

Technical Data Sheet

AM Series Boilers/Water Heaters

The Advanced Modular (AM) Series represents the latest in high efficiency, condensing boiler hydronic technology. The AM series of boilers and water heaters have a unique modular design that provides exceptional reliability, serviceability, and fuel savings from 399 to 1000 MBTU. Each unit is comprised of between two and four independent thermal modules firing up to 250 MBTU each at up to 5:1 individual turndown. This allows for superior temperature control and low-cycling operation. This unique design provides the multiple boiler redundancy required in a boiler plant, but with a single unit installation including a single set of water and gas connections and a single vent connection. When needed, multiple units are easily co-located and common vented to provide a boiler plant with the highest efficiency, turndown, and redundancy in the smallest footprint. Multiple units are sequenced via modbus through a Boiler Management System. High efficiencies and low vent temperatures mean the unit can be vented in PVC, cPVC, Polypropylene, and AL29-4C vent materials. The simple front-access design also means the unit is very simple to maintain and service.



AM 399 through AM 1000

Features

- High Efficiency Condensing Boiler/ Water Heater
- Natural Gas or Propane
- Superior Turndown 8:1 to 20:1 depending on unit
- Low NOx Emission <20ppm
- Direct or Conventional Vent with PVC, cPVC, Polypropylene, or AL29-4C materials
- Concentric Vent Capability
- Common Vent Capability
- Side wall common venting with no additional check valve
- Small, Doorway-Size Footprint
- Superior Reliability
- Minimal Maintenance
- Easy Front Access for Serviceability
- Supports Integration to BAS System
- Modbus Communication Standard

Boilers (AMB, AMH)

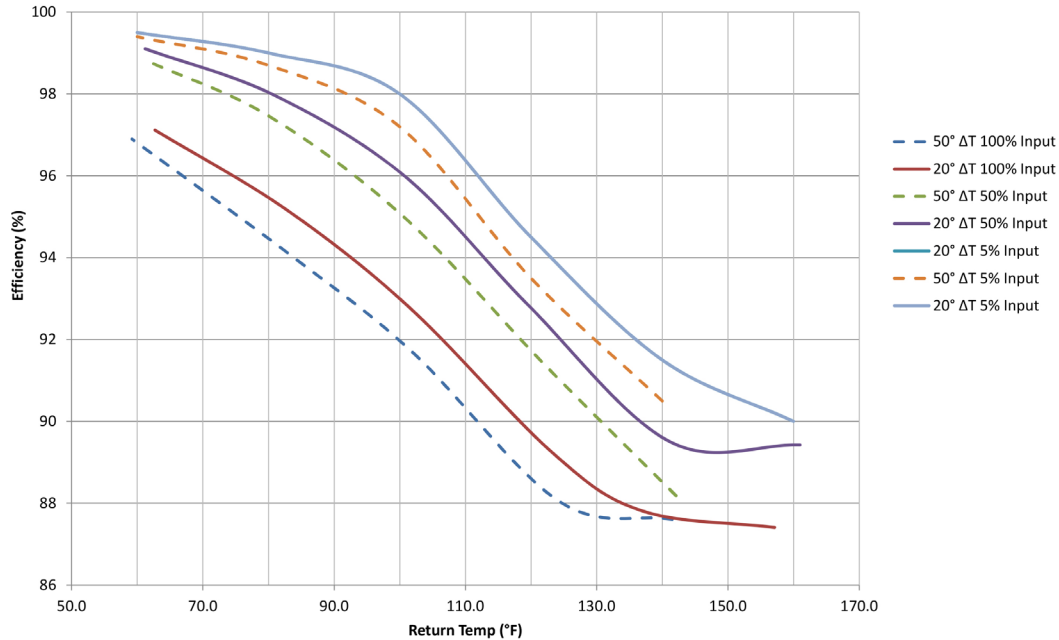


Water Heaters (AMW)



Thermal Efficiency

Comprehensive tests were conducted to confirm the unit's efficiency over its entire 50,000 to 1,000,000 BTU/hr. operating range for a variety of operating conditions. These tests indicate that efficiency up to 99% can be achieved when the unit operates at its lowest firing rate (50,000 BTU/Hr input) with 80°F inlet water temperature. Even at full fire (100% input), the AM Series delivers exceptional efficiency.



Ratings

Model Number	Min Input BTU/hr	Max Input BTU/hr	Max Output BTU/hr	Efficiency Range	AMW AHRI Efficiency	AMB AHRI Efficiency
AM 399	50,000	399,000	395,000	up to 99%	95%	93.8%
AM 500	50,000	500,000	495,000	up to 99%	95%	93.8%
AM 750	50,000	750,000	742,500	up to 99%	95%	93.8%
AM 1000	50,000	1,000,000	990,000	up to 99%	95%	93.8%

*Note: max output varies depending on supply and return water temperatures. Please contact a factory representative for greater details.

Unbeatable Reliability and Efficiency

The Advanced Modular design uses multiple independent thermal modules for high reliability, high turndown, low cycling, and high efficiency. The on-board controller will automatically cycle lead-lag burners to balance run hours and cycles, as well as stage burners to provide multiple burners at the lowest fire rate. In a condensing boiler low fire rates mean higher efficiency, thus the unit is always running at its most efficient. Integrated check valves and automatic shutoff valves on every module means that if a module is off, no heat is lost through either the flue or water side of that module.

The innovative design features on each module add up to an industry-leading unit. For example, the AM 1000B boiler combines four independent 250 MBTU, 5:1 turndown boilers for a total input of 1000 MBTU, but a low fire input of one module at 50 MBTU. This means the unit as a whole has 20:1 turndown and can maintain incredibly tight temperature control with minimal temperature overshoot.

Emergency tech service visits are a thing of the past with the AM Series boiler. Each module has its own independent burner, gas valve, ignition system, flame safeguard, check valve, and automatic water shut-off valve.

If one module were to ever go down, the remaining modules would be available to cover the load until scheduled maintenance can be performed.

The AM series boiler provides all of the advantages of a multiple boiler plant with all of the cost savings and simplicity of a single unit installation.

Specifications

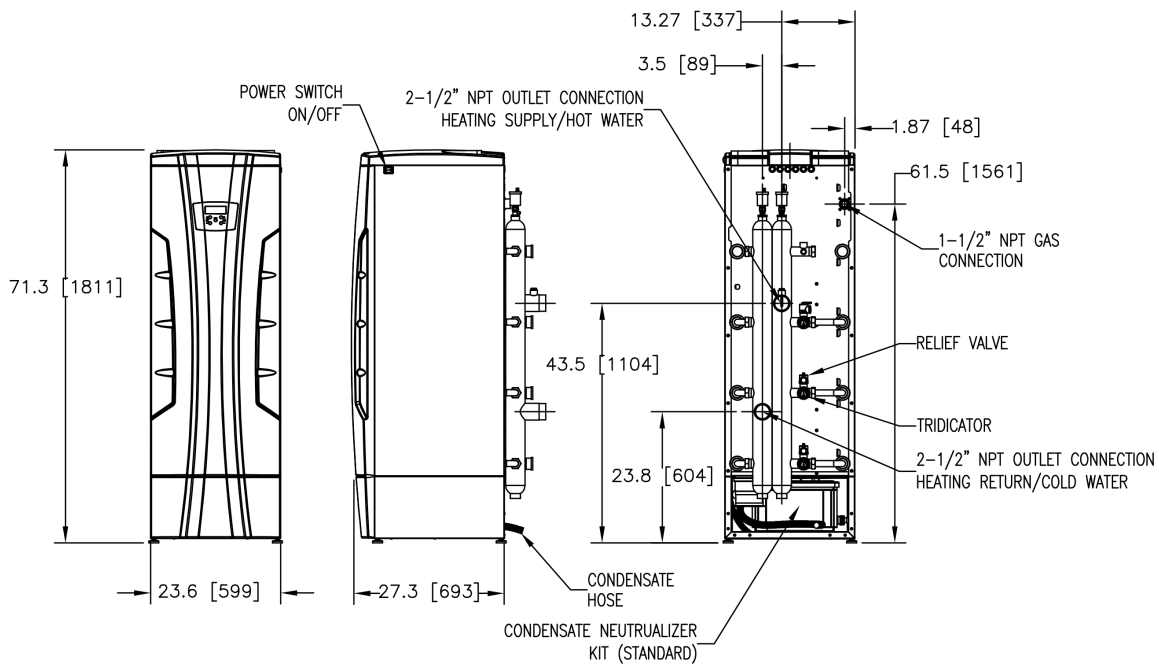
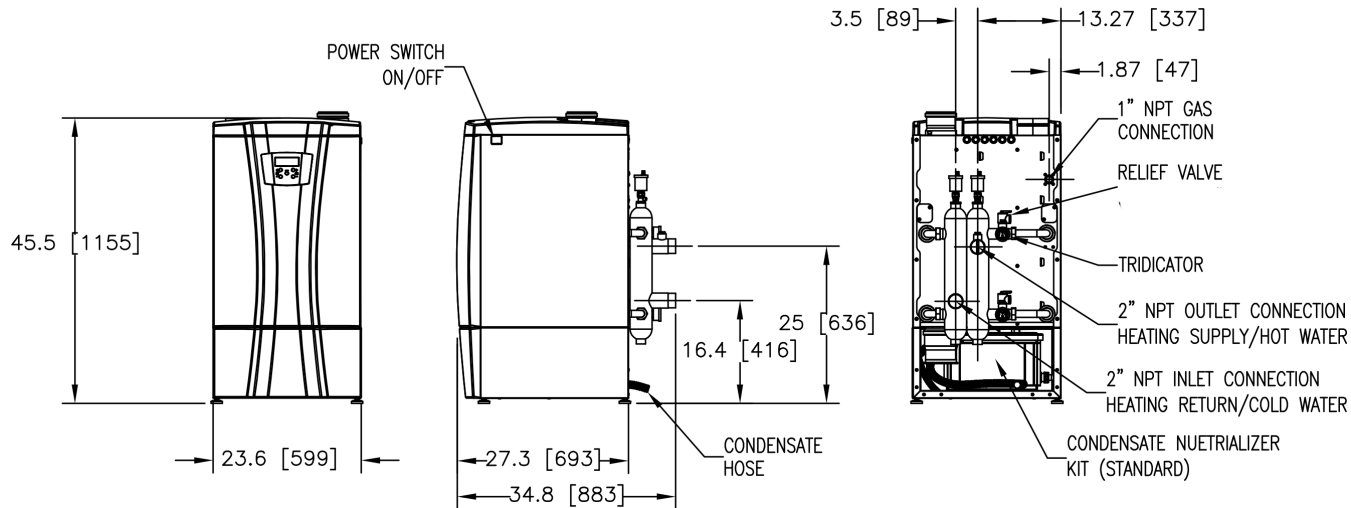
	AM 399	AM 500	AM 750	AM 1000
Boiler Category	IV	IV	IV	IV
Gas Connections (NPT)	1"	1"	1 1/4"	1 1/4"
Max. Gas Pressure	13"	13"	13"	13"
Min. Gas Pressure	3"	3"	3"	3"
Max. Allowed Working Pressure	160 psi	160 psi	160 psi	160 psi
Electrical Req: 120V (AMP)	1.8	2.5	3.6	4.9
Water Connections (NPT)	2"	2"	2 1/2"	2 1/2"
Min. Water Flow (GPM) @ Min. Fire	4	4	4	4
Min. Water Flow (GPM) @ Max. Fire	7	9	14	18
Max. Water Flow (GPM)	40	40	65	80
Water Pressure Drop @ 30°F rise (PSI)	6.1	10.4	14.3	12.1
Unit Water Volume: Gallons**	4	4	7	9
Thermal Modules	2	2	3	4
Turndown or Operating Range	8:1	10:1	15:1	20:1
Vent Size (combustion air & vent)	4"	4"	6"	6"
Vent Materials (as per local code)	Can support PVC, CPVC, Polypropylene, or AL29-4C venting materials*			
Type of Gas	Natural Gas or Propane			
Temperature Control Range	Boilers deliver 68°-180°F*, Water Heaters deliver 68°-180°F			
Maximum Noise Level	<50 dBA			
Condensate Production (gal/hr)	3.84	4.62	9.96	9.24
Standard Listings and Approvals	ASME, CSA, CSD-I, Mass. Approval, SCAQMD, NSF 372, AHRI			

*For applications with return water temperature >145°F, the design ΔT must be >35°F to allow the use of PVC venting. For further information contact your local sales representative.

**Storage capacity for water heaters will vary based on storage tank selection

Dimensions

Model	Height	Width	Depth	Weight (wet)	Weight (shipping)
AM 399	45.7"	23.6"	34.8"	300 lbs.	324 lbs.
AM 500	45.7"	23.6"	34.8"	310 lbs.	335 lbs.
AM 750	71.3"	23.6"	35.3"	530 lbs.	555 lbs.
AM 1000	71.3"	23.6"	35.3"	615 lbs.	643 lbs.



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AERCO International, Inc. • 100 Oritani Drive • Blauvelt, NY 10913
USA: T: (845) 580-8000 • Toll Free: (800) 526-0288 • AERCO.com