

GB162-100 Condensing Gas Boiler

Engineering
Submittal
Sheet

Buderus

Boiler Overview



Engineering Specifications

There shall be provided and installed a quantity of ____ Buderus GB162/100 wall-hung condensing hot water boiler(s), suitable for induced draft firing with natural gas or propane. Boiler(s) shall have a minimum AHRI combustion efficiency rating of 96% at part load.

Boiler(s) shall utilize ALUplus heat exchanger with high quality condensing heating surface with plasma polymerization for a longer service life and lower maintenance.

Boiler(s) shall be constructed, tested and labeled in accordance with ASME Section IV and shall bear the ASME stamp. Boilers shall be CSA approved and have an applicable Canadian Registration number.

Heat exchanger shall be labeled for 58psig maximum working pressure rating. An integrated pressure sensor shall ensure minimum and maximum water pressures are not exceeded.

Boiler shall be capable of modulating firing from 100% to 20% of capacity continuously based upon (i) supply and return water temperatures, and/or (ii) outdoor reset computerized control. Gross stack temperatures at full firing rate shall not exceed 180°F.

Standard equipment shall include a pump group assembly; Grundfos UP26-99 circulator, integral flow check, supply and return shut-off valves,

pressure gauge, 30psig relief valve and gas supply shut-off valve. Hydraulic separator option is required for system piping connection.

Minimal clearances shall be integral to the boiler cabinet design; a hinged door with locking feature shall be used to access heat exchanger, burner components, gas valve and sensors.

Integrated controller shall monitor and control all combustion process functions, control of the boiler water temperature to a value required by the connected components and shall display current water temperatures or fault conditions with changes in operation status. Additional control functions shall include an on/off button, rotary temperature knobs, LED for burner operation and button for fault condition reset.

Independent outdoor temperature reset may be accomplished with the optional AM10 controller; a mounting enclosure shall be included with the provided resistance dependent sensor.

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Performance Data

	Unit	Value
Gas input	MBtu/h	333
Gross rated output	MBtu/h	302
IBR Rating	MBtu/h	263
Boiler horsepower	H.P	9.0
AHRI thermal efficiency	%	90.8

General Data

	Unit	Value
Boiler category	–	Condensing
Heat exchanger construction	–	Aluminum
Maximum allowable working pressure	PSIG	58
Water content	Gallons	1.30
Weight - shipping (approx.)	Lbs	189
Weight - operating (approx.)	Lbs	200
Standard relief valve size (inlet x outlet)	Inch	3/4 x 3/4
Standard relief valve pressure rating (other capacities available upon request)	PSI	30
Venting category	–	IV

Operational Data

	Unit	Value
Maximum supply water temperature	°F	180
Minimum return water temperature	°F	< 40° F Supply

Electrical Data

	Unit	Value
Electrical voltage mains	V AC	120
Power consumption max load (without pump group)	Watts	156
Power consumption partial load (without pump group)	Watts	29
Max. permissible fuse rating	Amps	15

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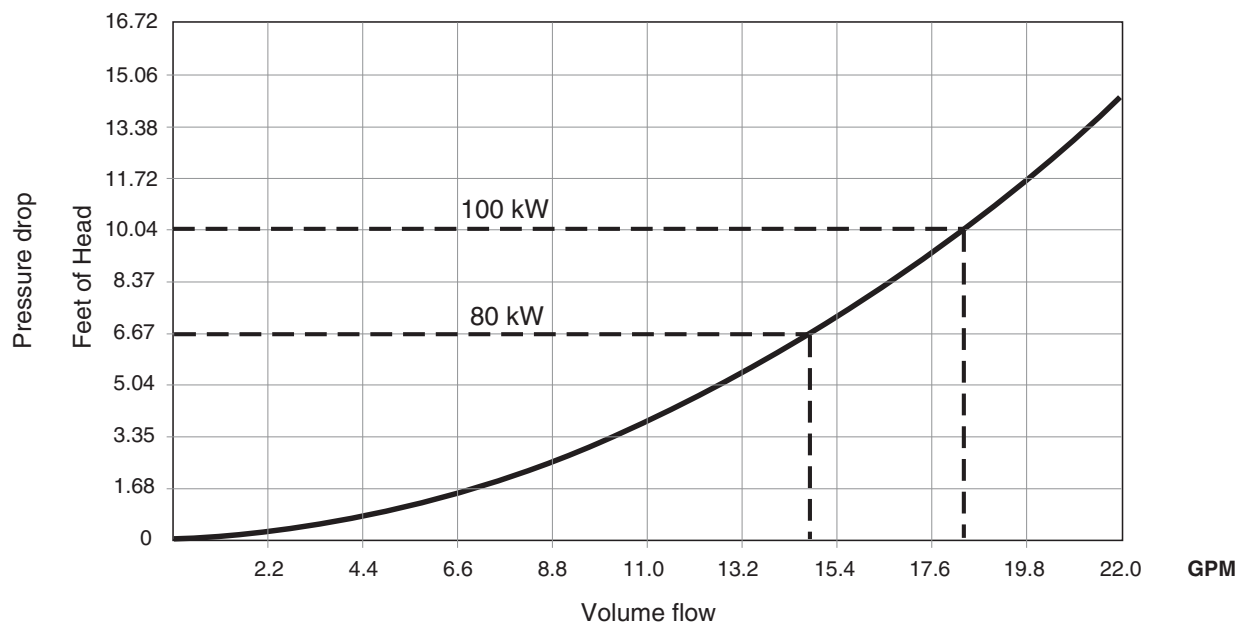
Burner Data

	Unit	Value
Allowable fuels	–	Natural gas, LP
Min Static Inlet Gas Pressure - NG	Inch W.C.	7.0
Max Static Inlet Gas Pressure - NG	Inch W.C.	10.5
Min Static Inlet Gas Pressure - LP	Inch W.C.	8.0
Max Static Inlet Gas Pressure - LP	Inch W.C.	13.0

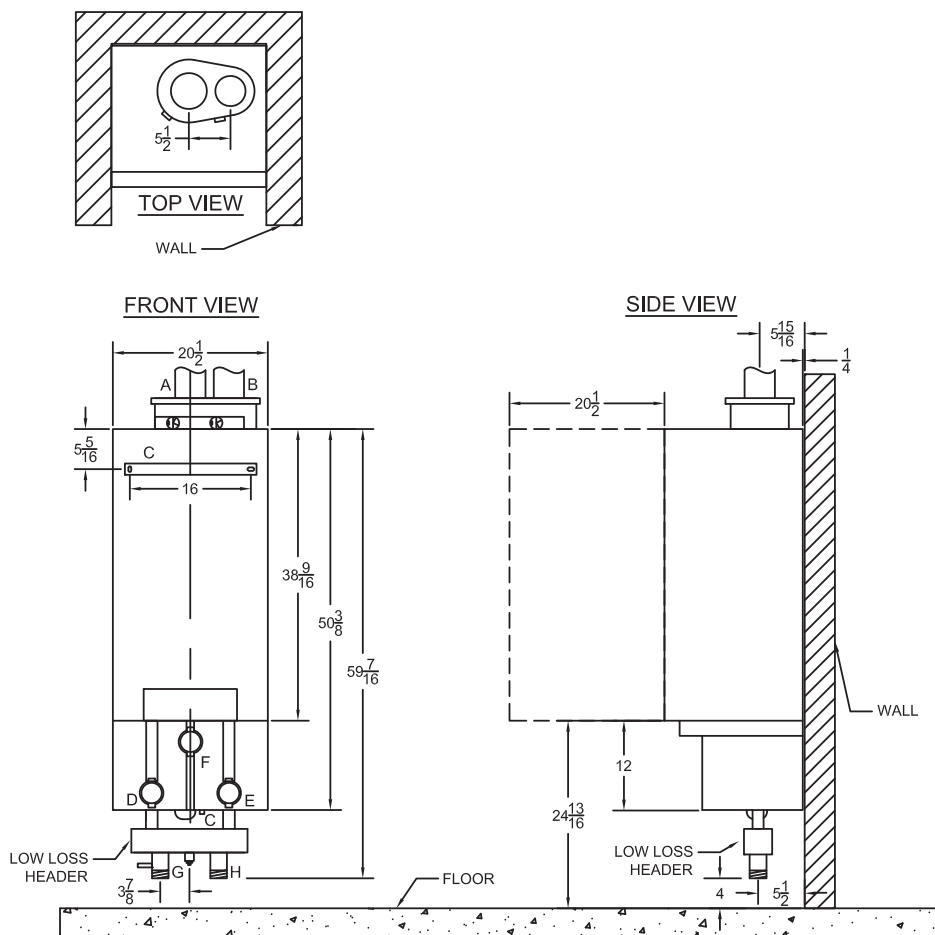
Approval Data

Approval description	Approval number
Massachusetts Approval #	G3-0809-45
CRN #	7990.7C

Boiler Pressure Drop Curve



Boiler Dimensions and Connections with pump group



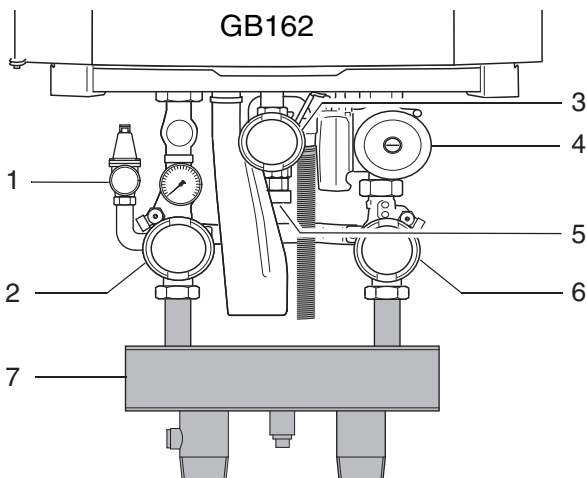
Boiler Dimensions / Connections Data

Item	Description	Unit	Value
A	Flue gas connection (inside diameter)	Inch	4
B	Air intake (inside diameter)	Inch	4
C	Wall bracket	—	—
D	Supply shut off	Inch	—
E	Return shut off	Inch	—
F	Boiler gas connection	Inch	1 FPT
G	System supply connection	Inch	2 MPT
H	System return connection	Inch	2 MPT

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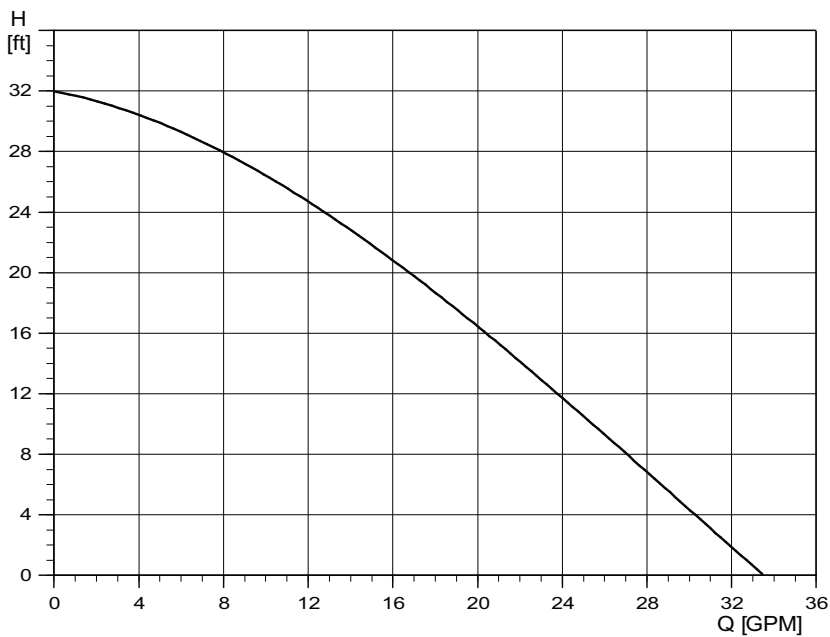
Pump Group Overview



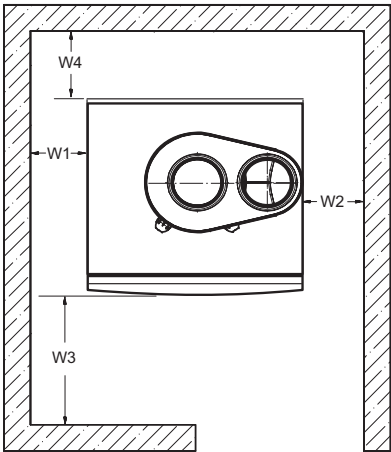
* Pump group cover not shown

Ref	Description
1	Pressure relief valve
2	Supply water valve
3	Manual gas shutoff valve
4	Circulation pump
5	Gas inlet
6	Return water valve
7	Low loss header

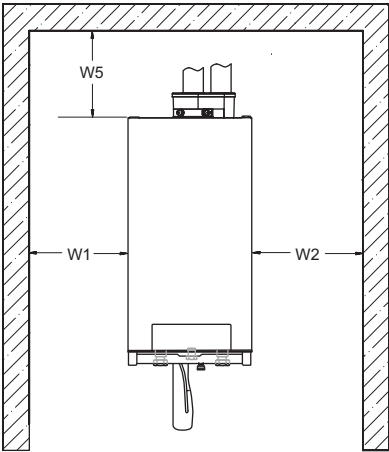
Grundfos UP 26-99 F/BF Pressure Drop Curve



Boiler Clearances



Top View



Front View

Description	Unit	Minimum clearance
Wall clearance W1	Inch	0
Wall clearance W2	Inch	0
Wall clearance W3	Inch	37
Wall clearance W4	Inch	0
Top clearance W5	Inch	6

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