

RGBCTWHRX Recess Box

For help with product installation, troubleshooting, servicing and more, visit
rinnai.pro.myabsorb.com

Recess Box Part Number	RGBCTWHRX	
For Use with Rinnai Tankless Water Heater Models:	<ul style="list-style-type: none"> • RX199i (REU-NB3237FF-US) • RX180i (REU-NB2934FF-US) • RX160i (REU-NB2530FF-US) • RX130i (REU-NB2024FF-US) • RXP199i (REU-NBP3237FF-US) 	<ul style="list-style-type: none"> • RXP160i (REU-NBP2530FF-US) • CX199i (REU-NB3237FFC-US) • CX160i (REU-NB2530FFC-US) • CXP199i (REU-NBP3237FFC-US) • CXP160i (REU-NBP2530FFC-US)

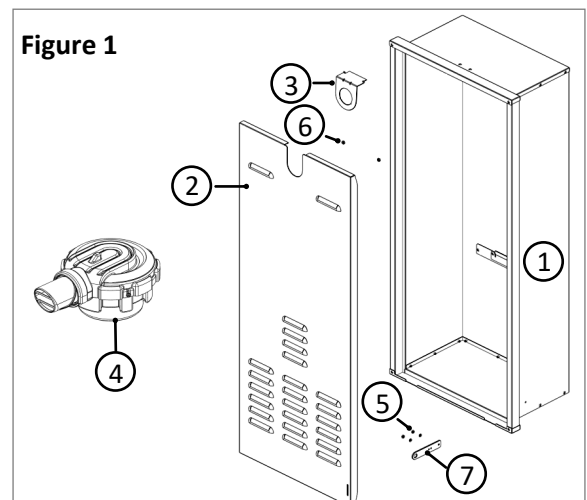
WARNING

- Failure to correctly assemble the components according to these instructions may result in electric shock, injury, or death.
- A trained and qualified professional must install and inspect the recess box before use.
- Warranty will be voided due to any improper installation.
- For outdoor installation only.
- Make sure the recess box is accessible for servicing and maintenance of the water heater.

Items Inside Product Box

Before installation, please make sure all parts are located inside the product box.

Item #	Item	Qty
①	Recess Box	1
②	Front Door Panel	1
③	Vent Bracket	1
④	Vent Cap	1
⑤	8-32 Lock Nut with Washer	3
⑥	10-32 Lock Nut	3
⑦	Locking Bracket	1
⑧	Installation Instructions (this document)	1



You Will Need (Field-Supplied)

- Standard plumbing tools, such as pliers, pipe wrenches and screwdrivers
- Isolation Valve Kit
- Sealant and Caulk Gun
- Drill (for drilling the piping connections)
- Screws (galvanized or stainless steel to secure the recess box to the building structure)
- Phillips Head Screwdriver

Step 1: Determine Location and Clearances

WARNING

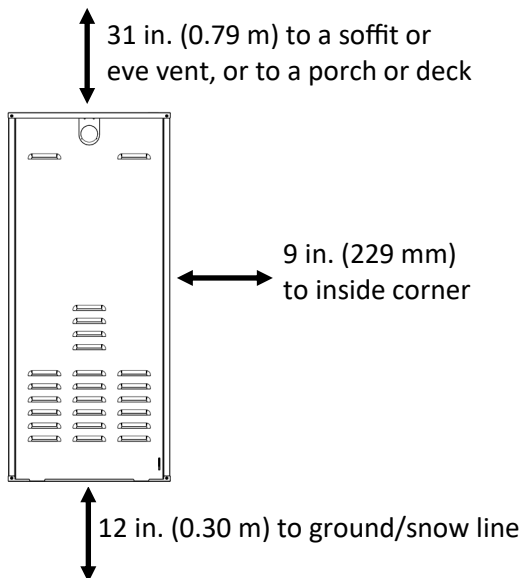
Below are general clearance requirements:

All clearances must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, or the *Natural Gas and Propane Installation Code, CSA B149.1* (also shown in the Rinnai Tankless Water Heater Installation and Operation Manual).

If you do not have access to the above Standards or the Rinnai Tankless Water Heater Installation and Operation Manual, an excerpt of the clearances has been provided in Appendix A of this document.

1. Determine a suitable location for the recess box that meets the installation clearances shown below (Figure 2).

Figure 2



IMPORTANT

- All dimensions are from edge of box.
- Tankless water heater/recess box assembly is zero inches to all surfaces of the recess box. A 24 in. (610 mm) clearance to combustibles and non-combustibles must be maintained from the front of the unit for servicing.

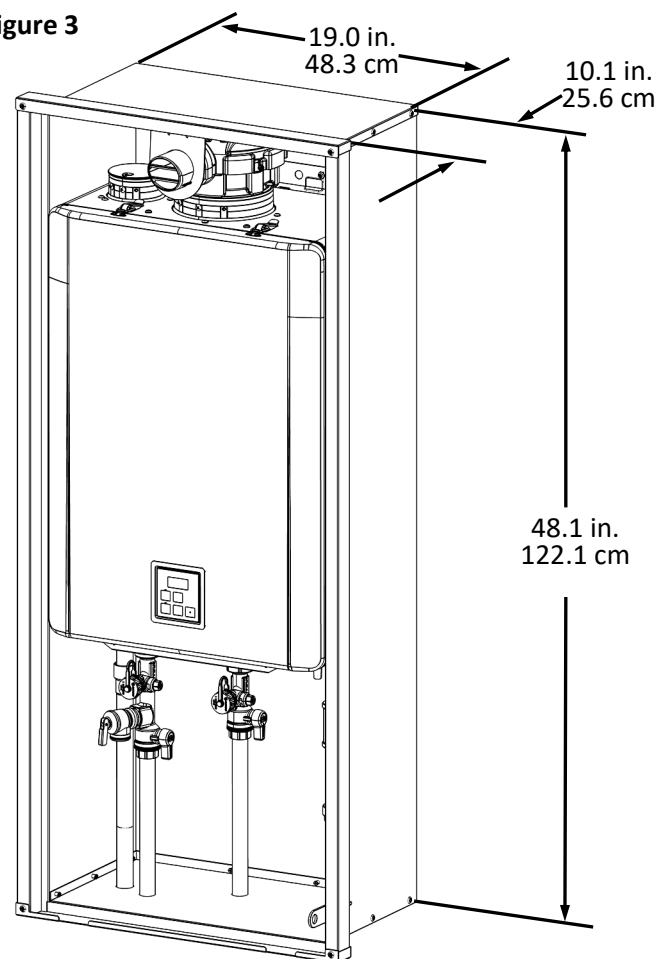
WARNING

- Local building codes may restrict the clearances shown in this section. If you are unsure if the clearances are acceptable in your area, consult with local building officials to verify prior to proceeding with installation.
- Clearance to the gas meter and electric meter shall be in accordance with local codes and the requirements of the gas supplier or electric supplier.
- Ensure all clearances are met per the Rinnai Tankless Water Heater Installation and Operation Manual.
- Do not install the recess box in any other type of configuration. Prepare a framing layout as suggested in this document. Warranty will be voided due to any improper installation.

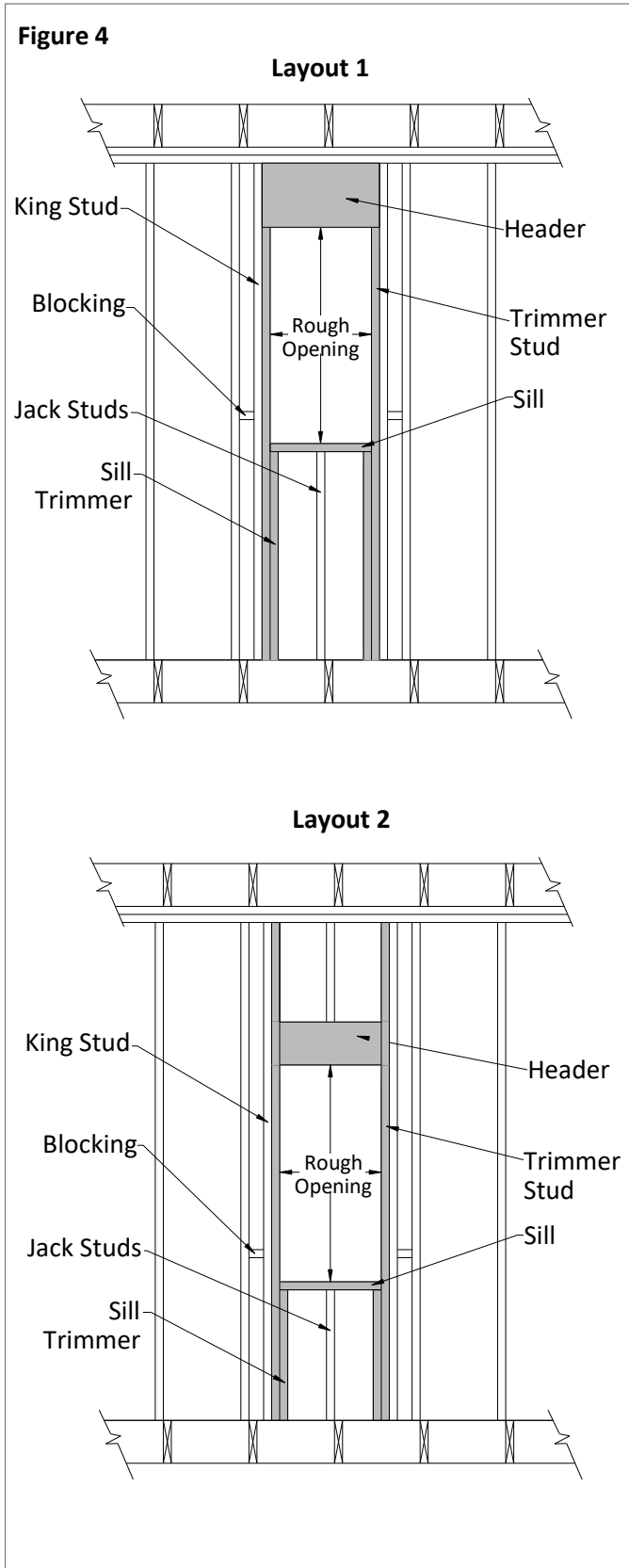
Step 2: Prepare the Wall

1. Following are the outer dimensions of the recess box (Figure 3). Note: recess box requires special framing preparation before installation.

Figure 3

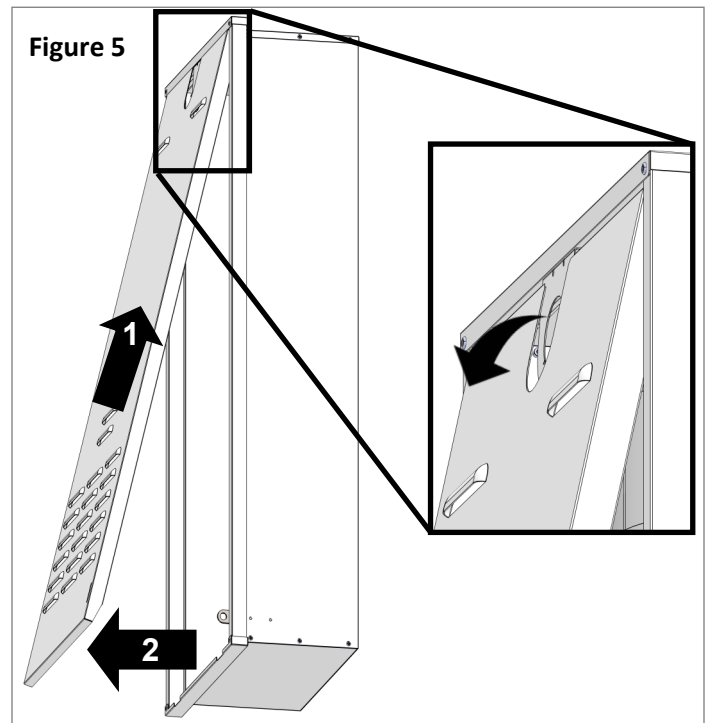


- Following are the suggested framing layouts for recess box installation (Figure 4).



Step 3: Prepare the Recess Box

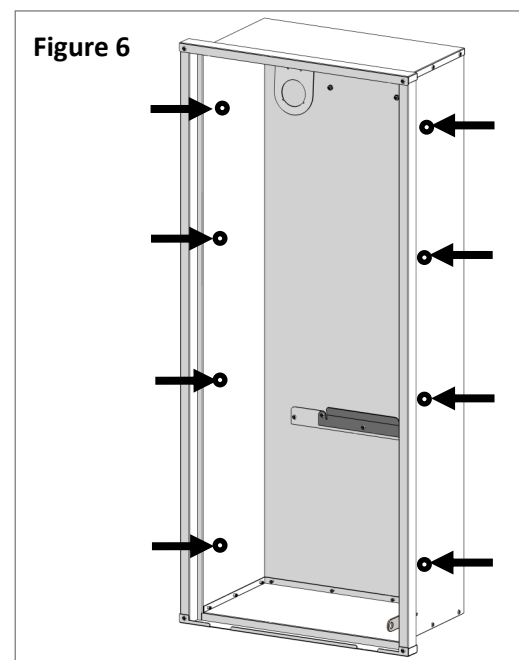
- Remove the front door panel to prepare recess box for installation (Figure 5). Keep the front door panel to be used again in a future step in this document.



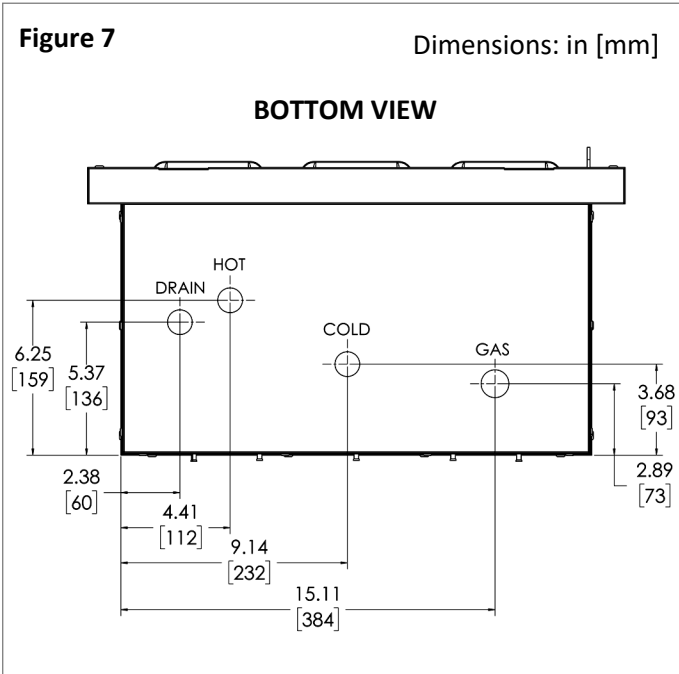
IMPORTANT

Hole size and spacing on images are not to scale; they are for illustrative purposes only.

- Drill 4 holes spaced out along the length of the left and right sides of the recess box (Figure 6). Hole sizes are dependent on screw size.



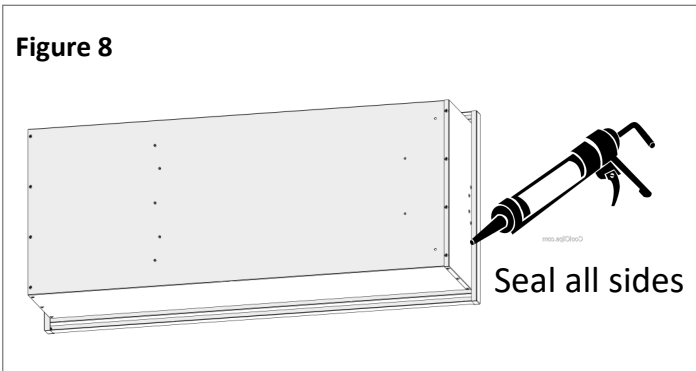
3. Refer to the following template to determine the cutout locations on recess box for piping (Figure 7).



4. As per suggested cutout locations, drill four holes in the bottom of the recess box to accommodate the hot water, cold water, gas and electric lines. The pressure relief valve (PRV) and dirt trap location is not identified on the template.

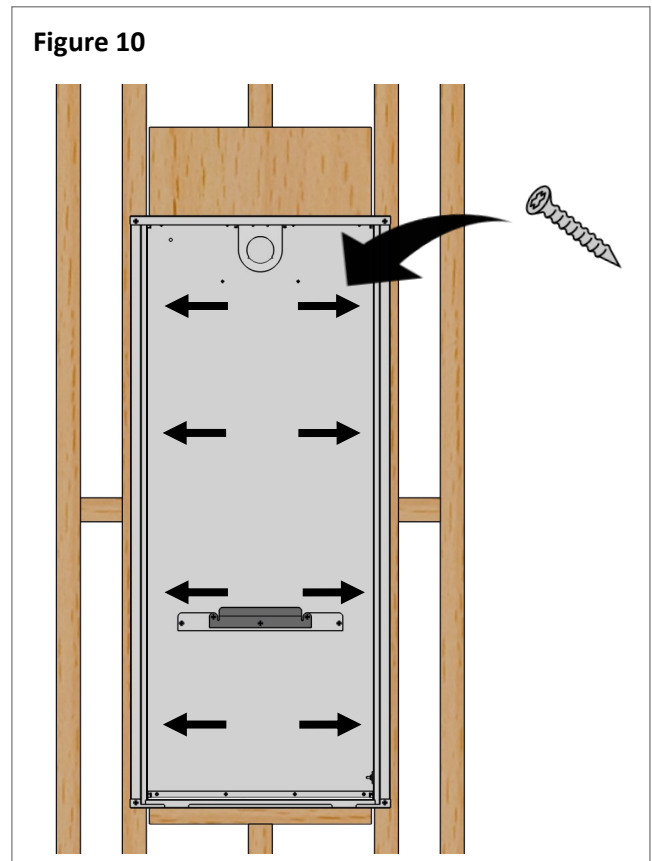
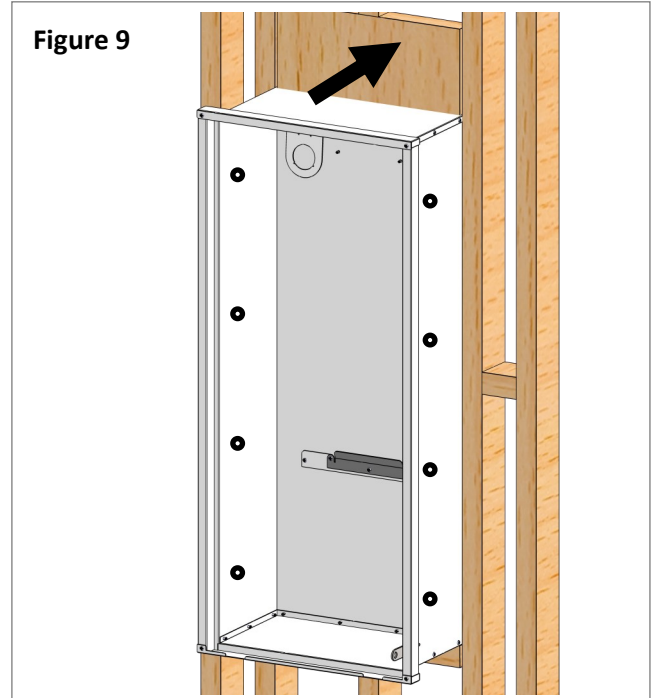
If needed, holes can be drilled on the sides of the recess box to accommodate the hot water, cold water, gas and electric lines. Watch for interference with the framing stud before drilling the holes.

5. Apply a 3/8 in. bead of sealant along the back of the recess box flange (Figure 8).



Step 4: Install the Recess Box

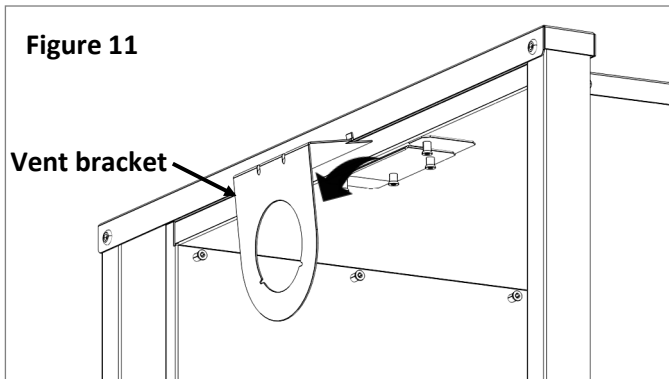
Position and secure the recess box to the building structure with suitable screws (not supplied) (galvanized or stainless steel) through the 8 holes in the sides (4 holes on the left side and 4 holes on the right side) (Figures 9 and 10).



Step 5: Install the Water Heater into the Recess Box

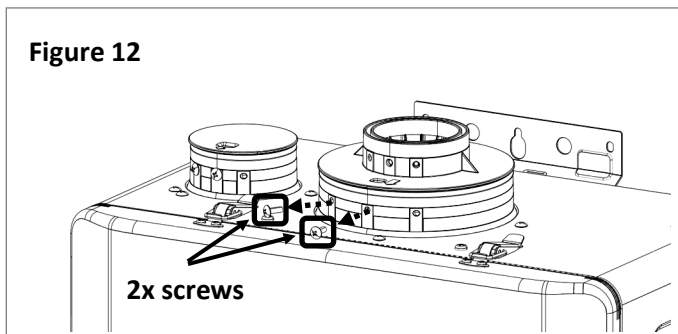
1. Prepare recess box for water heater installation:

- A Remove the vent bracket from the recess box (Figure 11). Keep vent bracket to be used again in future step.

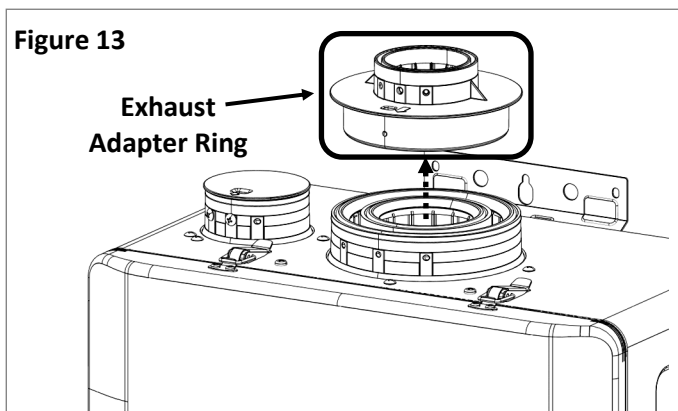


2. Prepare water heater for installation:

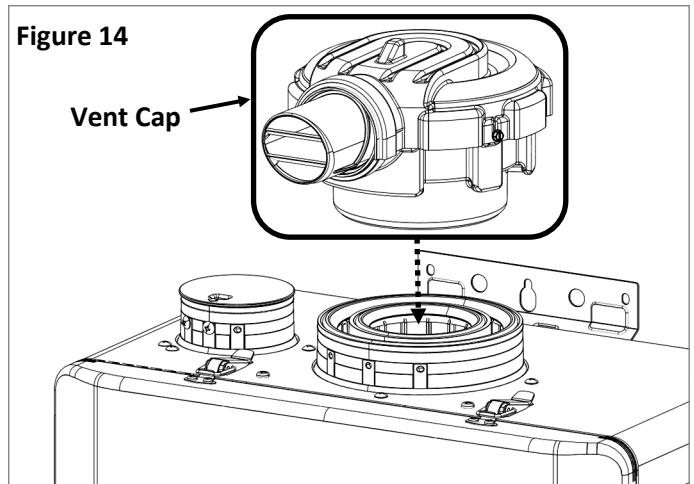
- A Remove two screws holding the exhaust adapter ring (Figure 12). Keep screws to secure vent cap in step 2D.



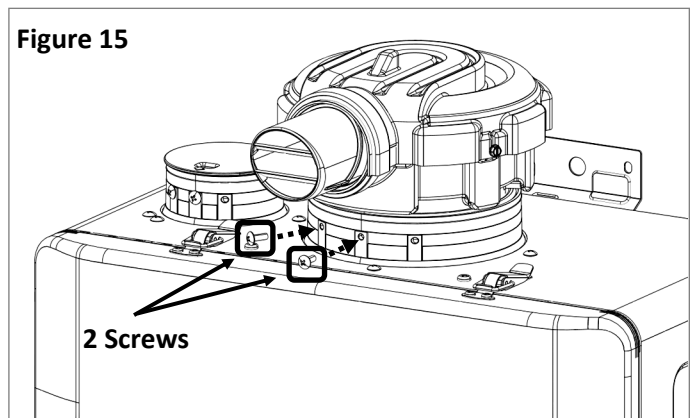
- B Remove and discard the exhaust adapter ring (Figure 13).



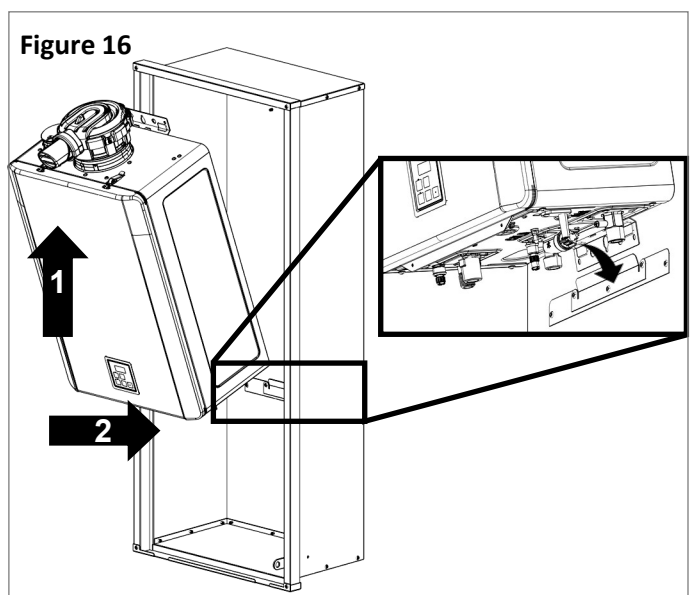
- C Install the vent cap on the water heater (Figure 14).



- D Ensure that the vent cap is facing towards the front of water heater and properly seated. Secure vent cap using 2 screws (Figure 15).

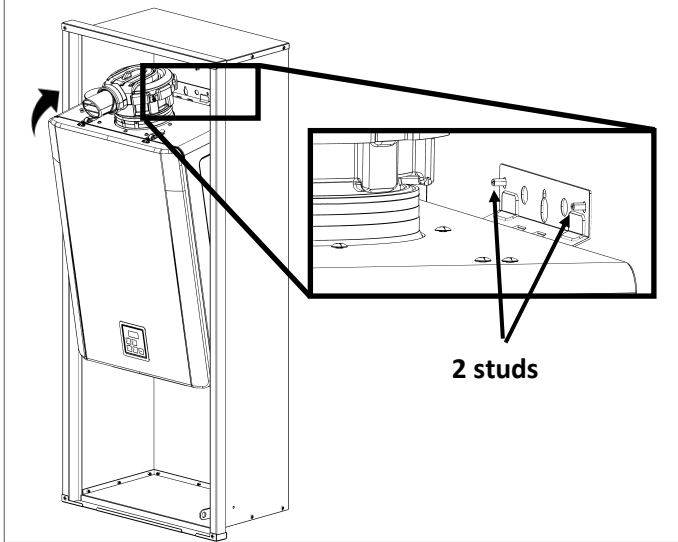


3. Lift the water heater into the recess box and guide the bottom bracket of water heater to hanging bracket of recess box (Figure 16).



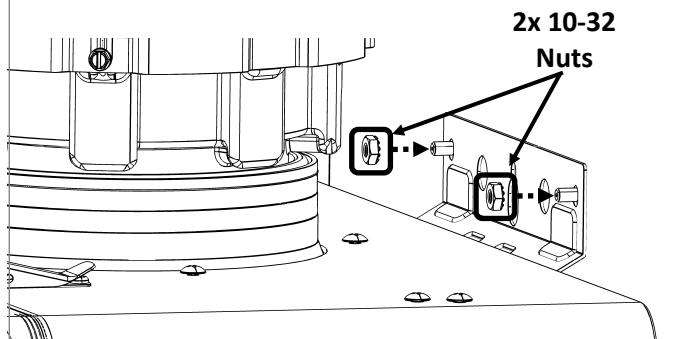
4. Push the water heater into the recess box. Ensure that the top bracket of water heater lines up with recess box studs (Figure 17).

Figure 17



5. Secure the top bracket to water heater using two 10-32 locknuts (supplied) (Figure 18).

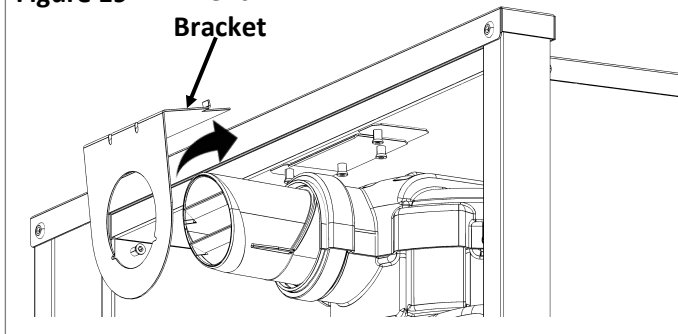
Figure 18



Step 6: Install the Vent Bracket

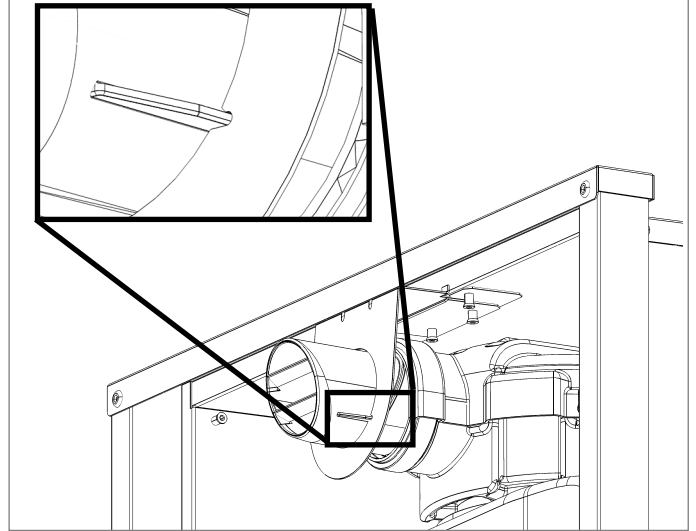
1. Reassemble the vent bracket through the exhaust vent of cap (Figure 19).

Figure 19



2. Ensure that the vent bracket slots line up with exhaust vent (Figure 20).

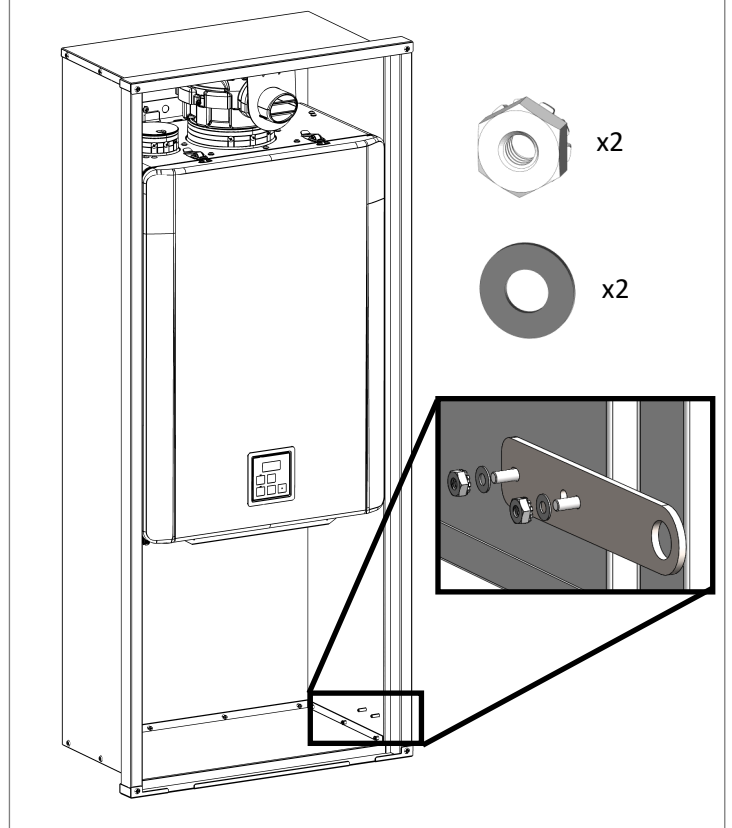
Figure 20



If required, install the locking bracket:

3. Install the locking bracket with the two 8-32 locknuts and washers (supplied) (Figure 21).

Figure 21



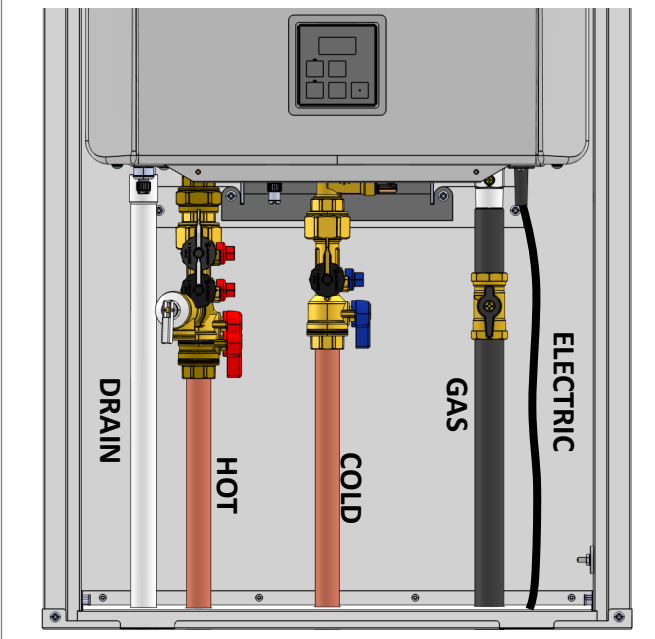
Step 7: Connect the Pipes

1. Remove the caps from the water heater pipes and install the isolation valve kit (field-supplied).
2. Install the pipes through the drilled access holes in the recess box (Figure 22).
3. Connect gas, water and electric service to the water heater. A waterproof electrical outlet can be fitted inside.

The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1. If installed in a manufactured home, the installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 and/or CAN/CSA Z240 MH Series, Mobile Homes.

The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.1.

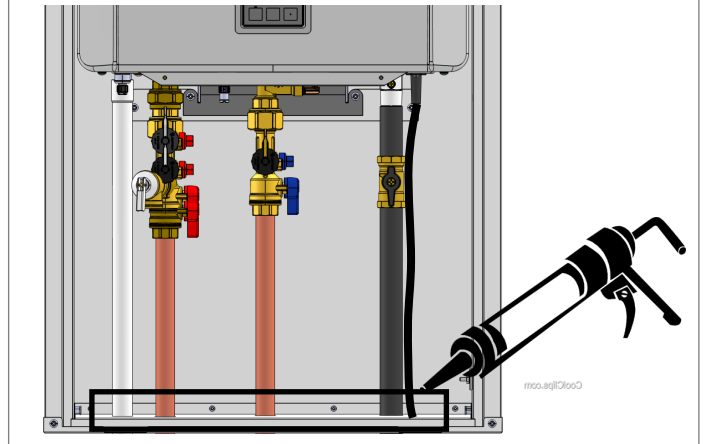
Figure 22



Step 8: Seal the Recess Box

1. Seal all access hole penetrations with sealant to prevent moisture from leaking out of the recess box (Figure 23).

Figure 23



Step 9: Adjust Parameter Settings

This tankless water heater is set up for natural gas and indoor installations as default. When power is connected for the first time, you need to choose the correct gas type and outdoor setting.

CAUTION

- Do not touch any other areas on the PC board other than the described buttons while power is supplied to the appliance. Parts of the PC board are supplied with 120 VAC.
- Do not touch the areas at or near the heat exchanger or hot water lines; these areas become hot and could cause burns.

WARNING

If proper settings are not selected before you use the tankless water heater, it will cause a hazardous situation which results in personal injury or property damage.

IMPORTANT

- Confirm that the inlet gas pressure is between the minimum and maximum pressures allowed for this appliance.
- Refer to the “Tankless Water Heater Installation and Operation Manual” for additional parameter settings, such as recirculation settings, gas type, pump speed, etc. (the manual is supplied with the tankless unit or located online at www.rinnai.us).

Adjust the tankless water heater parameter settings by choosing one of the two options below:

- **Option 1 (Recommended):** Adjust parameter settings using a Bluetooth-capable Smart Device
- **Option 2:** Adjust parameter settings from the tankless water heater integrated controller.

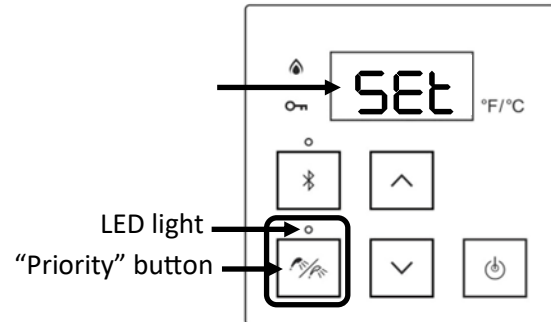
9.1 Option 1: Using a Bluetooth-Capable Smart Device

Note: To utilize BLE, your connecting device (smartphone, tablet, computer, etc.) must have Bluetooth 4.0 or a newer version. Contact your connecting device manufacturer if you are not sure if your connecting device has Bluetooth 4.0 or a newer version.

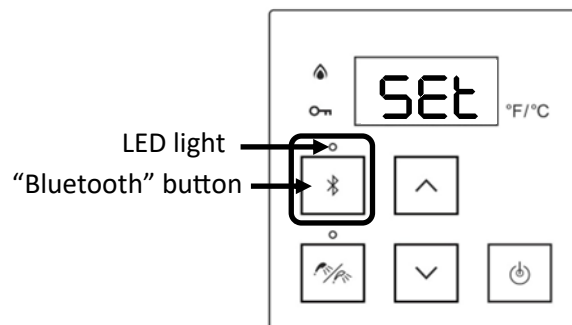
1. Download the Rinnai Central app by scanning the following QR code:



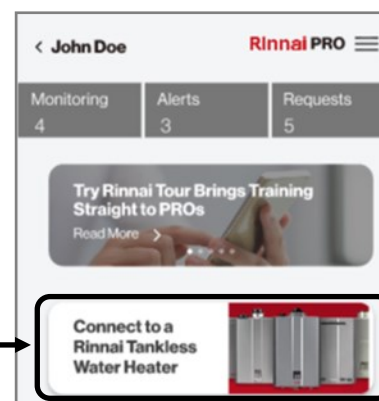
2. Supply power to the tankless water heater for the first time. The controller displays “SEt” and the “Priority” button LED light on the controller is blinking.



3. Open the Rinnai Central app from your smart device and log into the Rinnai Central app with a professional account.
4. Push the Bluetooth button on the controller. The Bluetooth LED light turns solid.

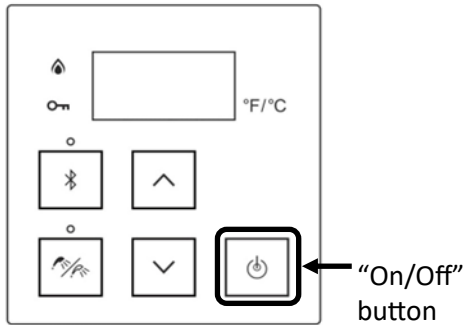


5. Tap “Connect to a Rinnai Tankless Water Heater” on the Rinnai Central app. You will hear a beeping sound when pairing between the app and water heater is established.



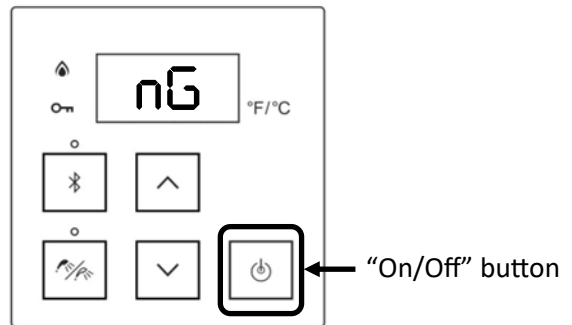
6. Follow the steps in the Rinnai Central app to adjust your tankless water heater settings.
7. When settings are complete, the controller display will appear blank.

Press the "On/Off" button to turn on the unit.



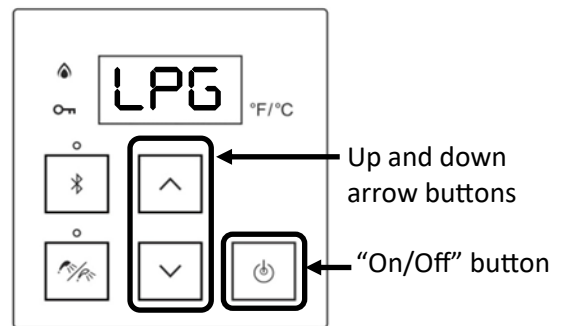
- 3(A). **If using natural gas:** Press the "On/Off" button to confirm natural gas. Then, proceed to step 4.

If using propane gas, skip this step and proceed to step 3(B).

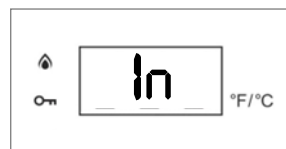


- 3(B). **If using propane gas:** Press the up or down arrow button. The controller displays "LPG" (Liquid Propane Gas).

Press the "On/Off" button to confirm propane gas. Then, proceed to step 4.

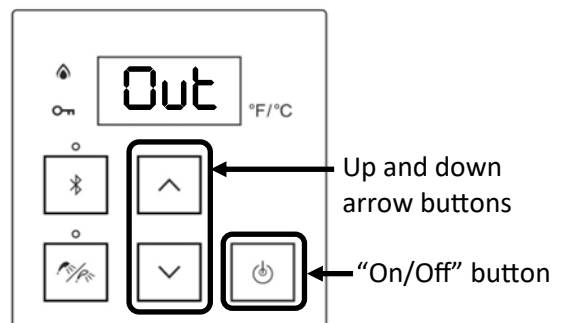


4. The controller displays "In" (indoor).



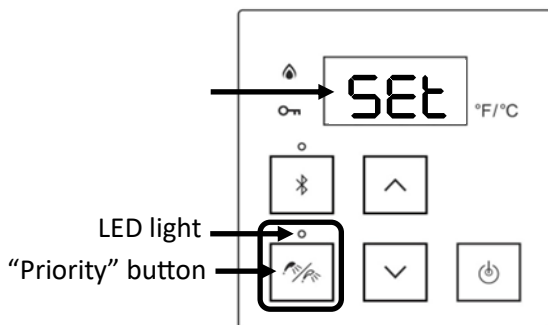
5. Press the up or down arrow buttons. The controller displays "Out" (Outdoor).

Press the "On/Off" button to confirm "Out" (Outdoor).

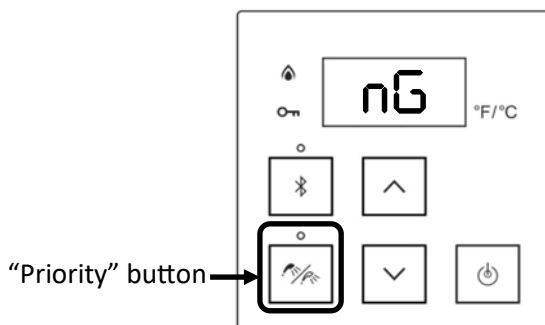


9.2 Option 2: Adjust Parameter Settings from Integrated Controller

1. Supply power to the tankless water heater for the first time. The controller displays "SEt" and the "Priority" button LED light on the controller is blinking.



2. Press the "Priority" button. The controller displays "nG" (natural gas).



- The controller displays “nG” or “LPG,” and “In” or “Out” alternatively while the “Priority” button LED light is blinking. The controller is showing the current gas setting and indoor/outdoor setting.

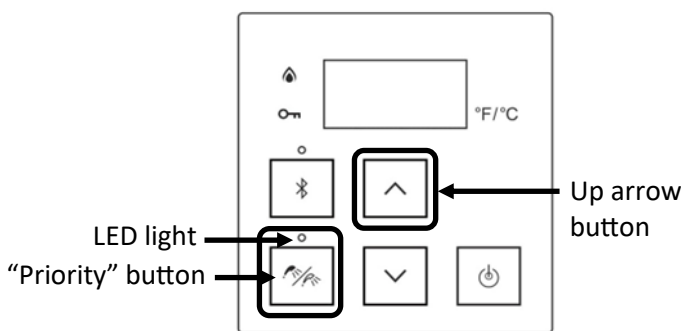
For example, the controller displays “nG” and “Out” alternatively, indicating the water heater is set for natural gas and outdoor installation.

- If settings are correct:** Press the “Priority” button.

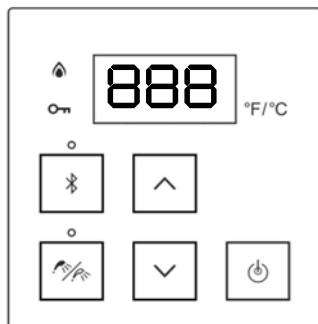
If settings are not correct:

Press the up arrow button to return to step 1.

Repeat the steps starting at step 1.

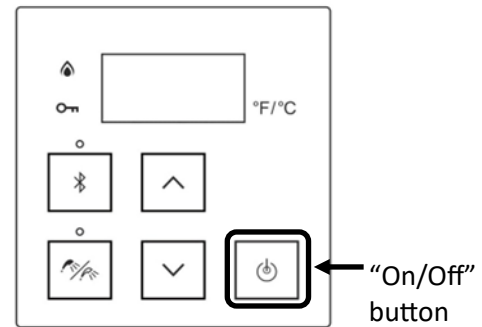


- The controller briefly displays “888” and makes a beeping sound. Then, complete initial settings and the controller is off.



- When settings are complete, the controller display will appear blank.

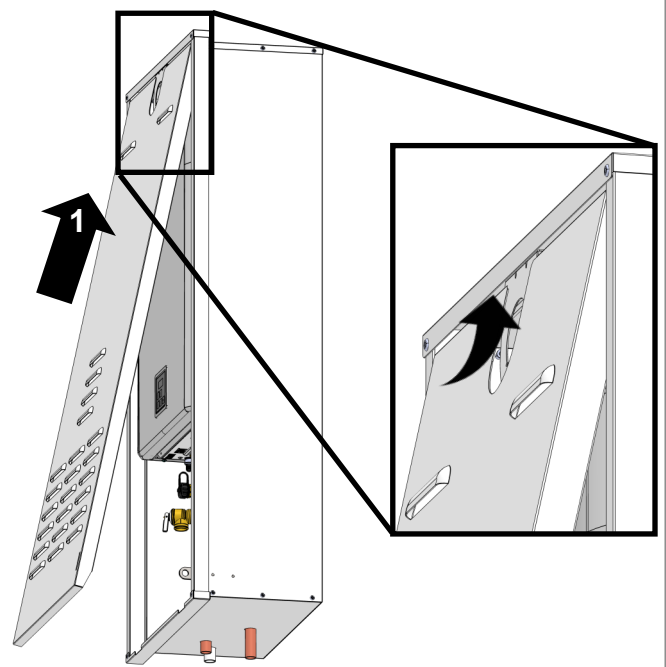
Press the “On/Off” button to turn on the unit.



Step 10: Final Assembly and Inspection

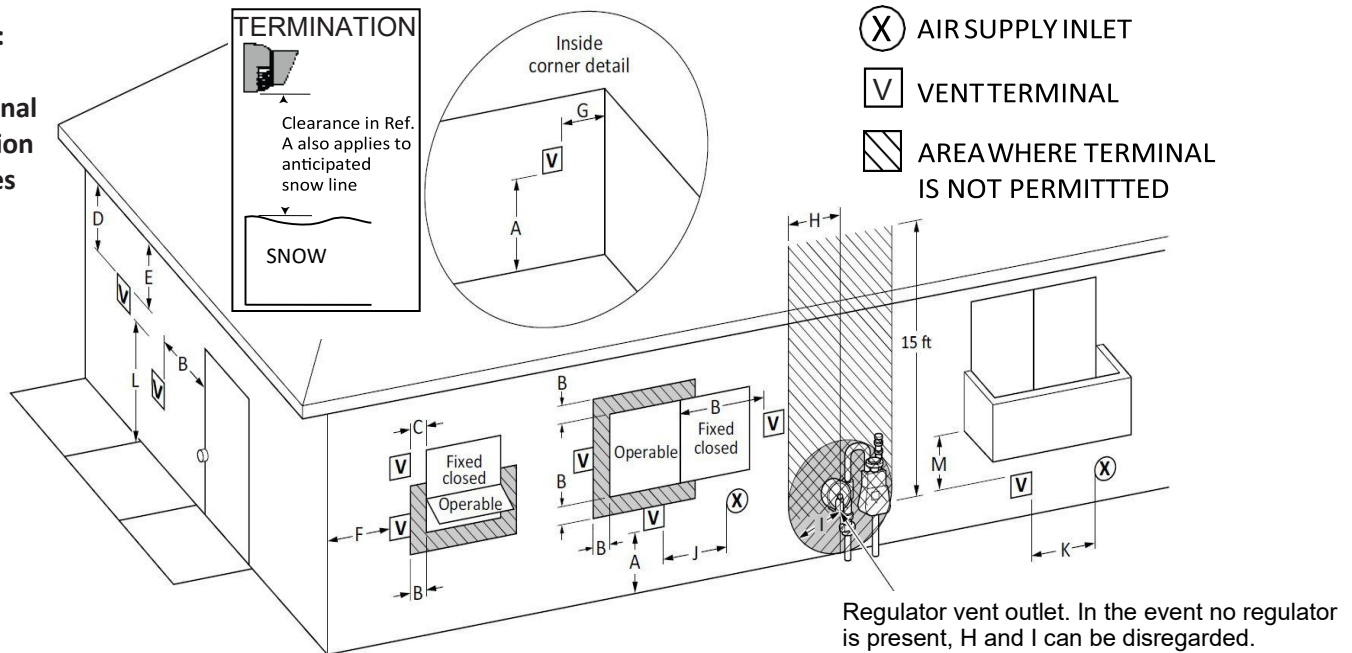
- Complete the checklist in the “Post-Water Heater Installation Checklist” section of the Tankless Water Heater Installation and Operation Manual when installation is complete.
- Check for gas and water leaks.
- Install the recess box front door panel by inserting the top end first and then pressing the bottom end into the recess box (Figure 24).

Figure 24



Appendix A: Termination Clearances

**Figure 25:
Room Air
and External
Termination
Clearances**



Ref	Description	Canadian Installations ¹ (CSA B149.1)	U.S. Installations ² (ANSI Z223.1/NFPA 54)
		Other than direct vent (Outdoor unit and/or Room Air)	Other than direct vent (Outdoor unit and/or Room Air)
A	Clearance above grade, veranda, porch, deck, or balcony	12 in. (30 cm)	12 in. (30 cm)
B	Clearance to window or door that may be opened	36 in. (91 cm)	4 ft (1.2 m) below or to side of opening; 1 ft (300 mm) above opening
C	Clearance to permanently closed window	*	*
D	Vertical clearance to ventilated soffit, located above the terminal within a horizontal distance of 2 ft (61 cm) from the center line of the terminal	*	*
E	Clearance to unventilated soffit	*	*
F	Clearance to outside corner	*	*
G	Clearance to inside corner	*	12 in.
H	Clearance to each side of center line extended above meter/regulator assembly	3 ft. (91 cm) within a height 15 ft. (4.6 m)	*
I	Clearance to service regulator vent outlet	3 ft. (91 cm)	*
J	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	36 in. (91 cm)	4 ft (1.2 m) below or to side of opening; 1 ft (300 mm) above opening
K	Clearance to a mechanical air supply inlet	6 ft (1.83 m)	3 ft (91 cm) above if within 10 ft (3 m) horizontally
L	Clearance above paved sidewalk or paved driveway located on public property	7 ft (2.13 m) [1]	Vents for Category II and IV appliances cannot be located above public walkways or other areas where condensate or vapor can cause a nuisance or hazard.
M	Clearance under veranda, porch, deck, or balcony	12 in. (30 cm) [2]	*

¹ In accordance with the current CSA B149.1, Natural Gas and Propane Installation Code.

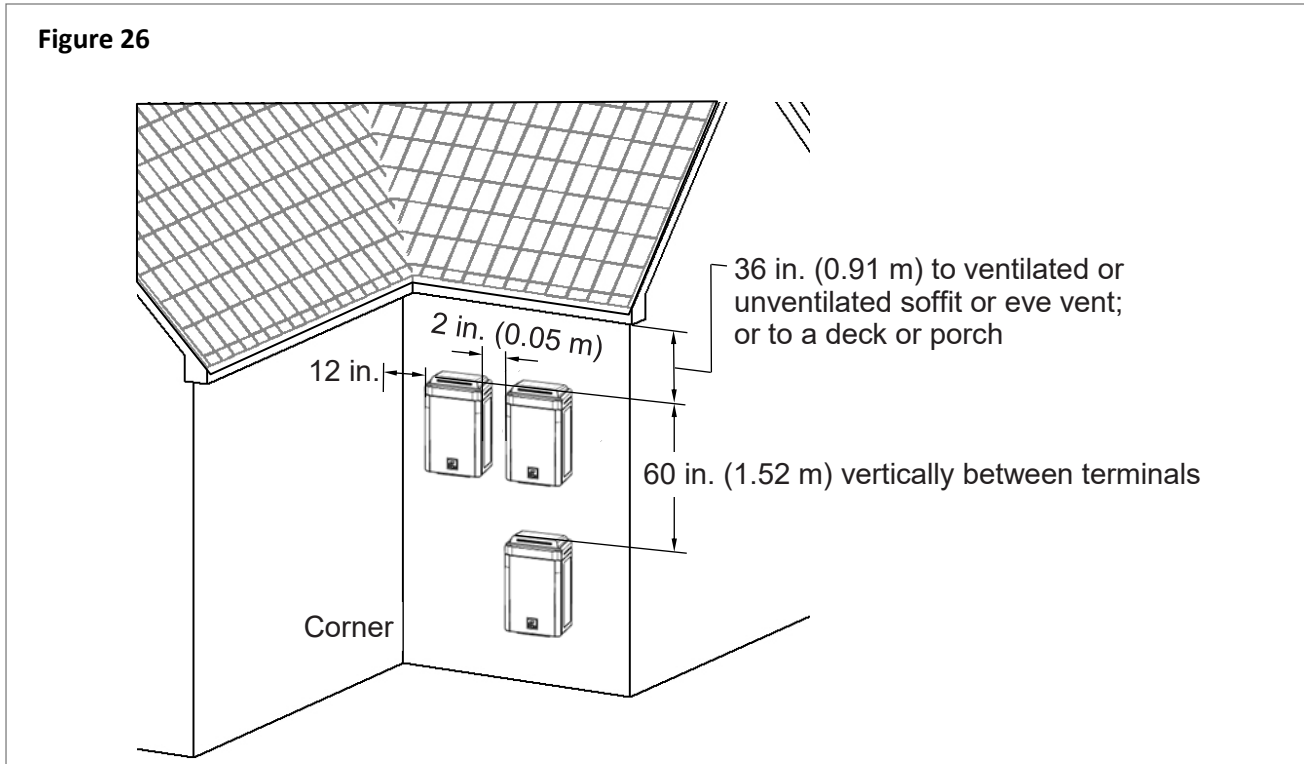
² In accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code.

If locally adopted installation codes specify clearances different than those illustrated, then the most stringent clearance shall prevail.

Clearance to opposite wall is 24 in (60 cm).	
[1] A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings. [2] Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.	*Clearances are in accordance with local installation codes and the requirements of the gas supplier. (<i>Dégagement conforme aux codes d'installation locaux et aux exigences du fournisseur de gaz.</i>)

Termination Clearance for External (Outdoor) Water Heaters

Figure 26



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