

STEP 1 Before Installing

! Read the Installation Manual and Operation manual before installing.

This product must be installed and serviced by a licensed plumber, a licensed gas fitter, or a professional service technician. Navien is not liable for any damages or defects resulting from improper installation.

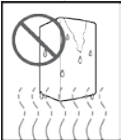
When applicable, the installation must conform with Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 and/or CAN/CSA Z240 MH Series, Mobile Homes.



! **WARNING**

Follow all local codes and/or the most recent edition of the National Fuel Gas Code (ANSI Z223.1/NFPA 54) in the USA, or the Natural Gas and Propane Installation Code in Canada (CAN/CGA B149.1).

Safety



DO NOT install in areas with excessively high humidity.

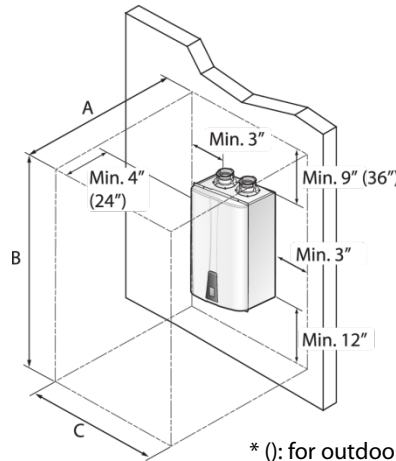
Location Requirements

Select the best location on "Choosing an Installation" in the installation Manual.

Allowable minimum clearances

For indoor installation

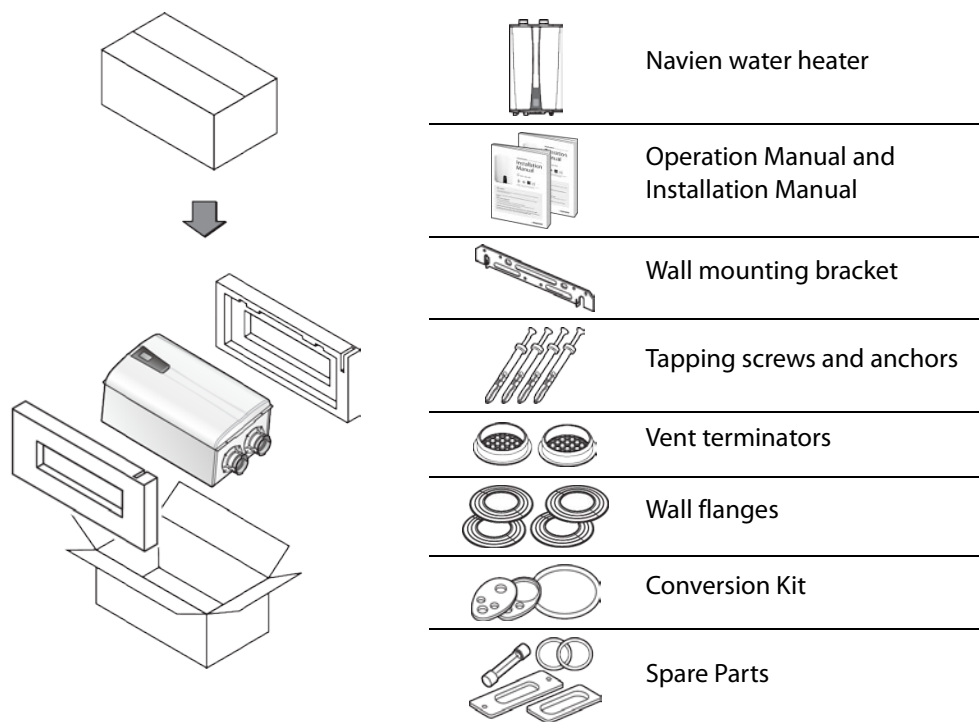
Clearance from:	Indoor Installation	Outdoor Installation
Top	9 inches (229mm) minimum	36 inches (900mm) minimum
Back	0.5 inches (20mm) minimum	0.5 inches (20mm) minimum
Front	4 inches (100mm) minimum	24 inches (600mm) minimum
Sides	3 inches (76mm) minimum	3 inches (76mm) minimum
Bottom	12 inches (300mm) minimum	12 inches (300mm) minimum



* (): for outdoor installation
 ** Back of the water heater: Min. 0.5"

STEP 2 Installing

1 Unpacking



2 Checking the Rating Plate



This water heater is configured for Natural Gas from the factory. If conversion to Propane Gas is required, the conversion kit supplied with the water heater must be used.

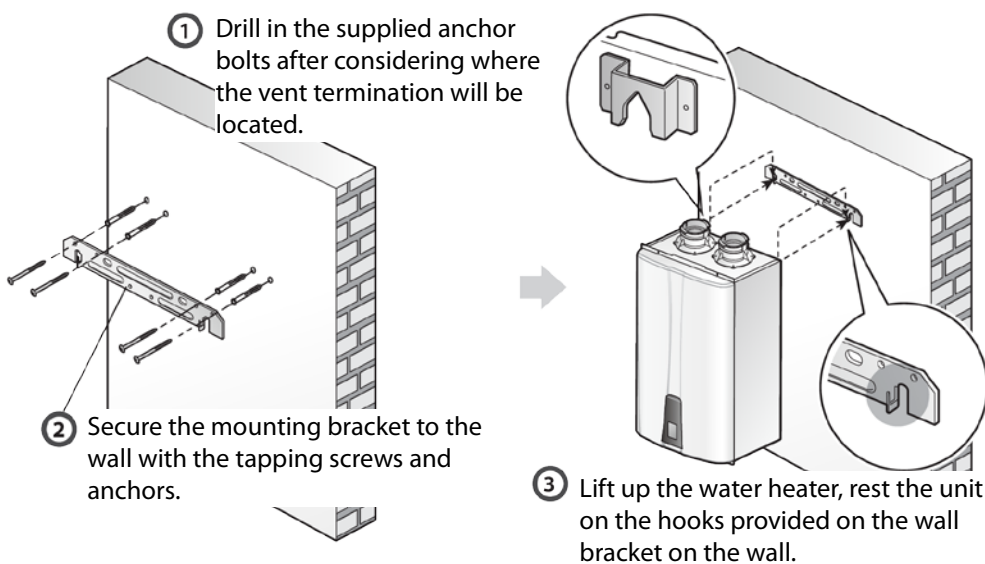
! **WARNING**

- Before connecting the gas supply, determine the gas type and pressure for the water heater by referring to the rating plate. Use only the same gas type indicated on the rating plate. Using a different gas type will result in abnormal combustion and malfunction of the water heater. Gas supplies should be connected by a licensed professional only.
- The appliance and its gas connection must be leak tested before placing the appliance in operation.
- This water heater cannot be converted from natural gas to propane or vice versa without a Navien gas conversion kit. Do not attempt a field conversion of this water heater without a Navien gas conversion kit. Doing so will result in dangerous operating conditions and will void the warranty.

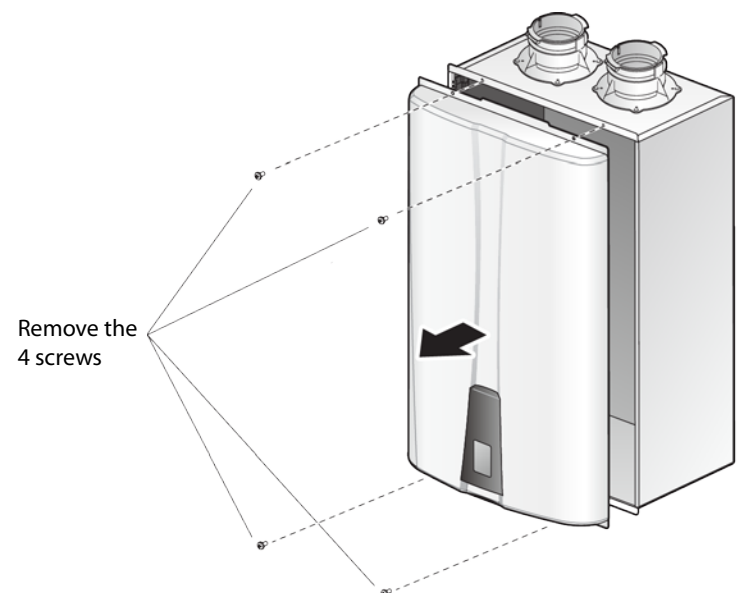
Navien America Inc. is not liable for any property damage and/or personal injury resulting from improper conversions.

3 Mounting on the Wall

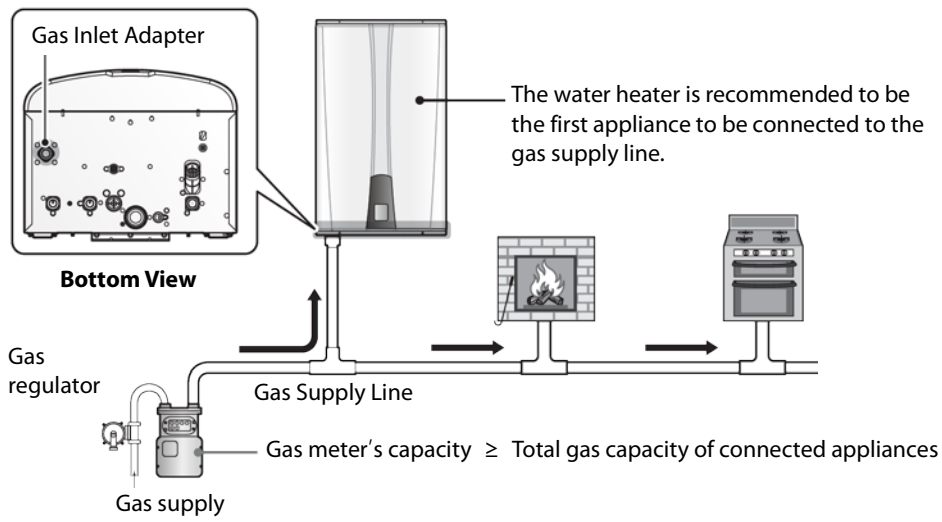
! **CAUTION**
 Do not install water heater on dry wall only



4 Removing the Front Cover



5 Gas Piping Connections



Example:

$$\text{Gas meter } \geq \text{Water heater} + \text{Furnace} + \text{Domestic gas stove}$$

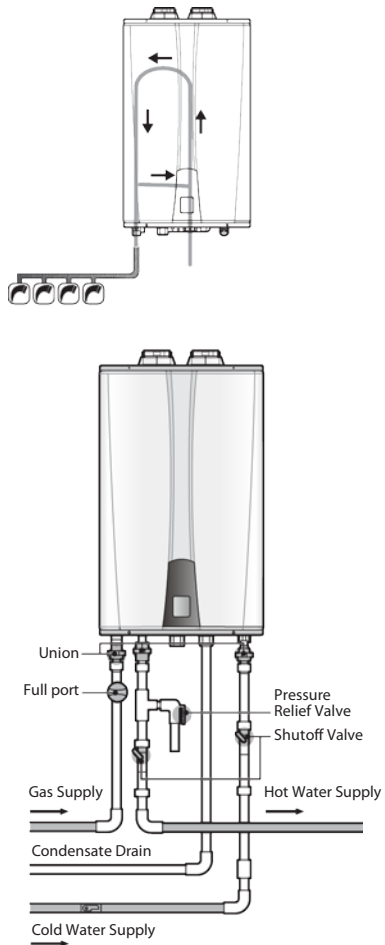
$$425 \text{ CFH} \geq 195 \text{ CFH} + 58.8 \text{ CFH} + 63.7 \text{ CFH}$$

* 1 CFH=1,020 Btuh

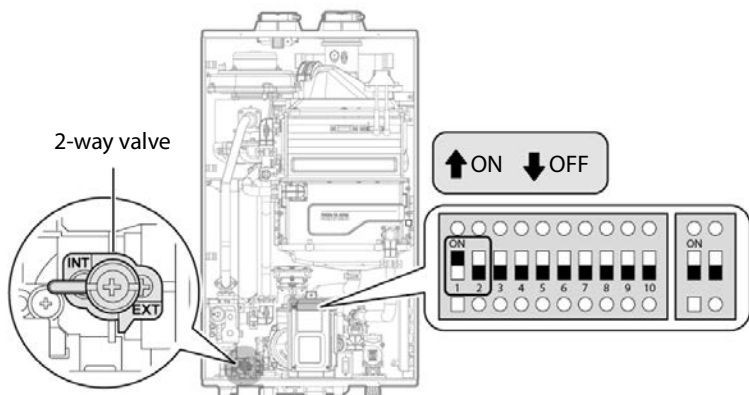
- 1/2" rigid pipe can be used; refer to the sizing tables in the Installation Manual for limitations. Avoid using 1/2" corrugated connectors or tubing as noise may occur.

6 Water Piping Connections (NPE-180A/210A/240A)

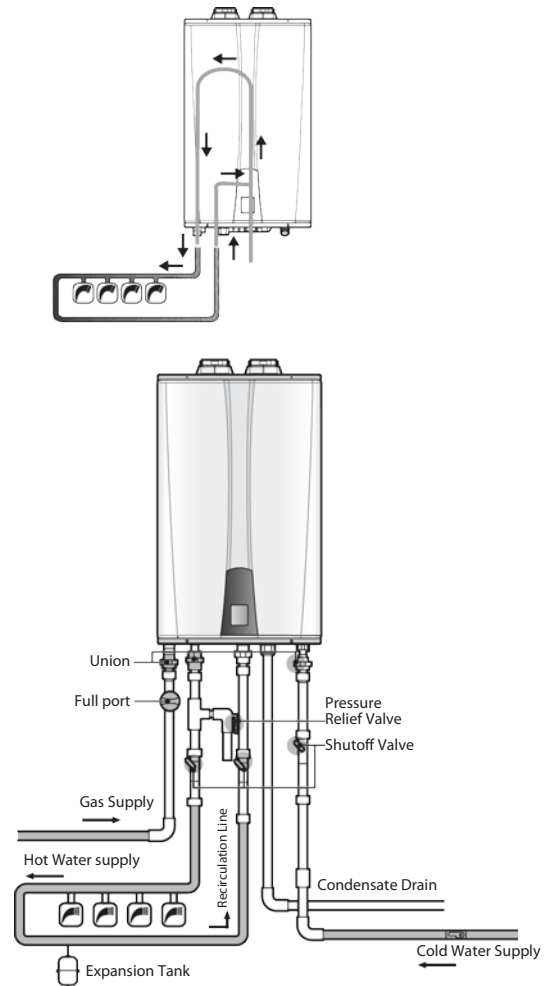
Internal Recirculation



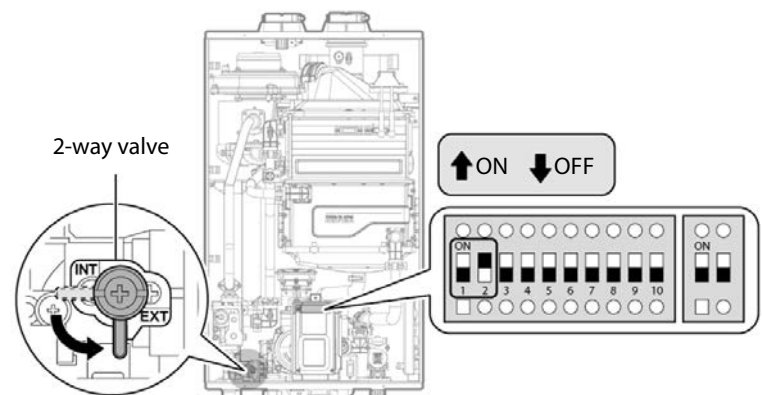
Internal Recirculation Settings



External Recirculation

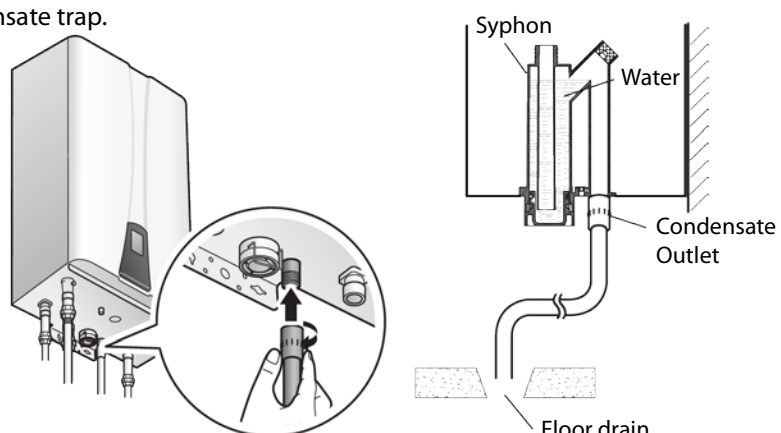


External Recirculation Settings



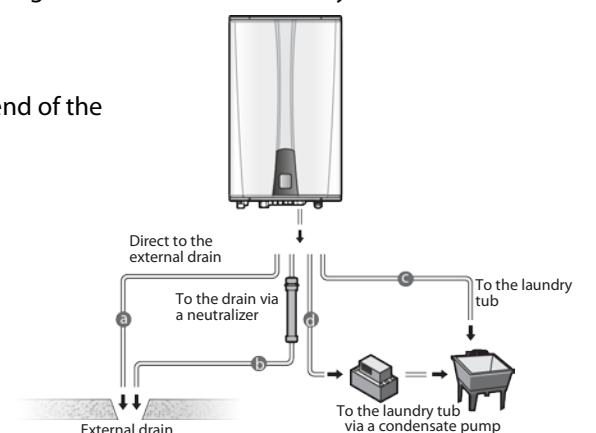
7 Condensate Drain Connection

A condensate drain pipe must be connected to the 1/2" condensate outlet fitting at the bottom of the unit and water must be poured into the exhaust connection to fill the condensate trap.



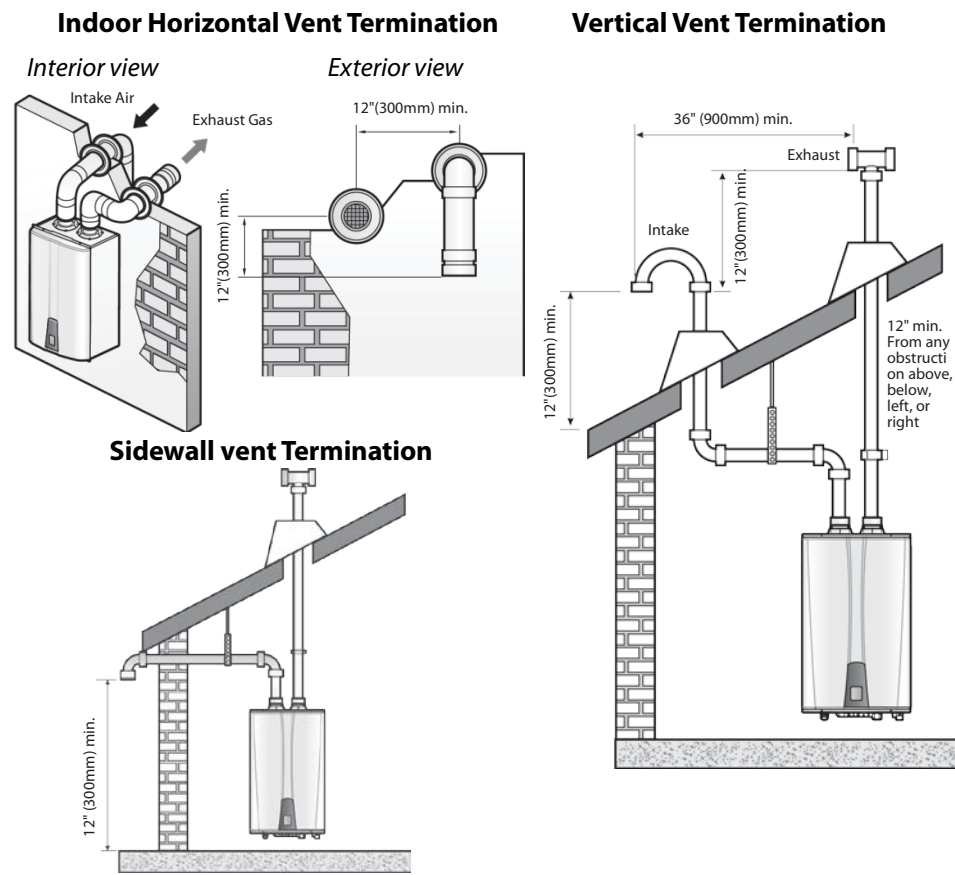
The end of the 1/2" (NPT) plastic piping should drain into a laundry tub or into a floor drain.

Note Do not submerge the end of the pipe in water.

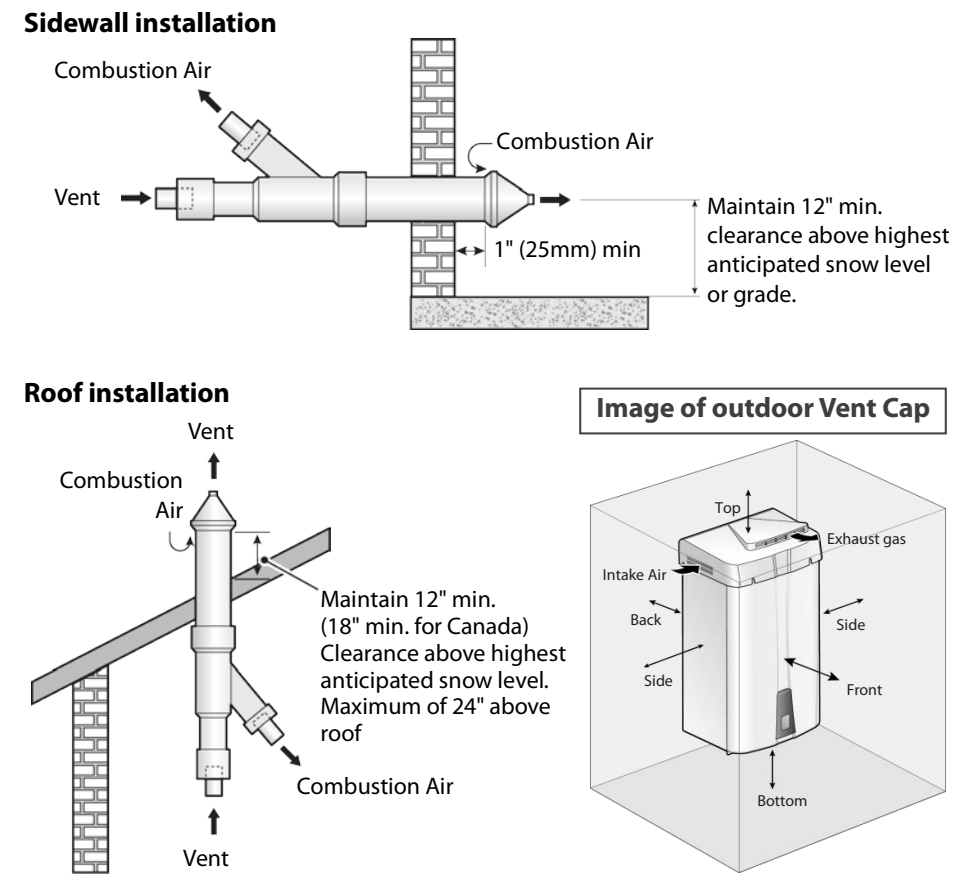


8 Venting

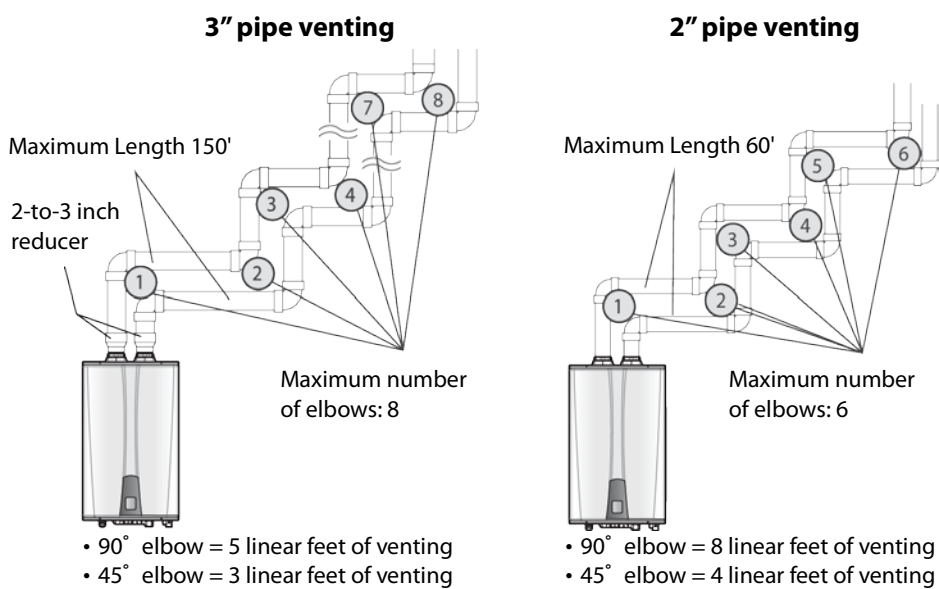
Vent Termination Options



Concentric Vent Termination



Venting Length



Exhaust Vent Piping Materials

Venting requirements differ in the US and Canada. Consult the following chart or the most recent edition of ANSI Z223.1/NFPA 54 or CAN/CGA B149.1, as well as all applicable local codes and regulations when selecting vent pipe materials. Do not use cellular core PVC (ASTM F891), cellular core CPVC, Radel® (polyphenolsulfone) for the exhaust vent.

Navien recommended venting materials

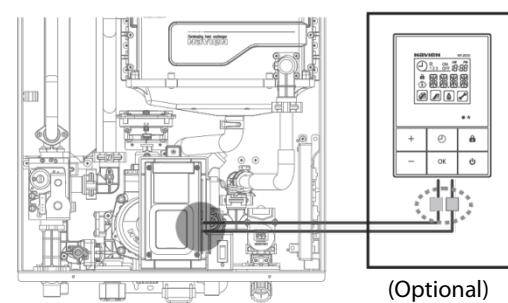
Locale	Recommended Vent Materials
USA	<ul style="list-style-type: none"> • PVC Schedule 40 (Solid core) • CPVC Schedule 40 or 80 (Solid core) • Approved Polypropylene*
Canada**	<ul style="list-style-type: none"> • Type BH Special Gas Vent Class IIA (PVC) • Type BH Special Gas Vent Class IIB (CPVC) • Type BH Special Gas Class IIC (Polypropylene)

* Approved polypropylene systems include: Duravent Polypro (Single Wall): 2PPS-xxx (2 in), 3PPS-xxx (3 in) / Centrotherm InnoFlue SW: ISxx02xx (2 in), ISxx03xx (3 in) / Centrotherm InnoFlue Flex: IFVL02XXX (2 in). Refer to the manufacturer's literature for detailed information.

** For installation in Canada, field-supplied plastic vent piping must comply with CAN/CGA B149.1 (latest edition) and be certified to the Standard. For Type BH Gas Venting Systems, ULC-S636. Components of this listed system must not be interchanged with other vent systems or unlisted pipes or fittings. All plastic components and specified primers and glues of the certified vent system must be from a single system manufacturer and must not be intermixed with another system manufacturer's parts. The supplied vent connector and vent termination are certified as part of the water heater.

9 Electrical Connections

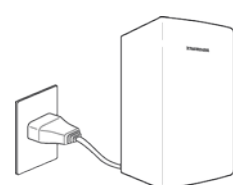
Remote Controller Connection



CAUTION

Disconnect the power to the water heater before installing the remote controller

Power Connection



120 VAC 60 Hz
 Min. 2 Amp current with proper grounding

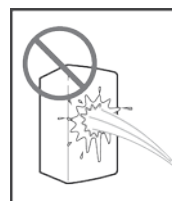
CAUTION

Using abnormally high or low AC voltage may cause abnormal operation, thereby causing fire which reduces the life expectancy of this product.

Safety



DO NOT touch the power cord with wet hands.



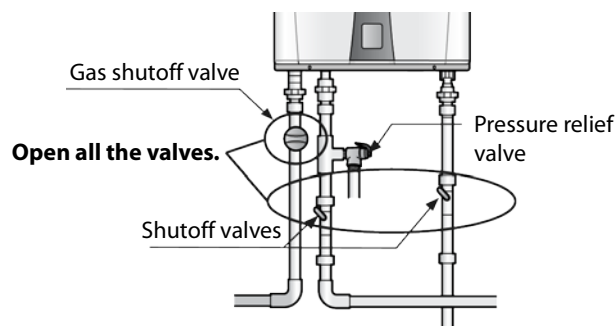
DO NOT expose to excessive amounts of water.

Confirmation of Panel DIP Switch Settings

Switch	Function	Setting	Setting
1-3	Pump and Recirculation	No Recirculation	1-OFF, 2-OFF, 3-OFF
		External Pump Only-External Recirculation	1-OFF, 2-OFF, 3-ON
		Internal Pump Only-Internal Recirculation	1-ON, 2-OFF, 3-OFF
		Internal Pump Only-External Recirculation	1-OFF, 2-ON, 3-OFF
		Internal Pump Only-Intelligent Preheating*	1-ON, 2-ON, 3-OFF
		Internal & External Pump-Internal Recirculation	1-ON, 2-OFF, 3-ON
		Internal & External Pump-External Recirculation	1-OFF, 2-ON, 3-ON
		Internal & External Pump-Intelligent Preheating*	1-ON, 2-ON, 3-ON
		4	Display Temperature Unit
Fahrenheit	4-OFF		
5	Well Pump	Well Pump Operation	5-ON
		Do Not Use Well Pump	5-OFF
6	DHW Storage Tank/Solar System	Storage Tank/Solar System Operation	6-ON
		Do Not Use Storage Tank/Solar System	6-OFF
7 & 8	Lime Alarm	6 Months Alert	7-ON, 8-OFF
		12 Months Alert	7-OFF, 8-ON
		24 Months Alert	7-ON, 8-ON
9 & 10	High Altitude****	0 ~ 1,999 ft (0 ~ 609 m)	9-OFF, 10-OFF
		2,000 ~ 5,399 ft (610 ~ 1,645 m)	9-ON, 10-OFF
		5,400 ~ 7,699 ft (1,646 ~ 2,346 m)	9-OFF, 10-ON
		7,700 ~ 10,100 ft (2,347 ~ 3,078 m)	9-ON, 10-ON

STEP 3 After Installing

1 Opening All the Valves



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 www.navien.com

2 Operating the Water Heater

Power ON	Adjust water Temperature	View Basic Information	Resetting the Water Heater
Temperature will appear on the Front Panel when the power is on.	Press (+) or (-) to set the desired temperature Note Setting over 125°F can cause scalding	Press (+) or (-) to switch the information type.	Press Reset to solve the problem. Note If resetting does not solve the problem, refer to the troubleshooting section of the Operation or contact the service center.

3 Measuring the Inlet Gas Pressure

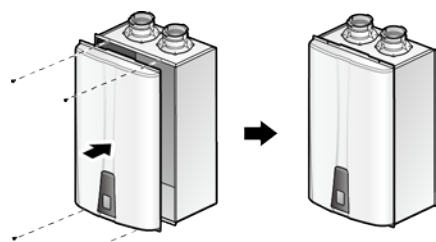
- Shut off the manual gas valve.
- Open a hot water faucet to turn on the unit.
- Shut off the hot water faucet.
- Remove 4 screws of the front cover assembly.
- Loosen a screw two or three turns and connect a manometer to the pressure port.
- Re-open the manual gas valve.
- Open several fixtures that have high flow rates.
- Check the inlet gas pressure reading on the manometer.

Recommend Gas Pressure Settings:
 NG : 3.5" ~ 10.5" WC
 LP : 8.0" ~ 13.5" WC

If not → Adjust the inlet gas pressure with gas regulator.

CAUTION
 The Navien water heater cannot operate properly without sufficient inlet gas pressure and volume. The instructions on how to check the inlet gas pressure are stated above.
THIS IS ONLY TO BE DONE BY A LICENSED PROFESSIONAL.

4 Installing the Front Cover



5 Ensure maximum water flow

After using the first 10 minutes, please stop using it and clean the cold water filter and recirculation water filter of any trapped debris.

6 Final Check

A trial run should be performed in accordance with the Installation checklist found in the Installation Manual.