



# The Seisco Advantage

Why is The Seisco  
Tankless Electric Water Heater  
The Perfect Water Heating  
Solution for Home Buyers...?



...Because Home Buyers Love  
Endless Hot Water While Saving Money and Space!

## Endless Hot Water

The fastest growing segment of the water heating industry is tankless water heaters. Why? **Home buyers in all income ranges and home sizes are discovering the benefits and convenience of endless hot water.**

## Energy Savings

Natural and propane gas prices are on the rise...doubling in many parts of the United States during the fall and winter of 2005-2006. **Prices are expected to continue rising...perhaps doubling again!**

## Low Installed Cost With Savings

Even though electric rates have risen, the rate of increase is much less than that of natural and propane gas. In many traditionally gas water heating areas, the operating cost of electric water heaters is equal to or less than their gas counterparts. **When the installation cost and other factors such as losses through vents and the use of preconditioned combustion air is considered, the benefits of electric water heating are undeniable.**

## Extra Space Home Buyers Deserve

The cost of precious space in new home construction is rising...why waste it? Tankless electric water heaters can be installed almost anywhere. **Give your home buyers the extra space they deserve!**

## Decide Now!

Give Your Home Buyers What They Want...  
The SEISCO Advantage!

## Considerations

- 1. Proper Model Selection**-Microtherm has technicians standing by to help determine which model best suits your home design and the lifestyle of your home buyers. For immediate help, call 888-296-9293 and ask for sales.
- 2. Adequate Electrical Service**-The cost of installing a 200 amp service over a 125 amp service is very little during the new construction phase. Most homes with a 200 amp service will easily handle a Seisco RA-28 or RA-32, which will provide adequate hot water for most homes.
- 3. Best Location**-You can save the home buyer hundreds of thousands of gallons of wasted water by locating the water heater closer to the fixtures. The average home wastes 6-10 thousand gallons of water every year waiting for hot water to arrive at the fixture after it is turned on.
- 4. Advertise the Seisco Advantage**-Home buyers love knowing that they will have endless hot water, especially if they have lived in a home with an inadequate hot water supply.

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## WHY SEISCO TANKLESS WATER HEATERS

Seisco is a very small, powerful, extremely efficient and versatile electric water heating system whose superior technology has earned five U.S. and multiple foreign patents.

Seisco saves space and provides endless hot water! Seisco installs almost anywhere, easily. While a slightly larger electrical service is required, the operating cost savings and convenience of endless hot water will have your customers singing your praises to their friends and other potential customers!

Seisco's efficiency is over 99% as measured by an agency of the Federal Government. In fact, Seisco tankless electric water heaters usually save 25% or more on the cost of heating water when compared to a standard tank-type electric water heater.

## SEISCO IS SUPERIOR

Seisco is the only tankless electric water heater with a patented process for distributing power to all heating elements. PowerShare™ control technology utilizes a computer chip to pulse power on and off to all heating elements resulting in uniform temperature modulation between 1-100% of the element's range. PowerShare ensures that all heating elements operate at the lowest possible temperature. Low temperature operation helps prevent mineral buildup on the heating elements. Other tankless electric water heaters utilize systems that activate heating elements individually at full power, one after another, which can create hot spots, particularly at shut down. Hot spots literally boil minerals out of the water creating mineral buildup on heating elements and results in heating element failure.

PowerShare technology also prevents disturbances (flicker) in lighting circuits. Without Seisco's patented control, lights may flicker in the same manner as if someone were turning the air conditioner or electric heating off and on very rapidly.

Seisco has a complete array of dependable safety features to prevent harm to the user and the heater, including redundant high temperature switches, dual water level sensors for preventing dry firing of the heating elements and a leak detector that automatically shuts off power to the heating elements if a water leak occurs.

Seisco's microprocessor control is programmed to provide self-diagnostics. If a service issue occurs. The control emits a visual or optional audible code. The user can interpret the codes from a code sheet or have a service technician do it remotely over the phone using audible beeps emitted by the control's speaker. Quickly pinpointing the problem and significantly reducing trouble-shooting time and expense are a snap. In addition, if necessary, convenient clean-out plates below the heating chambers allow the user to remove any build-up, sand, or grit inside the heating chambers.

## PLUMBING AND ELECTRICAL CONSIDERATIONS

Plumbing requirements for Seisco models are very simple. An inlet cold water line and an outlet hot water line are all that are required for a basic home installation.

Seisco's electrical requirements are slightly different than those of a tank type electric water heater. Generally speaking, a 240 volt, 200 amp service is required. The cost of a 200 amp service over a 125 or 150 amp service is minimal compared to the benefits to the homeowner. Basic electrical information by model is shown in the table on the next page.

For a complete explanation of plumbing and electrical requirements, consult Seisco's Product Guide.

## SEISCO SAVES MONEY

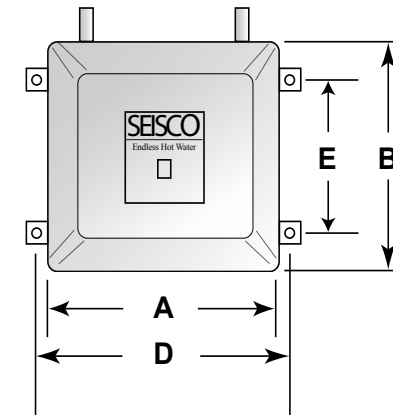
Seisco water heaters only heat water when it is used. Electric tank type water heaters lose up to 2% of their stored energy every hour. To restore lost energy, they turn on and reheat water inside the storage tank. Even with no water usage at all, a certain number of tank type water heaters will always be on. This is why Seisco saves 25% or more on the cost of heating water when compared to a standard electric water heater.

## SEISCO AWARDS AND RECOGNITION

- PATH Recognition-See next page
- Five US Patents, Numerous Foreign Patents
- 99.3% Efficiency Rating Confirmed by TVA
- UL Listed
- Numerous Trade Magazine and Other Articles



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\*Depth: Not Shown On Drawing \*\*Optional: 1-60 amp. breaker, \*\*\*Optional: 2-60 amp. breakers. All models are 99+% efficient. \*\*\*\*Optional: 2-75 amp. breakers.

Model	RA-5	RA-7	RA-9	RA-11	RA-14	RA-18	RA-22	RA-28	RA-32
<b>KW Input</b>	5	7	9	11	14	18	22	28	32
<b>BTU Input</b>	17,065	23,891	30,717	37,543	47,782	61,434	75,086	95,564	109,216
<b>A</b>	10 1/4"	10 1/4"	10 1/4"	10 1/4"	10 1/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"
<b>B</b>	15 3/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"	15 3/4"
<b>C*</b>	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"
<b>D</b>	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	16 1/8"	16 1/8"	16 1/8"	16 1/8"
<b>E</b>	7"	7"	7"	7"	7"	12 1/2"	12 1/2"	12 1/2"	12 1/2"
<b>Weight (lbs)</b>	15	15	15	15	15	23	23	23	23
<b>240 V. Amp.</b>	20.8	29.2	37.5	45.8	58.3	75.0	91.7	116.7	133.3
<b># Elements</b>	2	2	2	2	2	4	4	4	4
<b>Element KW</b>	2.5	3.5	4.5	5.5	7	4.5	5.5	7	8
<b># Breakers (240V)</b>	1	1	1	1	2**	2	2	4***	4****
<b>Breaker (amps)</b>	25	30	40	50	30	40	50	30	40



Presidential Initiative-Partnership for Advancing Technologies in Housing (PATH)

**January 2006**-Seisco received a Certificate of Commendation for leadership in home building innovation.

**January 2006**-Featured in NextGen Home at the Consumer Electronics Show in Las Vegas, Nevada and at the International Builder's Show in Orlando, Florida (www.nextgenhome.com).

**January 2004**-Seisco was selected as one of PATH's top 10 technologies.

## SIZING RULES OF THUMB

IN AREAS WITHOUT VERY COLD GROUND WATER

**Families of 4 or less:** Minimum RA-22 or RA-28 (Spa tub or higher flow options: RA-28, two RA-18 in parallel or one RA-18 in master bath plumbed in series\* with primary Seisco or tank heater.)

**Families of 5 and larger:** Minimum RA-28 or RA-32 (Spa tub higher flow options: two RA-18 in parallel or one RA-18 in master bath plumbed in series\* with primary Seisco or tank heater.)

IN AREAS WITH VERY COLD GROUND WATER SUCH AS THE ROCKY MOUNTAINS

**Families of 4 or less:** Minimum RA-28 or RA-32 (Spa tub or higher flow options: two RA-18 in parallel or one RA-18 in master bath plumbed in series\* with primary Seisco or tank heater.)

**Families of 5 and larger:** Minimum Two RA-18 in parallel. (Spa tub higher flow options: two RA-22 in parallel or one RA-22 in master bath plumbed in series\* with primary Seisco or tank heater.)

\* The Seisco RA-18 will provide sufficient hot water for the single shower and sinks in the master bath but must be plumbed in series with the primary water heater as it requires the additional pre-heated water for the tub or simultaneous use.

## Gas Versus Electric Water Heating

**Efficiency:** Seisco electric models are 99+% efficient at all input levels. Actual field data proves that Seisco always operates at peak efficiency.

Claims of 80+% efficiency by gas water heater manufacturers are incomplete. As scale buildup occurs inside the water heater, efficiency drops dramatically. Even using DOE test procedures, the efficiency of new gas water heaters is usually less than 55%.

Tankless gas water heater manufacturers espouse the idea that most homes need a constant supply of 6-8 gpm hot water. This leads to the installation of very high BTU input gas models. In a report by the National Home Builder's Research Center for the National Renewable Energies Laboratories, the heating capacity required to provide adequate hot water over 99% of the time is provided by a single 28KW Seisco model which produces 3 gpm of 105°F water at a 65°F temperature rise. By installing a model with the capacity to heat 6-8 gpm at a 65°F temperature rise, the consumer is set up with about the most inefficient water heating system possible. The efficiency of an 80% unit operating at 30% of capacity will be far less than 80%!

**Operating Expense:** Historically, the cost of natural gas has been lower per BTU than the cost of electricity. With gas prices rising as much as double this year, the cost of gas per BTU exceeds the cost of electricity per BTU in some parts of the country. The trend of rapidly rising gas prices is forecasted to continue, not abate!

With a family of two, using a gas tank type water heater vs. Seisco, the cost of heating water with electricity is probably less than the cost of using natural gas. Due to standby heat loss, the cost of gas exceeds the cost of electricity before the first drop of hot water is used.

What tankless gas water heater manufacturers want their customers to forget is the ultimate cost of fuel, equipment, materials, square footage, and installation labor. It is not uncommon for the installed cost of a tankless gas water heater to range from \$2,500-\$3,500. When the cost of equipment, labor, expensive venting, running oversize gas lines, materials and the cost per square foot of living space are properly accounted for, the actual payback for using

a tankless gas water heater versus an electric tankless water heater can be more than 40 years!

**Sizing Myths:** As discussed earlier, installing oversized gas units greatly increases inefficiency and the cost of heating water. Since Seisco tankless electric water heaters are fully modulating at 99+% efficiency, over sizing does not affect efficiency. However, over sizing does cause extra installation expense because a larger electrical service must be included in the home builder's package.

The greatest sizing myth is that gas heats water faster than electricity. People who use this myth to prey on the innocent are denying physics. A BTU is a BTU whether it comes from electricity or gas. If faster recovery is required, more BTUs must be applied, whether electric or gas. The myth that gas heats faster than electricity comes from old-fashioned electric tank-type water heaters that were originally designed for use in homes with fuses. To keep the amp draw down, 4.5KW (15,360 BTU) heating elements were installed. Old-fashion tank-type gas water heaters originally had 32,000 BTU burners. Gas companies advertised their advantage in order to convince customers that gas was better. Convenience of faster recovery was partially used to overcome the negative safety aspects of natural gas and propane.

**Installation Differences:** Location, location, location! Seisco has the clear advantage. Due to venting requirements and gas supply availability, gas water heaters inherently allow less flexibility of installation location. Even tankless gas water heaters have less installation flexibility than Seisco models. Locating the water heater closer to fixtures will save hundreds of thousands of gallons of previously heated water over the life of the home. A trend toward installing tankless gas water heaters outside is leading to more inefficiency by the addition of cold combustion air and more humidity related service issues.

**Heating and Renewable Energy:** Solar and geothermal water heating systems require a backup water heating system. Seisco increases the efficiency of solar water heating systems by at least 40% and automatically provides endless hot water when solar heat is not available. Seisco is the perfect backup for solar and geothermal water heating systems.

**To learn more, go to [www.Seisco.com](http://www.Seisco.com) and click on "Gas Versus Electric."**