

# BWM GAS-FIRED MODULATING WATER BOILER

## PRODUCT DATA

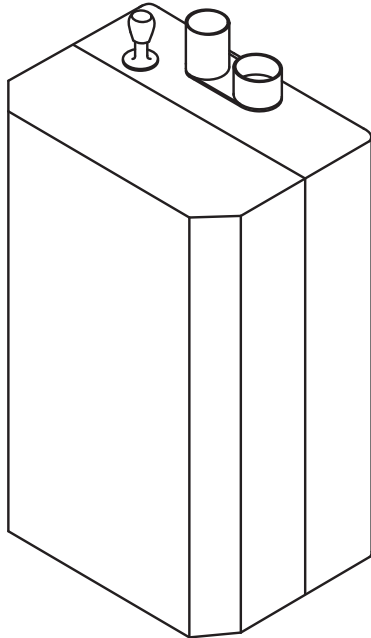
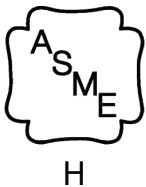


Fig. 1 – Fig. 1 - Model BWM

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The BWM is a gas fired, direct vent, condensing, hot water boiler with a stainless steel heat exchanger. A revolutionary stainless steel heat exchanger means better heat transfer and thermal storage than a similarly sized cast iron boiler, which results in higher efficiency. The heating system water absorbs large amounts of heat from the stainless steel heat exchanger, cooling the flue gases and causing condensation. Sealed combustion, premix gas burner, and low flame temperature means drastically reduced CO and NOx emissions, which contribute to a cleaner and healthier environment.

The BWM modulating boiler may be vented as a direct vent (2-pipe) or non-direct vent (1-pipe) boiler. Direct vent is also known as “sealed combustion”. A non-direct vent boiler is similar to an induced draft boiler that uses indoor air for combustion.

When installed as a direct vent boiler, the combustion air is taken directly from the outdoors and does not compete with building occupants for fresh air like a non-direct vent boiler. Direct vent (sealed combustion) is the safest and best way to obtain plenty of clean combustion air.

In both direct and non-direct vent installations, the induced draft fan draws in the combustion air, then takes the cooler flue gases from the heat exchanger and provides a positive removal of the flue gases from the building through inexpensive and readily available PVC and CPVC pipes.

## FEATURES

### *Modulation*

Gas valve has 5:1 turn-down ratio.

### *AFUE*

All sizes achieve AFUE of 95.0 % and are Energy Star® rated.

### *Installation*

Built-in primary/secondary piping. Wall mounting kit included.

### *Controls*

Integrated boiler control uses a text display and comes with the following factory installed features: a probe-type low water cut-off, outdoor temperature reset, and integrated multiple boiler control capability for up to 16 boilers.

### *Completely Packaged*

Each boiler is completely assembled, including all controls (except room thermostat and circulator pump). All necessary wiring is factory installed. The boiler is ready for gas piping, room thermostat, and electrical power connections as shipped.

### *Venting*

This boiler is design-certified as a direct-vent (2-pipe) or non-direct vent (1-pipe) boiler using PVC pipe. See the Installation Instructions for common venting requirements.

### *Stainless Steel Heat Exchanger*

The heat exchanger speeds heat transfer to the boiler water. With faster thermal response, greater comfort and economy are achieved.

### *Range of Capacities*

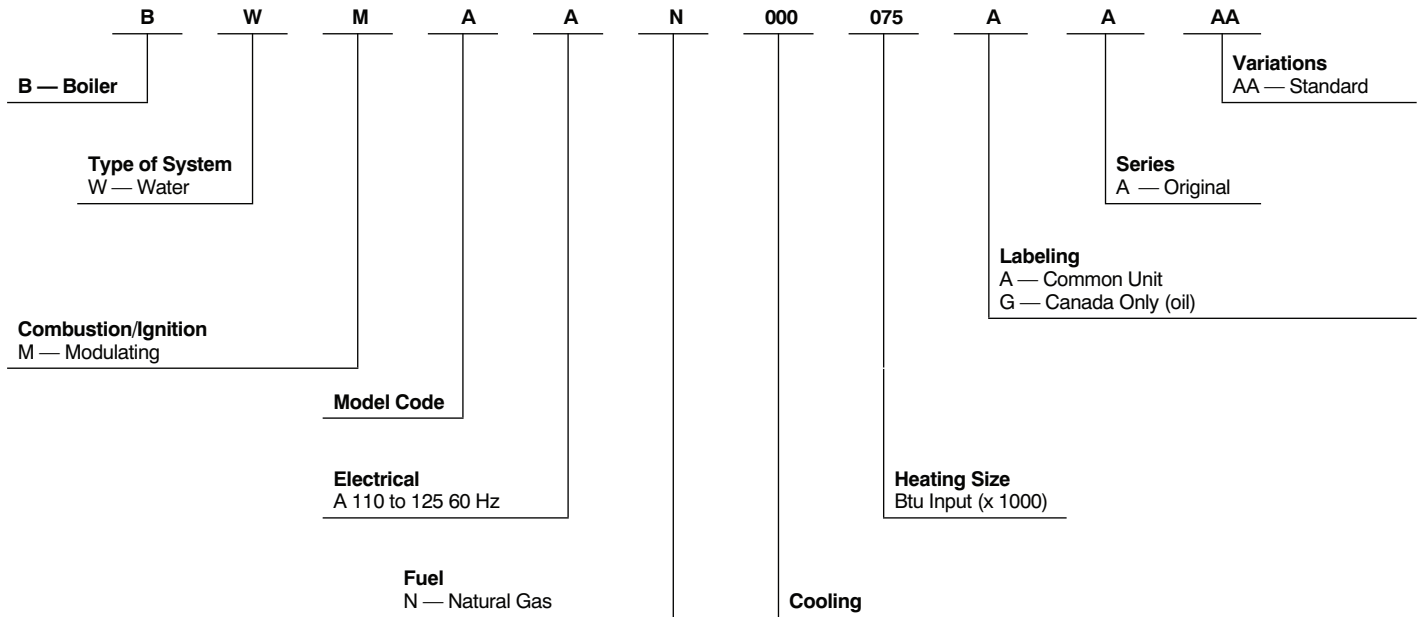
Five sizes ranging from 50,000 through 200,000 Btu/h input.

### *Heat Exchanger Tested*

Each heat exchanger is hydrostatically tested to 225 psig. The maximum allowable pressure is 150 psig for hot water boilers.

### *Propane Convertible*

With factory approved conversion kit accessory (supplied with boiler).

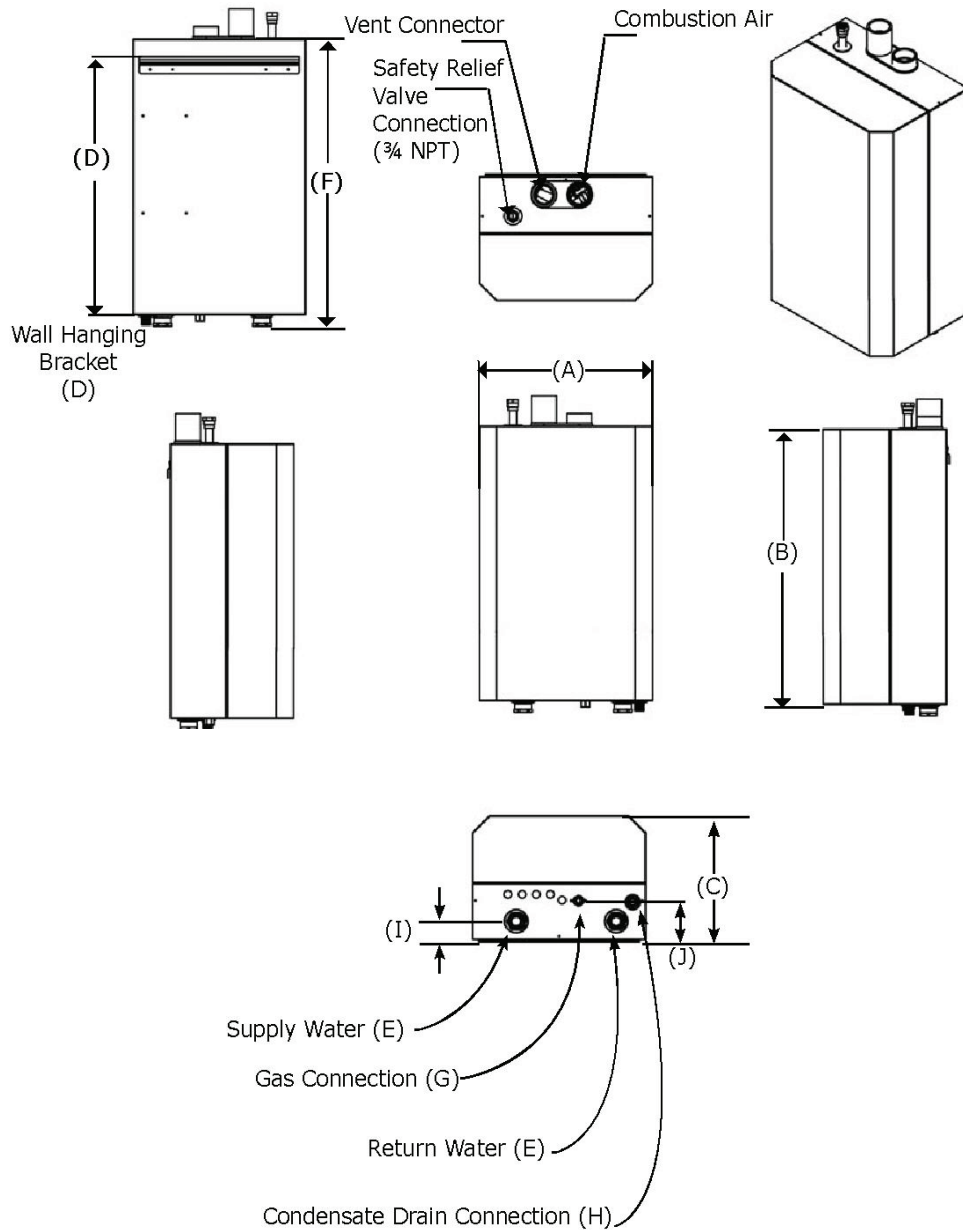


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Fig. 2 – Fig. 2 - MODEL NUMBER NOMENCLATURE

Table 1 – BOILER ACCESSORIES

DESCRIPTION	PART NUMBER
Filltrol Package (Up to 75,000 BTUH)	KBAFP0101DNK
Filltrol Package (Up to 200,000 BTUH)	KBAFP0201DNK
High Limit Control L6006C1034	KBAHL0101DNK
Multi-boiler sensor kit	KBAMB0101DNK
Concentric Vent Kit 2 inch	KGAVT0701CVT
Concentric Vent Kit 3 inch	KGAVT0801CVT
BWM050 Nat to LP conversion kit	KBANP2501DNK
BWM075 Nat to LP conversion kit	KBANP2601DNK
BWM100 Nat to LP conversion kit	KBANP2701DNK
BWM150 Nat to LP conversion kit	KBANP2801DNK
BWM200 Nat to LP conversion kit	KBANP2901DNK



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Fig. 3 – Fig. 3 - DIMENSIONS

Table 2 – Physical Data

UNIT SIZES		050/075/100	150/200
WIDTH (A)		20" (508 mm)	23" (584 mm)
HEIGHT (B)		32" (813 mm))	43" (1092 mm)
DEPTH (C)		14¾" (375 mm)	16" (406 mm)
BRACKET (D)		28" (711 mm)	40" (1016 mm)
WATER CONNECTIONS	LOCATION (I)	2" (51 mm)	2" (51 mm)
	SIZE (E)	1-1/4"	1-1/4"
GAS CONNECTION	LOCATION (J)	4-1/2" (114 mm)	4-1/2" (114 mm)
	SIZE (G)	1/2"	3/4"
CONDENSATE DRAIN CONNECTION (H)		3/4"	3/4"
WEIGHT	SHIPPING	111 (50 kg)	182 (83 kg)
	UNIT	91 (41 kg))	157 (71 kg)
VENT CONNECTOR		2" (51 mm)	3" (76 mm)

Table 3 – CLEARANCES

UNIT SIZE	COMBUSTIBLE IN. (MM)	SERVICING IN. (MM)
TOP	0 (0)	14 (356)
LEFT SIDE	0 (0)	0 (0)
RIGHT SIDE	0 (0)	0 (0)
BOTTOM	0 (0)	12 (305)
FRONT	0 (0)	6 (152)
BACK	0 (0)	0 (0)
INTAKE/VENT PIPING	0 (0)	6 (152)
REAR BOILER HOT WATER PIPING	1/2-in. (12 mm)	6 (152)

Table 4 – SPECIFICATIONS

UNIT SIZES	050/075100	150/200
<b>GAS CONTROLS</b>		
Gas Valve	Honeywell	Honeywell
Inlet Size	1/2 in.	3/4 in.
Ignition	Direct spark ignition	Direct spark ignition
Burner-Stainless/Alloy	1	1
Burner Orifice (No orifice used)	None	None
<b>CONTROLS</b>		
Limit Control Range _F (_C)	60-195 (16-91)	60-195 (16-91)
Pressure Relief Valve Setting (Psig)	30	30
Integrated Boiler Control	Argus Factory Installed	Argus Factory Installed
<b>ON BOARD CIRCULATOR</b>		
Grundfos Model	UP15-42F	UP26-99F
Flange Size FPT	3/4-in.	3/4-in.
Horsepower	1/25 HP	1/6 HP
Max Pressure	145 PSI	145 PSI

Table 5 – ELECTRICAL DATA

ALL MODELS	
Voltage—Hertz—Phase	120 — 60 — 1
Minimum Branch Circuit Wire Size (AWG)	14
Maximum Fuse Size (Amps)	15
Control Circuit Power Available	40va—@ 24v

Table 6 – RATINGS AND CAPACITIES\*

UNIT	GAS TYPE	MAX INPUT (BTUH)	HEATING CAPACITY (BTUH)	AFUE %	NET RATING BTUH	BOILER WATER CAPACITY (GALLONS)	APPROXIMATE SHIP WEIGHT (LB)
BWMAAN00050AAAA	Natural	50,000	46,000	95 %	40,000	1.1	131
BWMAAN00075AAAA	Natural	75,000	69,000	95 %	60,000	1.1	128
BWMAAN00100AAAA	Natural	100,000	91,000	95 %	79,000	1.1	131
BWMAAN00150AAAA	Natural	150,000	139,000	95 %	121,000	1.8	203
BWMAAN00200AAAA	Natural	200,000	185,000	95 %	161,000	1.8	207

\*Gas input ratings are for elevations up to 2000 ft. (610 M).