



MODEL BMK-2.0LN GWB

TECHNICAL DATA

AERCO LOW NOx Benchmark Gas Fired Hot Water Boiler System

The AERCO Benchmark 2.0 Low NOx (BMK 2.0LN) 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. It can achieve 99+% efficiency when supplied with 60°F return water while firing at minimum input.

To minimize emissions, the BMK 2.0LN is fitted with a low NOx burner whose emissions will consistently measure <30 ppm of NOx corrected to 3% excess oxygen at all firing rates. Certified by the SCAQMD and TCEQ in its class, the fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability and construction quality.

The BMK 2.0LN can be used singly or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant setpoint, 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 II) or a facility-wide Energy Management or Building Automation System.



Thermal Efficiency

Comprehensive tests are being conducted to confirm the unit's efficiency over its entire 100,000 to 2,000,000 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) with 160°F inlet water temperature, the BMK2.0LN delivers 85.3% efficiency.

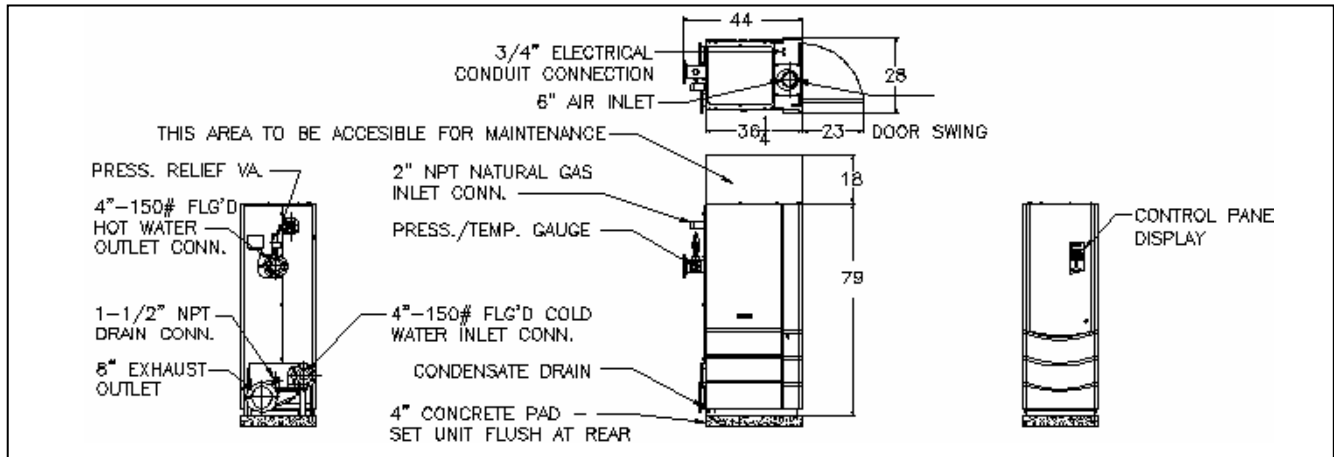
Please Note: By altering its calibration settings, the BMK2.0LN boiler can also be operated to deliver <15ppm NOx without affecting the minimum energy input. However, the boiler's input range, venting requirements and performance efficiency will change in such applications. Please consult AERCO for more information about how to best balance fuel savings with environmental responsibility for your specific project.

BMK 2.0 Low NOx Features

- Natural Gas
- 20:1 Turndown Ratio
- NOx Emissions <30ppm at All Firing Rates
- Direct Vent or Conventional Capabilities
- AL29-4C Vent Materials Required per UL 1738
- Quiet Operation Throughout Firing Range
- Internal Low Water Cutoff (Manual Reset)
- Compact Footprint (79"H x 28"W x 36"D)
- Precise Temperature Control $\pm 2^{\circ}\text{F}$
- Sealed Combustion Capable
- Ventless Supply Gas Regulator
- UL, CUL, for Alcove Installation on Combustible Flooring



Dimensions BMK-2.0LN Boiler



Ratings and Dimensions

Modules	Model	Mbh Input	Mbh Output	Width	Depth	Height	Weight
	(a)	(b)	(b) (c)	(1)			(wet)
One(1)	BMK-2.0LN	2,000mbh	1,706mbh-1,860mbh	2'4"	3'10"	6'7"	1,650lbs.
Two(2)	BMK-2.0LN-2	4,000mbh	3,412mbh-3,720mbh	6'8"	3'10"	6'7"	3,300lbs.
Three(3)	BMK-2.0LN-3	6,000mbh	5,118mbh-5,580mbh	11'0"	3'10"	6'7"	4,950lbs.
Four(4)	BMK-2.0LN-4	8,000mbh	6,824mbh-7,440mbh	15'4"	3'10"	6'7"	6,600lbs.
Five(5)	BMK-2.0LN-5	10,000mbh	8,530mbh-9,300mbh	19'8"	3'10"	6'7"	8,250lbs.
Six(6)	BMK-2.0LN-6	12,000mbh	10,236mbh-11,160mbh	24'0"	3'10"	6'7"	9,900lbs.
Seven(7)	BMK-2.0LN-7	14,000mbh	11,942mbh-13,020mbh	28'4"	3'10"	6'7"	11,550lbs.
Eight(8)	BMK-2.0LN-8	16,000mbh	13,648mbh-14,880mbh	32'8"	3'10"	6'7"	13,200lbs.

(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 2,000'. Apply altitude correction factor above 2,000'.

(c) Output dependent upon application – see efficiency curves.

BMK-2.0LN Specifications

BTU Input 2,000,000 BTU/H*
 Net Output @ Full Input 1,706,000-1,860,000 BTU/H**
 ASME Working Pressure..... 160 PSIG
 Electrical Options..... .120/1/60 20 Amp (9.0 Amp FLA)
 Gas Requirements..... 2 PSI Maximum
 Natural Gas (FM Gas Train)....4.0" W.C. Min.@Full Load
 Natural Gas (IRI Gas Train)....5.0" W.C. Min.@Full Load
 Vent Size.....8" Diameter
 Water Connections.....4" Flanged 150lb. ANSI
 Gas Connection..... 2" NPT
 Minimum Water Flow.....0 GPM ***
 Maximum Water Flow..... 350 GPM

Water Pressure Drop.....1.5 PSIG @ 172 GPM
 Water Volume24 Gallons
 Control Range.....50°F to 190°F
 Ambient Temperature.....0°F to 130°F
 NOx Emissions CertificationSCAQMD,TCEQ
 Standard Listings & Approvals.....UL, CUL, CSD-1, ASME
 Gas Train Options.....FM Compliant or Factory Installed IRI
 Weight, Installed.....1,450 lbs. (dry) 1,650 lbs. (wet)

* Up to 2000' Altitude

** Output is dependent upon return water temp. and firing rate

***25 GPM water flow required for ±2°F temperature control.

Boiler can operate safely with zero water flow.

Represented by:



HOT WATER SYSTEMS

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Specifications subject to change.

Consult website or contact AERCO.