High Efficiency Indoor and Outdoor Water Heaters
Models EVAW, EVSW and EVOW

Thermal Solutions has designed the Evolution “high efficiency” copper-finned water heaters to meet today’s commercial domestic hot water requirements. Our Evolution Water Heaters utilize the same space-saving, reliable, and high quality features that you have come to rely on from our boiler design.

HIGHLIGHTS INCLUDE:

• Water Heater Models range from 500,000–2,000,000 BTUh input.

• Lead-Free* Cast bronze headers are used instead of glass lined cast iron headers for long lasting performance (without replacement).

• The EVAW is available in on/off or full modulation firing for the most common single unit applications that simply need reliable and high-performing domestic hot water heating.

• The EVSW includes our popular multi-feature TSBC Control that allows for multiple unit communication to optimize efficiency, plus building management system interface for monitoring and/or remote control.

• The EVOW is available for applications where installation indoors is limited or not available.

THERE IS NO APPLICATION TOO SMALL OR LARGE FOR OUR EVOLUTION WATER HEATERS!

THERMAL SOLUTIONS
Innovative Equipment for Hot Water Systems

ALRI CERTIFIED®
www.ahrdirectory.org
Hard Working Quality, Built to Last.
Without question, the Evolution Water Heater is the most advanced, best-designed water heater on the market. Thermal Solutions designed the Evolution Water Heater to address the realities of today’s operational environment. You can trust the Evolution Water Heater to be your reliable, efficient source of hot water for years to come.

Packaged Water Heater Systems
Thermal Solutions offers two types of factory-assembled Packaged Water Heater Systems: Direct and Indirect Systems. Each system includes a boiler or water heater, a vertical or horizontal storage tank, pump, controls, and all necessary components for a totally operational, skid-mounted, and factory-certified package. Multiple Unit/Tank Packaged Water Heater Systems also available.
With tank sizes available up to 6,000 gallons, they are constructed and certified in accordance with ASME Section IV, Part HLW for 125 psi MAWP (150 psi MAWP optional). Tanks are available with glass or epoxy lining, and come with a 5-year limited warranty (10-year limited optional). The Direct System incorporates and Evolution Water Heater piped directly to the tank. The Indirect System uses an Evolution Boiler piped directly to a heat transfer tube bundle installed in the tank. This system features a closed loop operation with the water circulating between the boiler and the heat transfer bundle. This fully assembled, pre-packaged equipment gives the owner and designer the ease and confidence of a single-source solution that meets their domestic water needs.

Which System Should Be Used?
When specifying or selecting a water heating system, it is important to consider the water in your area. If water quality is questionable, or if the water hardness level is 8.5 grains or more, the Indirect System should be used. The Indirect System prevents scale from building up on the inside of the boiler tubes. This keeps the system maintenance-free and prolongs the life of the water heater.

Domestic Hot Water Sizing Requirements
Commercial buildings have different domestic hot water needs. The building type will be the major variable and the following chart shows the demand based on the fixture method.

### Example:

**50 Unit Apartment Building**

| Basins, private lavatory | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Basins, public lavatory | 4 | 6 | 8 | 6 | 6 | 12 | 6 | 15 | 8 |
| Bathubs | 20 | 20 | 30 | 20 | 20 | — | — | 20 | 30 |
| Dishwashers | 15 | 50–150 | — | 50–150 | 50–200 | 20–100 | — | 15 | 20–100 | 20–100 |
| Foot basins | 3 | 3 | 12 | 3 | 3 | 12 | — | 3 | 3 | 12 |
| Kitchen sink | 10 | 20 | — | 20 | 30 | 20 | 20 | 20 | 20 | 20 |
| Laundry, stationary tubs | 20 | 28 | — | 28 | 28 | — | — | 20 | — | 28 |
| Pantry sink | 5 | 10 | — | 10 | 10 | — | 10 | 5 | 10 | 10 |
| Showers | 30 | 150 | 225 | 75 | 75 | 225 | 30 | 30 | 225 | 225 |
| Slop sink | 20 | 20 | — | 20 | 20 | 15 | 20 | 15 | 20 | 20 |
| Hydrotherapeutic showers | — | — | — | 400 | — | — | 20 | — | — | — |
| Circular wash sinks | — | — | — | 20 | 20 | 30 | 20 | — | 30 | — |
| Semicircular wash sinks | — | — | — | 10 | 10 | 15 | 10 | 15 | — | — |
| Demand Factor | 0.30 | 0.30 | 0.40 | 0.25 | 0.25 | 0.40 | 0.30 | 0.30 | 0.40 | 0.40 |
| Storage Capacity Factor | 1.25 | 0.90 | 1.00 | 0.60 | 0.80 | 1.00 | 2.00 | 0.70 | 1.00 | 1.00 |

Notes:
A. #1 through #13 — Possible Maximum Demand
B. #14 (Demand Factor) — Probable Maximum Demand
C. #15 Ratio of Storage Tank Capacity to Probable Maximum Demand per hour

EXAMPE:

50 Unit Apartment Building

- 50 lavatories x 2 = 100 GPH
- 50 showers x 30 = 1500 GPH
- 50 kitchen sinks x 10 = 500 GPH
- 10 laundry tubs x 20 = 200 GPH

- A. Possible Maximum Demand = 2300 GPH
- B. Probable Maximum Demand = 690 GPH
- Storage Capacity Factor = 1.25
- C. Storage Tank Size = 863 Gal

Please refer to Evolution Boiler Sales Literature for additional product features and design details.

*Compliant to the Safe Drinking Water Act (SDWA)