

Technical Data Sheet

Modulex EXT 1500-3000 Boilers

A breakthrough in high-efficiency design, AERCO's condensing and fully modulating Modulex boilers support 1530 to 3060 MBTU/hr hydronic heating systems while delivering a greater degree of operating reliability for customer peace of mind. To achieve the greatest possible fuel savings, each boiler combines independent, 383 MBTU/hr. thermal modules (see back) that operate to deliver superior turndown and a range of noncycling operation not readily achieved by competitive equipment or controls. In addition to minimizing redundant capacity needed for any project, these quiet and lightweight boilers can support low NOx and low gas pressure applications and a variety of venting materials. The unit offers multiple venting locations for installation flexibility and allows for multiple units to be easily co-located for greater than 3 million BTU/hr applications. Combustion view ports and easy access to all operating components further simplify minimal maintenance requirements. The Modulex EXT comes standard with a coated enclosure allowing for outdoor installations. In addition to controlling the boiler according to a constant set point, indoor/outdoor reset or 0-10V signal, one or more units can be integrated via Modbus communications protocol to a facility wide Energy Management or Building Automation System.

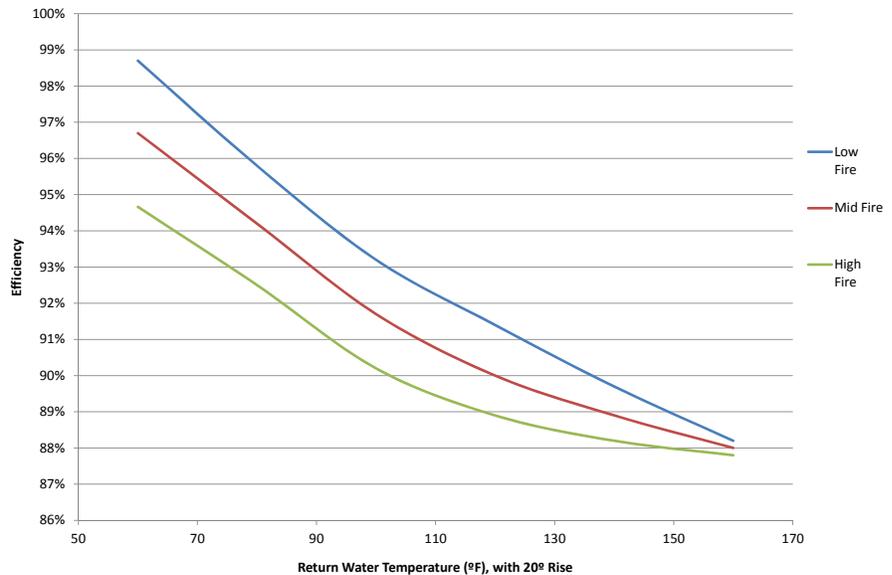


Features

- Condensing Boiler
- Natural Gas or Propane
- Unmatched Turndown 19.6:1 to 39:1 (unit dependent)
- Whisper Quiet Operation <50 dBA
- Low NOx Emission <20 ppm
- Direct or Conventional Vent with PVC, CPVC, Polypropylene or AL29-4C Materials
- Common Vent Capability
- Outdoor Installation Standard
- Small, Doorway-Size Footprint
- Flexible Piping and Venting Connections
- Equipped with Sealed or Room Air Combustion
- Superior Reliability
- Minimal Maintenance
- Easy Open Access for Serviceability
- Supports Integration to BAS System
- Touchscreen controller with intuitive menu structure for easy setup and navigation

Thermal Efficiency

Comprehensive tests were conducted to confirm the unit's efficiency over its entire 83,000 to 3,060,000 BTU/hr. operating range for a variety of operating conditions. These tests indicate that efficiency up to 98.6% can be achieved when the unit operates at its lowest firing rate (83,000 BTU/Hr input) with 60°F inlet water temperature. Even at full fire (100% input), the Modulex EXT delivers exceptional efficiency.



Ratings

Model Number	Min Input	Max Input	Max Output*	Efficiency Range
MLX EXT 1500	83,000	1,530,000	1,334,000- 1,476,000	87%-99%
MLX EXT 2300	83,000	2,295,000	2,001,000- 2,215,000	87%-99%
MLX EXT 2600	83,000	2,677,000	2,334,000- 2,583,000	87%-99%
MLX EXT 3000	83,000	3,060,000	2,668,000- 2,951,000	87%-99%

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

Enhanced Reliability with Greater Seasonal Efficiency

The independent operation of two or more thermal modules increases each boiler's turndown range while also increasing its overall reliability. And since thermal efficiency increases as firing rates drop, the simultaneous low-fire operation of multiple modules also ensures that Modulex boilers continuously maximize operating efficiency.

For example, the MLX EXT 3000 combines the power of eight thermal modules, each operating with greater than 4.9:1 turndown to deliver a 39:1 range of operations. From the low fire input of a single module (83,000 BTU/hr.) to the unit's full fire capacity (3,060,000 BTU/hr.), the boiler precisely matches load without cycling or temperature overshoot. Importantly, it does so by always employing as many modules as possible, each firing at its lowest possible firing rate. Less energy is required for the group of thermal modules, each firing at part load, to heat a building than if only some modules, each operating at full fire, carried the entire load. Consequently, this approach to control results in greater fuel savings than if each thermal module reached its full 383,000 BTU/hr. capacity before the next module came on line.

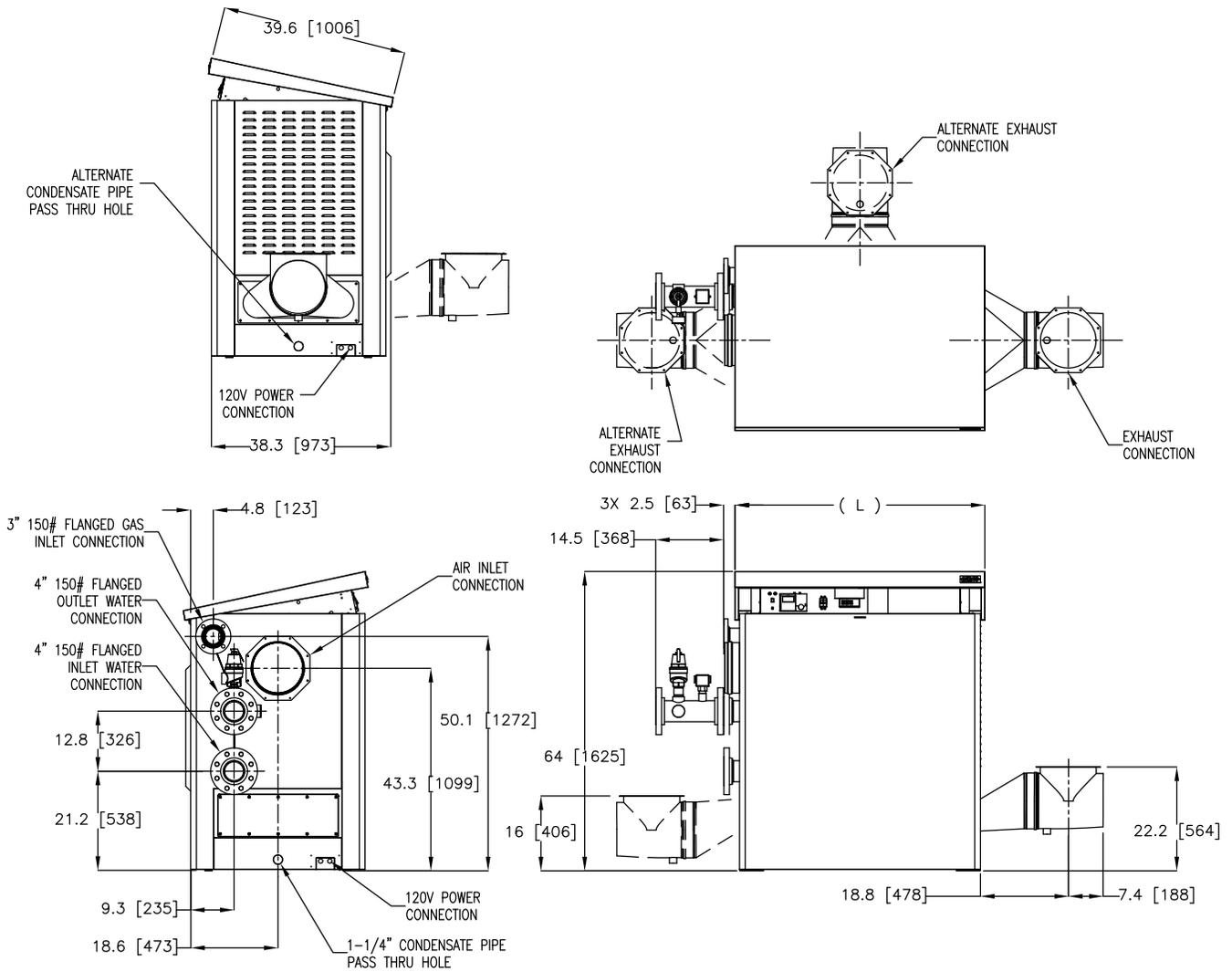
In the event that one module is not working correctly, the remaining modules – hence the boiler unit will continue to operate. Independently operating thermal modules deliver built-in redundancy to the boiler through the availability of multiple combustion safeguards, burners, gas valves, blowers, and the back-up master controller. Such a design approach is unique in the industry and can significantly reduce the need for redundant system capacity.

Specifications

	MLX-EXT 1500	MLX-EXT 2300	MLX-EXT 2600	MLX-EXT 3000
Boiler Category	IV	IV	IV	IV
Gas Connections (Flange)	3"	3"	3"	3"
Max. Gas Pressure	10.5"	10.5"	10.5"	10.5"
Min. Gas Pressure	4"	4"	4"	4"
Max. Allowed Working Pressure	92 psi	92 psi	92 psi	92 psi
Electrical Req: 120V	10 FLA	15 FLA	17.5 FLA	20 FLA
Water Connections (Flange)	4"	4"	4"	4"
Min. Water Flow (GPM) Min Fire	8	12	14	16
Min. Water Flow (GPM) Max Fire	56	84	99	113
Max. Water Flow (GPM) Max Fire	113	169	197	225
Water Pressure Drop @ Max. Flow (Ft. of Hd)	7.9	16.4	17.8	13.2
Water Volume: Gallons	2.7	4.8	5.9	7.0
Thermal Modules	4	6	7	8
Turndown or Operating Range	19.6:1	29:1	34:1	39:1
Vent & Air Inlet Size	10"	12"	12"	12"
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	Units deliver 50°-180°F supply; Min. 35°F inlet water required			
Maximum Noise Level	All units deliver <50 dBa when operating at or below full fire			
Condensate Production (gal/hr)	3.0	6.1	7.7	9.2
Standard Listings and Approvals	UL, ASME, CSD-1, Mass. Approval, SCAQMD			
Water Quality	PH operating range 6.5 to 8.0 and Glycol (if used) MUST be compatible Cast Aluminum heat exchangers.			

Dimensions

Model	Height	Length	Depth	Weight (wet)	Weight (shipping)
MLX EXT 1500	57.2"	42.8"	38.3"	1137 lbs.	1289 lbs.
MLX EXT 2300	57.2"	53.3"	38.3"	1384 lbs.	1558 lbs.
MLX EXT 2600	57.2"	63.9"	38.3"	1549 lbs.	1776 lbs.
MLX EXT 3000	57.2"	63.9"	38.3"	1664 lbs.	1891 lbs.



Heating and Hot Water Solutions

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