EVOLUTION®

High Efficiency Domestic Hot Water Heating

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.
- 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

c UL us

ASME H

AHRI CERTIFIED® www.ahridirectory.org

EVOLUTION®
Higher Efficiency Heating Equipment

High Efficiency Domestic Water Heaters
Models EVAW, EVSW and EVOW

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.

[Gallons of hot water per hour per fixture, calculated at a final temperature of 140°F]

	Apt./ House	Club	Gym	Hospital	Hotel	Ind. Plant	Office Bldg.	Priv. Res.	School	YMCA
1. Basins, private lavatory	2	2	2	2	2	2	2	2	2	2
2. Basins, public lavatory	4	6	8	6	6	12	6	—	15	8
3. Bathtubs	20	20	30	20	20	—	—	20	—	30
4. Dishwashers	15	50–150	—	50–150	50–200	20–100	—	15	20–100	20–100
5. Foot basins	3	3	12	3	3	12	—	3	3	12
6. Kitchen sink	10	20	—	20	30	20	20	20	20	20
7. Laundry, stationary tubs	20	28	—	28	28	—	—	20	—	28
8. Pantry sink	5	10	—	10	10	—	10	5	10	10
9. Showers	30	150	225	75	75	225	30	30	225	225
10. Slop sink	20	20	—	20	30	20	20	15	20	20
11. Hydrotherapeutic showers	—	—	—	400	—	—	20	—	—	—
12. Circular wash sinks	—	—	—	20	20	30	20	—	30	—
13. Semicircular wash sinks	—	—	—	10	10	15	10	15	—	—
14. Demand Factor	0.30	0.30	0.40	0.25	0.25	0.40	0.30	0.30	0.40	0.40
15. 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

EXAMPLE:

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
Demand Factor	x .30
B. Probable Maximum Demand	= 690 GPH
Storage Capacity Factor	x 1.25
C. Storage Tank Size	= 863 Gal

WATER HEATER RATINGS DATA (AHRI CERTIFIED)	500	750	1000	1500	2000
Input, MBH	500	750	1,000	1,500	2,000
Gross Output, MBH	431	621	817	1,250	1,696
GPH Heating Based on 40-140°F	517	745	980	1,499	2,035
Shipping Weight (lbs.)	817	1,172	1,260	1,402	1,536

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

PL81467601060

P.O. Box 3244, Lancaster, PA 17604-3244
Telephone: 717-239-7642, Fax: 877-501-5212
www.thermalsolutions.com

c UL us
ASME H

THERMAL® SOLUTIONS
Innovative Equipment for Hot Water Systems