



# Commercial Tankless Electric Water Heater

5-, 7-, 9-, 11-, 14-, 18-, 22-, 28-KW Models

## 5-Year Limited Warranty\* Chamber and Parts

### Features & Benefits

**High Efficiency Compact Design Provides Unlimited Hot Water**-Commercial models provide unlimited hot water while operating within their designed gallons per minute range, immediately heating water when a hot water outlet is opened. Seisco models install inside closets, or on almost any wall. Water is only heated on demand, virtually eliminating standby heat loss and providing over 99% efficiency.

**Microprocessor Control**-On-board computer logic controls temperature through a modified proportional, integral, derivative (PID) control scheme. The control also provides self-diagnostics, signal the need for maintenance in case of a water leak inside the heater, incorporates an optional switch for local on/off power interruption, and intelligently controls power distribution to the heating elements while continuously monitoring critical functions in order to shut down the water heater if a failure occurs.

**PowerShare™ Technology**-Patented power distribution control technology utilizes computer algorithms and electronic triacs with patented cooling technology to pulse power on and off to all heating elements resulting in uniform temperature modulation between 1-100% of the element's range. PowerShare along with constantly flowing water across heating elements ensure that heating elements operate at the lowest possible temperature. When the elements are turned off, low sheath temperature prevents boiling minerals out of the water causing buildup on the heating elements, prolonging element life. PowerShare also eliminates electrical disturbances in the home from the water heater, such as flickering lights.

**Thermistor Temperature Sensing**-Five thermistors continuously monitor inlet/outlet water temperature and the water temperature in each heating element chamber. Outlet water temperature is factory set to 120°F and is field adjustable between 90-145°F. In addition, water flow is sensed using the same thermistors, eliminating the need for troublesome flow switches.



Two & Four Chamber Models Shown

**Heating Elements**-Industry standard 1 ½" hex head, direct immersion, heating elements utilize PowerShare technology to help eliminate scale build-up and prolong element life far beyond that of tank type water heaters. If an element fails, a replacement can be purchased from virtually any plumbing distributor.

**Redundant Safety Features**-Two water level sensors are located at the top of the water heater's chambers to prevent powering on the heating elements if sufficient water is not detected inside the water heater. In addition, two safety cutoff switches, one manual and one automatic reset, shut down power to the heating elements should an unsafe condition occur.

**Built-in Leak Detector and Alarm**-A switch located inside the water heater's cover along the bottom of the mounting plate activates an alarm when contacted by water.

**Code Approvals**-UL/CUL 499/64, HUD Mobile Home, ISRAEL, NOM, and NEC. Hydrostatically tested to 300 psi.

\*Limited Warranty-See written warranty for details.

For Additional Features See Inside Page

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Endless Hot Water

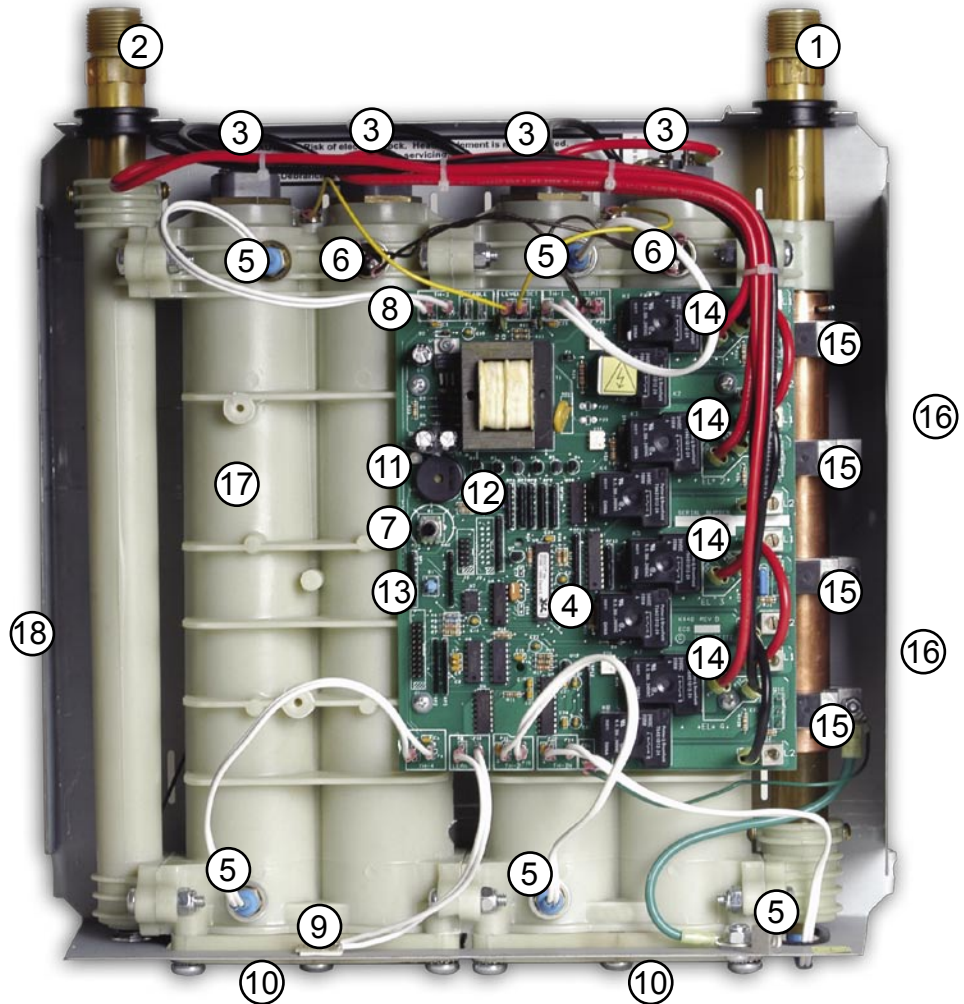
## Do You Know?

... the majority of standard tank type commercial electric water heaters use surface mounted thermostats for temperature sensing... Seisco models use thermistors immersed in the water for more accurate temperature control.

... most standard tank type commercial electric water heaters are limited to 12KW maximum input, one 6KW element located in the top of the tank, and one 6KW element located in the bottom of the tank. At maximum input, their recovery is really not equivalent to 12KW/hour because the top heating element turns off as soon as the top 1/3 of the tank reaches the set point of the upper thermostat... Seisco models always perform up to 100% of their rated KW input.

... most tank type commercial electric water heaters have a 3-year warranty... Seisco models include a 5-year warranty.

... most tank type commercial electric water heaters have standby heat loss of approximately 2-3% per hour... Seisco virtually eliminates heat loss, conserving fuel and saving money on water heating.



Four Chamber Design-Inside View

- |   |                                |    |                                  |
|---|--------------------------------|----|----------------------------------|
| 1 | Cold Water Inlet               | 10 | Cleanout Plates                  |
| 2 | Hot Water Outlet               | 11 | LED Indicator Light              |
| 3 | Heating Elements               | 12 | Speaker                          |
| 4 | Microprocessor                 | 13 | Service Button                   |
| 5 | Thermistor Temperature Sensors | 14 | Power Lugs                       |
| 6 | Safety Cutoff Switches         | 15 | Triacs                           |
| 7 | Temperature Control Knob       | 16 | 3/4" Conduit Connections         |
| 8 | Off Peak Control Connection    | 17 | Non-Ferrous Water Passages       |
| 9 | Water Leak Detector            | 18 | Heavy Gauge Steel Mounting Panel |



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### Additional Features & Benefits

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**Service Button/LED Light/Speaker**-While on the phone with a Microtherm technician, the service agent pushes a service button in order to activate an audible diagnostic sequence. The service agent can also diagnose a problem through observing an LED that indicates service issues through a series of flashes.

#### **Rust and Corrosion Resistant Engineering Composite**

**Material**- All water passages are constructed of a high temperature resistant DuPont® resin. Grades of the same resin family, but with lower properties, are so strong that they are used as the "header" for automobile radiators. Ability to resist extreme temperature changes far above those found inside Seisco models and superior chemical resistance make DuPont's engineering composite material the ideal material for Seisco's commercial tankless electric water heaters.

**Continuous Venting Design**-As water is heated, dissolved gases are released. Tiny bypass air passages at the top of each water chamber allow air and dissolved gases to exit unnoticed through the hot water outlet as hot water is being used.

**Optional Demand Side Management Connection**- Allows connection of an on/off control to the water heater (specify this option when ordering).

**Cleanout Plates**-Should sediment such as sand or silt from the water supply accumulate inside the water chambers, removable plates sealed with reusable gaskets allow access for cleaning without disconnecting wires or removing the heating module and control board.

**3/4" Non-Ferrous Inlet/Outlet Connections**-Factory installed 3/4" MNPT thermoplastic nipples allow easy plumbing connections and eliminate the need for dielectric fittings

**Heavy Gauge Steel Mounting Panel**-Modular water passages, the control board, and other components are assembled and then mounted to a heavy gauge steel back panel that includes four tabs with rubber feet for mounting the unit to the wall. A decorative plastic cover encloses all components.

**3/4" Electrical Conduit Connection**-Standard 3/4" electrical conduit connections allow fast wiring of the water heater.

### Do You Know?

*... large commercial electric tank type water heaters sequentially step heating elements on at 100% of full power to avoid flickering lights and electrical disturbances... Seisco models, even when installed in multiples, use PowerShare technology to modulate power to the heating elements from 1-100% of full power, eliminating electrical disturbances.*

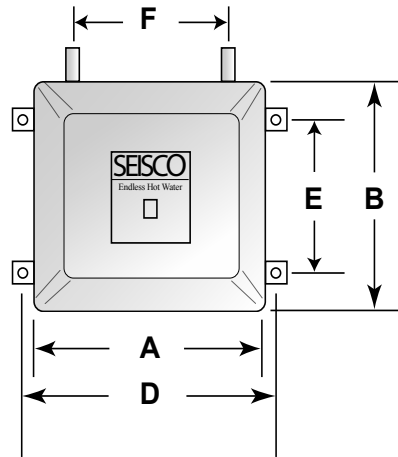
*... due to space constraints in most commercial installations, it is usually improbable that more than four commercial electric tank type water heaters can be plumbed together... Seisco's compact design allows more units to be manifolded together in the same amount of space occupied by just one commercial electric tank type water heater.*

*... the cost of professionally replacing a heating element in a commercial electric tank type water heater can easily exceed \$150... Seisco reduces the cost of repairs by prolonging element life and eliminating a large tank to drain as part of the service call.*

*... Seisco models can be used with one or more manifolded commercial storage tank(s) to provide hot water for a large hot water demand over a short period of time.*

# Commercial Tankless Electric Water Heater

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

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

### Recovery (gpm & gph) @ Temperature Rise (F)

Model	Recovery	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15
CA-5	gpm	0.38	0.40	0.42	0.45	0.49	0.53	0.56	0.62	0.68	0.76	0.85	.98	1.1	1.4	1.7	2.3
	gph	22.8	24.1	25.6	27.3	29.3	31.5	34.1	37.2	41.0	45.5	51.2	58.5	68.3	81.9	102.4	136.6
CA-7	gpm	0.53	0.56	0.59	0.64	0.68	0.74	0.81	0.88	1.0	1.1	1.2	1.4	1.6	1.9	2.4	3.2
	gph	31.9	33.7	35.9	38.2	41.0	44.1	47.8	52.1	57.4	63.7	71.7	81.9	95.6	114.7	143.4	191.2
CA-9	gpm	0.68	0.72	0.77	0.82	0.88	0.95	1.0	1.1	1.2	1.4	1.5	1.8	2.0	2.5	3.1	4.1
	gph	41.0	43.4	46.1	49.2	52.7	56.7	61.5	67.0	73.8	81.9	92.2	105.4	122.9	147.5	184.4	245.8
CA-11	gpm	0.84	0.88	0.94	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.9	2.1	2.5	3.0	3.8	5.0
	gph	50.1	53.0	56.3	60.1	64.4	69.3	75.1	81.9	90.1	100.2	112.7	128.8	150.2	180.3	225.3	300.5
CA-14	gpm	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.7	3.2	3.8	4.8	6.4
	gph	63.7	67.5	71.7	76.5	81.9	88.2	95.6	104.3	114.7	127.5	143.4	163.9	191.2	229.4	286.8	382.4
CA-18	gpm	1.4	1.4	1.5	1.6	1.8	1.9	2.0	2.2	2.5	2.7	3.1	3.5	4.1	4.9	6.1	8.2
	gph	81.9	86.8	92.2	98.3	105.4	113.5	122.9	134.1	147.5	163.9	184.4	210.7	245.8	295.0	368.8	491.7
CA-22	gpm	1.7	1.8	1.9	2	2.1	2.3	2.5	2.7	3.0	3.3	3.8	4.3	5.0	6.0	7.5	10.0
	gph	100.2	106.0	112.7	120.2	128.8	138.7	150.2	163.9	180.3	200.3	225.3	257.5	300.5	360.6	450.7	600.9
CA-28	gpm	2.1	2.3	2.4	2.6	2.7	2.9	3.2	3.5	3.8	4.2	4.8	5.5	6.4	7.6	9.6	12.7
	gph	127.5	135.0	143.4	153.0	163.9	176.5	191.2	208.6	229.4	254.9	286.8	327.8	382.4	458.9	573.6	764.8

### Suggested Written Specification

Commercial electric water heater(s) shall be Seisco tankless water heater model \_\_\_\_\_ as manufactured by Microtherm, or an approved equal and shall have a 5-year limited warranty\* when installed in a commercial application. Heater(s) shall have a rated input of \_\_\_\_ KW at \_\_\_\_ Volts. Electrical control of the heater must be accomplished using an integrated microprocessor that employs a proportional/integral/derivative (PID) control scheme using thermistors for sensing temperature and flow. Heating elements must use PowerShare technology to simultaneously vary KW input across all heating elements from 1% to maximum input. Stepping individual elements on and off at full power is not acceptable. Flow switches that restrict the flow of water in any way are not acceptable. (Optional-Heater(s) shall include an electrical connection for demand side control). Heater(s) shall include dual water level sensors, high limit control via the microprocessor, and dual high limit cutoff switches, one manual the status of all monitored functions. Heater(s) shall have a built-in water leak detector. All water passages must be constructed of a high temperature resistant DuPont® resin. Clean-cut access for removing sediment must be provided without removing plumbing connections or exposing electrical components of the water heater. Heater(s) must be UL/CUL 499, CSA, NSF, HUD Mobile Home, ISRAEL, NOM, and NEC approved.

\*Limited Warranty-See written warranty for details.\*Limited Warranty-See written warranty for details.

Written specifications subject to change without notice.