

KC-1000 GWW  
Water Heater  
Small Load Selection Guide

**GENERAL:**

KC-1000 GWW potable water heaters are available in 1.0 MBTU units ONLY. However, these units are well suited for application to loads smaller than 1.0 MBTU input. For example, the product controls water temperature and BTU input just as well at 200,000 BTU input as it does at 1,000,000 BTU input. From a performance perspective, the equipment can effectively be applied to all load ranges that are above its cycling point (about 70,000 BTU/hr). At around 70,000 to 100,000 BTU input however, cycling losses begin and the product is below its sizing range.

**FUEL EFFICIENCY:**

The KC-1000 GWW becomes more fuel-efficient as output goes down and is, therefore, using less fuel per gallon of water heated when applied to a load smaller than 1.0 MBTU. The smaller the load applied to the KC-1000, the greater the fuel efficiency until the 70,000 BTU cycling point is reached.

**ECONOMICS:**

However, in the “real world”, economic factors usually begin to effect the small load selection of a KC-1000 GWW water heater before performance issues. For example, even though a 1.0 MBTU input KC-1000 GWW will perform quite well when applied to a 200,000 BTU load, inexpensive tank and side-arm water heater combinations are also capable of handling this size load if available space and fuel cost are not issues. As the size of the load goes down, the price of inexpensive side-arm water heaters with tanks becomes more and more attractive. In general, a KC-1000 applied to a 300,000 BTU input or lower load is at a significant price disadvantage when compared to other water heater options.

**SPACE SAVINGS:**

On the other hand, space savings may be a critical issue and applying the KC-1000 GWW water heater to a 200,000 or 300,000 BTU load may be an economical decision.

The KC-1000 GWW does NOT require a storage tank for most institutional and commercial applications. If one estimates the size of a side-arm storage tank at 48” in diameter (including insulation and jacketing), and then three feet clearance on all sides (per code), you end up with an approximate 10 foot by 10 foot space that the tank requires. Institutional facilities like hospitals and

universities are typically seeing construction costs as high as \$200/sq ft. for this type of space. When the space construction costs are weighted against the cost of a KC-1000 GWW water heater, usually wins...even against very small heating loads.