CONFORTO®

CH-299/399/499 Submittal

Engineer:_____

Project Name:_____

Project Location:_____

Contractor:_____

APPLICATION:

Gas fired hot water heating boiler for indoor installations. Approved for closet or alcove installations. For use with natural or liquefied petroleum gases (LP/propane). Wall hung. All boilers are factory assembled with controls and wiring, and are test fired to ensure dependable performance.

CERTIFICATION AND APPROVALS:

- The stainless steel heat exchanger is manufactured and tested in accordance with American Society of Mechanical Engineers Standards (ASME). The stainless steel heat exchanger is tested for a maximum allowable working pressure of 87 PSIG (pounds per square inch gauge) in accordance with ASME Boiler and Pressure Vessel Code; Section IV, rules for construction of heating boilers. A 50 PSIG safety relief valve is shipped standard.
- Boiler shall be certified to CSA 4.9/ANSI Z21.13, AHRI
- Boiler Heat exchanger shall be National Board Certified

BOILERS INCLUDE:

- Boiler Control Module:
  - This boiler incorporates an integrated modulating control that senses supply water, return water and outside air temperatures and adjusts the firing rate to deliver the amount of heat needed to the structure.
  - The boiler control shall have Cold Start compensation and 7 second flame stabilization period.
  - The boiler control shall have an Anti-Wind function that increases fan speed to reduce the risk of flame loss.
- Boiler Loop pump built inside boiler.
- Individual relays for CH pump and DHW pump.
- User interface with LCD text and graphical screen display
- Central Heating CH and Domestic Hot Water DHW set-points. Domestic hot water priority with programmable maximum priority time.
- Internal flue gas valve to prevent recirculation of flue gas.

Manufactured by:
Granby Furnaces, Inc.
PO Box 637
12118 Hwy 209
Parrsboro Nova Scotia Canada, B0M 1S0
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- Programmable Outdoor reset curves and warm weather shutdown (When used with Optional Outdoor Air Sensor).

BOILER COMBUSTION SYSTEM

- Fully Modulating premix blower.
- Stainless Steel Burner
- Spark Generator - Direct spark ignition with combination Igniter and Flame rod.

HEAT EXCHANGER ASSEMBLY

- Heat Exchanger manufactured out of 316L stainless steel
- Built in condensate drain trap.

OTHER

- Electrical 120 volts AC, 60 hertz, 1 phase 15 amp with 5 ft. male plug cord.
- Low voltage terminal strip
- Control Box with line voltage terminals for DWH Pump and CH Pump connections.
- Low Water Pressure Sensor
- Manual Reset High Limit function

OPTIONAL EQUIPMENT:

- Twin pipe and Coaxial Venting components
- External Manual Reset High Limit and Low Water Cut Off Controls (CSD-1 compliant)
- Outdoor air sensor
- Indirect Tank Sensor
- LP Conversion Kit
- 0-10V input to manage heating set-point or heating power level

MODEL INPUT RATE			
Model	**Input Rate (MBH) 0-2000 ft**	**Heating Capacity (MBH) 0-2000 ft**	**Net Rating Water (MBH) 0-2000 ft**
CH-299	299	284	247
CH-399	399	381	331
CH-499	470	449	390

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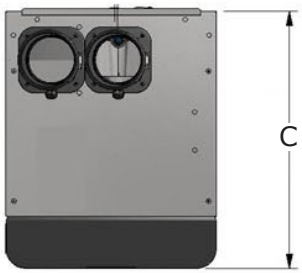

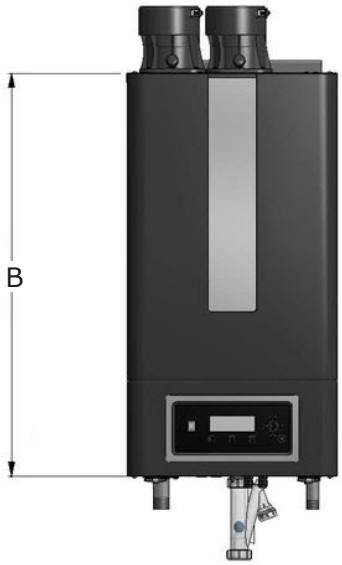

Table 1: Physical Data		
Model		
Width (A)		17.30" (440mm)
Height (B)		33.30" (845mm)
Depth (C)		21.20" (539mm)
Water Connections	Size	1-½ (38.1mm)
Gas Connection	Size	1" NPT
Condesate Drain Connection (J)	Size	1.06″
Weight	299	174 LBS (79kg)
	399	183 LBS (83kg)
	499	187 LBS (85kg)
Vent Connector	299/399	4″
	499	6″
Electrical Cord Length		5 ft. (1.5m)

50 psi safety relief valve (3.44 bar)
Pressure relief valve connection 3/4" (22.2m)

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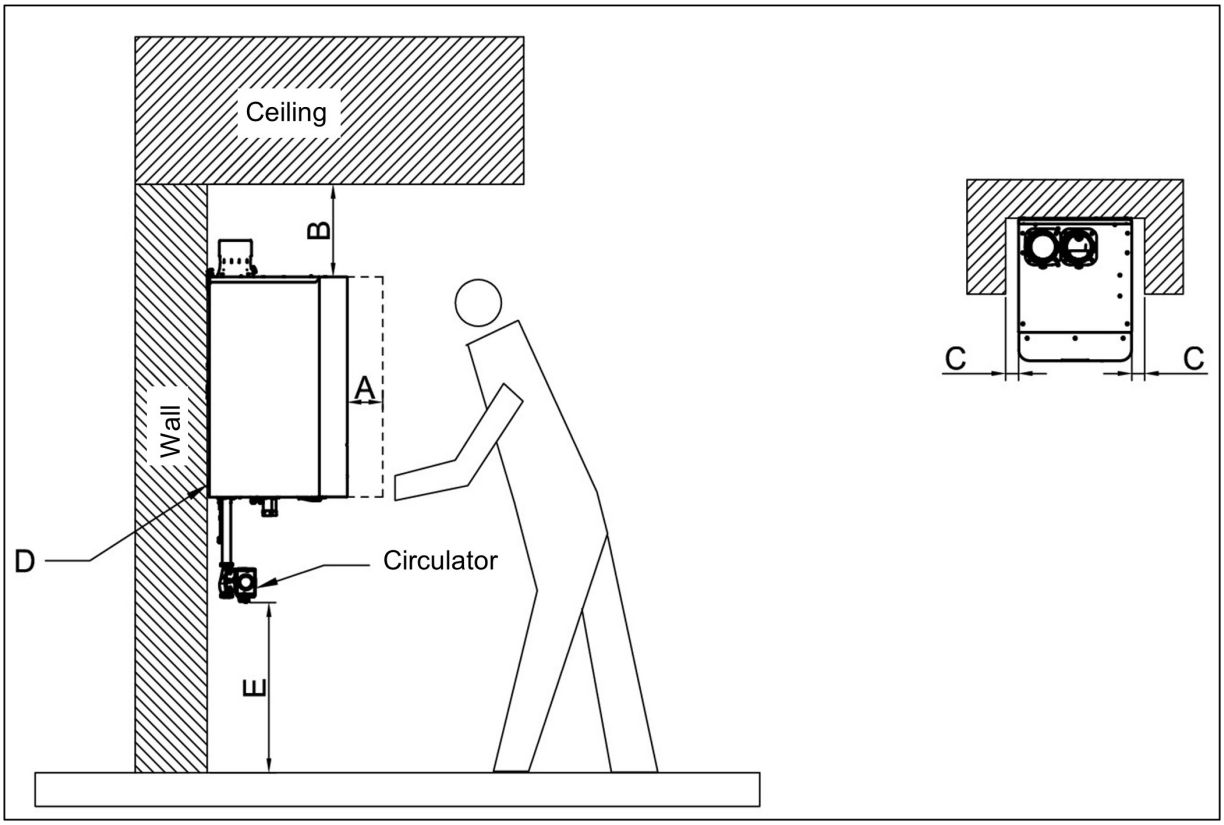
Combustible Clearances	
All sides	2″
Top	14″
Bottom	10″

Model No.	Clearances to wall, ceiling and floor					
	Distances – inches					
		A: Front	B: Top	C: Sides	D: Back	E: Bottom
CH-299 CH-399 CH-499	Minimum service Clearances	6	14	2	0	10
	Recommended Service clearances	25	14	20	0	30
	Clearances from combustible materials 1. Hot water pipes—at least 1/4″ (6 mm) from combustible materials. 2. Vent pipe – at least 1″ (25 mm) from combustible materials.					



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Minimum and maximum allowable combined vent and air inlet length:

- Minimum venting length: two feet (2 ft) for all boilers
- Maximum venting length: see table below.

Twin Pipe			
Maximum Exhaust Length / Maximum Combustion Air Intake Length			
	CH-299	CH-399	CH-499
3″	60′ / 60′	30′ / 30′	
4″	200' / 200'	121' / 121'	73' / 73'
5″			200' / 200'
6″			200' / 200'

Concentric Pipe			
Maximum allowed length concentric flue, feet			
	CH-299	CH-399	CH-499
3″ / 5″	40	-	-
4″ / 6″	80	40	-
5″ / 8″	150	150	150

Vent materials must comply with UL 1738 or UL S636.

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