



# BMK3.0 DUAL FUEL GWB

## TECHNICAL DATA SHEET

### Benchmark Dual Fuel Gas Fired Hot Water Boiler System



The AERCO Benchmark 3.0 Dual Fuel (BMK3.0) Water Boiler is designed for condensing application in any closed loop hydronic system.

The BMK 3.0 patented air/ fuel delivery system enables the boiler to achieve an unmatched 15:1 turndown, resulting in maximized operating efficiency and seasonal fuel savings. The fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability and construction quality.

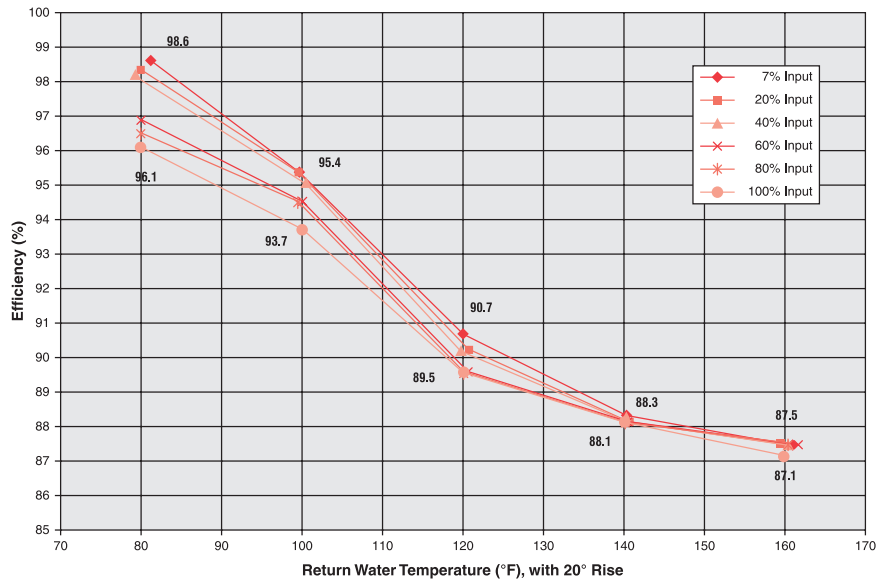
The BMK3.0 can be used individually or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant set point, indoor/outdoor reset schedule or 4-20mA signal, one or more units can be integrated via Modbus communications protocol to AERCO's multiple boiler management system (BMS II) or a facility-wide Energy Management or Building Automation System.



### OPERATING EFFICIENCY

Comprehensive tests were conducted to confirm the unit's efficiency over its entire 200,000 to 3,000,000 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 (7% input) with 80°F inlet water temperature. Even at full fire (100% input), the BMK3.0 delivers exceptional efficiency.

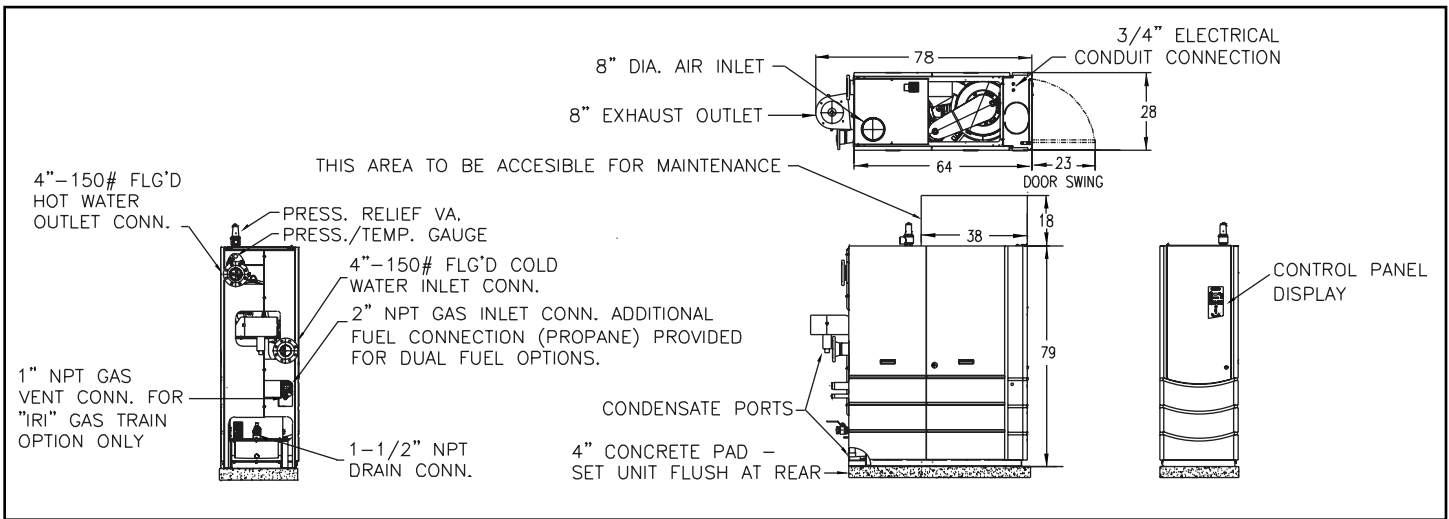
Thermal Efficiency of BMK3.0LN



### FEATURES:

- Dual-Fuel – Natural Gas with Propane Back-Up
- Separate Fuel Connections Provided with Dual Fuel Option
- 15:1 Turndown Ratio
- <30 ppm NOx Emissions 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 64”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 (wet) |
|-----------|-----------|---------------|-----------------------|-----------|-------|--------|--------------|
| One (1)   | BMK3.0    | 3,000mbh      | 2,610mbh - 2,883mbh   | 2'4"      | 5'4"  | 6'7"   | 2,580lbs.    |
| Two (2)   | BMK3.0- 2 | 6,000mbh      | 5,220mbh - 5,766mbh   | 6'8"      | 5'4"  | 6'7"   | 5,160lbs.    |
| Three (3) | BMK3.0 -3 | 9,000mbh      | 7,830mbh - 8,649mbh   | 11'0"     | 5'4"  | 6'7"   | 7,740lbs.    |
| Four (4)  | BMK3.0 -4 | 12,000mbh     | 10,440mbh - 11,532mbh | 15'4"     | 5'4"  | 6'7"   | 10,320lbs.   |
| Five (5)  | BMK3.0 -5 | 15,000mbh     | 13,050mbh - 14,415mbh | 19'8"     | 5'4"  | 6'7"   | 12,900lbs.   |
| Six (6)   | BMK3.0 -6 | 18,000mbh     | 15,660mbh - 17,298mbh | 24'0"     | 5'4"  | 6'7"   | 15,480lbs.   |
| Seven (7) | BMK3.0 -7 | 21,000mbh     | 18,270mbh - 20,181mbh | 28'4"     | 5'4"  | 6'7"   | 18,060lbs.   |
| Eight (8) | BMK3.0 -8 | 24,000mbh     | 20,880mbh - 23,064mbh | 32'8"     | 5'4"  | 6'7"   | 20,640lbs.   |

(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 ..... 3,000,000 BTU/H\*  
 Min. Output @ Full Input .....2,610,000-2,883,000 BTU/H\*\*  
 ASME Working Pressure ..... 160 PSIG  
 Electrical Options..... 208-230/3/60 20 Amp (11 Amp FLA) 5-wire  
 Electrical Options..... 406/3/60 15 Amp (5 Amp FLA) 4-wire  
 Gas Requirements.....2 psi Maximum  
 Dual Fuel-FM Gas Train-Nat. Gas..... .5.7" W.C. Min. @ Full Load  
 Dual Fuel-FM Gas Train-Propane..... 3.5" W.C. Min. @ Full Load  
 Dual Fuel-IRI Gas Train-Nat. Gas.....6.5" W.C. Min. @ Full Load  
 Dual Fuel-IRI Gas Train-Propane..... 3.5" W.C. Min. @ Full Load

Vent Size.....8" Diameter  
 Water Connections.....4" Flanged 150lb. ANSI  
 Gas Connection.....2" NPT  
 Min./Max. Water Flow.....35 GPM / 350 GPM\*\*\*  
 Water Pressure Drop.....5.5 PSIG @ 258 GPM  
 Water Volume.....49 gallons  
 Control Range.....50°F to 190°F  
 NOx Emissions.....30 ppm at All Firing Rates  
 Standard Listings & Approvals.....UL, CUL, CSD-1, ASME  
 Gas Train Options.....FM Compliant or Factory Installed IRI  
 Weight, Installed.....2,170 lbs. (dry), 2,580 lbs. (wet)

\*Up to 2000' Altitude

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

Represented By:



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Specifications subject to change without prior notice.  
 Consult website or contact AERCO.  
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