

## RINNAI LS SERIES & TANKLESS HEATING SYSTEM ENERGY EFFICIENCY AWARD NOMINATION

According to the Department of Energy (DOE), almost all of the 9.8 million water heaters sold in the U.S. in 2006 were traditional storage units with nearly an even split between conventional gas storage (4.7 million) and conventional electric-resistance (4.8 million) units. Considering that water heating represents between *thirteen and seventeen percent* of residential energy consumption, making it the third largest energy end use in homes, it is no surprise that energy costs are so expensive.

Significant progress has been made with home heating and air conditioning efficiency leaving the water heater as the #1 most inefficient appliance in the American home, accounting for approximately one-quarter of a home's monthly energy cost. The tank water heater that sits in nearly every home in America is inherently inefficient by design: it sits and waits for use, heating water 24 hours a day, whether the home's occupants are asleep or out of town. It has no choice but to be inefficient. There is a dramatic difference in energy efficiency between tank and gas tankless technology such as Rinnai's tankless water heater. The Energy Factors (EF) of water tanks are typically 59% - 62%. The EF's of gas tankless units are typically 80+% (some up to 87%), a gain of 35%. Additionally, tankless units come with a digital control pad that allow consumers to set their desired water temperature, within a range of +/- 2 degrees F, a valuable feature for homes with children and seniors to prevent scalding accidents. These space-saving units do not require a closet for storage and can be mounted in a recessed box or flush-mounted and painted to match the façade of a home or building. Rinnai units produce low Nox emissions, less than 40 PPM, and are low Nox SCAQMD approved, making them more environmentally-friendly when compared to other types of gas appliances. In addition to energy efficiency and water conservation gains, the environmental benefits of tankless are substantial. Rinnai units are low NOx (<40ppm), low noise (<48dB) and an enormous relief on our nation's landfills. Seven and a half million tank heaters are discarded yearly. Rinnai units are 1/5<sup>th</sup> the size of a storage tank heater and last twice as long. A storage tank heater lasts between 8-13 years and weighs approximately 130 lbs. at the time of disposal. A Rinnai unit lasts 20+ years and weighs 45 lbs. at the time of disposal. Additionally, a majority of Rinnai's componentry can be recycled. The reduction on landfill load from eliminating storage tanks is approximately 600 million lbs. over ten years, which is equivalent to keeping nearly 130,000 SUVs out of landfills.

For nearly three and a half decades, Rinnai has been a leader in gas appliance technological innovations that have kept them at the forefront of energy efficiency. Therefore, it is appropriate that in January 2008, Rinnai launched the industry's first line of high-output, high-efficiency tankless water heaters that can be used for residential and commercial applications. Unlike other tankless water heaters in the industry, the Rinnai LS Series offers homeowners the reliability of a commercial-grade heat exchanger and an industry-leading, 12-year limited warranty. For homeowners and contractors, the LS Series can be used for either domestic hot water alone or domestic hot water plus space heating. Consumers will enjoy the increased output of the LS Series, which has a maximum input of 199,000 BTUs and maximum output of 9.4 gallons per minute (gpm). For most interior installations, Rinnai uses exclusively an innovative concentric venting system, a single vent assembly featuring an inner, metal vent for exhaust gases and an outer PVC or metal tube for bringing combustion air from outdoors. The result is a direct-vent, sealed-combustion system that offers optimum safety, performance and ease of installation. The exterior units require no additional venting and can even be installed in a recessed enclosure, then painted or textured to match the outer wall. Rinnai's LS Series comes in several interior and exterior mounted versions to accommodate any new construction or retrofit application. To date, water heaters have been the only major residential energy end-use without an Energy Star designation. To address this, Rinnai has educated key staff at the DOE on the benefits of tankless water heating, contributing to the DOE's decision in February 2007 to announce an Energy Star program for residential water heating. Rinnai is confident the new LS Series line of tankless water heaters will be eligible to receive the Energy Star certification when the program is formally announced in the fall 2008. In January 2008, Rinnai also launched the industry's first Tankless Heating System (THS). The THS is an innovative new approach to heating homes comfortably and efficiently, combining Rinnai's line of tankless water heaters with a hydronic air handler to deliver on-demand, comfortable heat using the same source for domestic hot water and space heating. The hydronic air handler works seamlessly with the tankless water heater, ensuring optimum heat output by using a custom-designed pump to maintain a constant flow through the coil during operation. Rinnai developed a unique priority system that temporarily shuts down the air handler during heavy domestic hot water demand and re-starts it once sufficient hot water is again available for the home heating function. This prevents the unit from blowing cold air and starving the pump of sufficient flow.

Rinnai is committed to educating consumers about the benefits of its direct vent, sealed combustion tankless water heating technology:

- Rinnai's website, [www.foreverhotwater.com](http://www.foreverhotwater.com), generates more than 2.4 million monthly page views (up from an average of 500,000 per month in 2006), with an average visit having more 17 page views and lasting approximately seven minutes. In three years, [foreverhotwater.com](http://www.foreverhotwater.com) moved from page 20 to page 1 on a Google search for "tankless water heaters" providing further validation of consumer demand for Rinnai's technology.
- In partnership with Habitat for Humanity, Rinnai donated \$1 million worth of tankless water heaters in 2006 to aid Habitat's building efforts in 40 states including the Gulf-region as part of Habitat's Builders Blitz program, during which hundreds of homes housing more than 1,000 people were constructed in one week. Rinnai also powered mobile hot water systems that were deployed by FEMA in Katrina-stricken regions. Rinnai will team up with Habitat For Humanity again by donating tankless water heaters for their 2008 Builders Blitz program.
- Rinnai was recognized in February 2007 by Builder Magazine as the most popular product of all building products by their subscribers headlining the magazine's Builder Top 50 list for a third consecutive year, an unprecedented feat.
- "Rinnai offers builders and remodelers an excellent product to provide hot water for their projects," said Carl Seville, principal and green building consultant of Seville Consulting. "Their high efficiency, sealed combustion units save energy, eliminate any potential for combustion gases mixing with household air, and their simple vent pipe system is easy to install."

Today, Rinnai is the largest gas appliance manufacturer in the world and the technology leader in the tankless water heating industry. With a global perspective to create 21<sup>st</sup> century products for the home and office, Rinnai Corporation commits itself to energy conservation, safety and the pursuit of comfortable lifestyles.