



## **ADVANCED, HIGH VOLUME NATURAL GAS WATER HEATERS ACHIEVE REMARKABLE ENERGY EFFICIENCIES.**

Traditional natural gas water heating equipment has for years been recognized as a durable, high recovery and low cost means of water heating. Now, thanks to recent advancements in heating equipment, high volume commercial, institutional and industrial operations are realizing greater energy efficiencies than ever before, with large savings on production costs.

### **New Technologies in Water Heating**

An example of an entirely new approach to heating non-potable process water is Kemco Manufacturing's Thermefficient-100. This system, designed for a specific flow rate range and water temperature rise, effects up to 40% savings in energy costs.

Inlet water enters the heat transfer zone where it is preheated by directly contacting combustion products from a jet type natural gas burner. As this interface occurs, heat is extracted to reduce flue gas temperatures to a level equal or lower than ambient temperature, thereby eliminating stack loss. When heat transfer achieves the desired temperature, the heated water is collected at the bottom of the tank and recirculated to the system.



Yet another new approach is Aerco's non-potable and potable process water, which achieves thermal efficiencies of 93% at full load to 99% at 10% capacity. The system features a temperature control range of 100°F to 200°F, with an accuracy of plus or minus 4°F, and a gas burner designed to modulate in direct proportion to the load. As a result, the water heater meets varying load demands automatically without the need for a hot water storage tank.

## Benefits of Advance Systems

The Kemco direct-fired water heater, with a thermal efficiency of close to 100%, is available in a wide range of BTUH to meet varying operating needs. New high efficiency designs are considerably smaller than conventional systems. A 22 million BTUH Kemco system delivering 375 gallons per minute requires only 63 square feet of installation space, as compared to a conventional boiler requiring 200 square feet.

Because it's direct-fired, start-up time is eliminated. And since continuous hot water is supplied, storage tanks are not required.

Aerco's indirect-fired system, with its highly efficient heat exchanger and automatically adjusting burner, eliminates the inefficiencies inherent in on/off cycling conventional burners. The system combines high capacity with a compact size, and may be horizontally or vertically vented without requiring a chimney. The accessibility of the combustion chamber and heat exchanger permit easy maintenance.

## Applications

Kemco and Aerco technologies feature a 750,000 to 15 million BTUH input rating, and a one million BTUH input rating respectively, and are ideally suited to applications requiring large volumes of process hot water.

The Kemco system is finding wide acceptance in the laundry and tanning industries, as well as in diverse industrial operations such as car washes and food processing. The Aerco system, with its capability to produce potable water, is found in hospitals, hotels, restaurants, health clubs, as well as in industrial applications. These are but two examples of new high efficiency, high volume gas water heaters currently available.

National Fuel's commercial staff offers free technical feasibility studies to determine appropriate gas water heating equipment and potential savings.

