

The Whole Story Behind Misleading Heating Equipment Efficiency Ratings

If your furnace or boiler is over 10 years old government guidelines, and the entire heating industry, suggest it is most likely time to replace it. Changes in technology have improved efficiency. Significant reductions, 25% - often much more, in fuel usage are typical. Plus newer models can have dramatically lower pollution levels. Governments recognize the cost savings and environmental impacts. With their many incentive programs there has never been a better time to upgrade. After tax credits and rebates your fuel saving may pay for the new unit in a matter of a few years. As fuel prices rise, payback time shortens and keeping your old unit will become an expensive mistake.



Solaris favorites for high efficiency boiler and furnace:

www.TriangleTube.com

Prestige Solo boiler

www.Frigidaire.net

IQ furnace

Natural gas or propane systems are ideal. Typical homes with oil heat find switching to gas makes financial sense. Burning fuel efficiently means burning it cleanly. This results in fewer repairs and much lower maintenance costs. If there is additional expense to run gas lines, normally the savings quickly cover the cost. If you live near a natural gas line hookup is usually free. With propane pricing is based on volume. Your vendor generally will provide the tank at no charge or Solaris has certified tech's that can install a tank. Then you can price shop, having any vendor fill it, like is done with oil.

Much like with solar, the USA, especially Maine, is behind many other nations that recognize condensing gas equipment is a superior choice. The UK, Europe, and Netherlands have been refining this technology for years, and now some mandate its installation due to the fuel and environmental savings. The majority of product technology comes to us from them.

The truth about efficiency ratings

AFUE ratings tell the story of the percentage of your burning fuel the system turns into useable heat. With older equipment this is only a small part of the story. If the burner is dirty, you will not get the expected output. The heat that is left in the chamber when the system shuts down is lost up the flue. Additional heat is lost through the jacket. In the non-heating months this really adds up. If your system has no damper heat is constantly drawn up the chimney. If your technician gave you an efficiency rating but did not use a combustion analyzer, it was only a "best guess" of how well it burns fuel. Heating professionals will tell you systems rated at 85% efficiency are usually only turning 65% of the total fuel into usable heat.



High efficiency heating equipment has solved these problems. Plus these new units are small and wall hung. Since they do not require a chimney, just a PVC vent, they can be located anywhere. In new construction no chimney is a great cost savings. High efficiency condensing gas equipment commonly has efficiency ratings of 95%.

What makes this new type of heating equipment so much better

With new high performance boilers and furnaces equipment the water or air makes multiple passes through the heat exchangers to gather and use all possible heat. In fact, the exhaust is so cool that it can be sent out via a PVC pipe. There is little heat left to be lost through the jacket and a damper protects from losses up the vent.

Proper installation is very important. Too often we have seen improper installations that cause efficiency to drop by 5%. Sometimes changes need to be made to the existing piping.

Modulating –

Many older units are either on or off. Car fuel costs would skyrocket if you only had on/off. Similarly running a boiler or furnace at full on is not cost effective or necessary to maintain heat level. A modulating unit constantly monitors the heat load. To maintain temperature running at less than full output is cost efficient and creates tight temperature control.



Condensing –

The word “condensing” is used since the boiler reduces the residual heat temperature so thoroughly that it cools to water vapor or condensation. This means a condensing boiler has transferred all the heat into useful energy instead of sending 500 degree exhaust up the flue.

PH levels –

Years ago there were concerns about the PH level of the condensed flue gas vapor. Today all the products we install properly deal with the fact that the remaining water may have a possible PH level issue. Stainless steel and proper plastics are used to stop corrosion. Years of operational experience and product refinement along with training to insure proper installation techniques have resolved these problems. Prestige has a 10 year warranty.



Outdoor Reset & Cold Start –

These features are found in high efficiency equipment and often can be installed in older units. In general these upgrades pay for themselves within a few years. Tankless coil boilers have the horrible efficiency. The savings with cold start in the spring-fall are dramatic. Rather than heating water (and the furnace) to 180 each time it's needed a small tank is heated only when it drops below a selected set point. With outdoor reset a temperature sensor outside tells the boiler how warm it is and monitors the return line on your heating loop. The system will know when it can provide lower temperatures into the baseboard and still meet your home's heating needs. Generally for every 3 degrees you lower the heating system you save 1% on fuel. *If the heating system water temperature drops from 180 to 150 you will save 10%.*

This site has a great summary of condensing gas boilers
<http://www.house-energy.com/Boilers/Condensing.htm>



Call us today to find out how a new high efficiency heating system can save you money.

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