AIRTEMP INC.

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A COMFORT SYSTEMS USA COMPANY
QUALITY PEOPLE – BUILDING SOLUTIONS

SUBMITTAL

JOB: EYECARE MEDICAL GROUP ADDITION
DATE: 11/26/13
LOCATION: 53 SEWALL ST. PORTLAND MAINE
MECHANICAL CONTRACTOR: AIRTEMP INC.
ENGINEER: ALLIED ENGINEERING
AIRTEMP JOB NUMBER: 515
****
AIRTEMP IS PLEASED TO SUBMIT THE FOLLOWING ITEMS FOR RECORD:

235216 CONDENSING BOILERS

PLEASE RETURN .PDF OF REVIEWED SUBMITTALS TO US

Product Submittal

Project:

Location:

Index:

Boiler Data

VITODENS 200-W

WB2B Series

Full product manuals:

- Technical Data Manual
- Installation Instructions
- Operating Instructions
- Service Instructions

1.0 Technical Data for WB2B-105

Natural gas / Propane					
– **CSA input** **A*	104 - 370	MBH		30 - 108	kW
– **CSA output / DOE heating capacity** **1*	98 - 350	MBH		29 - 103	kW
Net I=B=R rating **2*	304	MBH			
CSA thermal efficiency ANSI Z21.13/CSA 4.9	94.5	%			
Heat exchanger surface area	28.88	sq. ft.		2.68	sq. m
Min. gas supply pressure					
Natural gas	4	"w.c.		996	Pa
Propane gas	10	"w.c.		2491	Pa
Max. gas supply pressure **3* Natural gas and propane	14	"w.c.		3487	Pa
Weight	225	lbs		102	kg
Boiler water content	3.4	USG		12.8	L
Boiler max. flow rate **4*	35.2	GPM		8000	L/h
Max. operating pressure at 210°F / 99°C	60	psig		4	bar
Boiler water temperature – Adjustable high limit (AHL) range					
– space heating (steady state)	68 to 176	°F		20 to 80	°C
– DHW production	176	°F		80	°C
– Fixed high limit (FHL)	210	°F		99	°C
Boiler connections					
Boiler heating supply and return	1¼	inch	NPTM		
Pressure relief valve	¾	inch	NPTF		
Drain valve	¾	inch	Male thread		
Boiler supply/return for indirect-fired DHW storage tank (field supplied)	1¼	inch	NPT		
Gas valve connection	1	inch	NPTF		
Condensate connection (hose/nozzle diameter) **5*	1	inch			
Boiler flue gas connection (diameter) **6*	4⅜	inches		110	mm
	6	inches		150	mm

Combustion air supply (coaxial outer diameter) *6				

Dimensions				
Overall depth	21	inches	530	mm
Overall width	19	inches	480	mm
Overall height	33½	inches	850	mm
Height with flue gas elbow (accessory) *9	47¼	inches	1200	mm

Flue gas *7				
Temperature at boiler return temp. of 86°F / 30°C				
– At rated full load	104	°F	40	°C
– At rated partial load	95	°F	35	°C
Temperature at boiler return temp. of 140°F / 60°C	158	°F	70	°C

Average condensate flow rate with natural gas *8				
– At supply/return temp. of 104/86°F (40/30°C)	9.5 - 10.5	USG/day	35 - 40	L/day

Electrical ratings – main power supply		
Voltage	120	VAC
Phase	Single	phase
Frequency	60	Hz
Current	< 12	Amps

Notes:

*1 Output based on 140°F / 60°C, 120°F / 49°C system supply/return temperature.

*2 Net I=B=R rating based on piping and pick-up allowance of 1.15.

*3 If the gas supply pressure exceeds the maximum gas supply pressure value, a separate gas pressure regulator must be installed upstream of the heating system.

*4 See "Typical System Flow Rates" on page 11 of the Technical Data Manual.

*5 Requires 1" / 25 mm tubing. See the Installation Instructions of the Vitodens 200-W, WB2B for details.

*6 **For side wall vent installations (coaxial system):** Do **not** exceed max. equivalent length specified in the Installation Instructions of the Vitodens 200-W, WB2B Venting System. A **maximum** of 5 elbows may be installed in the vent system. Do **not** attempt to common-vent Vitodens 200-W with any other appliance. Venting material to be supplied by Viessmann **only**; side wall vent installation **must** include Viessmann protective screen!

*7 Measured flue gas temperature with a combustion air temperature of 68°F / 20°C.

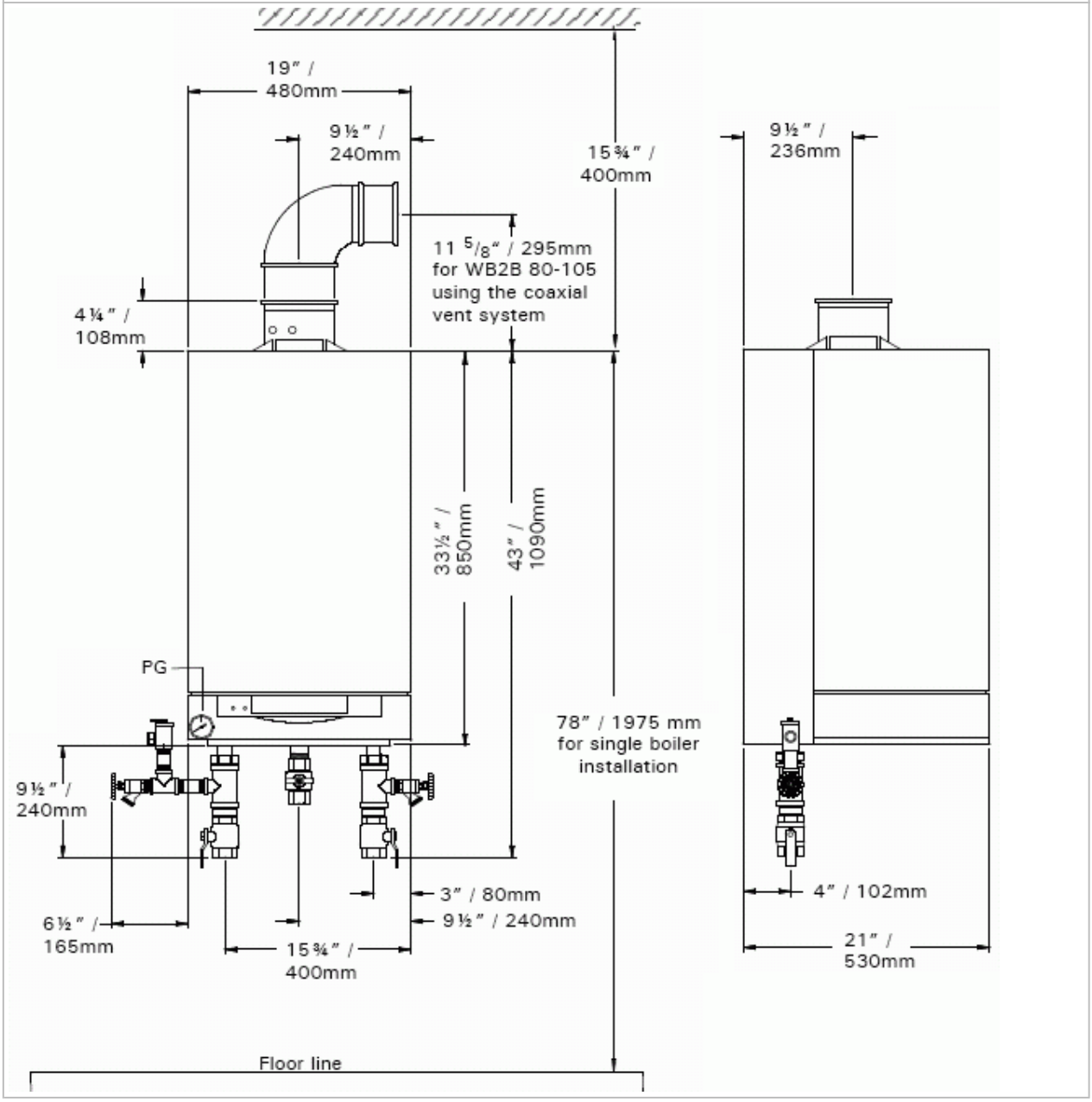
*8 Based on typical boiler cycles, including partial load conditions.

*9 Add 2½" / 65 mm for coaxial vent pipe transition adaptor.

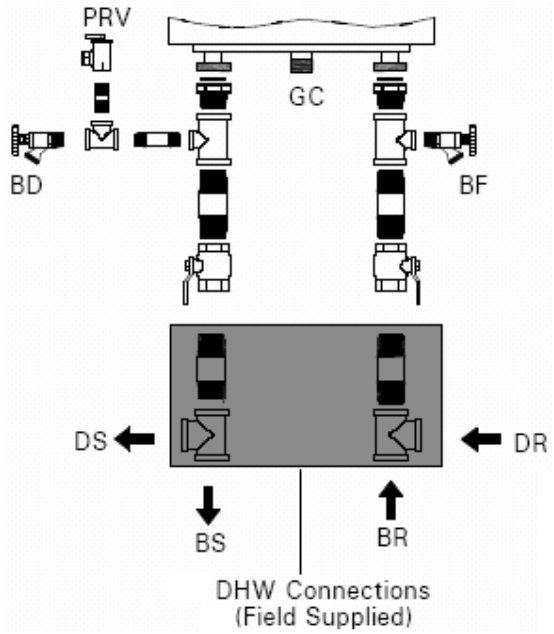
*A For high altitude installations (5,000 - 10,000 ft.), the input for model WB2B 105 will have an altitude de-ration of 14% for 5,000 ft. and 28% for 10,000 ft. (average of 2.8% / 1,000 ft.).

1.1 Dimensional Drawings

Boiler Front and Side Views



Piping Connections



Legend

BD	Boiler drain
BF	Boiler fill
BR	Boiler return
BS	Boiler supply
GC	Gas connection, 1" NPT
PG	Pressure gage
PRV	Pressure relief valve
DR	Boiler heating return for domestic hot water production, 1¼"
DS	Boiler heating supply for DHW production, 1¼"

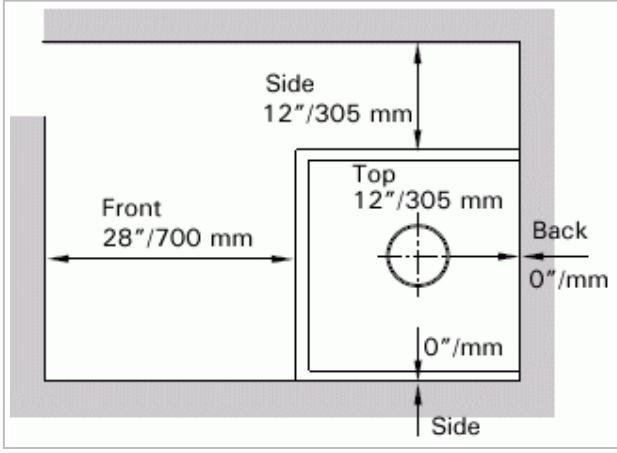
1.2 Minimum Clearances

Clearances to Combustibles	
Top	0" / 0 mm
Front	0" / 0 mm for alcove or closet installations
Rear	0" / 0 mm
Sides	0" / 0 mm
Vent pipe *1*	0" / 0 mm

Notes:
**1* Refer to the Installation Instructions of the Vitodens 200-W WB2B Venting System for details.

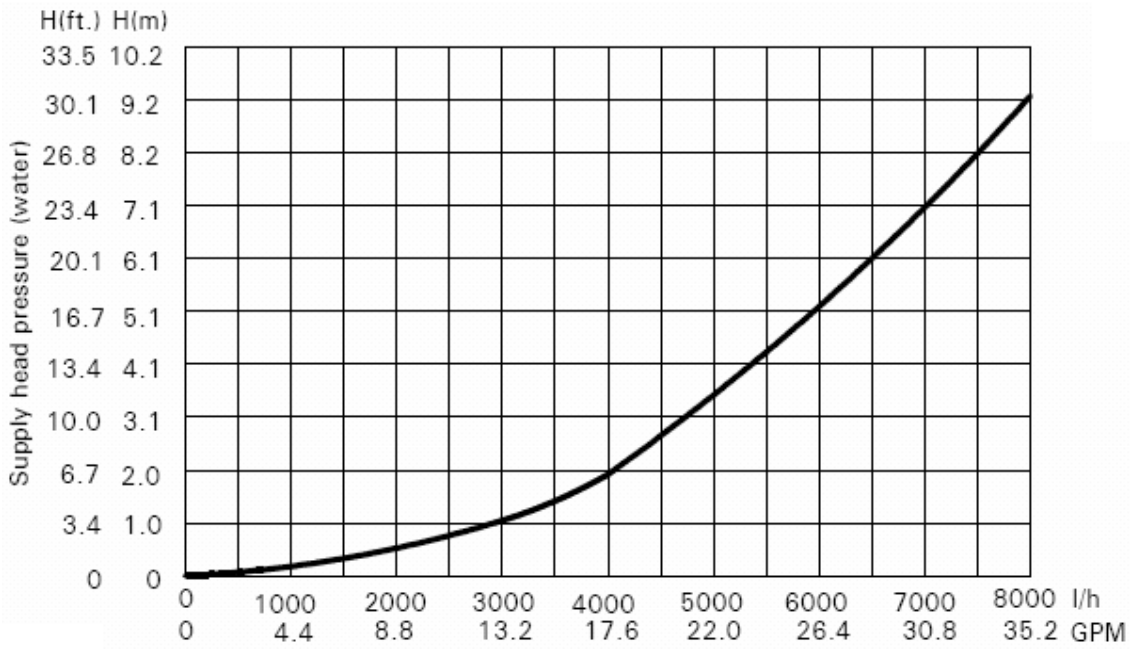
The Vitodens 200-W boiler has passed the zero inches vent clearance to combustibles testing requirements dictated by the Harmonized Standard ANSI Z21.13. CSA 4.9.2000 and therefore is listed for zero clearance to combustibles when vented with a single wall special venting system (AL-29-4C material). The zero inches vent clearance to combustibles for the Vitodens 200-W boiler supercedes the clearance to combustibles listing that appears on the special venting system label.

Recommended Minimum Service Clearances



1.3 Waterside Flow (Primary Circuit)

Pressure Drop and Flow Rates

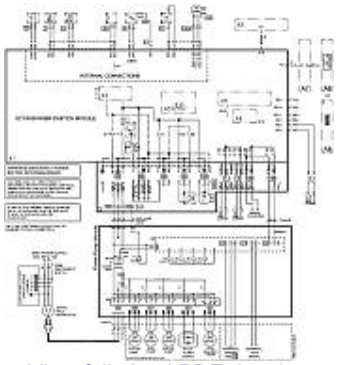


For sizing an on-site circulation system. Maximum flow rate: 8000 L/h / 35.2 GPM

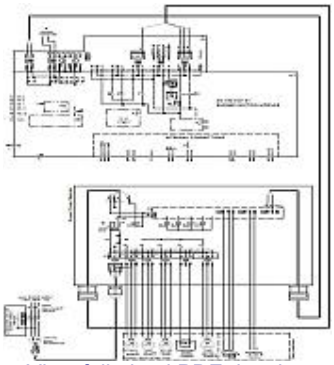
Use standard friction loss method for pipe sizing. Observe boiler maximum and minimum flow rate limitations. If system flow rate exceeds boiler maximum flow rate (as stated above), falls below the minimum flow rate or if system flow rate is unknown, Viessmann strongly recommends the installation of a low-loss header. An alternative method may be used, such as primary secondary piping using closely spaced tees. A low-loss header offers additional benefits not provided by a pair of closely spaced tees. Viessmann therefore strongly recommends and prefers the use of a low-loss header over closely spaced tees.

1.4 Wiring Diagrams

Complete System Diagram, and Connections Overview between Power/Pump Module and Boiler



View full-sized PDF drawing



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