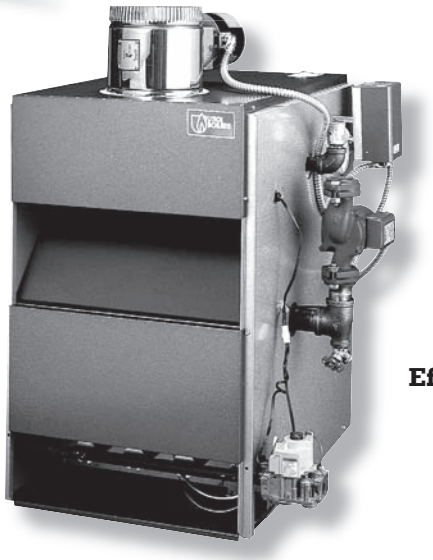
MGB Series
Cast Iron Gas-Fired
Water Boiler

P/N# 240005816, Rev. 1.0 [10/05]

SPECIFICATIONS AND PERFORMANCE



84.1%
AFUE
Efficiency

Available Heating Inputs of:

50 Btuh through 300 Btuh

Application – MGB boilers are available in nine sizes with inputs of 50 to 300 Btuh and AFUE of 84.1% (Venting Category I). The MGB Series boiler features an advanced heat exchanger design that utilizes atmospheric burners allowing it to be vented vertically through a chimney. The heat exchanger design combined with quality components such as a flue damper and the optional electronic ignition helps achieve its high fuel efficiencies. An integral draft diverter allows installation of the MGB in areas with only 4 feet of ceiling height. All units are completely factory assembled wired and tested to ensure dependable performance. The MGB's compact size and easy installation making it an ideal choice for new or existing homes.

Benefits:
- High efficiency, performance and low operating cost
- Easy installation in a thight space

Approvals – The cast iron boiler assembly is manufactured and tested in accordance with American Society of Mechanical Engineers (ASME) standards, and certified by Canadian Standards Association (CSA) in the US and Canada. The Annual Fuel Utilization Efficiencies (AFUE) and heating capacity are based on US DOE test procedures and FTC labeling regulations. AFUE and I=B=R ratings are certified in accordance with standards set by The Hydronics Institute Division of the Gas Appliance Manufacturers Association (GAMA). The Material and Equipment Acceptance number for the City of New York, is Mea 19-79 Vol. II.

Warranty – Utica Boilers backs its residential, cast iron heat exchanger with a Limited Lifetime Warranty. This Warranty is meant to protect your investment, but is also offered to illustrate our commitment to customer satisfaction.

FEATURES AND BENEFITS

Cast Iron Boiler Assembly – Boiler sections and push nipples are constructed of long life cast iron. When the boiler is heated, sections and push nipples expand and contract in the same proportion because they are constructed of like material, providing a positive watertight seal.

Benefit: Cast iron provides efficient heat transfer, reliability and strength, the cast iron push nipples insure a watertight seal.

Cabinet – Constructed of heavy gauge steel with a baked-on enamel finish, the cabinet is insulated, keeping cabinet surface temperatures low. The pilot assembly is located on the orifice side of the burner, out of the main combustion area making it easily accessible for maintenance and servicing. An integrated flue collector and draft hood allows for easier installation

Benefit: Pilot assembly is easily accessible for cleaning and servicing.

Electronic Aquastat Control – Combine high limit protection with switching the relay control of the burner and circulator motor with a sensor remote mounted in an immersion well.

Electronic Ignition *(optional)* **–** Solid-state electronic spark igniter provides positive ignition of pilot burner on each operating cycle. Pilot gas is ignited and burns during each running cycle of the boiler. Main burners and pilot gas are extinguished during the off cycle. Ignition system permits main gas valve to open only when the pilot burner is proven to be lit. Pilot operation is fully automatic on demand for heat. Should a loss of flame occur, the main valve closes, shutting down the unit.

Benefit: Pilot is lit automatically and stays lit only when needed, eliminating fuel waste.

FEATURES AND BENEFITS *Continued*

Standing Pilot Ignition – Permanently lit standing pilot with thermocouple provides dependable and safe burner ignition.

Automatic Gas Control – Silent operating control provides 100% safety shut off. A 24 Volt redundant combination gas control valve combines automatic safety pilot, manual shut off (On-Off), pilot filtration, automatic electric valve (dual) and gas pressure regulation into a compact combination control. Dual valve design provides double assurance of 100% shut off of gas to the pilot and main burners on each off cycle.

Stainless Steel Burners – Corrosion resistant atmospheric stainless burners are incorporated into each boiler delivering uniform flame patterns that optimize combustion efficiency and quiet operation.

Benefit: Stainless Steel burners resist corrosion and provide uniform flame patterns for optimum efficiency.

Flame Rollout Safety Shutoff – A temperature sensitive snap-disc device is furnished as standard and factory installed on the boiler base just outside of the burner assembly. This device prevents unit operation in the event that the passage of combustion products through the flueway is blocked.

Circulating Pump – The maintenance free water lubricated pump is shipped in a box with a 5' wire harness attached. Shipping the pump un-mounted allows for the pump to be installed on the supply or return. (Available without circulating pump upon request when ordering.)

Relief Valve – Furnished as standard for field installation on top of the boiler. Valve provides for pressure relief of heating system in case of abnormal operating conditions. Valve opens at 30 psig (210 kPa) and is ASME stamped.

HIGH ALTITUDE DE-RATE

CSA Certified Units must be de-rated when installed at an elevation of more than 2,000 feet (610 m) above sea level. If the unit is installed at an altitude higher than 2,000 feet (610 m), the unit must be de-rated 4% for every 1,000 feet (305 m) above sea level ***(USA)*** or 10% for elevations between 2,000 feet and 4,500 feet (610 m and 1,370 m) above sea level ***(Canada)***.

RATINGS AND DATA FOR NATURAL GAS AND PROPANE GAS

Boiler No.	1) A.G.A. Input Btu/Hr.	1) Heating Capacity Btu/Hr.	1) 2) I=B=R NetOutput Btu/Hr	3) Net Rating Sq. Ft. HW @ 170°	No. of Burners	4) Recommended Air Cushion Tank	Natural Gas Orifice Drill Size	Propane Orifice Drill Size	Water Content (Gals.)
MGB 50	50,000	42,000	37,000	243	1	15	30	47	2.4
MGB 75	75,000	63,000	55,000	365	2	15	33	50	4.0
MGB 100	100,000	83,000	72,000	481	2	30	30	47	4.0
MGB 125	125,000	104,000	90,000	603	3	30	31	49	5.6
MGB 150	150,000	124,000	108,000	719	3	30	30	47	5.6
MGB 175	175,000	143,000	124,000	829	4	30	31	49	7.2
MGB 200	200,000	165,000	143,000	957	4	30	30	47	7.2
MGB 250	250,000	205,000	178,000	1189	5	30	30	47	8.8
MGB 300	299,999	243,000	214,000	1368	6	60	30	47	10.4

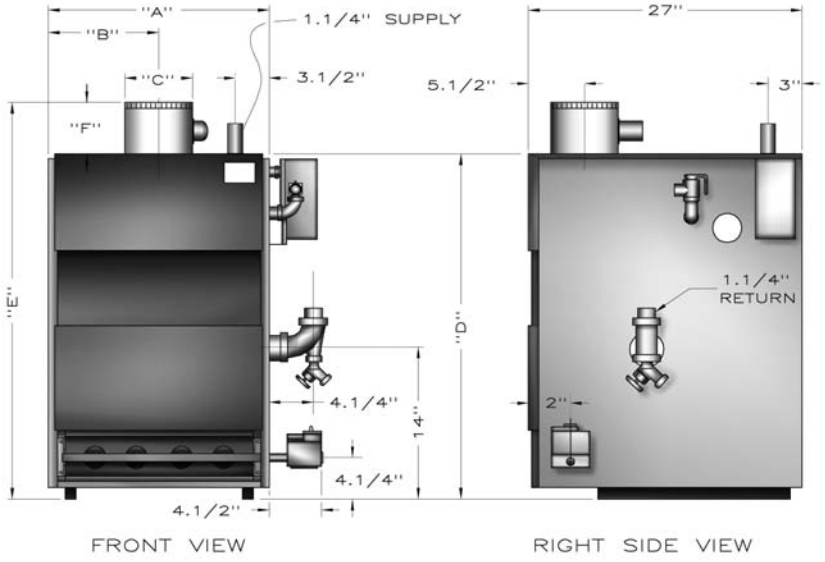
1) For elevations above 2000 feet, ratings should be reduced at a rate of 4% for each 1000 feet above sea level.
2) For equivalent square feet of radiation, divide I=B=R output by 150.
3) Base on 170° temperature in radiators.
4)Tank sized for non-ferrous baseboard or radiant panel systems. Increase size for cast iron baseboard and radiation.

EXPLANATORY NOTES

- All boilers are design certified for installation on noncombustible floor.
- For installation on combustible floors use combustible floor kit.
- Recommended chimney height 20 feet. In special cases where conditions permit, chimney height may be reduced to 10 feet. Refer to the latest revision of NFGC part 11.
- Electric service to be 120 Volts, 15 Amps, 60 Hz.
- The MEA number for the MGB series boiler is 19-79 Vol. II
- Net I=B=R ratings include 15% allowance for normal piping and pick-up load. Manufacturer should be consulted on installations having otherthan normal piping and pick-up requirements.

BOILER RATINGS & CAPACITIES

MGB SERIES STANDARD EQUIPMENT		OPTIONAL EQUIPMENT
Assembled boiler, wired and tested	Spill switch	**Electronic low water cut-off now available to meet the latest codes requirements**
Cast iron section and push nipples	Rollout switch	
Combination aquastat relay	Automatic vent damper	Intermittent electric ignition system
Theraltimer gauge	Combination 24-Volt gas control includes: • Automatic gas valve • Gas pressure regulator • Automatic pilot • Safety shutoff • Pilot flow ajustment • Pilot filter	Combustible Floor Kits
Circulator (field mounted)		Conversion Kits: Natural gas to propane Propane to natural gas
Stainless steel burners		
A.S.M.E. relief valve		
Drain valve		High altitude conversion kits



Boiler No.	No. of Sections
MGB-50	2
MGB-75	3
MGB-100	3
MGB-125	4
MGB-150	4
MGB-175	5
MGB-200	5
MGB-250	6
MGB-300	7

MGB SERIES DIMENSIONS FOR NATURAL GAS AND PROPANE GAS

Boiler No.	A.G.A. Input Btu/hr	Heating Capacity Btu/hr	I=B=R* Net Output Btu/hr	Natural** Gas Inlet	Dimensions						Supply & Return Tappings	No. Of Burners	Annual Fuel Utilization Efficiency (AFUE)	
					A	B	C Flue Size	D	E	F			Elect. IGN. & Damper	Std. Pilot & Damper
MGB 50	50,000	42,000	37,000	½"	11⅛"	5½"	4"	30¾"	36¼"	6"	1¼"	1	84.1	80.0
MGB 75	75,000	63,000	55,000	½"	15"	7½"	5"	30¾"	37¾"	6"	1¼"	2	83.1	80.0
MGB 100	100,000	83,000	72,000	½"	15"	7½"	6"	30¾"	37¼"	6½"	1¼"	2	83.0	80.0
MGB 125	125,000	104,000	90,000	½"	18⅞"	9½"	6"	30¾"	37¼"	6½"	1¼"	3	82.0	80.0
MGB 150	150,000	124,000	108,000	½"	18⅞"	9½"	7"	30¾"	37¾"	7"	1¼"	3	83.0	80.0
MGB 175	175,000	143,000	124,000	½"	22¾"	11⅜"	7"	30¾"	38¾"	7"	1¼"	4	81.0	80.0
MGB 200	200,000	165,000	143,000	½"	22¾"	11⅜"	8"	30¾"	38¾"	8"	1¼"	4	81.9	80.0
MGB 250	250,000	205,000	178,000	¾"	26⅝"	13¼"	8"	32¾"	40¾"	8"	1¼"	5	80.5	80.0
MGB 300	299,999	243,000	214,000	¾"	30½"	15¼"	9"	32¾"	42¾"	10"	1¼"	6	80.5	80.0

** Propane gas inlet, all units, 1/2"*

*** For equivalent square feet of radiation, divided I=B=R output by 150.*

BOILER CLEARANCES		
Unit	**Minimum Clearance to Combustible**	**Vent Pipe Minimum Clearance**
Top	18”	18”
Rear	4”	
Right Side	9”	
Left Side	3”	
Front	6”, Alcove*	
Flue Connector	6”	

Alcove - boiler may be installed in an area inclosed on 3 sides with the front open (U shped).

Notes:

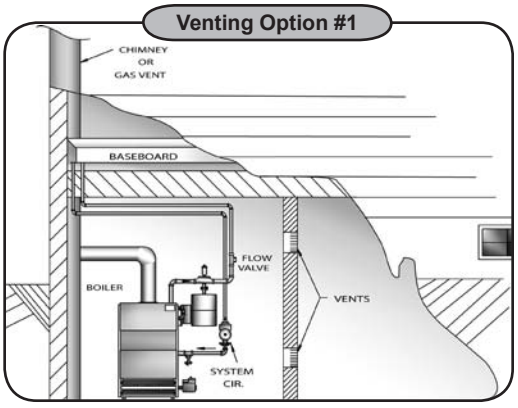
- *This unit must be set on a concrete or other noncombustible material base or floor.* ***IT MUST NOT BE INSTALLED ON CARPETING.***
- *Allow for greater clearance on access side for servicing.*

Ventilation of the boiler room must be adequate to provide sufficient air to properly support combustion per the latest revision of the National Fuel Gas Code, ANSI Z223.1 section 5.3.

When a boiler is located in an unconfined space in a building or conventional construction frame, masonry or metal building, infiltration normally is adequate to provide air for combustion and ventilation. However, if the equipment is located in a building of unusually tight construction (See the national Fuel Gas Code, ANSI Z223.1 section 1.7), the boiler area should be considered as a confined space.

Samples of venting options follow.

Venting Option #1

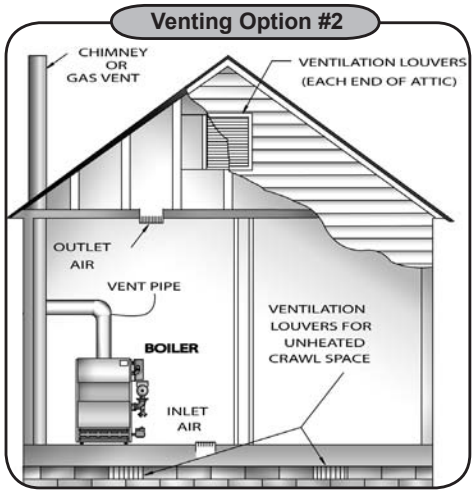


When the boiler is installed in a confined space and all air is provided from the outdoors the confined space shall be provided with one or two permanent openings (See MGB Installation manual for more detailed). When ducts are used, they shall be of the same cross sectional area as the free area of the area of the openings to which they connect. The minimum dimension of rectangular air ducts shall be not less than 3 x 3 inches or 9 square inches. ***Venting Option #1***

Venting Option #2

When directly communicating with the outdoors, each opening shall have a minimum free area of 1 square inch per 4,000 Btu per hour of total input rating of all equipment in the enclosure.

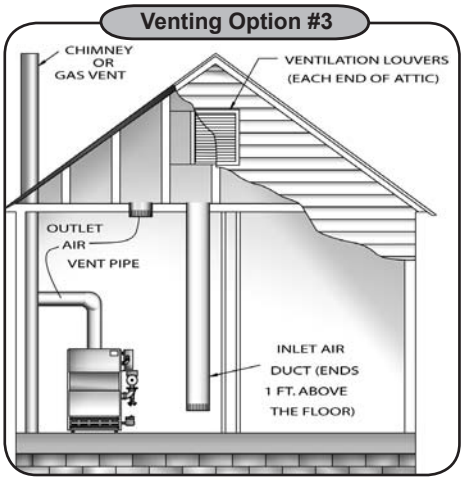
Venting Option #2



Venting Option #3

When communicating with the outdoors by means of vertical ducts, each opening shall have a minimum free area 1 square inch per 4,000 Btu per hour of total input rating of all appliances in the enclosed space.

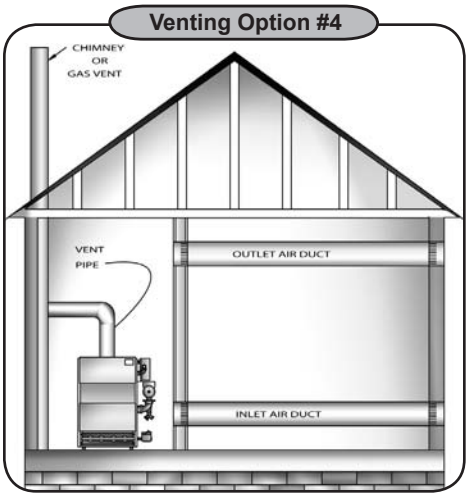
Venting Option #3



Venting Option #4

If horizontal ducts are used, each opening and duct shall have a minimum free area 1 square inch per 2,000 Btu per hour of total input rating of all appliances in the enclosed space.

Venting Option #4



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