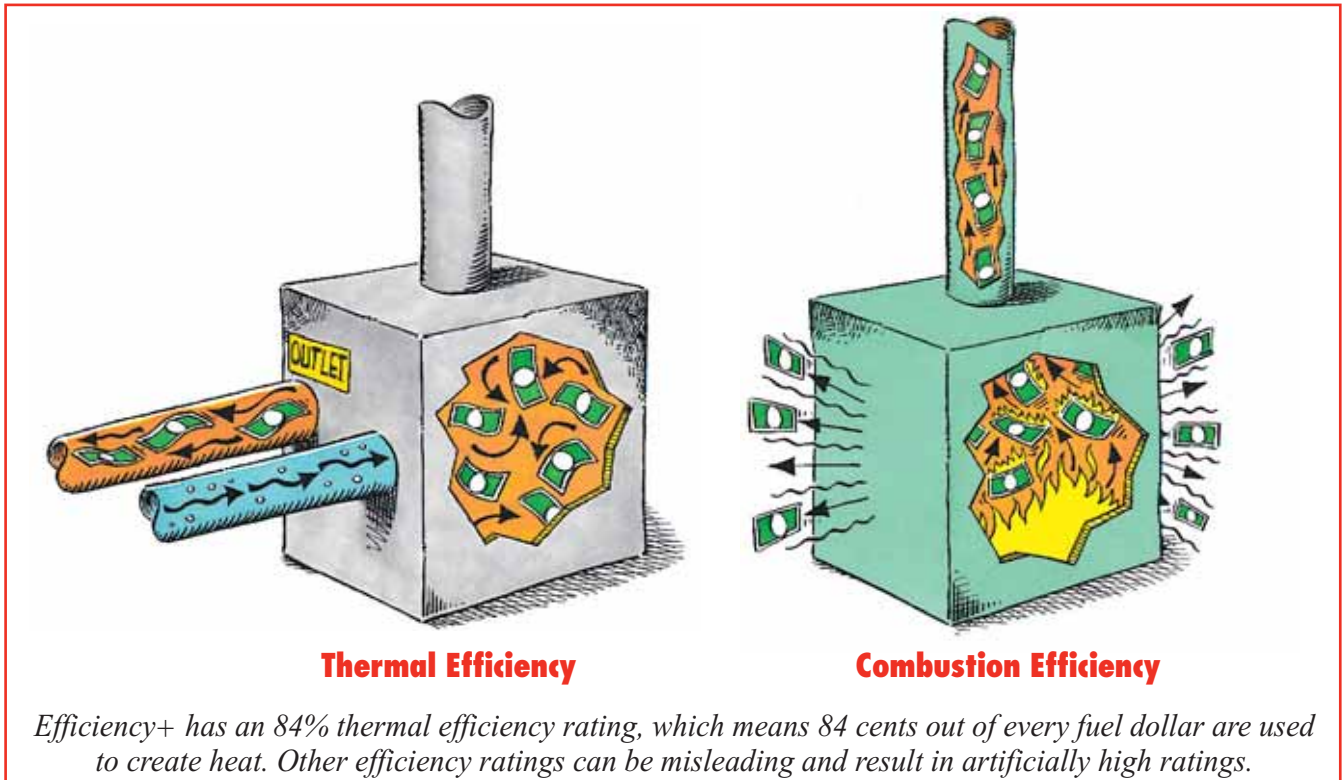
### Space-Saving Design

With Efficiency+, you get high efficiency heating in a surprisingly compact unit. It fits easily where other boilers won't.

The Efficiency+ is remarkably light because of its copper tube heat exchanger and other design breakthroughs. For example, Efficiency+ uses Loch-Heat™ tile to reduce unit weight by 25% as compared to conventional cast refractory materials. Loch-Heat tile also increases efficiency by reflecting heat back into the combustion chamber rather than absorbing it.



## Thermal Efficiency—Your Most Reliable Yardstick For Savings



**Thermal Efficiency**

**Combustion Efficiency**

*Efficiency+ has an 84% thermal efficiency rating, which means 84 cents out of every fuel dollar are used to create heat. Other efficiency ratings can be misleading and result in artificially high ratings.*

### Ideal For Radiant Heating



If you're using radiant heating, this is the boiler for you. It's specially designed to maximize the efficiency of radiant heating systems.

Efficiency+ is easy to adapt to the low water temperatures typically used in radiant heating. All you need is a simple, low-cost bypass.

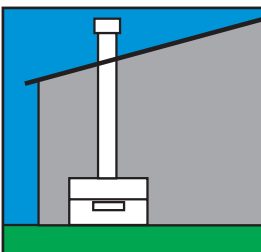
And the unit's low-mass design means that water gets heated quickly. Efficiency+ delivers a quicker response to demand — and that can mean significant savings!

### Trust The Hydronics Leader

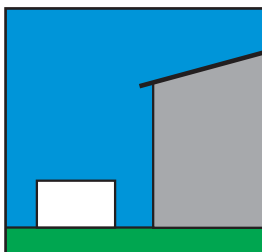
For more than 80 years, Lochinvar has been manufacturing boilers for homes just like yours. We have one of the most ambitious research & development programs in the business...and that's why Efficiency+ incorporates advanced features today that the competition won't unveil for a decade.

Efficiency+ takes comfort and savings to the next level. For more information, call your Lochinvar dealer today.

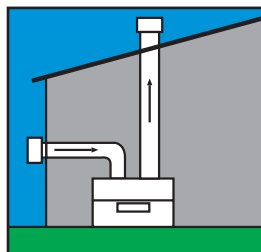
### Venting Options



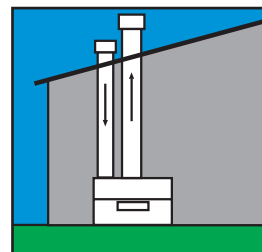
**Conventional**  
Vents into conventional flue or vent breaching using Type B double wall vent.



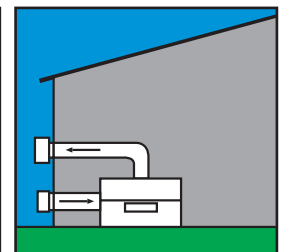
**\* Outdoor Vent Kit**  
Use when indoor space is a problem or if outdoor location gives better access.



**\* E+ DirectAire Vent with Sidewall Inlet**  
Draws fresh combustion air from an outside wall horizontally, and vents combustion by-products through a vertical flue.



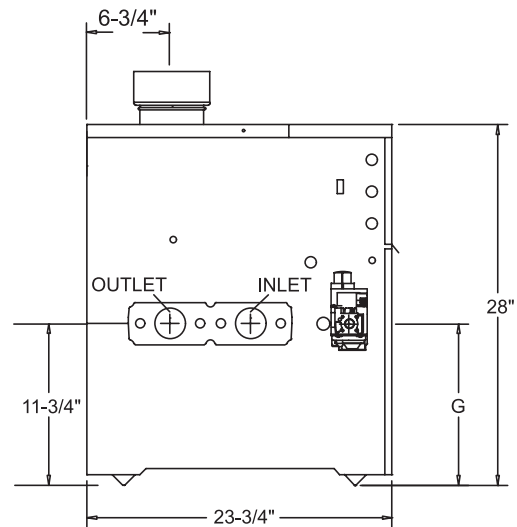
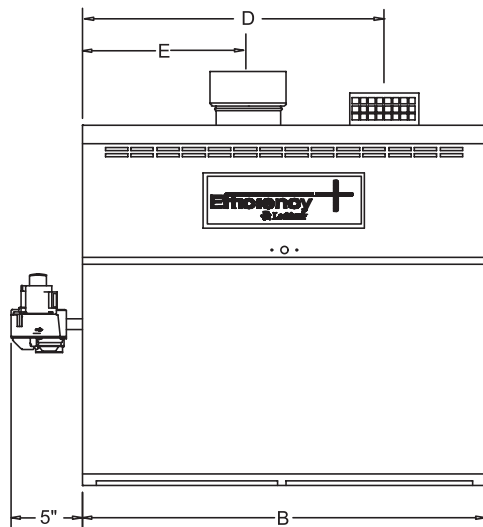
**Direct Vent Vertical**  
Draws fresh combustion air from outside, and vents combustion by-products through a vertical flue.



**\* Direct Vent Horizontal**  
Draws fresh combustion air from outside, then vents by-products through a side wall.

\* Requires factory supplied vent kit.

# Efficiency+® Boiler Dimensions & Specifications



Model Number	Btu/hr Input	Btu/hr Output	B	D	E	G	Vent Size*	Gas Conn.	Shipping Weight
EBN150	150,000	126,000	19-3/4"	16"	7-1/4"	11-3/4"	5"	3/4"	245
EBN200	199,999	168,000	23-3/4"	20"	9-1/4"	11-3/4"	5"	3/4"	265
EBN250	250,000	210,000	27-1/2"	23-3/4"	11"	11-3/4"	6"	3/4"	290
EBN300	300,000	252,000	31-1/4"	27-1/2"	13"	11-3/4"	6"	3/4"	310

Notes: Change 'N' to 'L' to denote L.P. models.

Water Connections for models (EB150 - 300) are 2" NPT on 6-1/4" centers.

\*Vent size is for conventional venting, venting options require 1" smaller vent diameter.

Air inlet is same as vent diameter.

Performance data based on manufacturer test results.

## Standard Features

- 84% Thermal Efficiency
- Two Stage Firing
- Sealed Combustion Chamber
- Stainless Steel Burners
- Low NOx Operation Exceeds the most Stringent Air Quality Requirements
- ASME Copper Finned Tube Heat Exchanger
- 160 PSI Working Pressure
- Gasketless Heat Exchanger Design
- Automatic Reset High Limit
- Loch-Heat Ceramic Tile Combustion Chamber
- Hot Surface Ignition
- ASME Pressure Relief Valve
- 24 Volt Control System
- Pump Relay
- 10 Year Limited Warranty on Heat Exchanger (See warranty for details)

## Optional Equipment

- Adjustable High Limit w/ Manual Reset
- Alarm Bell
- Cupro-Nickel Heat Exchanger
- Flow Switch
- Indoor/Outdoor Reset
- Low Water Cut-Off
- MP<sup>2</sup> Sequencer
- Multi-Stack Frame
- Pump Delay w/ Freeze Protection

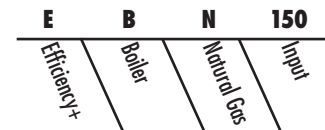
## Venting Options

- E+ DirectAire
- Direct Vent Vertical
- Direct Vent Horizontal
- Outdoor

## Available Firing Systems

- M9** Hot Surface Ignition with Electronic Supervision (Standard)
- M7** California Code

### FOR EASE IN ORDERING BY MODEL NUMBER



This is a 150,000 Btu/hr natural gas Efficiency+ boiler.

Registered Under U.S. Patent # 5,989,020



**Lochinvar**  
High Efficiency Water Heaters, Boilers and Pool Heaters



Lochinvar Corporation • 300 Maddox Simpson Pkwy • Lebanon, TN 37090 • 615-889-8900 / Fax: 615-547-1000

[www.Lochinvar.com](http://www.Lochinvar.com)