Form No. 7600-3
(Rev. 9/97)

Bryan “Flexible Water Tube”

AB Series Water Boilers

900,000 to 2,500,000 BTUH
Forced draft gas, oil or dual fuel fired

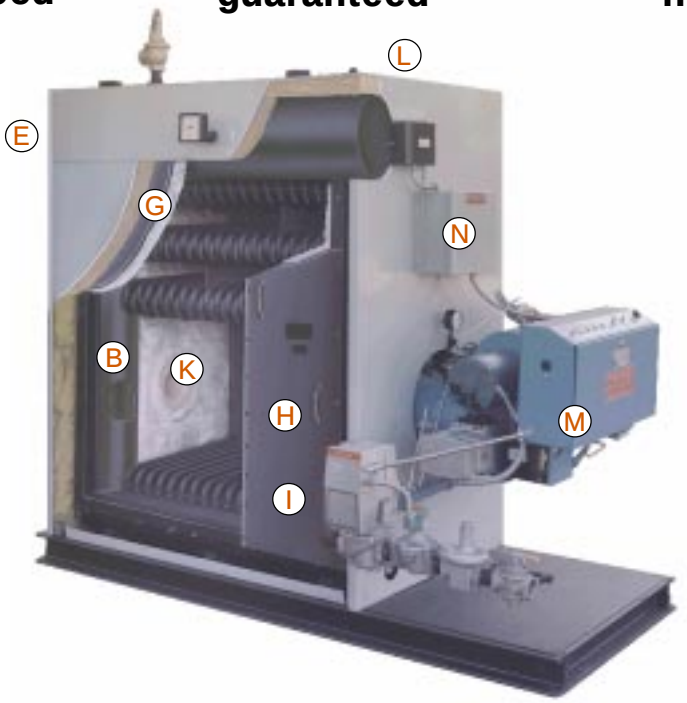
BRYAN BOILERS

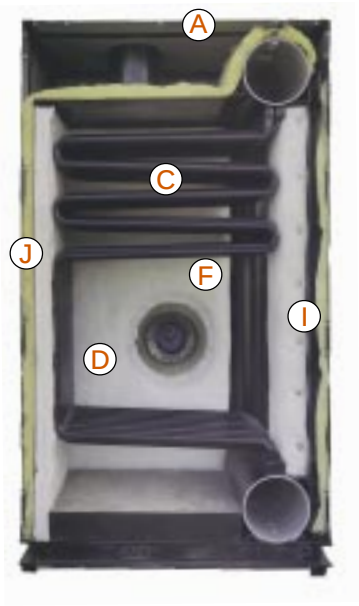
Originators of the “Flexible Water Tube” design

Performance efficiency breakthrough for commercial/industrial applications

High efficiency hot water heat guaranteed Featuring Bryan's "flexible water tube" design

- **True bent water tube design guaranteed shock free**
- **83.5% efficiency guaranteed**
- **Full 5 sq ft per BHP heating surface area**





Quality Construction Features

A Heavy steel boiler frame, built and stamped in accordance with the appropriate ASME Boiler Code.

B Large volume water leg downcomers promote rapid internal circulation and temperature equalization.

C Bryan bent water tubes are flexible, individually replaceable without welding or rolling.

D Water cooled furnace with low heat release.

E Water side interior accessible for cleanout and inspection, front and rear openings, upper and lower drum.

F Pressurized design: Inner fireside casing constructed of heavy gauge steel, completely seal welded, lined with high temperature insulation and refractory.

G Boiler tube and furnace area access panels; Heavy gauge steel lined with high temperature insulation and refractory, bolted and tightly sealed to boiler frame.

H Access panel: Front panels provide easy access for inspection, cleaning and access to burner head.

I Single side access: Combustion chamber, tubes and burner head are completely accessible from one side, simplifying maintenance, minimizing floor space.

J Heavy gauge steel boiler jacket with rust resistant zinc coating and enamel finish. Insulated with fiberglass to ensure exceptionally cool outer surface.

K Rear flame observation port.

L Minimum sized flue vent.

M Forced draft, flame retention head type burner. Efficient combustion of oil or gas, quiet operation.

N Control panel: All controls installed and connected to terminal strip (optional).

Bryan AB Series Boiler Specifications

BOILER MODEL NUMBER	INPUT MBH (kW)	NOMINAL OUTPUT MBH (kW)*	NOMINAL BOILER HORSEPOWER	HEATING SURFACE SQ. FT. (m^2)	APPROXIMATE SHIPPING WT. LBS (KG)
AB90-W	900 (263.7)	720 (211.0)	21	113 (10.5)	2000 (907)
AB120-W	1200 (351.6)	960 (281.3)	29	148 (13.8)	2250 (1020)
AB150-W	1500 (439.5)	1200 (351.6)	36	184 (17.1)	2550 (1157)
AB200-W	2000 (586.0)	1600 (468.8)	48	244 (22.6)	3050 (1383)
AB250-W	2500 (732.5)	2000 (586.0)	60	303 (28.2)	3500 (1588)

* NOTE: Nominal output based on boiler industry standard of 80% of input. Actual combustion efficiencies will be higher and fuel dependent.

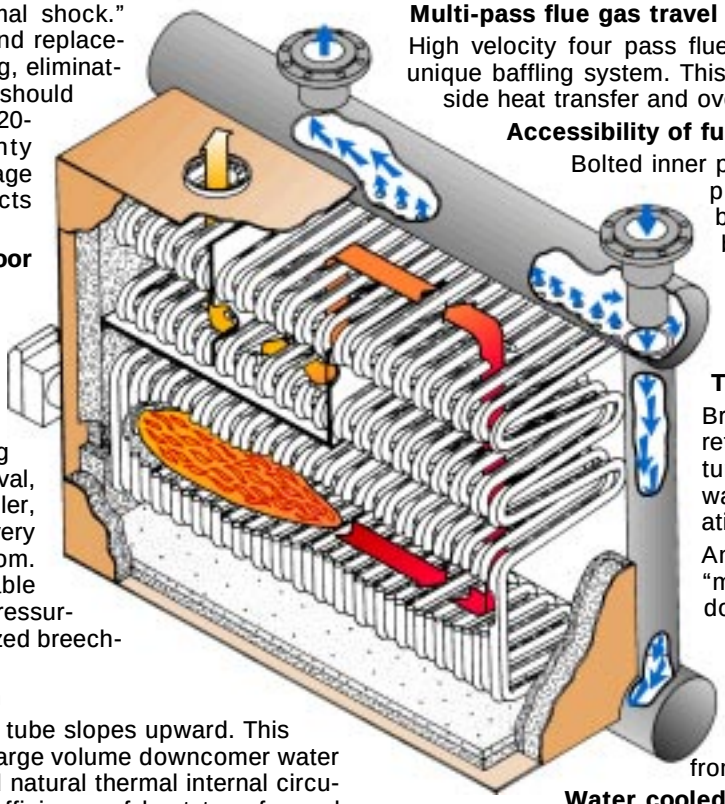
These unique features are available
only on Bryan AB Series water boilers

The Bryan Flexible Tube

Bryan's exclusive "flexible tube" design eliminates the possibility of damage from "thermal shock." Tubes are easily removable and replaceable, without welding or rolling, eliminating long, expensive downtime should repairs ever be required. A 20-year non prorated warranty against pressure vessel damage due to thermal shock protects every Bryan water boiler.

Compact design, minimum floor space

With our compact water tube design, the overall size of the unit is less than most other types of boilers, yet maintains a full five sq ft per HP heating surface area. Needing only 24 inches for tube removal, and only on one side of the boiler, the AB Series boiler occupies very small space in the boiler room. This can result in considerable savings in building costs. Pressurized firing permits minimum sized breeching and vent.



Positive internal circulation

Each pass of the Bryan water tube slopes upward. This configuration, along with the large volume downcomer water legs, provides extremely rapid natural thermal internal circulation, promoting both high efficiency of heat transfer and uniform temperature throughout the boiler. Eliminating stress damage caused by unequal temperature distribution is especially important for hot water heating systems, particularly where intermittent or continuous low temperature water returns may be encountered.

Multi-pass flue gas travel

High velocity four pass flue gas travel is obtained by a unique baffling system. This contributes to maximum fire side heat transfer and overall high boiler efficiencies.

Accessibility of furnace and tube area

Bolted inner panel provides easy and complete access to furnace and boiler tube area, as well as to burner head. Tube side panels are all removable and heavily insulated and sealed to boiler frame. All access is from only one side.

Thermal blend water return

Bryan's unique "thermal blend" return blends cold or cooler return water with warmer boiler water, bringing it to design operating temperatures.

An injector tube directs the "mixed" water flow through the downcomer to the lower header and heating surfaces at a temperature above possible condensing conditions. This reduces the possibility of "cold spots" and damage from corrosive condensation.

Water cooled furnace

The configuration of the water tubes provides a water cooled combustion chamber. A high percentage of the heating surface is exposed to direct radiant heat, increasing water velocities and heat transfer.

Bryan AB Series Boilers Standard and Optional Equipment

STANDARD EQUIPMENT FURNISHED

Gas fired, forced draft
Combination thermometer and altitude gauge, ASME Code rated boiler relief valve, water temperature control (240°F Max. Std.), high limit control, probe LWCO, electronic combustion safety control, automatic operating gas valve, safety gas valve, pilot solenoid valve, pilot ignition assembly, main manual gas shut-off valve, pilot cock, pilot and main gas pressure regulators, air safety switch, electrical box, all controls installed and wired.

Oil fired, forced draft
Combination thermometer and altitude gauge, ASME Code rated boiler relief valve, water temperature control (240°F Max. Std.), high limit control, probe LWCO, electronic combustion safety control, oil valve, oil ignition transformer, two-stage fuel unit, gas pilot, oil nozzle assembly, electrical box, all controls installed and wired.

Combination gas-oil forced draft
Combination thermometer and altitude gauge, ASME Code rated boiler relief valve, water temperature control (240°F Max. Std.), high limit control, probe LWCO, automatic motorized gas valve, safety gas valve, pilot solenoid valve, pilot ignition assembly, main manual gas shut-off valve, pilot cock, pilot and main gas pressure regulators, air safety switch, manual fuel selector switch, electronic combustion safety control, oil valve, oil ignition transformer, two-state fuel unit, oil ignition and nozzle assembly, electrical box, all controls installed and wired.

OPTIONAL EQUIPMENT, EXTRA COST

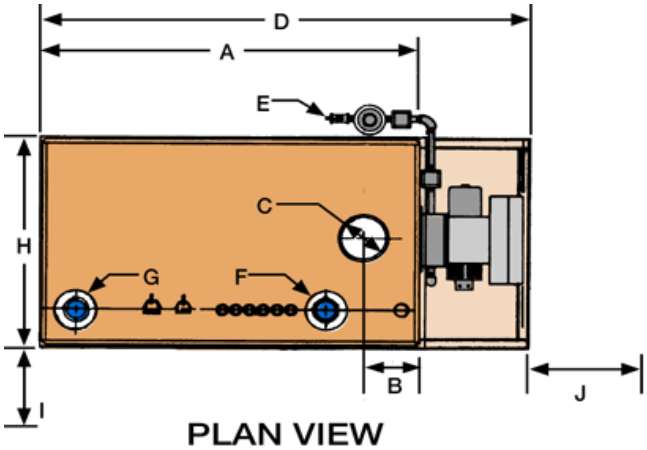
[1] Manual reset high limit control, installed
[2] Manual reset low water cutoff
[3] Auxiliary low water cutoff
[4] Combination low water cutoff and feeder
[5] Alarm bells or horns
[6] FM, IRI, CSD-1 or other insurance approved control systems
[7] Indicating lights, as desired
[8] Control panel mounted on boiler
[9] Lead-lag systems for two or more boilers with or without outdoor reset control
[10] Draft control system

Optional construction, high temperature hot water
Optional construction to ASME Power Boiler Code requirements for temperatures exceeding 250°F and/or pressure exceeding 150 psi to maximum of 350°F and 300 psi, high temperature gauge and operating controls included.

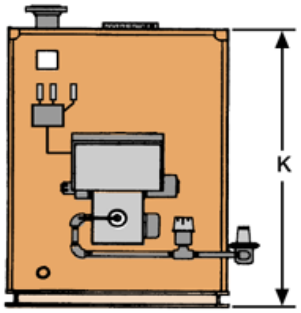
When ordering, please specify:

[1] Boiler size
[2] Supply and return temperatures required
[3] Boiler relief valve setting
[4] Type of fuel: natural, LP or other gas and/or No. 2 oil
[5] If gas, type, BTU content, specific gravity and pressure available
[6] Electric power voltage, phase and frequency
[7] Optional extra equipment or construction
[8] Special approvals required (FM, IRI or other)

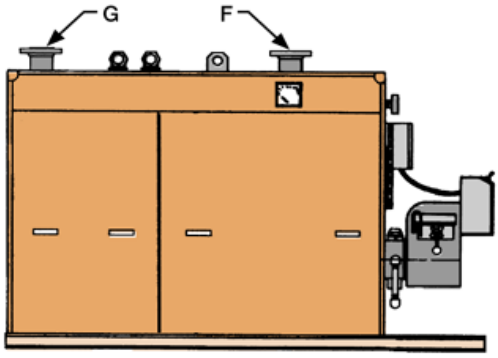
Bryan AB Series Hot Water Heating Boilers



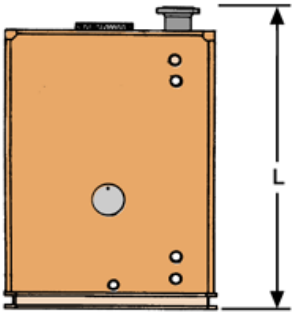
PLAN VIEW



FRONT VIEW



LEFT SIDE VIEW



REAR VIEW

DIMENSIONS in inches (cm)												
	A	B	C	D	E	F	G	H	I	J	K	L
Boiler Model Number	Length of Jacket	Flue Location	Flue Size	Overall Length	Gas Train Connection	Supply Connection	Return Connection	Width Outside Jacket	Min. Tube Removal Clearance	Clearance for Servicing Burner	Height Over Jacket	Floor to Flow Nozzle
AB90-W	44 15/16 (114.1)	12 (30.5)	10 (25.4)	76 (193.0)	1 1/4 (3.2)	3-F (7.6)	3-F (7.6)	34 3/4 (88.3)	24 (60.9)	36 (91.4)	69 1/2 (176.5)	74 7/8 (190.2)
AB120-W	54 3/16 (137.6)	12 (30.5)	10 (25.4)	85 3/8 (216.8)	1 1/4 (3.2)	3-F (7.6)	3-F (7.6)	34 3/4 (88.3)	24 (60.9)	36 (91.4)	69 1/2 (176.5)	74 7/8 (190.2)
AB150-W	63 1/2 (161.3)	12 (30.5)	10 (25.4)	94 3/4 (260.7)	1 1/2 (3.8)	3-F (7.6)	3-F (7.6)	34 3/4 (88.3)	24 (60.9)	36 (91.4)	69 1/2 (176.5)	74 7/8 (190.2)
AB200-W	78 15/16 (200.5)	16 1/2 (41.9)	10 (25.4)	110 (279.4)	2 (5.1)	3-F (7.6)	3-F (7.6)	34 3/4 (88.3)	24 (60.9)	36 (91.4)	69 1/2 (176.5)	74 7/8 (190.2)
AB250-W	94 7/16 (239.9)	15 (38.1)	12 (30.5)	125 1/2 (318.8)	2 (5.1)	3-F (7.6)	3-F (7.6)	34 3/4 (88.3)	24 (60.9)	36 (91.4)	69 1/2 (176.5)	74 7/8 (190.2)

Specifications subject to change without notice. Consult factory to consult on other boiler options.

BRYAN BOILERS

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