



### AERCO LOW NOx Benchmark Gas Fired Hot Water Boiler System

The AERCO Benchmark 1.5 Low NOx (BMK1.5LN) Water Boiler is designed for condensing application in any closed loop hydronic system. It delivers 20:1 burner turndown to match energy input directly to fluctuating system loads to yield the highest possible seasonal efficiencies. As illustrated below, the unit's operating efficiency actually increases as the load decreases.

To minimize emissions, the BMK1.5LN is fitted with a low NOx burner whose emissions will consistently measure <16 ppm of NOx corrected to 3% excess oxygen at all firing rates. Certified by SCAQMD, the fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability, and construction quality.

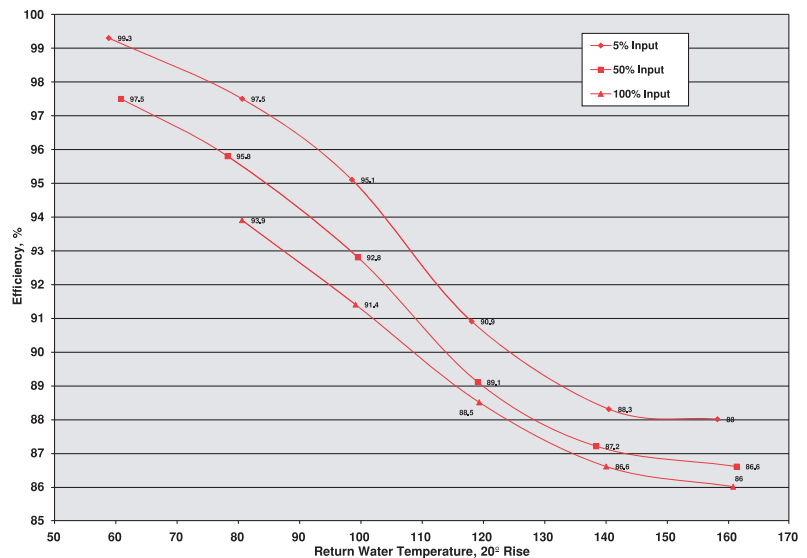
The BMK1.5LN can be used singly or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant set point, indoor/outdoor reset schedule or 4-20mA signal, one or more can be integrated via Modbus communications protocol to AERCO's multiple boiler management system (BMS) or a facility-wide Energy Management or Building Automation System.



### OPERATING EFFICIENCY

Comprehensive tests are being conducted to confirm the unit's efficiency over its entire 75,000 to 1,500,000 BTU/hr. operating range for a variety of operating conditions. The initial boundary tests indicate that efficiency up to 99.3% can be achieved when the unit operates at its lowest firing rate (5% input) with 60°F inlet water temperature. Even at full fire (100% input), the BMK1.5LN delivers exceptional efficiency.

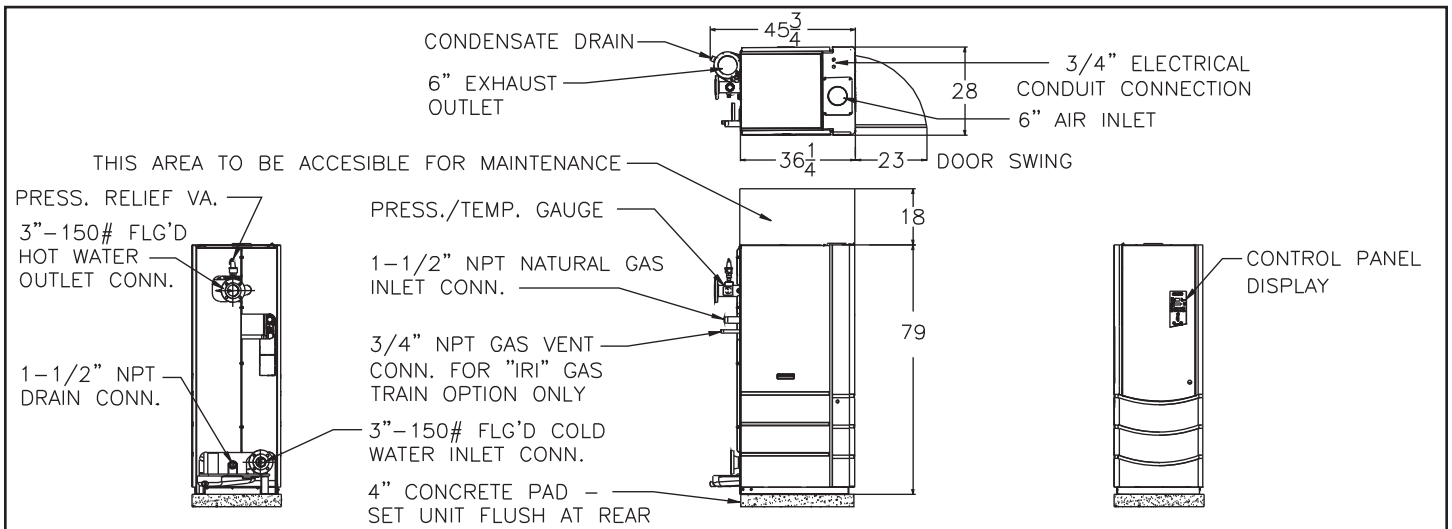
Estimated Thermal Efficiency of BMK1.5LN - Preliminary



### FEATURES:

- Natural Gas
- (Optional) Dual-Fuel-Natural Gas with Propane Back-Up
- Separate Fuel Connections Provided with Dual Fuel Option
- 20:1 Turndown Ratio
- NOx Emissions <16 ppm at All Firing Rates (when fired with natural gas)
- Direct or Conventional Vent Capabilities
- AL29-4C Vent Materials Required per UL1738
- Quiet Operation Throughout Firing Range
- Internal Low Water Cutoff (Manual Reset)
- Compact Footprint (79" H x 28"W x 36"D)
- Precise Temperature Control
- Sealed Combustion Capable
- Ventless Supply Gas Regulator
- UL, CUL, for Alcove Installation on Combustible Flooring

## DIMENSIONS:



## RATINGS AND DIMENSIONS:

Modules	Model (a)	Mbh Input (b)	Mbh Output (b) (c)	Width (1)	Depth	Height	Weight
One (1)	BMK-1.5LN	1,500 mbh	1,290 mbh- 1,409 mbh	2'4"	3'10"	6'7"	1,757 lbs
Two (2)	BMK-1.5LN2	3,000 mbh	2,580 mbh- 2,817 mbh	6'8"	3'10"	6'7"	3,514 lbs
Three (3)	BMK-1.5LN3	4,500 mbh	3,870 mbh- 4,226 mbh	11'0"	3'10"	6'7"	5,271 lbs
Four (4)	BMK-1.5LN4	6,000 mbh	5,160 mbh- 5,634 mbh	15'4"	3'10"	6'7"	7,028 lbs
Five (5)	BMK-1.5LN5	7,500 mbh	6,450 mbh- 7,043 mbh	19'8"	3'10"	6'7"	8,785 lbs
Six (6)	BMK-1.5LN6	9,000 mbh	7,740 mbh- 8,451 mbh	24'0"	3'10"	6'7"	10,542 lbs
Seven (7)	BMK-1.5LN7	10,500 mbh	9,030 mbh- 9,860 mbh	28'4"	3'10"	6'7"	12,299 lbs
Eight (8)	BMK-1.5LN8	12,000 mbh	10,320 mbh- 11,268 mbh	32'8"	3'10"	6'7"	14,056 lbs

(1) Assume 24" between units. Zero side wall clearance is not provided. Consult local sales representative.

(a) Style to be determined by individual application requirement.

(b) Altitude below 2000'. Apply altitude correction factor above 2000'.

(c) Output dependent upon application – see efficiency curves

## SPECIFICATIONS:

BTU Input.....1,500,000 BTU/H  
 Min. Output @ Full Input.....1,290,000 BTU/H  
 ASME Working Pressure.....160 PSIG  
 Electrical Options.....120/1/60 20 Amp (13 Amp FLA)  
 Gas Requirements.....14" W.C Maximum  
 Standard Unit–FM Gas Train.....4.0" W.C. Min. @ Full Load  
 Standard Unit–IRI Gas Train .....4.2" W.C. Min. @ Full Load  
 Dual Fuel–FM Gas Train–Nat. Gas....4.0" W.C. Min. @ Full Load  
 Dual Fuel–FM Gas Train–Propane ...4.0" W.C. Min. @ Full Load  
 Dual Fuel–IRI Gas Train–Nat. Gas ....4.2" W.C. Min. @ Full Load  
 Dual Fuel–IRI Gas Train–Propane.....2" W.C. Min. @ Full Load  
 Vent Size.....6" Diameter

Water Connections.....3" Flanged 150lb. ANSI  
 Gas Connection.....1.50" NPT  
 Min./Max. Water Flow.....25 GPM / 225 GPM  
 Water Pressure Drop.....4.0 PSIG @ 130 GPM  
 Water Volume.....27 gallons  
 Control Range.....50°F to 190°F  
 Ambient Temperature.....0°F to 130°F  
 NOx Emissions Certification.....SCAQMD, TCEQ  
 Standard Listings & Approvals.....UL, CUL, CSD-1, ASME  
 Gas Train Options.....FM Compliant or Factory Installed IRI  
 Weight, Installed.....1533 lbs. (dry), 1757lbs. (wet)



Heating and Hot Water Solutions

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