Technical Data Sheet

Benchmark® Platinum 750-6000 Boilers

The AERCO Benchmark Platinum (BMK) Water Boiler is designed for condensing application in any closed loop hydronic system. It delivers unmatched burner modulation to match energy input directly to fluctuating system loads to yield the highest possible seasonal efficiencies. And no other product packs as much capacity into such a small footprint.

To minimize emissions, the BMK Series is fitted with a low NOx burner whose emissions will meet the most stringent NOx and CO requirements. The fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability and construction quality.

The BMK Platinum Series comes standard with AERCO's patented AERtrim system, an innovative O_2 -trim system for condensing boilers, built on the Benchmark's original O_2 monitoring system. This system will self-adjust and maintain air-fuel ratios at optimum levels for peak efficiency, low emissions and maximum uptime reliability in event of any site condition changes (air density, gas pressure, BTU content, etc.) which can be detrimental to efficiency, stability and reliability. Oxygen levels can be directly displayed on the unit in real time or be remotely monitored via Modbus or onAER, giving our customers the ability to measure the emissions level and fuel economy of the boiler without traditional combustion calibration devices.

The BMK boilers can be used as an individual unit 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. For boiler plants ranging from 2-8 boilers, AERCO'S built-in Boiler Sequencing Technology (BST)* can be utilized. For heating plants greater than 8 boilers, AERCO's ACS (AERCO Control System) provides the right solution. Likewise, Benchmark systems can be easily integrated with a facility-wide Energy Management or Building Automation System. Furthermore, BMK Platinum models come standard with dual return connections for optimal application flexibility and seasonal efficiency gains of up to 7%.

Additionally, BMK Platinum boilers come onAER ready and with a 5-year subscription of onAER standard. AERCO's onAER service is a premiere online service which grants the user remote access to view boiler plant operation and status, track performance and efficiency, and set and view alerts such as faults or maintenance. The onAER service can be set to provide alerts to local trained technicians, offering additional peace of mind and ensuring the utmost uptime reliability.

GAS-FIRED

All BMK Platinum models with the exception of the BMK Platinum 5000

*See BST System technical data sheet for additional system details and capabilities

Features

- Natural Gas, Propane, or Dual Fuel (model dependent)
- 20:1 Turndown Ratio (5%) depending on capacity
- AERtrim System Standard
- Stainless Steel Fire Tube heat exchanger
- Capable of variable primary flow Installations
- NOx Emissions capable of 9PPM or less @ all firing rates *depending on capacity
- Compact Footprint
- Precise Temperature Control
- Standard Dual Return Water Connections
- On-board Boiler Sequencing Technology (BST)
- Ducted Combustion Air Capable
- Easy Open Access for Service
- Acceptable vent materials AL29-4C, Polypropylene, PVC, cPVC (model dependent)
- Reliable Quiet Operation
- Controls Options:
  - Constant Setpoint
  - Indoor/ Outdoor Reset
  - Remote Setpoint
  - 4-20mA signal or ModBus
- 15 year heat exchanger warranty

Ratings

BMK Platinum Models	Min Input MBH	Max Input MBH	Max Output[a] MBH	Efficiency Range	Efficiency 80° to 180°F
750	50	750	653-720	87%-98%	95.50%
1000	50	1000	870-960	87%-98%	96.80%
1500	75	1500	1305-1425	87%-98%	94.60%
2000	100	2000	1740-1900	87%-98%	94.60%
2500	167	2500	2175-2360	87%-98%	93.50%
3000	200	3000	2610-2880	87%-98%	93.50%
5000**	400	5000	4350-4800	87%-98%	94.50%
6000**	400	6000	5220-5670	87%-98%	94.50%

[a]Max output dependent upon application – see efficiency curves

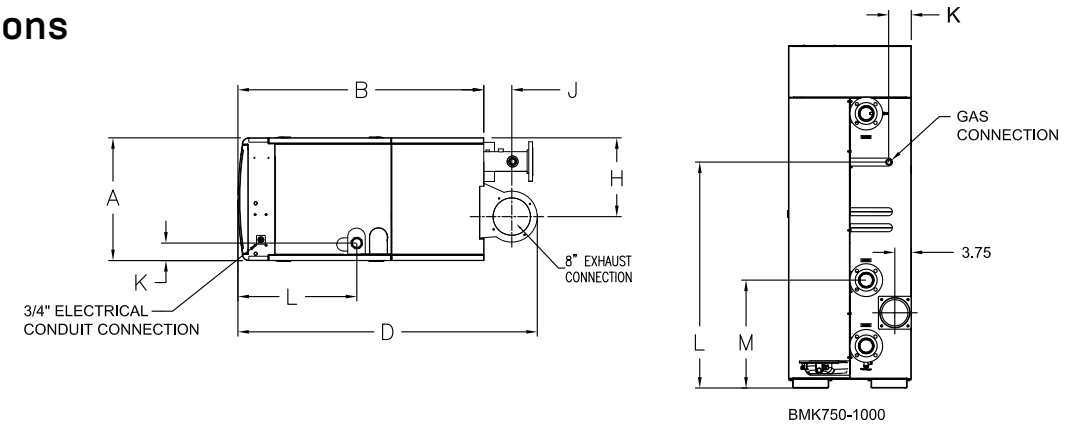
**See separate BMK5000/6000 technical data sheet for additional BMK5000/6000 details

Specifications

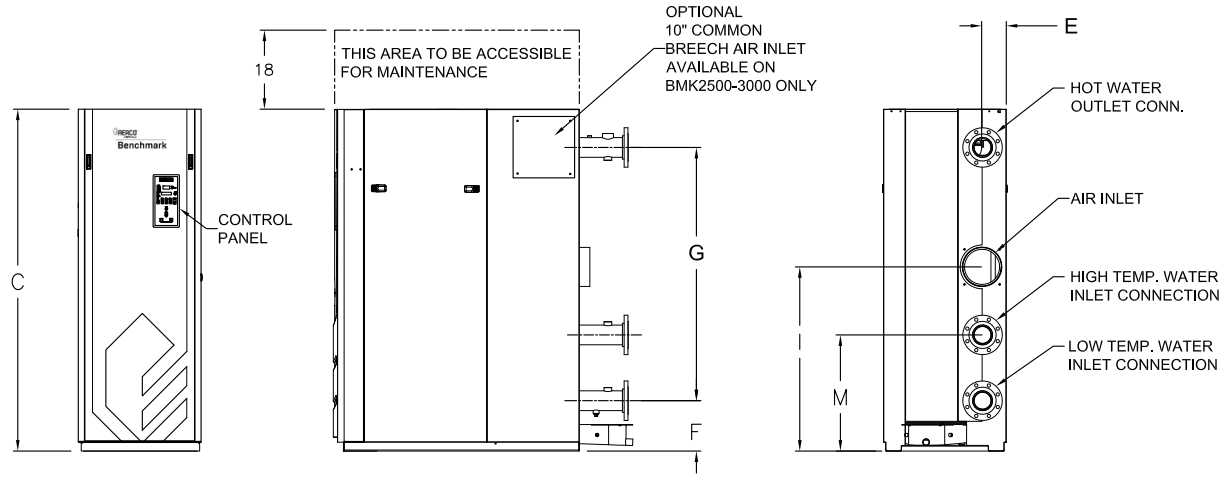
Models	BMK Platinum							
	750	1000	1500	2000	2500	3000	5000**	6000**
Boiler Category	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV	ASME Sect.IV
Gas Connections (NPT)	1"	1"	2"	2"	2"	2"	2"	2"
Max. Gas Pressure	14"	14"	14"	14"	14"	14"	2psi	2psi
Min. Gas Pressure [1]	4"	4"	4"	4"	4"	4"	14"	14"
Max. Allowed Working Pressure	160 PSIG	160 PSIG	160 PSIG	160 PSIG	160 PSIG	160 PSIG	80PSIG/ 150 PSIG Optional	80 PSIG/ 150 PSIG Optional
Electrical Req. 120V/1PH/60Hz [2]	13 FLA	13 FLA	16 FLA	16 FLA	N/A	N/A	N/A	N/A
Electrical Req. 208V/3PH/60Hz [2]	N/A	N/A	N/A	N/A	10 FLA	10 FLA	19 FLA	19 FLA
Electrical Req. 460V/3PH/60Hz [2]	N/A	N/A	N/A	N/A	5 FLA	5 FLA	12 FLA	12 FLA
Electrical Req. 575V/3PH/60Hz [2]	N/A	N/A	N/A	N/A	N/A	N/A	8 FLA	8 FLA
Water Connections (Flanged)	3"	3"	4"	4"	4"	4"	6"	6"
Dual Return Connections	✓	✓	✓	✓	✓	✓	✓	✓
Min. Water Flow (GPM)	12	12	25	25	25	25	75	75
Max. Water Flow (GPM)	175	175	250	350	350	350	700	700
Water Volume Gallons	16.25	14.25	44	40	58	55	110	110
Water Pressure Drop	3.0 PSIG @100 GPM	3.0 PSIG @100 GPM	3.0 PSIG @170 GPM	3.0 PSIG @170 GPM	3.0 PSIG @218 GPM	3.0 PSIG @261 GPM	4.0 PSIG @500 GPM	4.0 PSIG @500 GPM
Turndown	15:1 (7%)	20:1 (5%)	20:1 (5%)	20:1 (5%)	15:1 (7%)	15:1 (7%)	12:1 (8%)	15:1 (7%)
Vent/Air Intake Connections	6 Inch	6 Inch	6 Inch	8 Inch	8 Inch	8 Inch	14 Inch Optional/ 12 Inch Flue Venting	14 Inch Optional/ 12 Inch Flue Venting
Vent Materials	AL29-4C Polypro, CPVC, PVC	AL29-4C Polypro, CPVC, PVC	AL29-4C Polypro	AL29-4C Polypro	AL29-4C Polypro	AL29-4C Polypro	AL29-4C Polypro	AL29-4C Polypro
Type of Gas	Natural Gas, Propane	Natural Gas, Propane	Natural Gas, Propane, Dual Fuel	Natural Gas, Propane, Dual Fuel	Natural Gas, Propane, Dual Fuel	Natural Gas, Propane, Dual Fuel	Natural Gas, Dual Fuel	Natural Gas, Dual Fuel
NOx Emissions <9ppm Capability*	✓	✓	✓	✓	N/A (<20 ppm)	N/A (<20ppm)	✓	✓
Temperature Control Range	50°F to 190°F							
Ambient Temperature Range	0°F to 130°F							
Standard Listings & Approvals	UL, CUL, CSD-1, ASME							
Gas Train Operations	FM Compliant or Factory Installed DBB (IRI)							
Weight (dry) lbs.	669	700	1406	1500	2,000	2,170	3,000	3,000
Weight (wet) lbs.	802	817	1654	1760	2,332	2,580	3,920	3,920
Shipping Weight lbs.	862	900	1606	1700	2,200	2,370	3,800	3,800

**See separate BMK5000/6000 technical data sheet for additional BMK6000 details. [1] Values are for natural gas FM compliant gas trains only. See Benchmark Gas Components & Supply Design Guide GF-2030 for propane, DBB & dual fuel gas train minimum gas pressure requirements. [2] See Benchmark Electrical Power Guide GF-2060 for Service Disconnect Switch amperage requirements.

Dimensions



BMK750-1000



BMK Platinum Models	(Width) A	(Depth) B	(Height) C	D	E	F	G	H	I	J	K	L	M
750	28″	24.5″	78″	34″	10.2″	9.6″	53″	21″	17.1″	4.5′	5.1″	51.5″	24.6″
1000	28″	25″	78″	34″	10.2″	9.6″	53″	21″	17.1″	4.5″	5.1″	51.5″	24.6″
1500	28″	43.6″	78″	58.4″	6.6″	11.5″	57.8″	18″	42″	8.9″	4.4″	19.1″	26.5″
2000	28″	43.6″	78″	58.4″	7″	11.5″	57.8″	18″	42″	8.9″	4.4″	19.1″	26.5″
2500	28″	56″	78″	68.4″	5.6″	11.5″	57.8″	18″	22″	6.4″	4.4‴	27.1″	26.5″
3000	28″	56″	78″	68.4″	5.6″	11.5″	57.8″	18″	22″	6.4″	4.4‴	27.1‴	26.5″
5000**	34″	89.3″	79.8″	108.3″	6.2″	42.1″	N/A**	15.6″	N/A**	10″	27.8″	29.7″	N/A**
BMK 6000**	34″	89.3″	79.8″	108.3″	6.2″	42.1″	N/A**	15.6″	N/A**	10″	27.8″	29.7″	N/A**

**See separate BMK5000/6000 technical data sheet for additional BMK5000/6000 dimension details

Represented by:

Specifications subject to change without prior notice.
Consult aerco.com or contact AERCO.
Benchmark® Platinum Series 3/2017

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