### **Other Savings**

In addition to gas usage savings, the Dunkirk Quantum Series condensing boilers, utilize a low pressure drop heat exchanger. To transfer heat to the home, all boilers use water circulator pumps. The low pressure drop design of the Dunkirk boiler means less energy is expended in circulating the water through the home. The energy savings can amount to as much as \$85/year on your electricity bill when compared to high energy pumps required for other condensing boilers.

The Quantum 95 boiler meets the efficiency requirements of the 2005 Federal Energy Bill, qualifying for a \$150 tax credit.

Some utilities also offer rebate programs for consumers who purchase high efficiency condensing boilers. Contact your local gas company to see if rebates apply in your region.

#### **Condensing Boiler Choices**

When considering a condensing boiler for your home, you have a choice with Dunkirk. The Quantum 90 is a fixed capacity boiler rated at 90% AFUE. The Quantum 95M is a modulating boiler with an AFUE of 95%. The modulation feature of the 95M allows the boiler to change its heat output relative to actual current load requirements. Modulating boilers are higher priced and higher technology than their fixed capacity counterparts. Modulating boiler applications are best for larger homes with many or small zones. In these applications the boiler will modulate to a lower output versus cycling on and off when the smaller zones call for heat, reducing temperature swings and maximizing comfort.



Dunkirk Boilers

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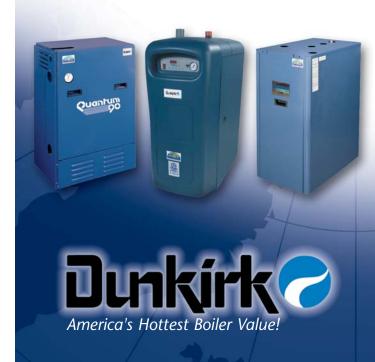
The cost savings data presented in these materials is included for demonstration purposes only, and does not constitute a guaranty of performance of any product. The cost savings data is estimated based on certain assumptions with respect to climate, energy costs and other factors. Actual results and savings will vary depending on these and other causes.



# The Value of High Efficiency Heating

A Homeowner's Guide To Energy Savings





Now, more than ever, homeowners are concerned about making sure their heating systems are as efficient, reliable and affordable as possible.

Dunkirk Boilers' Quantum Series gas-fired condensing boilers are the most efficient and reliable boilers in the industry.



## Why Invest in High Efficiency?

#### **The Value of Efficiency**

Heating is the largest energy expense in most homes, accounting for more than half of annual energy bills in colder parts of the country. Homeowners can significantly reduce their energy bills by using high efficiency boilers. High efficiency boilers, most especially condensing boilers, may be more expensive initially, however, with lower monthly energy bills, the extra first cost is quickly paid back.

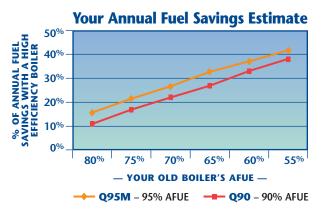
#### What is AFUE?

The efficiency of a boiler is given as the Annualized Fuel Utilization Efficiency (AFUE), a measure of overall performance. The Department of Energy's (DOE) definition of AFUE is, the measure of seasonal or annual efficiency of a boiler considering the cyclic on/off operation and associated energy losses of the heating unit as it responds to changes in the load, which in turn is affected by changes in weather and occupant controls.

For boilers 20-25 years old, AFUE ratings can be as low as 55 to 65%. Today's new condensing boilers, including Dunkirk's Quantum 90 and 95M have efficiencies of 90% and 95% AFUE, respectively. Using today's standards, the Quantum boilers are as much as 70% more efficient than older models. Additionally, the Quantum series boilers far exceed DOE minimum boiler efficiency requirements of 80% AFUE.

#### **Gas Savings**

The chart below can be used to estimate the annual gas savings when replacing an old inefficient boiler with a new condensing boiler. For example, if a 20 year old boiler with an efficiency of 65% is replaced with a 95% AFUE boiler, an estimated gas savings would be 32% on an annual basis. In terms of dollars, if a household is currently spending \$1500/year in gas with a 65% AFUE boiler, a savings of nearly \$500/year could be achieved with a new 95% AFUE condensing appliance.



#### **Quantum 90 vs. Quantum 95M**

The decision on which condensing boiler is best for your application will depend on a few factors. For price sensitive consumers, the Quantum 90, provides high efficiency at a lower cost. For homeowners who desire the best performance or have homes with many zones, the value of the Quantum 95 may be the right choice. Either way the Quantum Series is the correct choice for lowering your energy bills.