

# Island West Apartments

HONOLULU, HAWAII



## ***Replacing heat pump system with Rinnai Tankless Water Heaters saves apartment owners significantly on replacement and energy costs***

When the owners of Island West Apartments in Honolulu, Hawaii, were facing increasing electric rates and costly repairs and needed to replace the aging heat-pump water heaters in one of its 287-unit apartment buildings, they wanted to explore all of their options. The status quo for many buildings in Hawaii, including this property, was to use electric heat pumps to generate hot water, but these owners wanted to better understand the benefits of going with gas tankless water heaters and how they compared to what they had.

A third-party study was commissioned to provide a comprehensive comparison of installing an electric-powered heat-pump system versus a tankless, natural gas system, including a look at the costs associated with installing, operating, and maintaining each system and the environmental impact.

The results were enlightening as they ran contrary to some of the long-held beliefs that electric heat pumps were the best solution in Hawaii.

### **Installation and Maintenance Cost Savings**

The report determined that it would be \$35,000 more expensive to install a replacement heat pump system, consisting of two electric heat pumps charging 1,500 gallons of water, as compared to installing 12 Rinnai RL94e Luxury Series non-condensing tankless water heaters and

### **THE RINNAI ADVANTAGE:**

- Save Time with an endless supply of hot water
- Save Money - Installation, maintenance and operational cost savings
- Save Space - No tanks needed
- Green – lower CO<sub>2</sub> emissions
- Built-in redundancy
- Ability to service without system shutdowns
- Easily expandable
- Compatible with solar

**Rinnai**<sup>®</sup>

a heater to charge the loop. The owners expect additional savings on maintenance of the tankless units which requires less frequent maintenance than their heat pump system and can be performed by their own maintenance personnel rather than having to hire a heat pump professional.

### Energy Costs & Consumption

When the cost per kW (not including the source of the electricity which could increase the cost per kW) was compared to the cost per BTU, the tankless system resulted in a nearly 7% reduction in energy costs. Energy cost savings would be even greater using Rinnai's Condensing Tankless Water Heaters.

### Space Savings and Redundancy

The choice of Rinnai gas tankless water heaters resulted in space savings as well. In the case of Island West Apartments, an entire room was freed up for other use. In addition, the 12-unit tankless system offers the owners redundancy, which allows for service and maintenance without shutting the entire system down.

### Malama Ka Aina - Respecting the Land

Caring for the environment is an important part of the Hawaiian culture and, as such, environmental impact was part of the third-party report's comparisons. Using data from the U.S. Department of Energy to calculate the emissions of an electrically-powered system in Hawaii, the report determined that the natural gas-powered Rinnai tankless system would generate less than half the CO2 emissions than the electric system with a Tankless natural gas system producing 23,000 pounds vs. 50,000 pounds produced by the electric heat pump. This is largely due to the fact that most of Hawaii's electricity is generated by oil-fueled plants.

Ultimately, the owners of Island West Apartments decided that Rinnai's natural gas-powered tankless water heaters were the best option. They saved significantly on replacement costs and lessened their property's impact on the environment, while also enjoying reduced energy bills.



#### THE RINNAI ADVANTAGE:

- Endless Supply of Hot Water Delivered up to 9.8 GPM per unit
- Digital Temperature Displays Provide Error Codes and Other Diagnostics for Easy Maintenance
- Energy Factor of up to .96
- Wall-Mount Compact Design for Increased Space Savings
- External or Internal Installations with Discrete Vent Terminal
- No Storage Tank Needed
- Bank Multiple Units Together to Provide from 15,200 to 4.9 Million BTU with a System Capacity from 0.4 GPM to 95 GPM (@ 100° F  $\Delta T$ ) - Enough to Replace Even Large Boilers

No matter what your hot water requirements are, the Rinnai Tankless Water Heater can be configured to handle the job. Contact us with your requirements.

# Rinnai®

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