



## UCS-240 Submittal

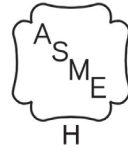


Engineer: \_\_\_\_\_

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- conversion kit required). Wall mounted with optional Floor Base kit. All boilers are factory assembled with controls and wiring and 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 50 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.
  - Boiler includes factory installed and wired 3 speed, electronically controlled, step modulating circulator pump. The circulator RPM is determined by the boiler temperature and controlled by the integrated boiler control.
  - The boiler control shall have Cold Start compensation and 30 second flame stabilization period.
  - The boiler control shall have an Anti-Wind function that increases fan speed to reduce the risk of flame loss.
- Modulating Boiler Loop pump built inside boiler.
- Individual pilot relays for CH pump and DHW pump.



Manufactured by:  
ECR International Inc.  
2201 Dwyer Avenue, Utica, NY 13501  
Tel. 800 325 5479  
[www.ecrinternational.com](http://www.ecrinternational.com)  
PN 615000199 REV. E [07/01/2021]



- 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.
- Programmable Outdoor reset curves and warm weather shutdown (When used with Optional Outdoor Air Sensor).
- External Primary/Secondary manifold with quick connections shipped with boiler.

### **BOILER COMBUSTION SYSTEM**

- Premix modulating gas valve and blower. Fully Modulating with a 6.7:1 turn down ratio.
- 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
- Auxiliary Control Box with line voltage terminals for DWH Pump and CH Pump connections.
- Low Water Pressure Sensor
- Manual Reset High Limit function

### **OPTIONAL EQUIPMENT:**

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

<b>MODEL INPUT RATE</b>			
<b>Model</b>	<b>Input Rate (MBH) 0-2000 ft</b>	<b>Heating Capacity (MBH) 0-2000 ft</b>	<b>Net Rating Water (MBH) 0-2000 ft</b>
UCS-240	241	216	188

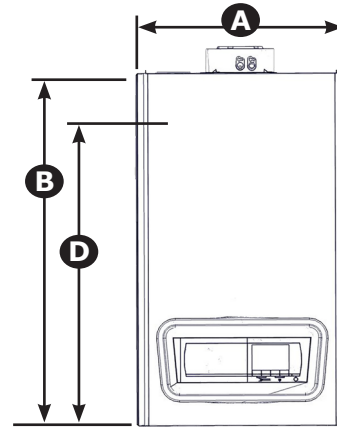


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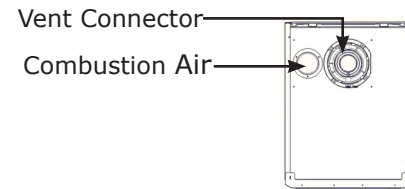
Physical Data		
<b>Model</b>		<b>240</b>
Width (A)	17- <sup>3</sup> / <sub>4</sub> " (450mm)	
Height (B)	31- <sup>1</sup> / <sub>16</sub> " (763mm)	
Depth (C)	23" (585mm)	
Bracket (D) Location of bracket on back of unit	15- <sup>7</sup> / <sub>8</sub> " (403.2mm)	
Water Connections	Size (F)	1 (25.4mm)
	Location (G)	3- <sup>3</sup> / <sub>4</sub> " (95.3mm)
	Location (H) Return	9" (228.6mm)
	Location (I) Supply	5" (127mm)
Gas Connection	Location (J)	3- <sup>3</sup> / <sub>4</sub> " (95.3mm)
	Size (K)	3/4" NPT
Condensate Drain Connection (L)		2- <sup>1</sup> / <sub>4</sub> " (57.2mm)
Weight	Shipping	145 LBS (65.8)
	Unit	120 LBS (54.5kg)
Vent Connector		80/125 mm
Electrical Cord Length		5 ft. (1.5m)

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

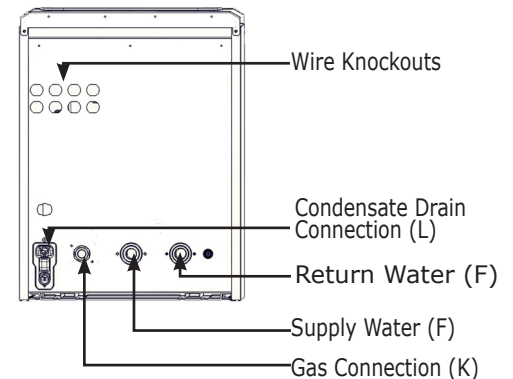
### Front View



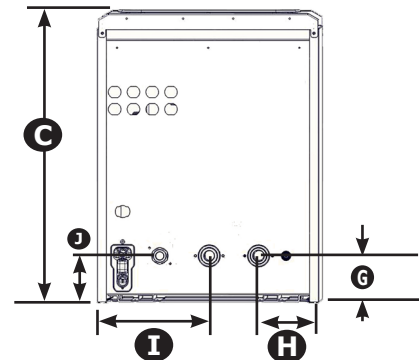
### Top View



### Bottom View Connection Identification



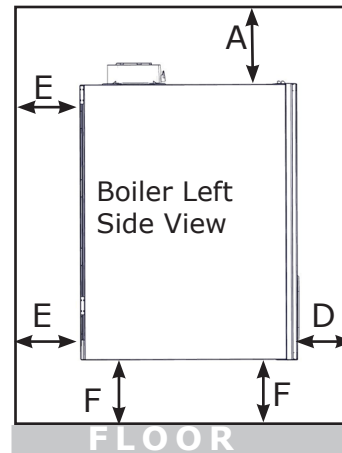
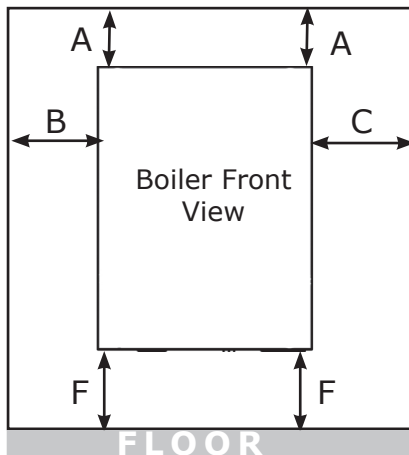
### Bottom View Dimensions



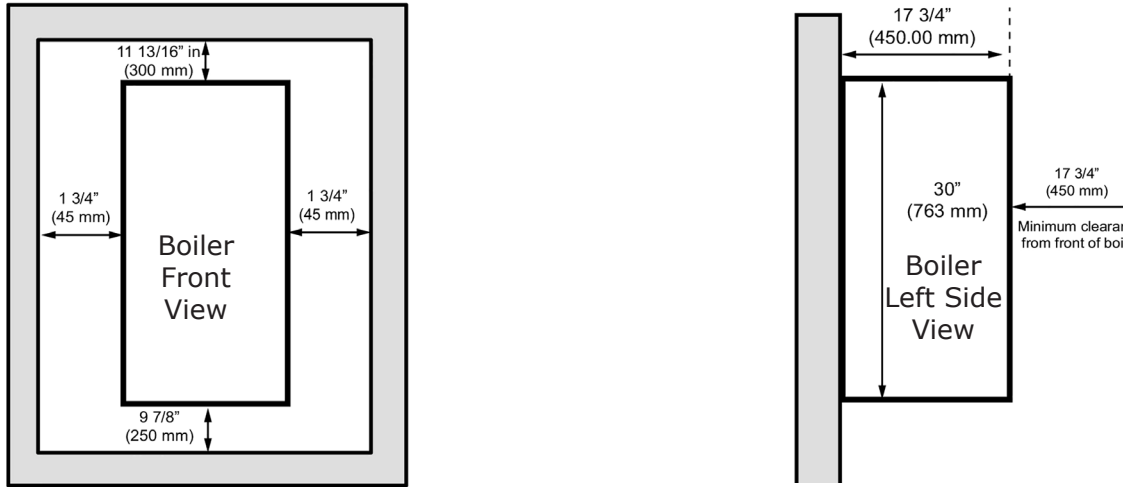
BOILER CLEARANCES UCS-240		
Dimension	Combustible Materials <sup>(1)</sup>	Service <sup>(1)(2)</sup>
Top (A)	0" (0 cm)	11-13/16" (300 mm)
Left Side (B)	1-3/4" (45 mm)	1-3/4" (45 mm)
Right Side (C)	1-3/4" (45 mm)	1-3/4" (45 mm)
Front (D)	2" (4.5 cm)	17 3/4" (450.0mm)
Back (E)	0" (0 cm)	0" (0 cm)
Bottom (F)	0" (0 cm)	*9-7/8" (250 mm)
Combustion Air/ Vent piping	0" (0 cm)	6" (160 mm)

<sup>(1)</sup> Required distances measured from boiler jacket.  
<sup>(2)</sup> Service, proper operation clearance recommendation.  
 \* Allowance for piping at the bottom of boiler not included.

### CLEARANCE TO COMBUSTIBLE MATERIALS

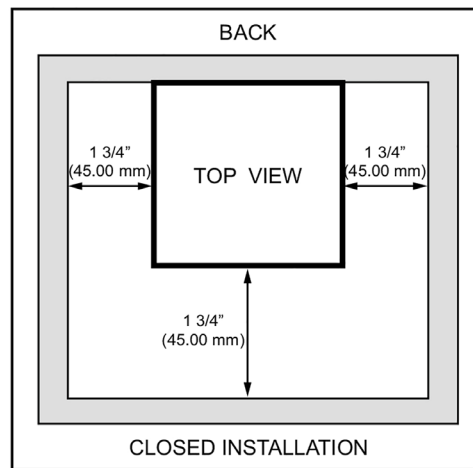


## SERVICE CLEARANCES



## SERVICE CLEARANCES - CLOSET INSTALLATION

### CLEARANCES REQUIRED FOR CLOSET INSTALLATION



**0 in / 0 mm** between the Back of the Unit and the wall  
**CLOSET INSTALLATION**

## VENTING

### VENT MATERIAL OPTIONS:

- 110 /160 mm Polypropylene concentric (4 inch / 6 inch)  
or
- 110 mm polypropylene twin pipe (MUST be polypropylene on BOTH intake and exhaust) (4 inch)  
or
- Schedule 40 CPVC

### APPROVED VENT MATERIALS:

Shall comply with UL 1738 or ULC S636.

<b>BASIC VENT LENGTHS</b> Refer to Installation, Operation and Maintenance Manual included with your boiler for complete information and equivalent vent lengths.			
<b>UCS-240</b>			
Vent type	Nat Gas	LP Gas	Size
Coaxial Venting	21 feet	21 feet	3"/5"
2-Pipe Polypropylene	36 feet	36 feet	3"
1-Pipe Polypropylene	100 feet	100 feet	3"

### CASCADE VENTING

*Only Approved Vendor Is **DuraVent***

*See IOM For Complete Details*



**ECR** international

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All specifications subject to change without notice.

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