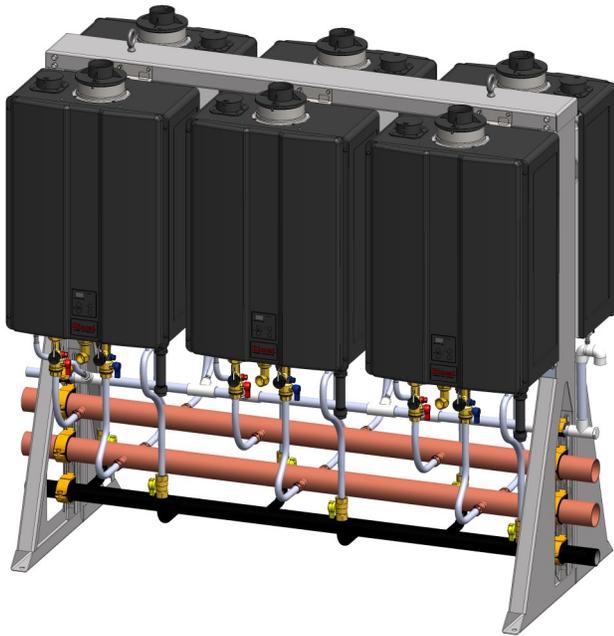


## INSTALLATION MANUAL

# Tankless Rack System



*Free-Standing Rack with Six Rinnai Tankless Water Heaters*

## Installation at a Glance

Install TRS In This Order:

- |   |  |  |
|---|--|--|
| 1 | Lift, Position and Secure the Rack                   | <b>Installation</b> section (page 33)                                |
| 2 | Vent the Water Heaters                               | <b>Venting</b> section (page 39)                                     |
| 3 | Connect Plumbing                                     | <b>Plumbing</b> section (page 41)                                    |
| 4 | Connect Gas  | <b>Gas Supply</b> section (page 45)                                  |
| 5 | Connect Power  | <b>Power Supply</b> section (page 46)                                |
| 6 | Configure TRW02ST & TRW03ST Models for Recirculation | <b>Configuring TRW02ST and TRW03ST Rack Models</b> section (page 49) |
| 7 | Connect Water Heaters with Cascade Cable(s)          | <b>Connect Water Heaters</b> section (page 56)                       |
| 8 | Confirm Installation                                 | <b>Installation Checklist</b>  |

### IMPORTANT

Set aside the “Rinnai Tankless Water Heater Installation and Operation Manual” as you will need to reference clearances, venting options, and other information specific to the water heaters. A copy is provided with each tankless water heater in the rack system.

### **WARNING**

If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor’s phone. Follow the gas supplier’s instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

# 1 Welcome

Thank you for purchasing a Rinnai Tankless Rack System (TRS). This manual provides instructions on installing a TRS. For specific questions on the Rinnai Tankless Water Heaters, refer to the “Rinnai Tankless Water Heater Installation and Operation Manual” supplied with each water heater in the rack system. Read this manual completely before installing the TRS.

## To The Installer

- A trained and qualified professional must install and inspect the Tankless Rack System before use. The warranty will be voided due to any improper installation.
- The trained and qualified professional should have skills such as:
  - Gas line sizing
  - Connecting gas lines, water lines, valves, and electricity
  - Knowledge of applicable national, state, and local codes
  - Installing venting through a wall or roof
  - Training in installation of tankless water heaters. Training on Rinnai Tankless Water Heaters is accessible at [www.trainingevents.rinnai.us](http://www.trainingevents.rinnai.us).
- Read all instructions in this manual before installing the TRS. The TRS must be installed according to the exact instructions in this manual.
- In addition to this manual, you will also need the “Rinnai Tankless Water Heater Installation and Operation Manual” for specific water heater installation information, such as clearances, venting options and parameter settings. A copy is provided with each tankless water heater in the rack system.
- Proper installation is the responsibility of the installer.
- When installation is complete, leave this manual with the rack system or give the manual directly to the consumer.

## To The Consumer

- As when using any appliance generating heat, there are certain safety precautions you should follow. See the **Safety Precautions** section in this manual for detailed safety precautions.
- A trained and qualified professional must install the Tankless Rack System.
- Keep this manual for future reference.

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## If You Need Service

Contact Rinnai Commercial Water Heating Services

800-621-9419

[commercialservices@rinnai.us](mailto:commercialservices@rinnai.us)

**READ AND SAVE  
THESE INSTRUCTIONS**

# 2 Safety

## WARNING

- If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury, or death.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- WHAT TO DO IF YOU SMELL GAS:
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.
- The warning signs in this manual are here to prevent injury to you and others. Please follow them explicitly.

## Safety Symbols

This manual contains the following important safety symbols. Always read and obey all safety messages.



Safety alert symbol. Alerts you to potential hazards that can kill or hurt you and others.



Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.



Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

# Safety Precautions

The following precautions apply to the installer and consumer. Read and follow all instructions in this section.



## WARNING

**DO NOT adjust the internal gas valve. The design is such that adjustment is not required. Warranty will be voided if the internal gas valve is adjusted.**

- Before operating, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- Keep the area around the appliance clear and free from combustible materials, gasoline, and other flammable vapors and liquids.
- Combustible construction refers to adjacent walls and ceiling and should not be confused with combustible or flammable products and materials. Combustible and/or flammable products and materials should never be stored in the vicinity of this or any gas appliance.
- To protect yourself from harm, before performing maintenance:
  - Turn off the electrical power supply by unplugging the power cord or by turning off the electricity at the circuit breaker. (The temperature controller does not control the electrical power.)
  - Turn off the gas at the manual gas control valve, usually located immediately below the water heater.
  - Turn off the incoming water supply. This can be done at the isolation valve immediately below the water heater or by turning off the water supply to the building.
  - Use only your hand to turn the manual gas control valve. Never use tools. If the manual gas control valve will not turn by hand, do not try to repair it; call a trained and qualified professional. Force or attempted repair may result in a fire or explosion.
- Do not use this appliance if any part has been under water. Immediately call a licensed professional to inspect the appliance and to replace any part of the control system and any manual gas control valve which has been under water.  
Do not use substitute materials. Use only parts certified for the appliance.
- Should overheating occur or the gas supply fail to shut off, turn off the manual gas control valve to the appliance.
- Only trained and qualified professionals are permitted to adjust parameter settings.
- Do not use an extension cord or adapter plug with this appliance.
- Any alteration to the appliance or its controls can be dangerous and will void the warranty.
- Proper venting is required for the safe operation of this appliance.
- Flammable liquids such as cleaning solvents, aerosols, paint thinners, adhesives, gasoline and propane must be handled and stored with extreme care. These flammable liquids emit flammable vapors and when exposed to an ignition source can result in a fire hazard or explosion. Flammable liquids should not be used or stored in the vicinity of this or any other gas appliance.
- DO NOT operate the water heater without the front panel installed. The front panel should only be removed for service/maintenance or replacing internal components.
- BURN HAZARD. Hot exhaust and vent may cause serious burns. Keep away from the water heater. Keep small children and animals away from the water heater.
- Hot water outlet pipes leaving the water heater can be hot to touch.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.  
Install the vent system per local and national codes.
- Do not install the water heaters above 10,200 ft (3,109 m).
- Do not obstruct combustion air to the water heaters.
- Failure to properly vent this appliance can result in death, personal injury and/or property damage.
- Rinnai recommends that every home have a carbon monoxide (CO) alarm in the hallway near bedrooms in each sleeping area. Check batteries monthly and replace them annually.
- California law requires the following Proposition 65 warning to be provided:



## WARNING

This product can expose you to chemicals including lead, lead compounds and carbon bisulfide which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Rinnai's Tankless Rack System (TRS) is designed to supply a packaged water heating solution as a fully assembled system. The TRS includes preassembled water and gas connections and manifolds under the tankless water heaters that are properly sized to maintain optimum performance.

TRS systems include wall-hanging, wall-mounted, corner-hanging and free-standing configurations.

- Wall-hanging configurations are available for 2 and 3 tankless water heaters (SE Series units are available for 2 tankless water heaters only).
- Wall-mounted configurations are available for 2 and 3 tankless water heaters.
- Corner-hanging configurations are available for 2 tankless water heaters.
- Free-standing configurations are available for 2, 3, 4, 5, and 6 tankless water heaters.

The TRS features design details that make installation simple and straightforward:

- Maneuverability: Fits fully assembled through standard 32-inch doorways and on elevators.
- Flexibility: Available for indoor and outdoor installations.
- Preassembled gas and water manifolds are properly sized to maintain optimum performance.
- Racks are constructed of powder-coated aluminum, powder-coated steel, and stainless steel to stand up to the most demanding commercial environments while minimizing weight.
- Optional electronic controls to obtain turn down ratios of up to 327:1 (sold separately).

The TRS is designed for use with Rinnai Tankless Water Heaters only. Do not mount non-Rinnai tankless water heaters on the TRS.

# 4

# Configurations

TRS configurations and part numbers are listed in the following tables.

## Wall-Hanging Racks

CONFIGURATIONS

CU Series			
Part No.*	Rack type	Configuration	Illustration
TRW02CUiN	2-unit interior wall-hanging rack, NG		
TRW02CUeN	2-unit exterior wall-hanging rack, NG		
TRW02CUiP	2-unit interior wall-hanging rack, LP		
TRW02CUeP	2-unit exterior wall-hanging rack, LP		
TRW23CUiN	2-unit interior wall-hanging rack, NG		
TRW23CUeN	2-unit exterior wall-hanging rack, NG		
TRW23CUiP	2-unit interior wall-hanging rack, LP		
TRW23CUeP	2-unit exterior wall-hanging rack, LP		
TRW03CUiN	3-unit interior wall-hanging rack, NG		
TRW03CUeN	3-unit exterior wall-hanging rack, NG		
TRW03CUiP	3-unit interior wall-hanging rack, LP		
TRW03CUeP	3-unit exterior wall-hanging rack, LP		

SE Series			
Part No.*	Rack type	Configuration	Illustration
TRW02SEiN	2-unit interior wall-hanging rack, NG RUC		
TRW02SEeN	2-unit exterior wall-hanging rack, NG RUC		
TRW02SEiP	2-unit interior wall-hanging rack, LP RUC		
TRW02SEeP	2-unit exterior wall-hanging rack, LP RUC		

SE+ Series Featuring ThermaCirc360™			<b>ThermaCirc360™</b> Wait less. Waste less.
Part No.*	Rack type	Configuration	Illustration
TRW02STiN	2-unit interior wall-hanging rack, NG		
TRW02STeN	2-unit exterior wall-hanging rack, NG		
TRW02STiP	2-unit interior wall-hanging rack, LP		
TRW02STeP	2-unit exterior wall-hanging rack, LP		
TRW03STiN	3-unit interior wall-hanging rack, NG		
TRW03STeN	3-unit exterior wall-hanging rack, NG		
TRW03STiP	3-unit interior wall-hanging rack, LP		
TRW03STeP	3-unit exterior wall-hanging rack, LP		

\* Part No. Legend: TR = Tankless Rack; W = Wall Hanging; S = Stand Alone; IL = Inline; ILW = Inline Wall Mount; 2/3/4/5/6 = Number of Water Heaters; i/e = Interior/Exterior; NG/LP = Natural Gas/Liquid Propane

HE+ Series			
Part No.*	Rack type	Configuration	Illustration
TRW02HEiN	2-unit interior wall-hanging rack, NG <sup>[1]</sup>		
TRW02HEXiN	2-unit interior wall-hanging rack, NG <sup>[2]</sup>		
TRW02HEeN	2-unit exterior wall-hanging rack, NG		
TRW02HEiP	2-unit interior wall-hanging rack, LP		
TRW02HEeP	2-unit exterior wall-hanging rack, LP		
TRW03HEiN	3-unit interior wall-hanging rack, NG <sup>[1]</sup>		
TRW03HEXiN	3-unit interior wall-hanging rack, NG <sup>[2]</sup>		
TRW03HEeN	3-unit exterior wall-hanging rack, NG		
TRW03HEiP	3-unit interior wall-hanging rack, LP		
TRW03HEeP	3-unit exterior wall-hanging rack, LP		

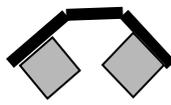
<sup>[1]</sup> For use with Rinnai RL94i Tankless Water Heaters.

<sup>[2]</sup> For use with Rinnai RLX94i Tankless Water Heaters.

## Wall-Mount Racks

Part No.*	Rack type	Configuration	Illustration
TRS02iLWCUiN	2-unit interior wall-mount rack, NG		
TRS02eLWCUeN	2-unit exterior wall-mount rack, NG		
TRS02iLWCUiP	2-unit interior wall-mount rack, LP		
TRS02eLWCUeP	2-unit exterior wall-mount rack, LP		
TRS23iLWCUiN	2-unit interior wall-mount rack, NG		
TRS23eLWCUeN	2-unit exterior wall-mount rack, NG		
TRS23iLWCUiP	2-unit interior wall-mount rack, LP		
TRS23eLWCUeP	2-unit exterior wall-mount rack, LP		
TRS03iLWCUiN	3-unit interior wall-mount rack, NG		
TRS03eLWCUeN	3-unit exterior wall-mount rack, NG		
TRS03iLWCUiP	3-unit interior wall-mount rack, LP		
TRS03eLWCUeP	3-unit exterior wall-mount rack, LP		

## Corner-Hanging Racks

Part No.*	Rack type	Configuration	Illustration
TRC02CUiN	2-unit interior corner-hanging rack, NG		
TRC02CUiP	2-unit interior corner-hanging rack, LP		

\* Part No. Legend: TR = Tankless Rack; W = Wall Hanging; S = Stand Alone; IL = Inline; ILW = Inline Wall Mount; 2/3/4/5/6 = Number of Water Heaters; i/e = Interior/Exterior; NG/LP = Natural Gas/Liquid Propane

# Free-Standing Racks

Part No.*	Rack type	Configuration	Illustration
TRS02CUiN	2-unit interior free-standing rack, NG	Back to Back	
TRS02CUeN	2-unit exterior free-standing rack, NG		
TRS02CUiP	2-unit interior free-standing rack, LP		
TRS02CUeP	2-unit exterior free-standing rack, LP		
TRS02ILCUiN	2-unit INLINE interior free-standing rack, NG		
TRS02ILCUeN	2-unit INLINE exterior free-standing rack, NG		
TRS02ILCUiP	2-unit INLINE interior free-standing rack, LP		
TRS02ILCUeP	2-unit INLINE exterior free-standing rack, LP		
TRS23ILCUiN	2-unit INLINE interior free-standing rack, NG		
TRS23ILCUeN	2-unit INLINE exterior free-standing rack, NG		
TRS23ILCUiP	2-unit INLINE interior free-standing rack, LP		
TRS23ILCUeP	2-unit INLINE exterior free-standing rack, LP		
TRS03ILCUiN	3-unit INLINE interior free-standing rack, NG		
TRS03ILCUeN	3-unit INLINE exterior free-standing rack, NG		
TRS03ILCUiP	3-unit INLINE interior free-standing rack, LP		
TRS03ILCUeP	3-unit INLINE exterior free-standing rack, LP		
TRS03CUiN	3-unit interior free-standing rack, NG		
TRS03CUeN	3-unit exterior free-standing rack, NG		
TRS03CUiP	3-unit interior free-standing rack, LP		
TRS03CUeP	3-unit exterior free-standing rack, LP		
TRS36CUiN	3-unit interior free-standing rack, NG		
TRS36CUeN	3-unit exterior free-standing rack, NG		
TRS36CUiP	3-unit interior free-standing rack, LP		
TRS36CUeP	3-unit exterior free-standing rack, LP		
TRS04CUiN	4-unit interior free-standing rack, NG		
TRS04CUeN	4-unit exterior free-standing rack, NG		
TRS04CUiP	4-unit interior free-standing rack, LP		
TRS04CUeP	4-unit exterior free-standing rack, LP		
TRS46CUiN	4-unit interior free-standing rack, NG		
TRS46CUeN	4-unit exterior free-standing rack, NG		
TRS46CUiP	4-unit interior free-standing rack, LP		
TRS46CUeP	4-unit exterior free-standing rack, LP		
TRS05CUiN	5-unit interior free-standing rack, NG		
TRS05CUeN	5-unit exterior free-standing rack, NG		
TRS05CUiP	5-unit interior free-standing rack, LP		
TRS05CUeP	5-unit exterior free-standing rack, LP		
TRS06CUiN	6-unit interior free standing rack, NG		
TRS06CUeN	6-unit exterior free standing rack, NG		
TRS06CUiP	6-unit interior free standing rack, LP		
TRS06CUeP	6-unit exterior free standing rack, LP		

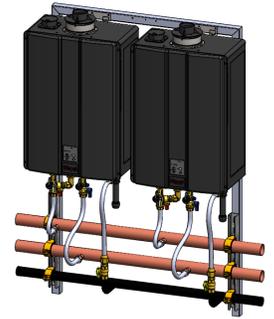
\* Part No. Legend: TR = Tankless Rack; W = Wall Hanging; S = Stand Alone; IL = Inline; ILW = Inline Wall Mount; 2/3/4/5/6 = Number of Water Heaters; i/e = Interior/Exterior; NG/LP = Natural Gas/Liquid Propane

# 5 Specifications

## WALL-HANGING RACKS

### Available Configurations

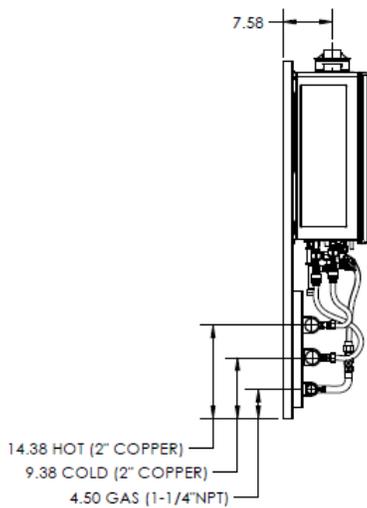
- 2-Units
- 3-Units



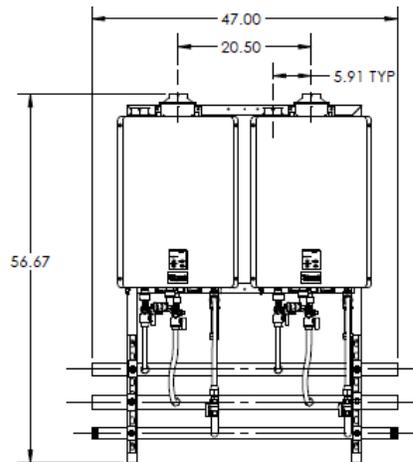
CU Series

2-Unit  
Wall-Hanging Frame

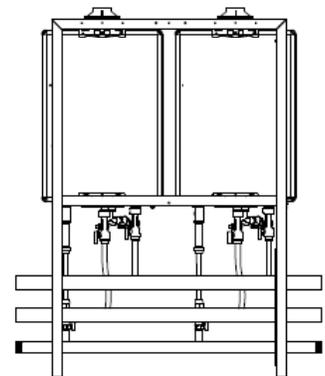
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BACK



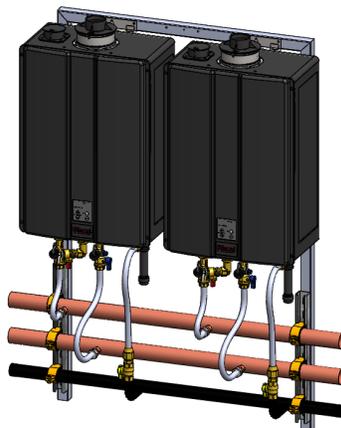
Model	Configuration	Illustration
TRW02CU		

CU Series 2-Unit Wall-Hanging Frame (Continued)

SPECIFICATIONS

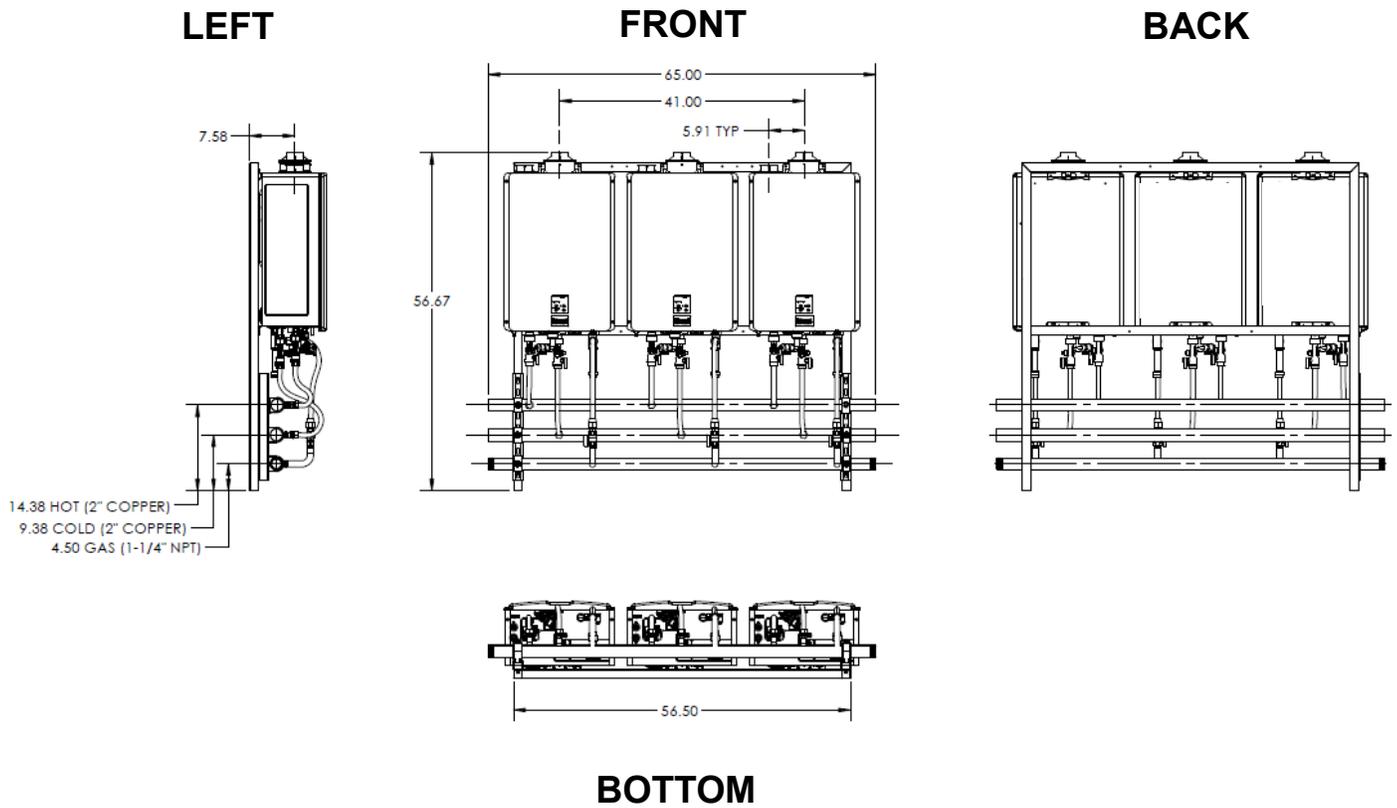
Model	TRW02CUi	TRWCU02CUe
Water Heater Model	CU199i (NG/LP)	CU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 70 x 35	
Weight - Fully Assembled - lbs	170	169
Weight - Shipping (total) - lbs	380	379
<b>Rack Frame - Specifications</b>		
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat	Stainless
Color	Gray	Stainless
<b>Water &amp; Gas Connections</b>		
Hot Water Trunk Line Diameter	2"	
Cold Water Trunk Line Diameter	2"	
Hot Water Trunk Line Material	Rigid Copper	
Cold Water Trunk Line Material	Rigid Copper	
Water Trunk Connection Type	2" Pipe	
Gas Trunk Line Diameter	1-1/4"	
Gas Trunk Connection Type	1-1/4" MNPT	
Gas Trunk Line Material	Sch 40 Steel	
Gas Branch Line Material	PVC Over CSST	
<b>Electric Requirements</b>		
Voltage	AC 120 Volts - 60 Hz	
Maximum Current (Amperes)	8	
<b>BTU and Flow Rates for C199i, CU199e (NG/LP)</b>		
Number of Tankless Water Heaters	2	
Flow rate @ 70°F rise (gpm)	10.8	
Flow rate @ 100°F rise (gpm)	7.6	
Minimum input rate (Btuh)	15,200	
Maximum input rate (Btuh)	398,000	

TRW02CU



CU Series

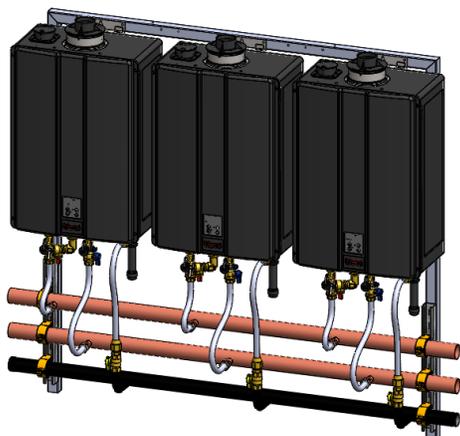
3-Unit  
Wall-Hanging Frame



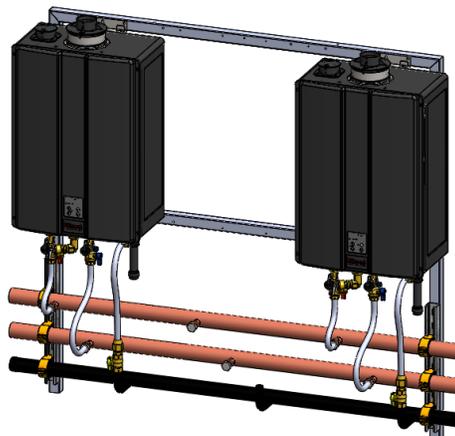
Model	Configuration	Illustration
TRW03CU		
TRW23CU		

Model	TRW03CUi	TRW03CUE	TRW23CUi	TRW23CUE
Water Heater Model	CU199i (NG/LP)	CU199e (NG/LP)	CU199i (NG/LP)	CU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 70 x 35		66 x 70 x 35	
Weight - Fully Assembled - lbs	248	244	186	183
Weight - Shipping (total) - lbs	469	465	407	402
<b>Rack Frame - Specifications</b>				
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat	Stainless	Powder Coat	Stainless
Color	Gray	Stainless	Gray	Stainless
<b>Water &amp; Gas Connections</b>				
Hot Water Trunk Line Diameter	2"			
Cold Water Trunk Line Diameter	2"			
Hot Water Trunk Line Material	Rigid Copper			
Cold Water Trunk Line Material	Rigid Copper			
Water Trunk Connection Type	2" PIPE			
Gas Trunk Line Diameter	1-1/4"			
Gas Trunk Connection Type	1-1/4" MNPT			
Gas Trunk Line Material	Sch 40 Steel			
Gas Branch Line Material	PVC Over CSST			
<b>Electric Requirements</b>				
Voltage	AC 120 Volts - 60 Hz			
Maximum Current (Amperes)	12		8	
<b>BTU and Flow Rates for CU199i, CU199e (NG/LP)</b>				
Number of Tankless Water Heaters	3		2	
Flow rate @ 70°F rise (gpm)	16.2		10.8	
Flow rate @ 100°F rise (gpm)	11.4		7.6	
Minimum input rate (Btuh)	15,200		15,200	
Maximum input rate (Btuh)	597,000		398,000	

TRW03CU



TRW23CU

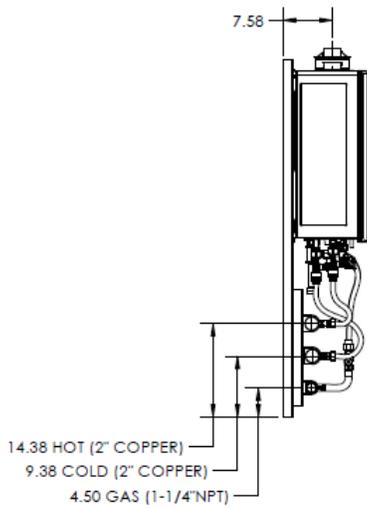


SE Series

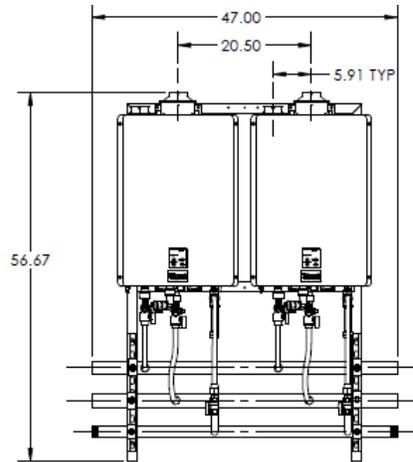
2-Unit  
Wall-Hanging Frame

SPECIFICATIONS

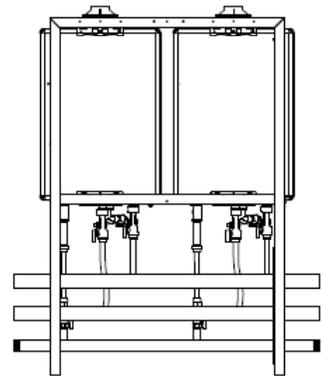
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FRONT



BACK

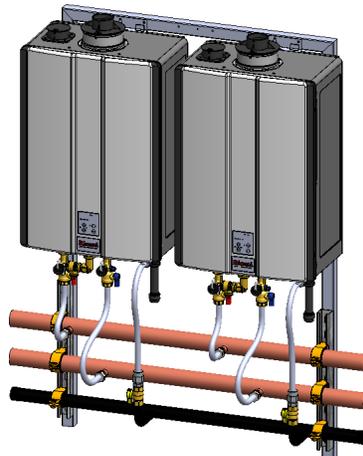


BOTTOM

Model	Configuration	Illustration
TRW02SE		

Model	TRW02SEi	TRW02SEe
Water Heater Model	RU199i (NG/LP)	RU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 X 70 X 35	
Weight - Fully Assembled - lbs	170	169
Weight - Shipping (total) - lbs	391	390
<b>Rack Frame - Specifications</b>		
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat	Stainless
Color	Gray	Stainless
<b>Water &amp; Gas Connections</b>		
Hot Water Trunk Line Diameter	2"	
Cold Water Trunk Line Diameter	2"	
Hot Water Trunk Line Material	Rigid Copper	
Cold Water Trunk Line Material	Rigid Copper	
Water Trunk Connection Type	2" PIPE	
Gas Trunk Line Diameter	1-1/4"	
Gas Trunk Connection Type	1-1/4" MNPT	
Gas Trunk Line Material	Sch 40 Steel	
Gas Branch Line Material	PVC Over CSST	
<b>Electric Requirements</b>		
Voltage	AC 120 Volts - 60 Hz	
Maximum Current (Amperes)	8	
<b>BTU and Flow Rates for RU199i, RU199e (NG/LP)</b>		
Number of Tankless Water Heaters	2	
Flow rate @ 70°F rise (gpm)	10.8	
Flow rate @ 100°F rise (gpm)	7.6	
Minimum input rate (Btuh)	15,200	
Maximum input rate (Btuh)	398,000	

**TRW02SE**

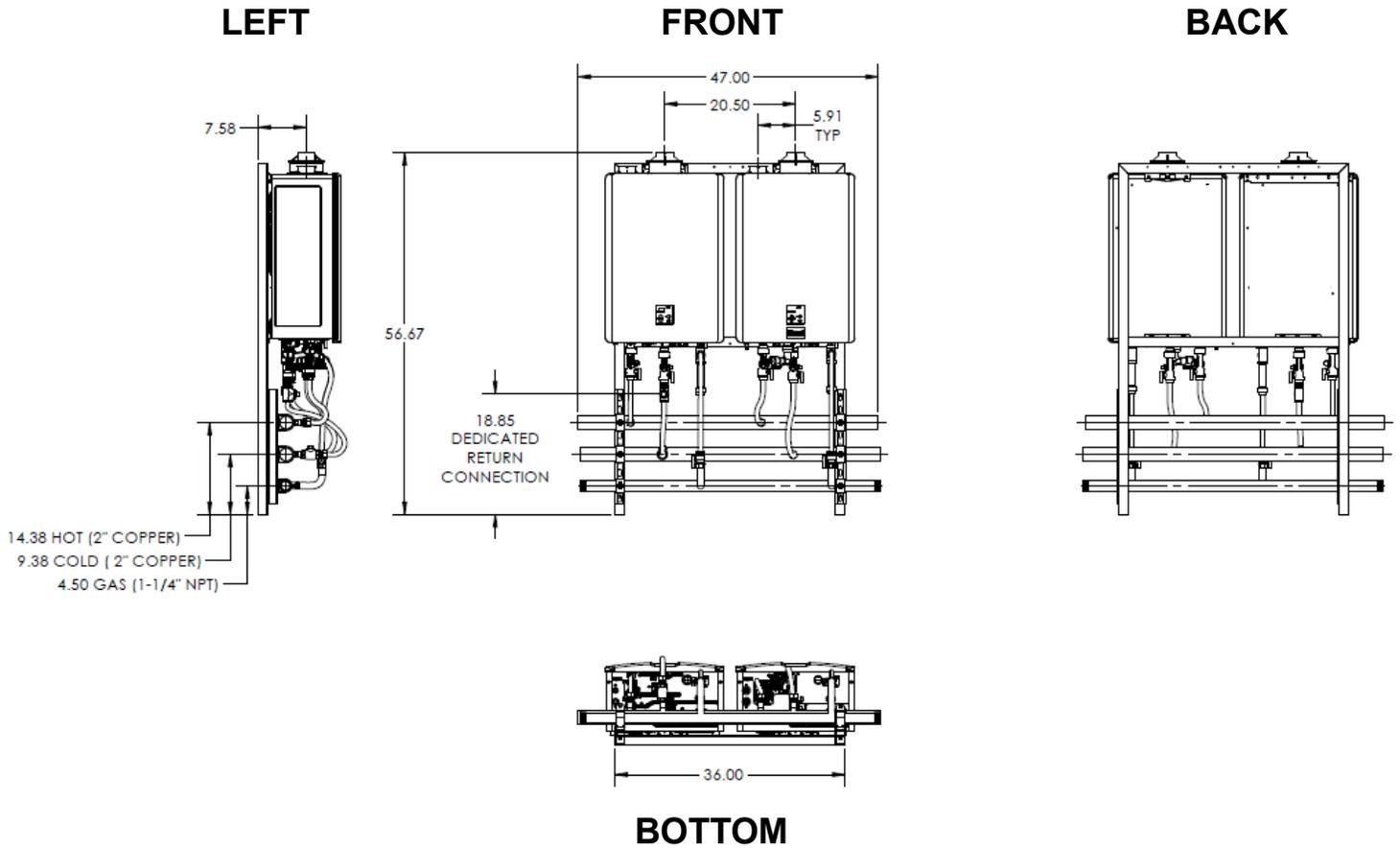


SE+ Series Featuring ThermaCirc360™



**2-Unit  
Wall-Hanging Frame**

SPECIFICATIONS



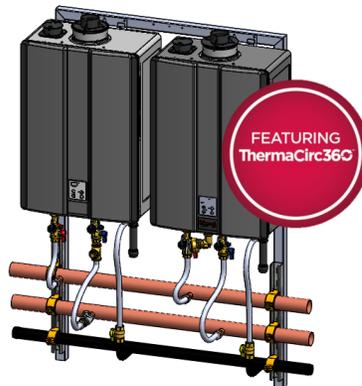
Model	Configuration	Illustration
TRW02ST		

SE+ Series Featuring ThermaCirc360™ 2-Unit Wall-Hanging Frame (Continued)

SPECIFICATIONS

Model	TRW02STi	TRW02STe
Water Heater Model	RUR199i AND RU199i (NG/LP)	RUR199e AND RU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 X 70 X 35	
Weight - Fully Assembled - lbs	178	177
Weight - Shipping (total) - lbs	399	398
<b>Rack Frame - Specifications</b>		
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat	Stainless
Color	Gray	Stainless
<b>Water &amp; Gas Connections</b>		
Hot Water Trunk Line Diameter	2"	
Cold Water Trunk Line Diameter	2"	
Hot Water Trunk Line Material	Rigid Copper	
Cold Water Trunk Line Material	Rigid Copper	
Water Trunk Connection Type	2" PIPE	
Gas Trunk Line Diameter	1-1/4"	
Gas Trunk Connection Type	1-1/4" MNPT	
Gas Trunk Line Material	Sch 40 Steel	
Gas Branch Line Material	PVC Over CSST	
<b>Electric Requirements</b>		
Voltage	AC 120 Volts - 60 Hz	
Maximum Current (Amperes)	8	
<b>BTU and Flow Rates for RUR199i, RUR199e, RU199i, RU199e (NG/LP)</b>		
Number of Tankless Water Heaters	2	
Flow rate @ 70°F rise (gpm)	10.8	
Flow rate @ 100°F rise (gpm)	7.6	
Minimum input rate (Btuh)	15,200	
Maximum input rate (Btuh)	398,000	

**TRW02ST**

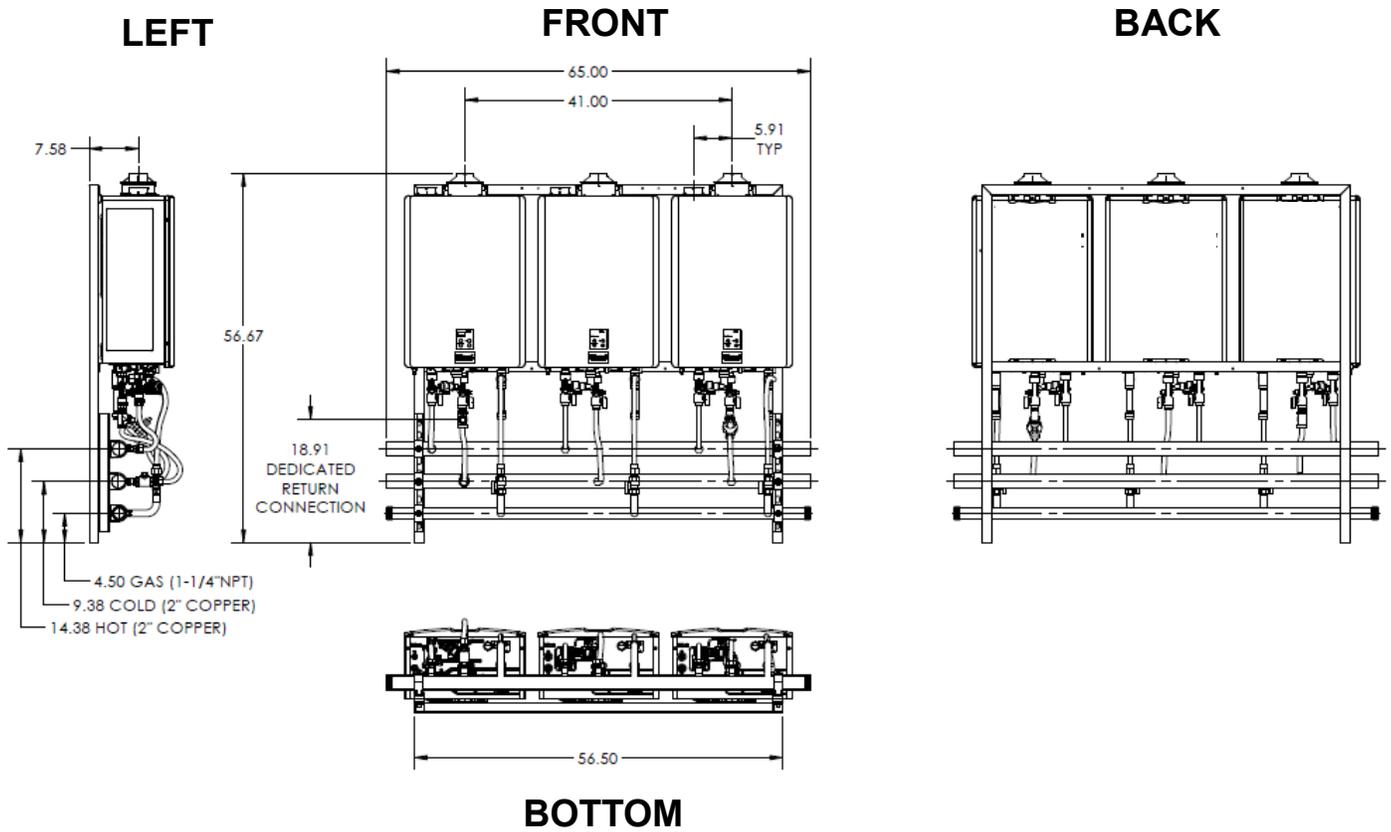


SE+ Series Featuring ThermaCirc360™



3-Unit  
Wall-Hanging Frame

SPECIFICATIONS



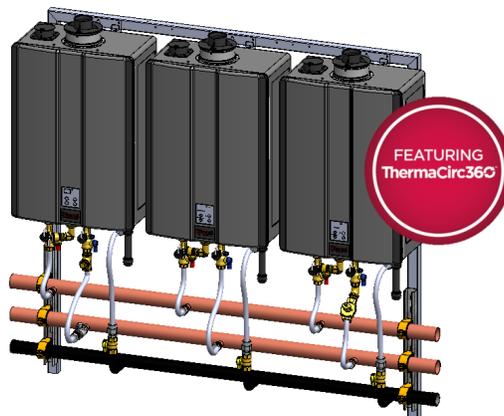
Model	Configuration	Illustration
TRW03ST		

SE+ Series Featuring ThermaCirc360™ 3-Unit Wall-Hanging Frame (Continued)

SPECIFICATIONS

Model	TRW03STi	TRW03STe
Water Heater Model	RUR199i AND RU199i (NG/LP)	RUR199e AND RU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 70 x 35	
Weight - Fully Assembled - lbs	258	254
Weight - Shipping (total) - lbs	476	472
<b>Rack Frame - Specifications</b>		
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube	16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat	Stainless
Color	Gray	Stainless
<b>Water &amp; Gas Connections</b>		
Hot Water Trunk Line Diameter	2"	
Cold Water Trunk Line Diameter	2"	
Hot Water Trunk Line Material	Rigid Copper	
Cold Water Trunk Line Material	Rigid Copper	
Water Trunk Connection Type	2" PIPE	
Gas Trunk Line Diameter	1-1/4"	
Gas Trunk Connection Type	1-1/4" MNPT	
Gas Trunk Line Material	Sch 40 Steel	
Gas Branch Line Material	PVC Over CSST	
<b>Electric Requirements</b>		
Voltage	AC 120 Volts - 60 Hz	
Maximum Current (Amperes)	12	
<b>BTU and Flow Rates for RUR199i, RUR199e, RU199i, RU199e (NG/LP)</b>		
Number of Tankless Water Heaters	3	
Flow rate @ 70°F rise (gpm)	16.2	
Flow rate @ 100°F rise (gpm)	11.4	
Minimum input rate (Btuh)	15,200	
Maximum input rate (Btuh)	597,000	

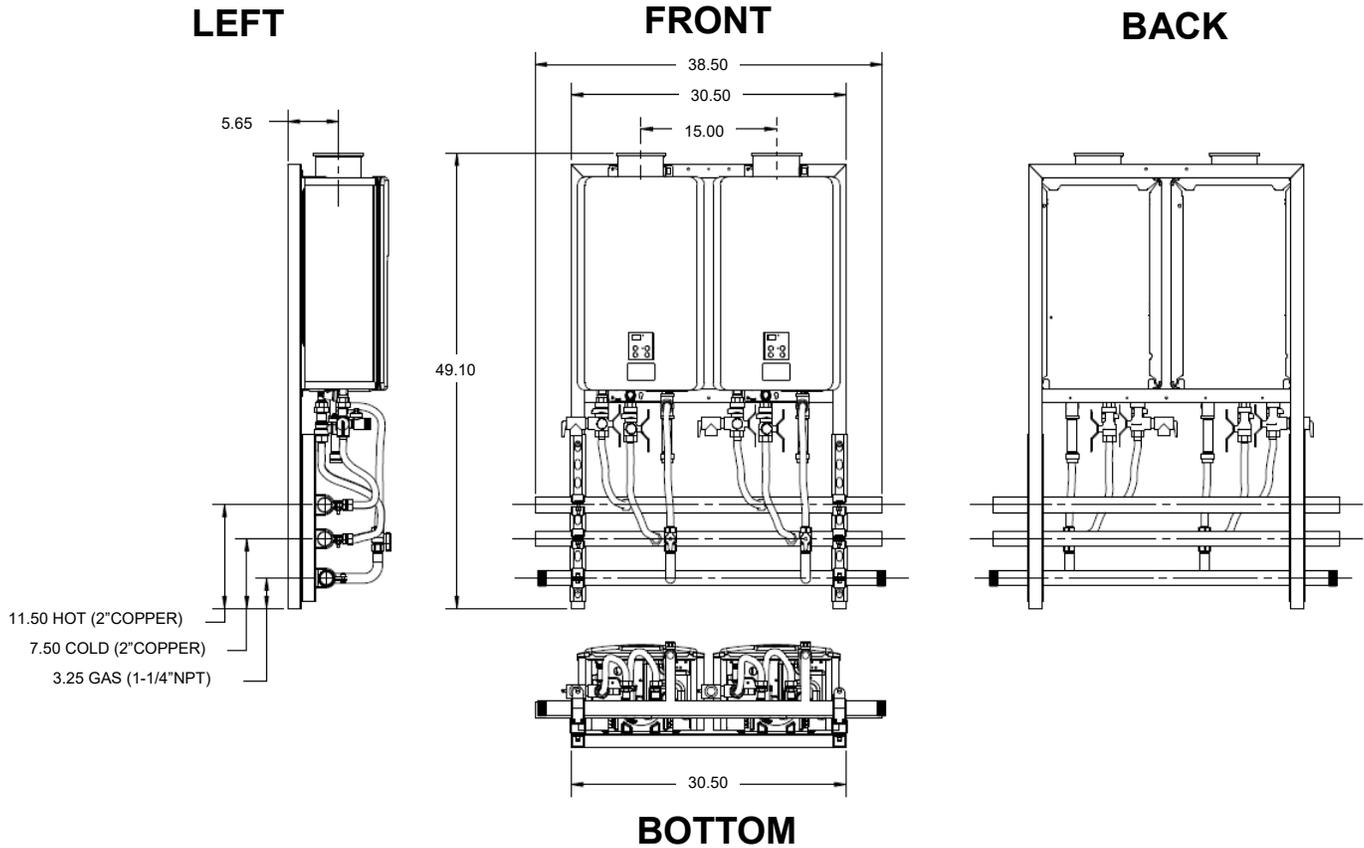
TRW03ST



HE Series

2-Unit  
Wall-Hanging Frame

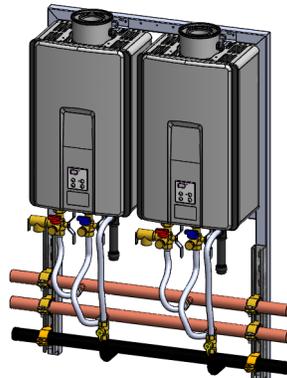
SPECIFICATIONS



Model	Configuration	Illustration
TRW02HE		

Model	TRW02HEi	TRW02HEXi	TRW02HEe
Water Heater Model	RL94i (NG/LP)	RLX94i (NG)	RL94e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 67 x 35		
Weight - Fully Assembled - lbs	120	120	120
Weight - Shipping (total) - lbs	334	334	334
<b>Rack Frame - Specifications</b>			
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube		16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat		Stainless
Color	Gray		Stainless
<b>Water &amp; Gas Connections</b>			
Hot Water Trunk Line Diameter	1-1/2"		
Cold Water Trunk Line Diameter	1-1/2"		
Hot Water Trunk Line Material	Rigid Copper		
Cold Water Trunk Line Material	Rigid Copper		
Water Trunk Connection Type	1-1/2" PIPE		
Gas Trunk Line Diameter	1-1/4"		
Gas Trunk Connection Type	1-1/4" MNPT		
Gas Trunk Line Material	Sch 40 Steel		
Gas Branch Line Material	PVC Over CSST		
<b>Electric Requirements</b>			
Voltage	AC 120 Volts—60 Hz		
Maximum Current (Amperes)	8		
<b>BTU and Flow Rates for RL94i, RLX94i, RL94e (NG/LP)</b>			
Number of Tankless Water Heaters	2	2	2
Flow rate @ 70°F rise (gpm)	9.5	9	9.5
Flow rate @ 100°F rise (gpm)	6.6	6.3	6.6
Minimum input rate (Btuh)	10,300	10,300	10,300
Maximum input rate (Btuh)	398,000	384,000	398,000

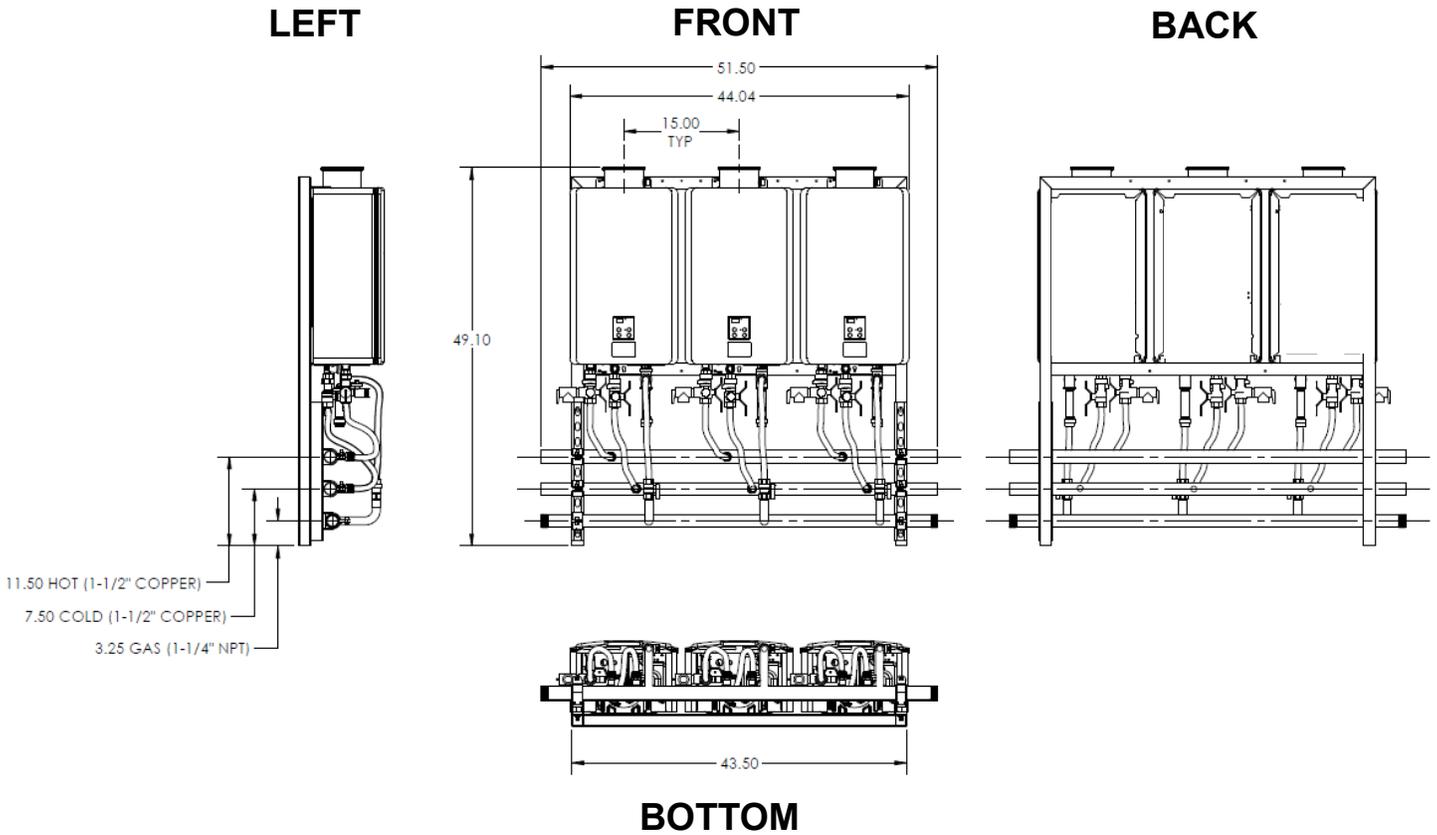
**TRW02HE / TRW02HEX**



HE Series

3-Unit  
Wall-Hanging Frame

SPECIFICATIONS



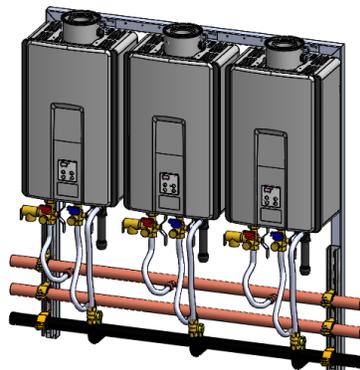
Model	Configuration	Illustration
TRW03HE		

HE Series 3-Unit Wall-Hanging Frame (Continued)

SPECIFICATIONS

Model	TRW03HEi	TRW03HEXi	TRW03HEe
Water Heater Model	RL94i (NG/LP)	RLX94i (NG)	RL94e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 67 x 35		
Weight - Fully Assembled - lbs	160	160	160
Weight - Shipping (total) - lbs	374	374	374
<b>Rack Frame - Specifications</b>			
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube		16 Gauge Stainless Steel 1.5" Square Tube
Frame Finish	Powder Coat		Stainless
Color	Gray		Stainless
<b>Water &amp; Gas Connections</b>			
Hot Water Trunk Line Diameter	1-1/2"		
Cold Water Trunk Line Diameter	1-1/2"		
Hot Water Trunk Line Material	Rigid Copper		
Cold Water Trunk Line Material	Rigid Copper		
Water Trunk Connection Type	1-1/2" PIPE		
Gas Trunk Line Diameter	1-1/4"		
Gas Trunk Connection Type	1-1/4" MNPT		
Gas Trunk Line Material	Sch 40 Steel		
Gas Branch Line Material	PVC Over CSST		
<b>Electric Requirements</b>			
Voltage	AC 120 Volts - 60 Hz		
Maximum Current (Amperes)	12		
<b>BTU and Flow Rates for RL94i, RLX94i, RL94e (NG/LP)</b>			
Number of Tankless Water Heaters	3	3	3
Flow rate @ 70°F rise (gpm)	14	13.5	14
Flow rate @ 100°F rise (gpm)	9.8	9.4	9.8
Minimum input rate (Btuh)	10,300	10,300	10,300
Maximum input rate (Btuh)	597,000	576,000	597,000

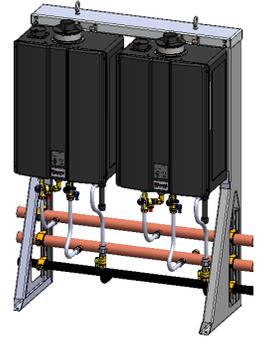
**TRW03HE / TRW03HEX**



# WALL-MOUNT RACKS

## Available Configurations

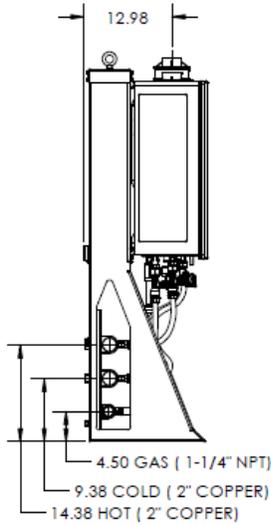
- 2-Units
- 3-Units



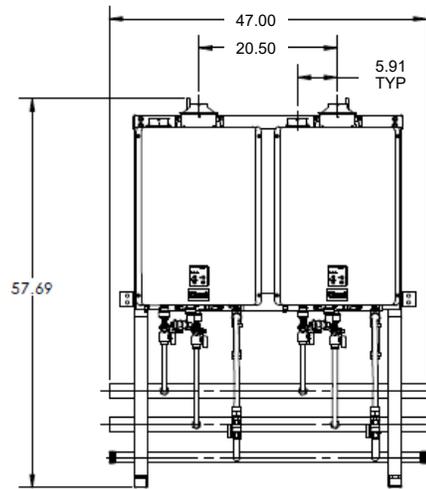
SPECIFICATIONS

## 2-Unit Wall-Mount Frame

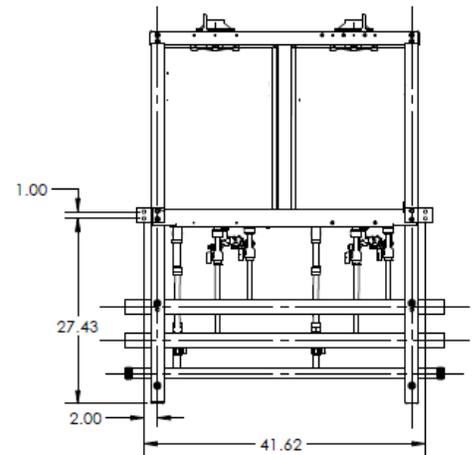
**LEFT**



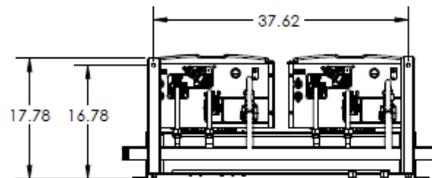
**FRONT**



**BACK**



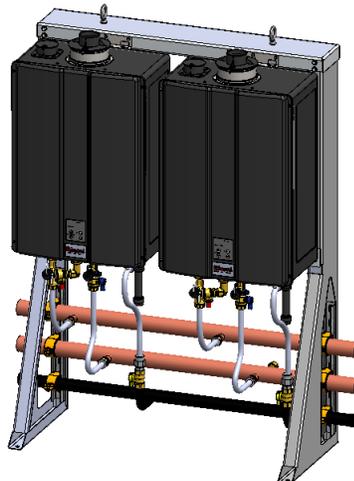
**BOTTOM**



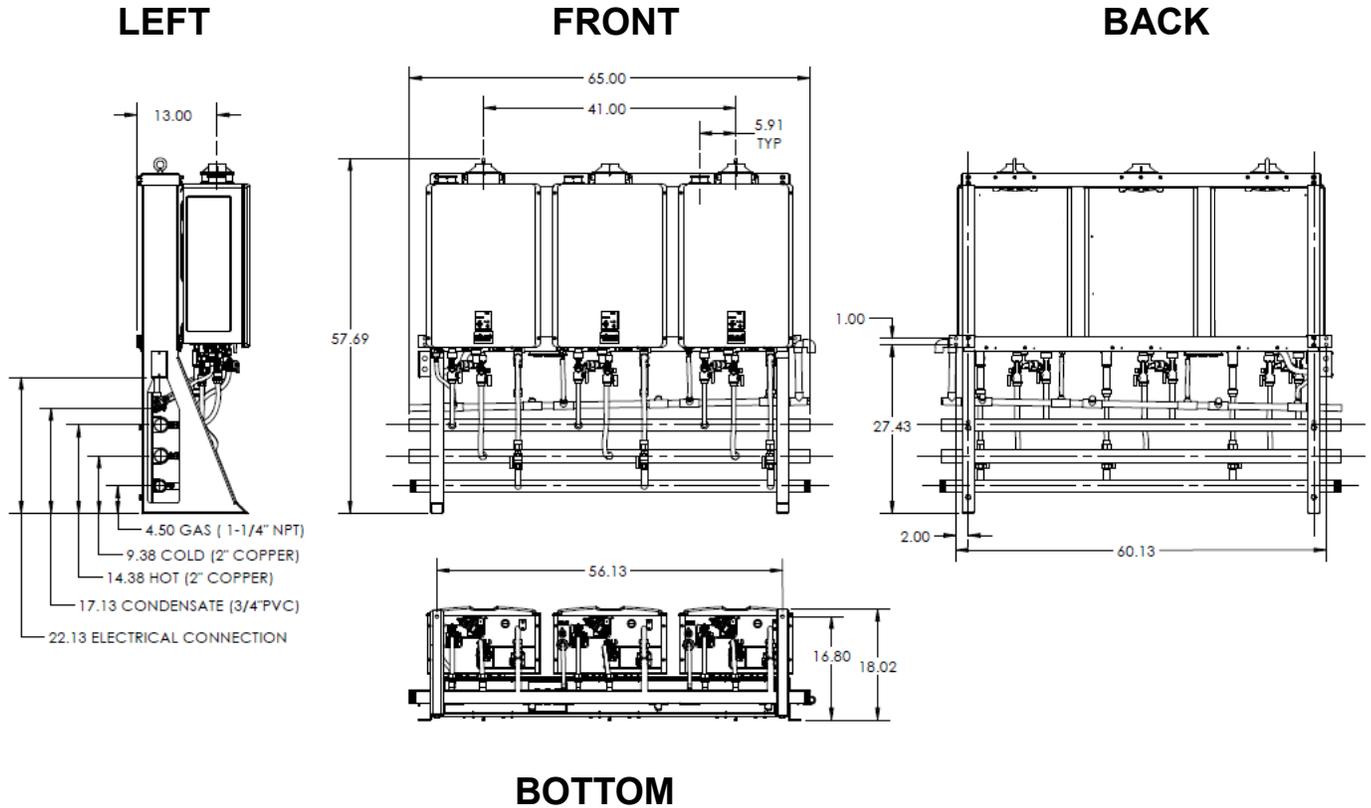
Model	Configuration	Illustration
TRS02ILWCU		

Model	TRS02ILWCU
Water Heater Model	CU199i, CU199e (NG/LP)
Crate Dimensions (HxLxD) - in	66 x 70x 35
Weight - Fully Assembled - lbs	208
Weight - Shipping (total) - lbs	410
<b>Rack Frame - Specifications</b>	
Frame Rail Type	Sheet Metal
Frame Material	Aluminum (0.090 5052-H32)
Frame Finish	Powder Coat
Color	Gray
<b>Water &amp; Gas Connections</b>	
Hot Water Trunk Line Diameter	2"
Cold Water Trunk Line Diameter	2"
Hot Water Trunk Line Material	Rigid Copper
Cold Water Trunk Line Material	Rigid Copper
Water Trunk Connection Type	2" PIPE
Gas Trunk Line Diameter	1-1/4"
Gas Trunk Connection Type	1-1/4" MNPT
Gas Trunk Line Material	Sch 40 Steel
Gas Branch Line Material	PVC Over CSST
<b>Electric Requirements</b>	
Voltage	AC 120 Volts - 60 Hz
Maximum Current (Amperes)	8
<b>BTU and Flow Rates for CU199i, CU199e (NG/LP)</b>	
Number of Tankless Water Heaters	2
Flow rate @ 70°F rise (gpm)	10.8
Flow rate @ 100°F rise (gpm)	7.6
Minimum input rate (Btuh)	15,200
Maximum input rate (Btuh)	398,000

**TRS02ILWCU**



# 3-Unit Wall-Mount Frame



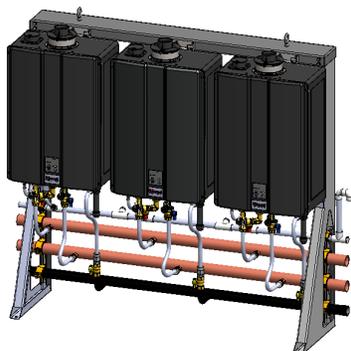
Model	Configuration	Illustration
TRS03ILWCU		
TRS23ILWCU		

3-Unit Wall-Mount Frame (Continued)

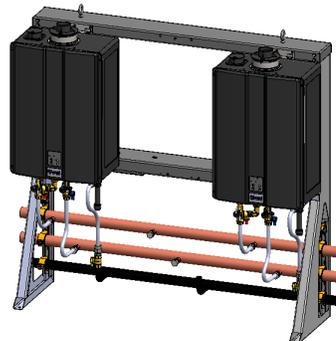
SPECIFICATIONS

Model	TRS03ILWCU	TRS23ILWCU
Water Heater Model	CU199i, CU199e (NG/LP)	
Crate Dimensions (HxLxD) - in	66 x 70 x 35	
Weight - Fully Assembled - lbs	297	222
Weight - Shipping (total) - lbs	497	424
<b>Rack Frame - Specifications</b>		
Frame Rail Type	Sheet Metal	
Frame Material	Aluminum (0.090 5052-H32)	
Frame Finish	Powder Coat	
Color	Gray	
<b>Water, Gas, and Condensate Connections</b>		
Hot Water Trunk Line Diameter	2"	
Cold Water Trunk Line Diameter	2"	
Hot Water Trunk Line Material	Rigid Copper	
Cold Water Trunk Line Material	Rigid Copper	
Water Trunk Connection Type	2" PIPE	
Gas Trunk Line Diameter	1-1/4"	
Gas Trunk Connection Type	1-1/4" MNPT	
Gas Trunk Line Material	Sch 40 Steel	
Gas Branch Line Material	PVC Over CSST	
Condensate Trunk Line Diameter	3/4"	N/A
Condensate Trunk Line Material	Sch 40 PVC	N/A
Condensate Trunk Connection Type	3/4" Pipe	N/A
<b>Electric Requirements</b>		
Prewired Electrical Assembly	Yes (Indoor Models Only)	N/A
Voltage	AC 120 Volts - 60 Hz	
Maximum Current (Amperes)	12	8
<b>BTU and Flow Rates for CU199i, CU199e (NG/LP)</b>		
Number of Tankless Water Heaters	3	2
Flow rate @ 70°F rise (gpm)	16.2	10.8
Flow rate @ 100°F rise (gpm)	11.4	7.6
Minimum input rate (Btuh)	15,200	15,200
Maximum input rate (Btuh)	597,000	398,000

TRS03ILWCU



TRS23ILWCU



# CORNER-HANGING RACKS

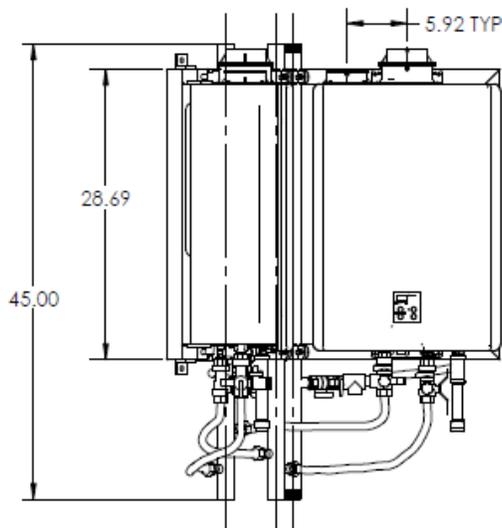
## Available Configurations

- 2-Units

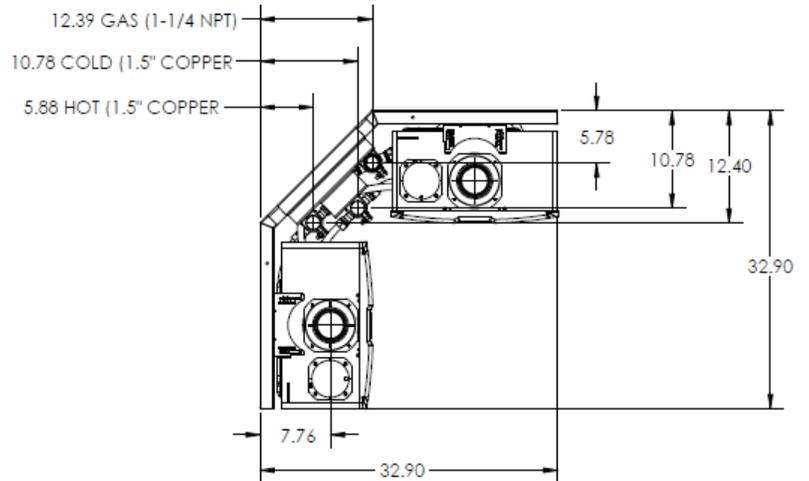


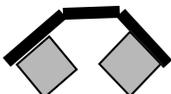
## 2-Unit Corner-Hanging Frame

**FRONT**

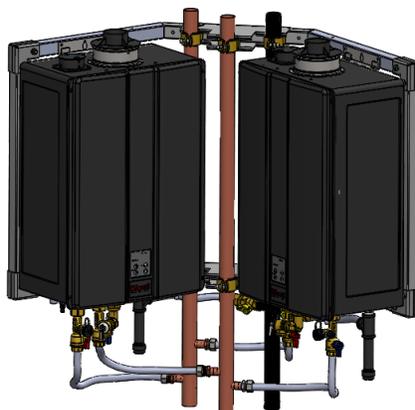


**TOP**



Model	Configuration	Illustration
TRC02CU		

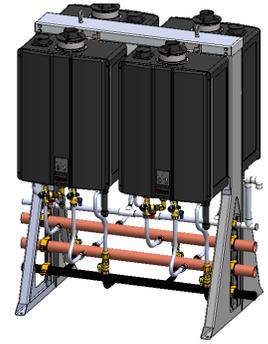
<b>Model</b>	<b>TRC02CUi</b>
Water Heater Model	CU199i (NG/LP)
Crate Dimensions (HxLxD) - in	31.5 x 48 x 50
Weight - Fully Assembled - lbs	224
Weight - Shipping (total) - lbs	356
<b>Rack Frame - Specifications</b>	
Frame Material	14 Gauge Hot Rolled Steel 1.5" Square Tube
Frame Finish	Powder Coat
Color	Gray
<b>Water &amp; Gas Connections</b>	
Hot Water Trunk Line Diameter	1-1/2"
Cold Water Trunk Line Diameter	1-1/2"
Hot Water Trunk Line Material	Rigid Copper
Cold Water Trunk Line Material	Rigid Copper
Water Trunk Connection Type	1-1/2" PIPE
Gas Trunk Line Diameter	1-1/4"
Gas Trunk Connection Type	1-1/4" MNPT
Gas Trunk Line Material	Sch 40 Steel
Gas Branch Line Material	PVC Over CSST
<b>Electric Requirements</b>	
Voltage	AC 120 Volts - 60 Hz
Maximum Current (Amperes)	8
<b>BTU and Flow Rates for CU199i, (NG/LP)</b>	
Number of Tankless Water Heaters	2
Flow rate @ 70°F rise (gpm)	10.8
Flow rate @ 100°F rise (gpm)	7.6
Minimum input rate (Btuh)	15,200
Maximum input rate (Btuh)	398,000



# FREE-STANDING RACKS

## Available Configurations

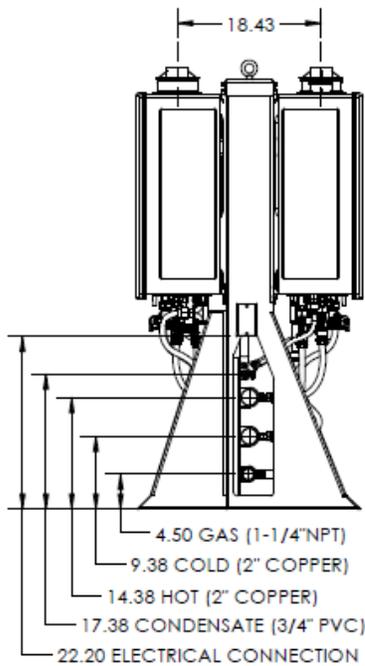
- 2-Units, 3-Units, 4-Units, 5-Units, 6-Units



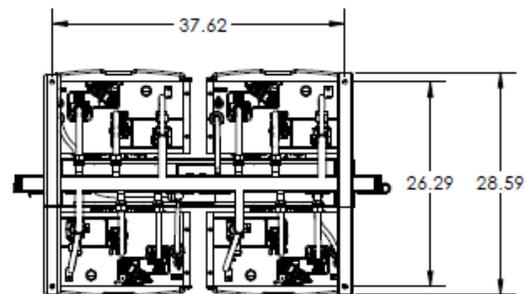
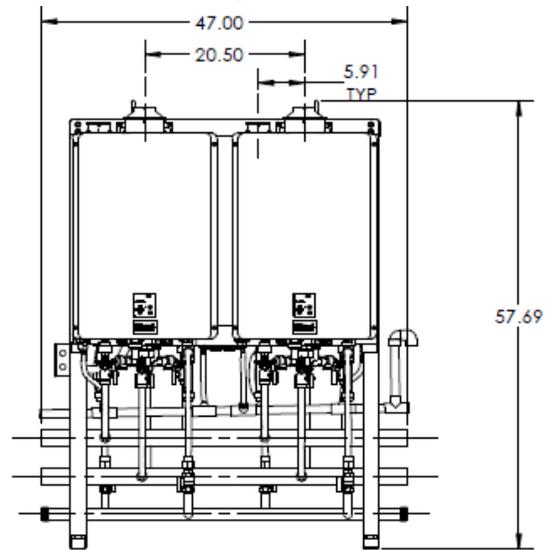
SPECIFICATIONS

## 4-Unit Free-Standing Frame

**LEFT**



**FRONT**

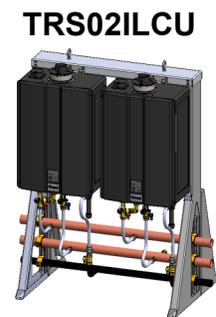
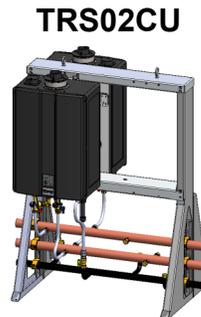
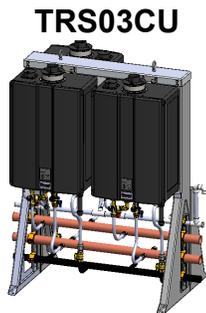
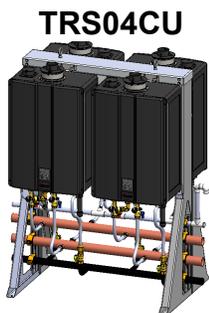


Model	Configuration	Illustration
TRS04CU		
TRS03CU		

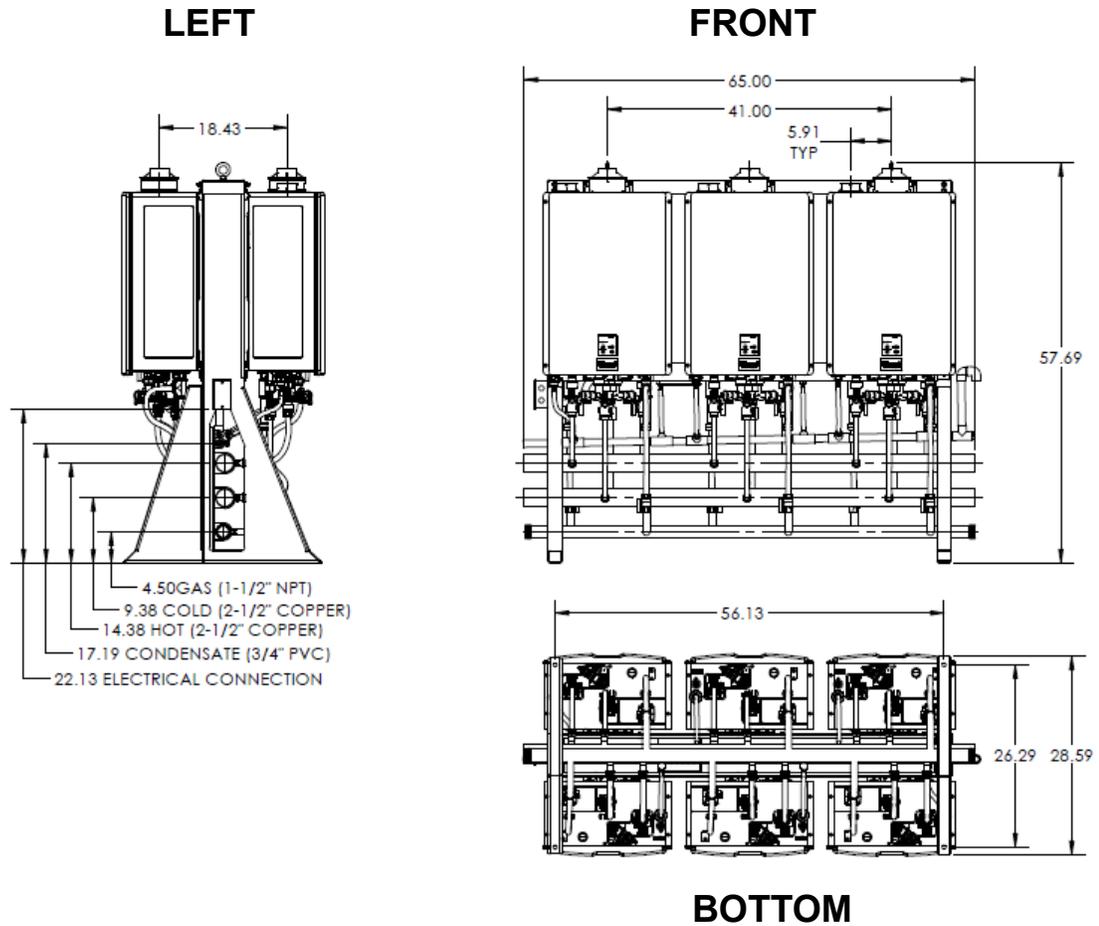
Model	Configuration	Illustration	
TRS02ILCU	Inline		
	Facing Same Direction		
TRS02CU	Back to Back		

4-Unit Free-Standing Frame (Continued)

Model	TRS04CU	TRS03CU	TRS02CU	TRS02ILCU
Water Heater Model	CU199i, CU199e (NG/LP)			
Crate Dimensions (HxLxD) - in	66 x 70 x 35			
Weight - Fully Assembled - lbs	365	290	214	214
Weight - Shipping (total) - lbs	562	490	416	416
<b>Rack Frame - Specifications</b>				
Frame Rail Type	Sheet Metal			
Frame Material	Aluminum (0.090 5052-H32)			
Frame Finish	Powder Coat			
Color	Gray			
<b>Water &amp; Gas Connections</b>				
Hot Water Trunk Line Diameter	2"			
Cold Water Trunk Line Diameter	2"			
Hot Water Trunk Line Material	Rigid Copper			
Cold Water Trunk Line Material	Rigid Copper			
Water Trunk Connection Type	2" PIPE			
Gas Trunk Line Diameter	1-1/4"			
Gas Trunk Connection Type	1-1/4" MNPT			
Gas Trunk Line Material	Sch 40 Steel			
Gas Trunk Branch Line Material	PVC Over CSST			
Condensate Trunk Line Diameter	3/4"			N/A
Condensate Trunk Material	Sch-40 PVC			N/A
Condensate Trunk Connection Type	3/4" Pipe			N/A
<b>Electric Requirements</b>				
Prewired Electrical Assembly	Yes (Indoor Models Only)		N/A	
Voltage	AC 120 Volts - 60 Hz			
Maximum Current (Amperes)	16	12	8	
<b>BTU and Flow Rates for CU199i, CU199e (NG/LP)</b>				
Number of Tankless Water Heaters	4	3	2	
Flow rate @ 70°F rise (gpm)	21.6	16.2	10.8	
Flow rate @ 100°F rise (gpm)	15.2	11.4	7.6	
Minimum input rate (Btuh)	15,200			
Maximum input rate (Btuh)	796,000	597,000	398,000	



# 6-Unit Free-Standing Frame

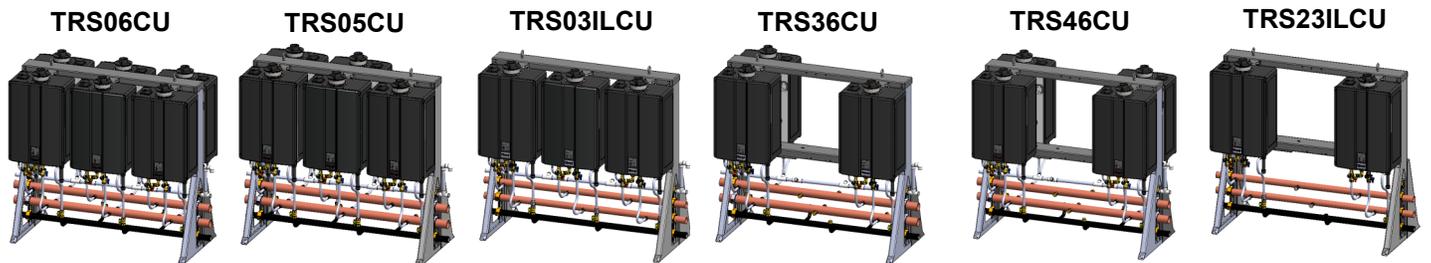


Model	Configuration	Illustration	Model	Configuration	Illustration
TRS06CU			TRS36CU		
TRS05CU			TRS46CU		
TRS03ILCU			TRS23ILCU		

6-Unit Free-Standing Frame (Continued)

SPECIFICATIONS

Model	TRS06CU	TRS05CU	TRS46CU	TRS36CU	TRS03ILCU	TRS23ILCU
<b>Rack Frame - Specifications</b>						
Frame Rail Type	Sheet Metal					
Frame Material	Aluminum (0.090 5052-H32)					
Frame Finish	Powder Coat					
Color	Gray					
<b>Water &amp; Gas Connections</b>						
Hot Water Trunk Line Diameter	2-1/2"			2"		
Cold Water Trunk Line Diameter	2-1/2"			2"		
Hot Water Trunk Line Material	Rigid Copper					
Cold Water Trunk Line Material	Rigid Copper					
Water Trunk Connection Type	2-1/2" PIPE			2" PIPE		
Gas Trunk Line Diameter	1-1/2"			1-1/4"		
Gas Trunk Connection Type	1-1/2" MNPT			1-1/4" MNPT		
Gas Trunk Line Material	Sch 40 Steel					
Gas Branch Line Material	PVC Over CSST					
Condensate Trunk Line Diameter	3/4"					N/A
Condensate Trunk Line Material	Sch-40 PVC					N/A
Condensate Trunk Connection Type	3/4" Pipe					N/A
<b>Electric Requirements</b>						
Prewired Electrical Assembly	Yes (Indoor Models Only)					N/A
Voltage	AC 120 Volts - 60 Hz					
Max Current (Amperes)	24	20	16	12	12	8
<b>BTU and Flow Rates for CU199i, CU199e (NG/LP)</b>						
Number of Tankless Water Heaters	6	5	3	4	2	
Flow rate @ 70°F rise (gpm)	32.4	27.0	16.2	21.6	10.8	
Flow rate @ 100°F rise (gpm)	22.8	19.0	11.4	15.1	7.6	
Minimum input rate (Btuh)	15,200					
Maximum input rate (Btuh)	1,194,000	995,000	597,000	796,000	398,000	



# 6 Installation

## Clearances

When selecting an installation location, you must ensure the tankless water heaters mounted on the rack comply with the required clearances. For clearance requirements, refer to the “Rinnai Tankless Water Heater Installation and Operation Manual” supplied with each water heater in the rack system.

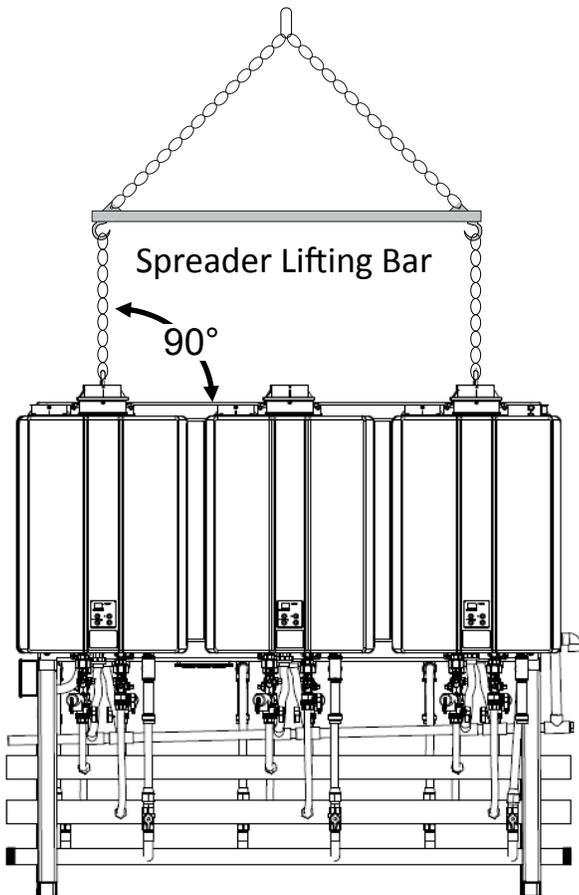
## Lift the Rack

### Hoisting Lifting Lugs

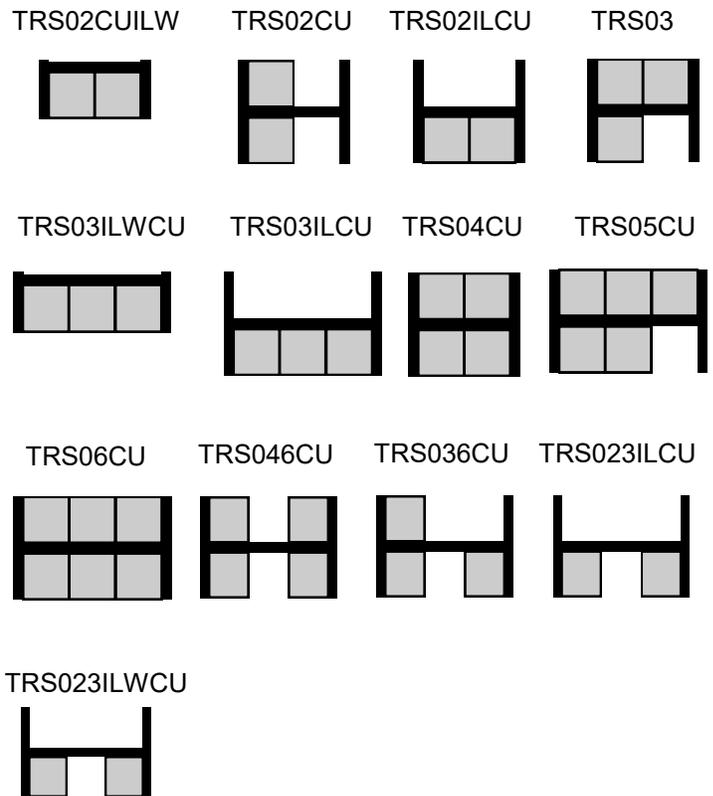
Lugs are installed on the top side of the following racks for hoisting and moving. The lines or cables to the lugs should be at a 90° angle. Use a spreader lifting bar to hoist the racks.

Weights of the complete assemblies are available in the **Specifications** section of this manual.

**DO NOT hoist the crate or palette.**



### Models Available with Lifting Lugs



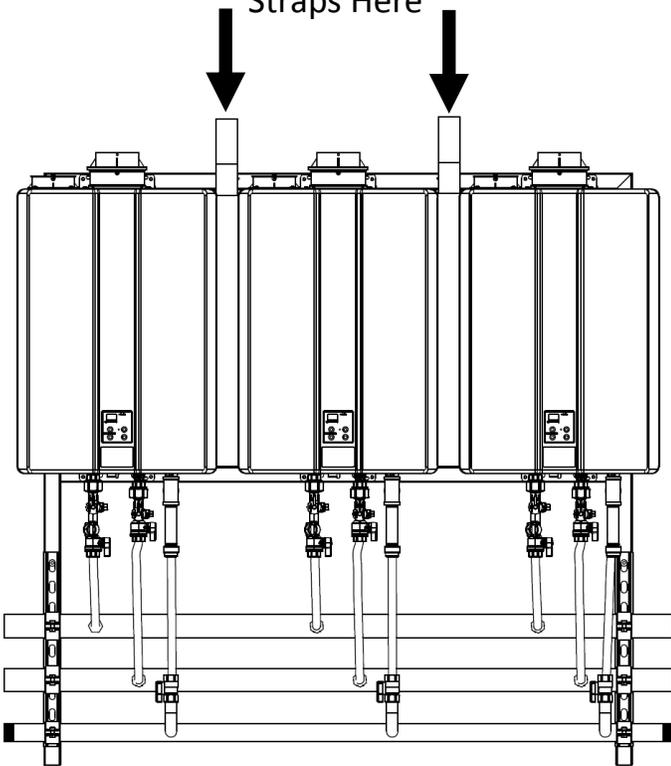
# Hoisting Straps (Supplied by Installer)

For TRW02 and TRW03 wall hanging racks, use hoisting straps (supplied by installer) looped around the top frame.

Weights of the complete assemblies are available in the **Specifications** section of this manual.

**DO NOT hoist the crate or palette.**

Place Hoisting Straps Here



## Models Designed for Hoisting Straps

TRW02CU



TRW03CU



TRW023CU



TRW02SE



TRW02ST



TRW03ST



TRW02HE/  
TRW02HEX



TRW03HE/  
TRW03HEX

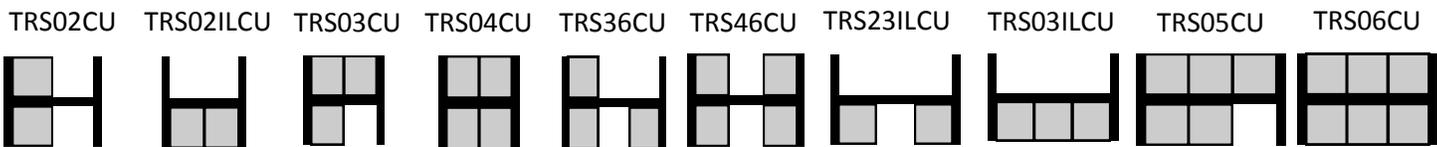


# Secure the Rack

## Secure Free-Standing Racks

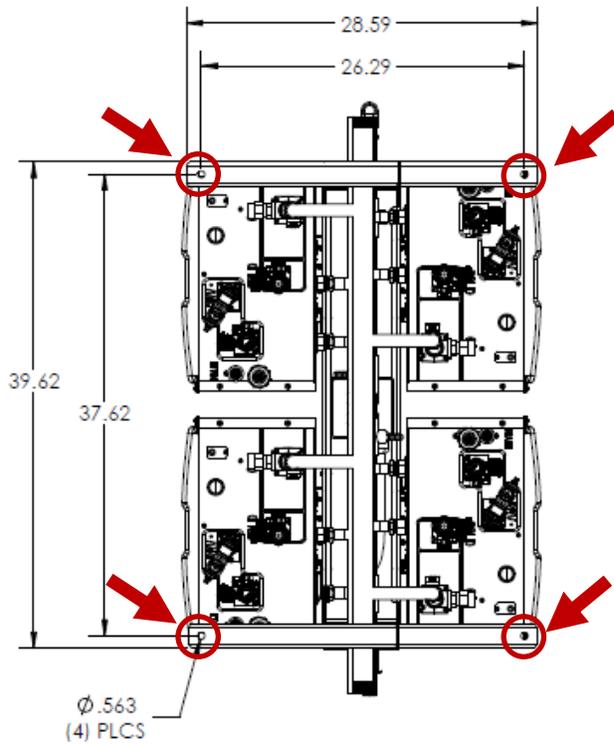
All mechanical components shall be anchored and installed in accordance with national and/or local codes having jurisdiction. Base holes to secure all free-standing rack systems are 0.563 inches in diameter. Reference local codes regarding minimum concrete thickness and use appropriate expansion anchors that is capable of supporting the rack system weight. For outdoor installations, anchors must be capable of supporting the rack system weight and wind shear. Reference and follow the anchor manufacturer's use and installation requirements.

Free-standing rack models include:



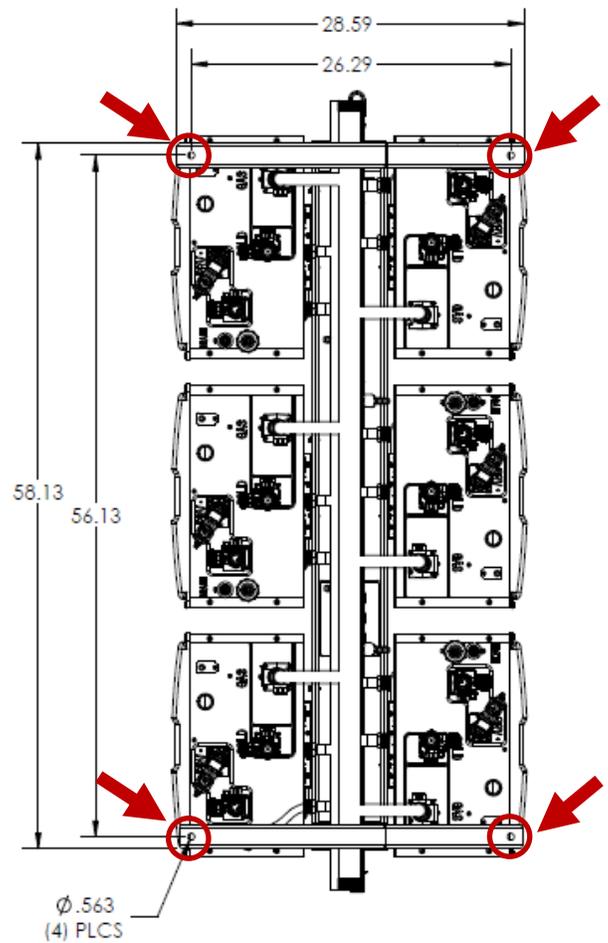
### Free-Standing Racks Bottom View

Base Holes on 4-Unit Rack



Flex line illustrations have been removed for clarity.

Base Holes on 6-Unit Rack



# Secure Wall-Mount (In-Line) Racks

**WARNING** THE WALL MUST BE CAPABLE OF CARRYING THE OPERATING WEIGHT OF THE INSTALLED TRS SYSTEM. CONSULT A STRUCTURAL ENGINEER FOR STRUCTURAL ANALYSIS OF THE WALL AND APPROPRIATE HANGING METHODS BEFORE ATTEMPTING TO HANG THE TRS SYSTEM. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENT COULD RESULT IN SUBSTANTIAL PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH.

- Identify the installation location and confirm that the installation will meet all required clearances.
- The size and embedment specified are for anchors installed in stone or aggregate concrete only. For other anchorage details, the contractor or engineer on record for the building shall consult with a licensed structural engineer for all anchorage of equipment not specified in this manual.
- In the event of a conflict or inconsistency between items indicated in this manual regarding code requirements, the more stringent standard shall prevail.
- Using the holes in the wall bracket, securely attach the rack to the wall. Ensure that the attachment strength is sufficient.
- Reference local codes regarding minimum concrete thickness and use appropriate expansion anchors that are capable supporting the rack system weight.
- Wall-Mount (In-Line) rack models include:

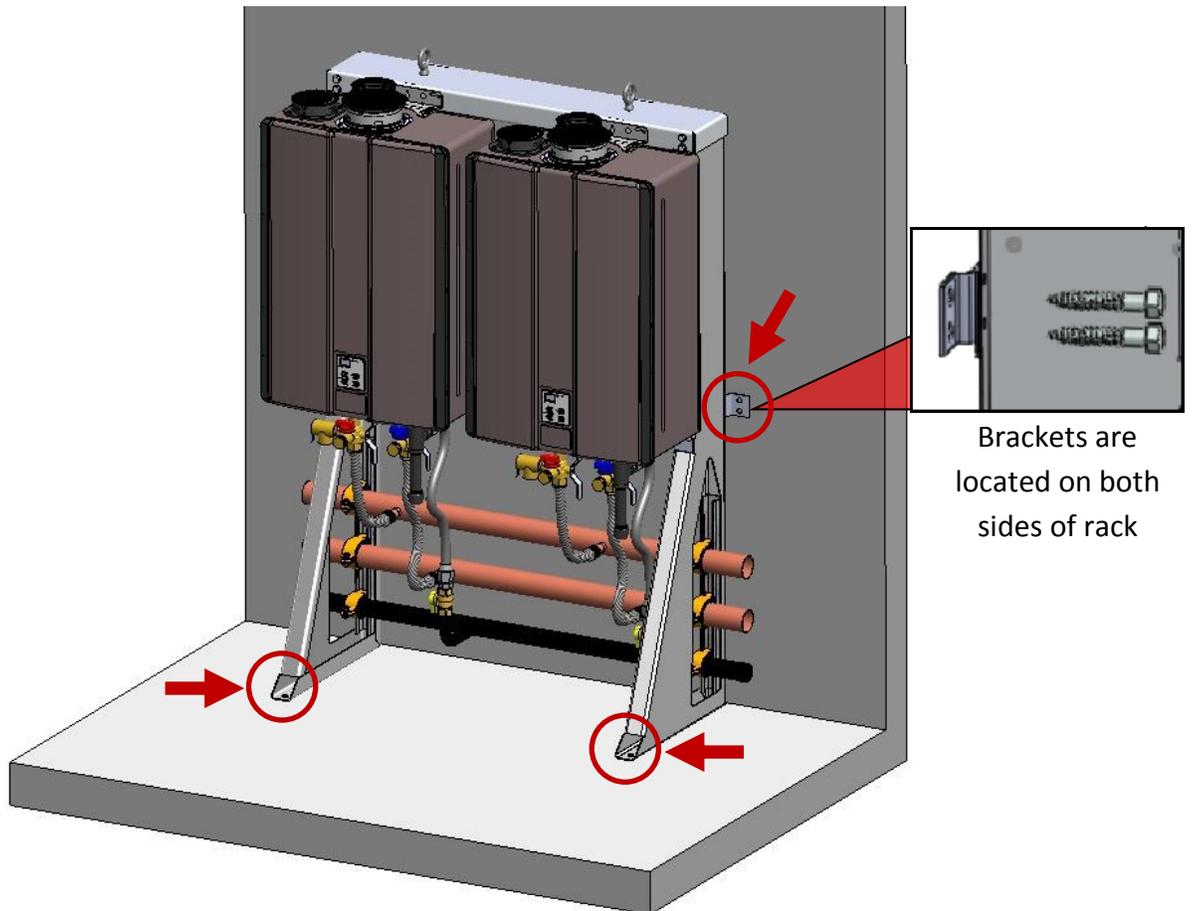
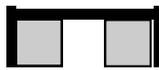
TRS02ILWCU



TRS03ILWCU



TRS23ILWCU



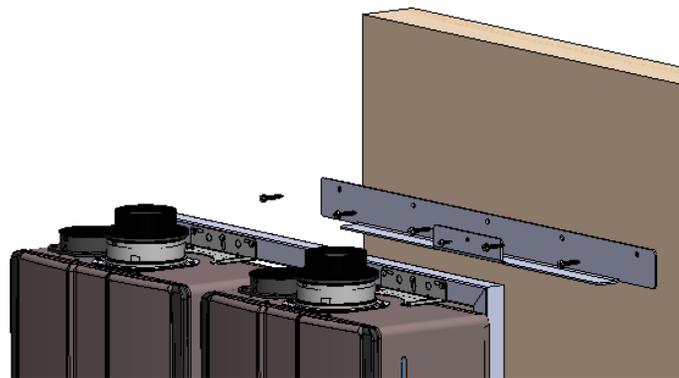
# Secure Wall-Hanging Racks (TRW Models)

**⚠ WARNING** THE WALL MUST BE CAPABLE OF CARRYING THE OPERATING WEIGHT OF THE INSTALLED TRS SYSTEM. CONSULT A STRUCTURAL ENGINEER FOR STRUCTURAL ANALYSIS OF THE WALL AND APPROPRIATE HANGING METHODS BEFORE ATTEMPTING TO HANG THE TRS SYSTEM. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENT COULD RESULT IN SUBSTANTIAL PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH.

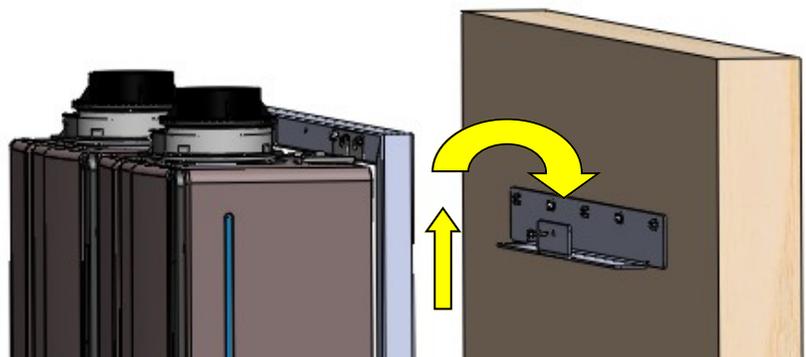
- Identify the installation location and confirm that the installation will meet all required clearances.
- In the event of a conflict or inconsistency between items indicated in this manual regarding code requirements, the more stringent standard shall prevail.
- Wall-hanging rack models include: TRW02CU, TRW03CU, TRW23CU, TRW02SE, TRW02ST, TRW03ST, TRW02HE, TRW02HEX, TRW03HE, and TRW03HEX

## Instructions

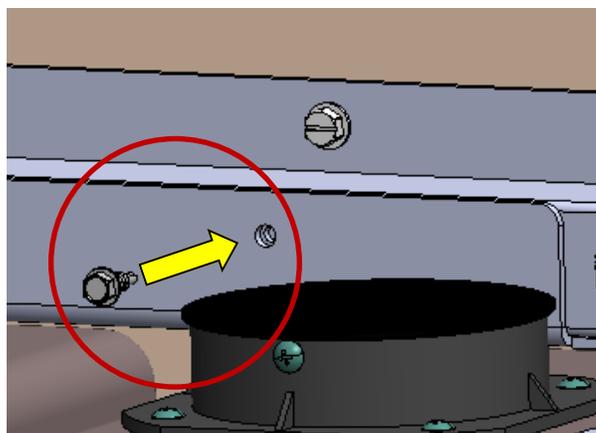
**1** Using the holes in the wall hanging bracket, securely attach the bracket level to the wall. Ensure that the attachment strength is sufficient.



**2** Lift the wall hanging rack and insert the top of the frame into the bracket.



**3** Secure the front of the bracket to the front of the wall hanging frame with a #12 X 3/4 drill point screw.



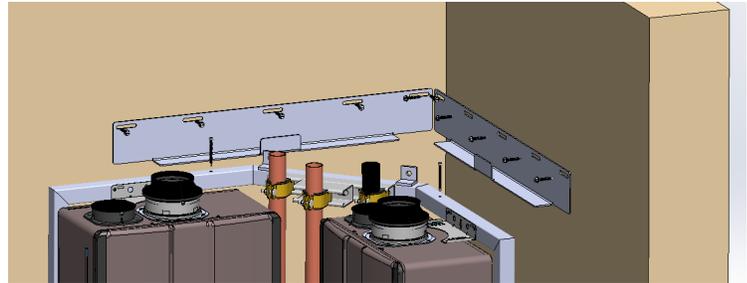
# Secure Corner-Hanging Racks (TRC Models)

**⚠ WARNING** THE WALL MUST BE CAPABLE OF CARRYING THE OPERATING WEIGHT OF THE INSTALLED TRS SYSTEM. CONSULT A STRUCTURAL ENGINEER FOR STRUCTURAL ANALYSIS OF THE WALL AND APPROPRIATE HANGING METHODS BEFORE ATTEMPTING TO HANG THE TRS SYSTEM. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENT COULD RESULT IN SUBSTANTIAL PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH.

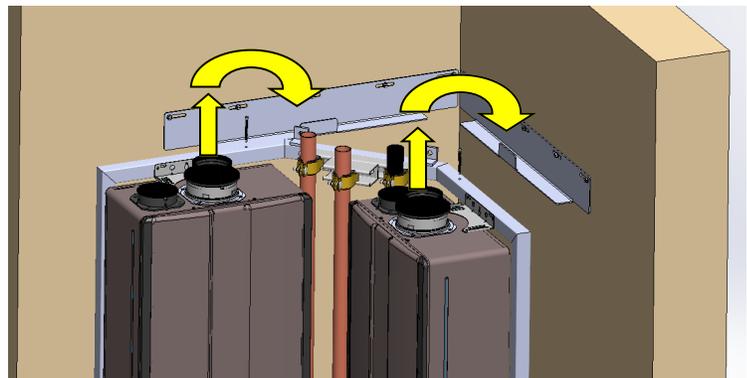
- Identify the installation location and confirm that the installation will meet all required clearances.
- In the event of a conflict or inconsistency between items indicated in this manual regarding code requirements, the more stringent standard shall prevail.
- Corner-hanging rack models include the TRC02CU.

## Instructions

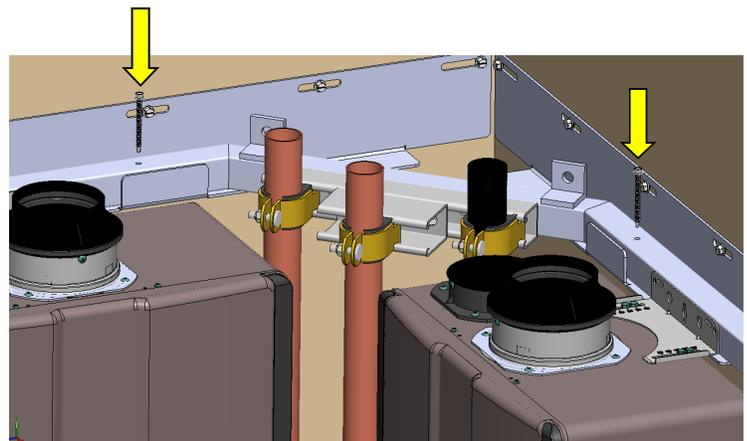
**1** Using the holes in the wall hanging brackets, securely attach the brackets level to the wall. Ensure that the attachment strength is sufficient. Brackets are to be installed within 1/2" from the corner.



**2** Lift the corner hanging rack and insert the top of the frame into the two brackets.



**3** Secure the frame to the hanging brackets using two 12-14 thread, 2-1/2" long drill point screws (supplied). Fastener head is 5/16" hex.



# 7

# Venting

For complete venting options and installation instructions, refer to the “Rinnai Tankless Water Heater Installation and Operation Manual.” Venting components are packaged separately from the pre-assembled rack for field assembly of the vent system by the contractor.

The following vent options are available:

- Direct Vent with Concentric Pipe

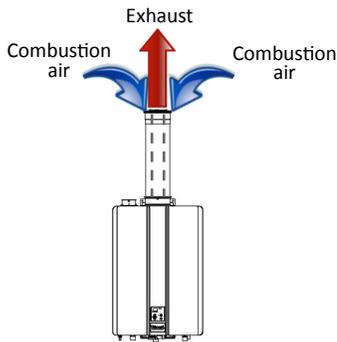
**IMPORTANT**

HE+ Series tankless water heaters must use concentric venting with a metal exhaust pipe. Refer to the Installation and Operation Manual supplied with the HE+ Tankless Water Heater for venting options.

- Direct Vent with Twin Pipe
- Common Vent

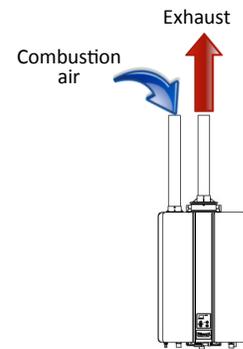
### Direct Vent (Concentric Pipe)

Combustion air and exhaust vent directly through a single concentric connection. Hot exhaust exits through the interior tube, while combustion air enters through the outer layer.



### Direct Vent (Twin Pipe)

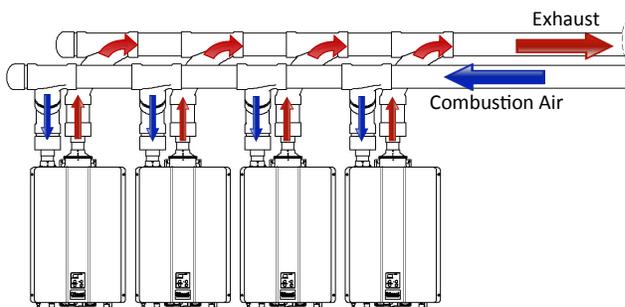
Combustion air and exhaust vent directly through separate penetrations.



### Common Vent (Indoor Units Only. Direct Vent and Non-Direct/Room Air Vent)

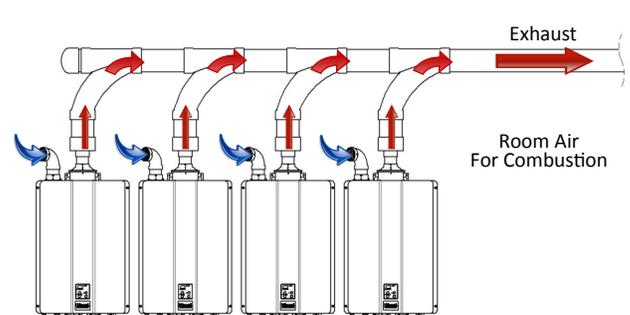
#### Direct Vent

Multiple water heaters sharing a combustion air header and a separate exhaust header that vents directly through separate penetrations to the outside.



#### Non-Direct (Room Air) Vent

Multiple water heaters using room air for combustion while sharing an exhaust header that vents directly to the outside.



# Vent Options

The following table lists the vent options for the CU Series, SE Series and SE+ Series tankless water heaters.

HE+ Series tankless water heaters must use concentric venting with a metal exhaust pipe. Refer to the Installation and Operation Manual supplied with the HE+ Tankless Water Heater for venting options.

Vent Options for CU Series, SE Series, and SE+ Series Tankless Water Heaters

Vent Options	Vent Material		Diameter		Max. Units	Maximum Vent Length
	Exhaust	Intake	Header	Vent		
Common Vent	Polypropylene or Schedule 40 PVC/CPVC	Polypropylene or Schedule 40 PVC/CPVC	3 in.		2	65 FT
			4 in.		4	1-3 Units: 150 FT 4 Units: 65 FT
			4 in.	6 in.	7	1-6 Units: 150 FT 7 Units: 70 FT
			6 in.		8	150 FT
Concentric Pipe	Polypropylene	Schedule 40 PVC	[Shaded]		5 in.	150 FT
					4 in.	65 FT
Twin Pipe	Polypropylene* or Schedule 40 PVC/CPVC	Schedule 40 PVC/CPVC	[Shaded]		3 in.	150 FT
					2 in.	65 FT

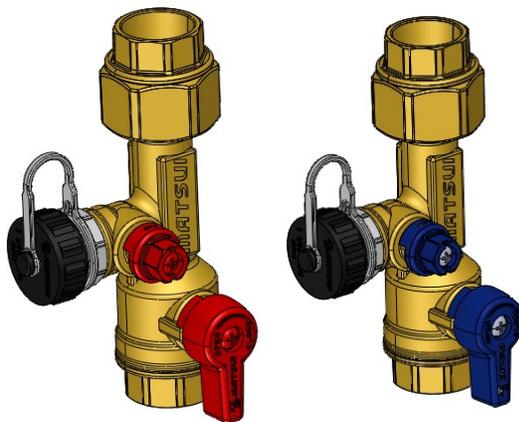
\* Twin Pipe Polypropylene venting is provided by Centrotherm through their own distribution network.

# 8 Plumbing

## Pressure Relief Valve Piping

Each Rinnai Tankless Water Heater on the rack system comes installed with isolation valves and a pressure relief valve. Refer to the “Rinnai Tankless Water Heater Installation and Operation Manual” for information on piping the isolation valves and pressure relief valve.

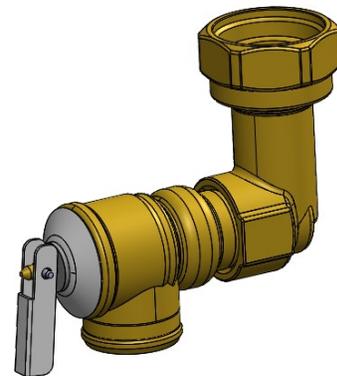
Isolation Valves



Hot Water Isolation Valve

Cold Water Isolation Valve

Pressure Relief Valve



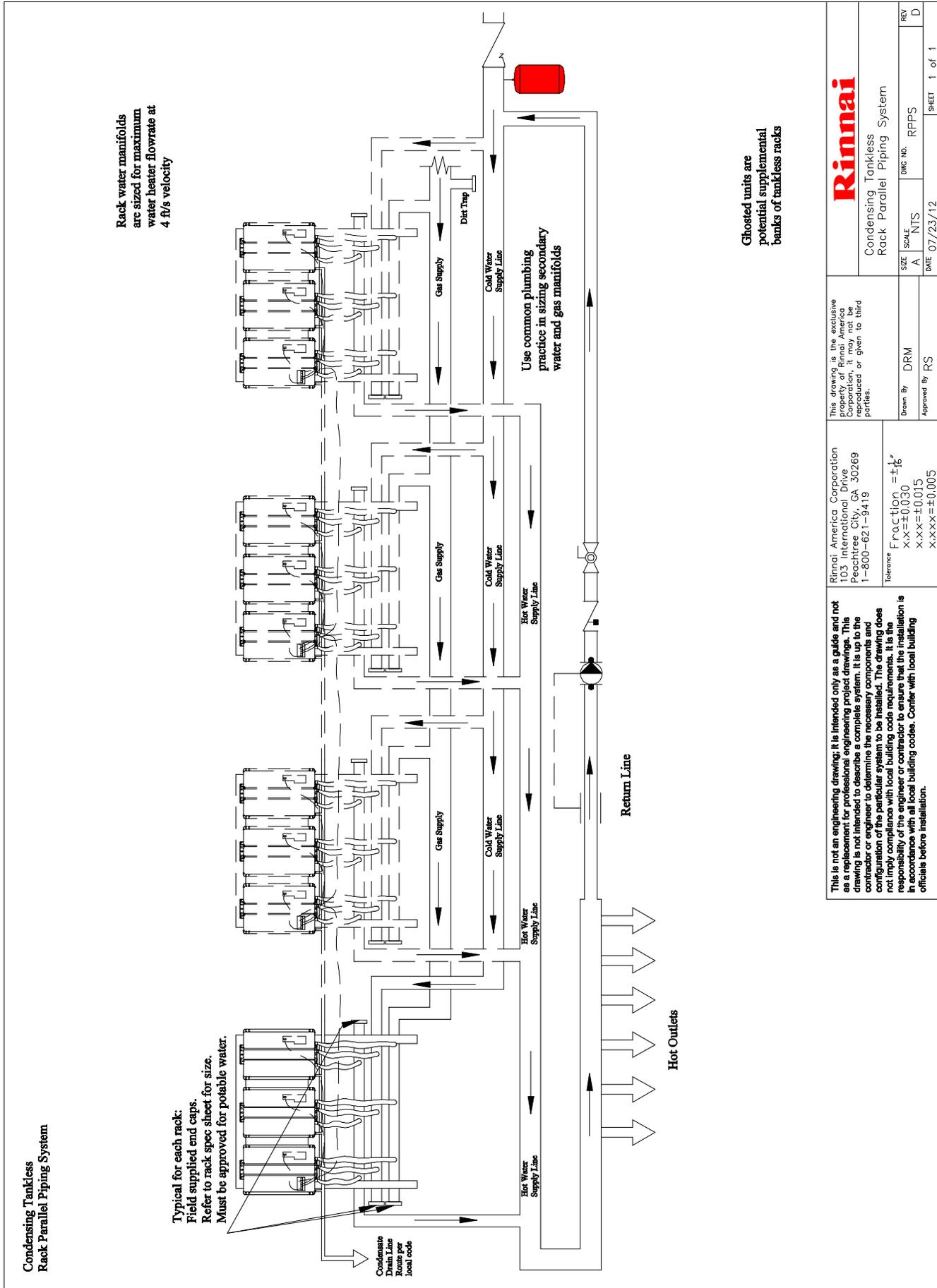
## Piping for Multiple Racks

Multiple rack systems should be installed in parallel using a secondary manifold from the building’s cold and hot water supply. Reference the drawing on the following page for guidance on plumbing multiple racks in a parallel piping system.

A low pressure gas regulator must be installed prior to the rack system. Note the maximum cumulative input for the system when sizing the gas regulator.

Use common plumbing practice and reference all applicable codes when sizing the secondary manifolds and gas regulator.

# Tankless Rack System Parallel Piping Diagram



This is not an engineering drawing. It is intended only as a guide and not as a replacement for professional engineering project drawings. This drawing is not intended to describe a complete system. It is up to the contractor or engineer to determine the necessary components and configuration of the particular system to be installed. The drawing does not imply compliance with local building code requirements. It is the responsibility of the engineer or contractor to ensure that the installation is in accordance with all local building codes. Confer with local building officials before installation.

Rinnai America Corporation  
10331 Termonon Drive  
Pacifica, CA 94026  
1-800-821-9419

Tolerance  
Fraction =  $\pm \frac{1}{16}$   
x-x =  $\pm 0.030$   
x-xx =  $\pm 0.015$   
x-xxx =  $\pm 0.005$

This drawing is the exclusive property of Rinnai America Corporation. It may not be reproduced or given to third parties.

Drawn By: DRM  
Approved By: RS

Condensing Tankless Rack Parallel Piping System

SIZE: A  
SCALE: NTS  
DATE: 07/23/12

DWG NO.: RPPS  
REV: D  
SHEET: 1 of 1

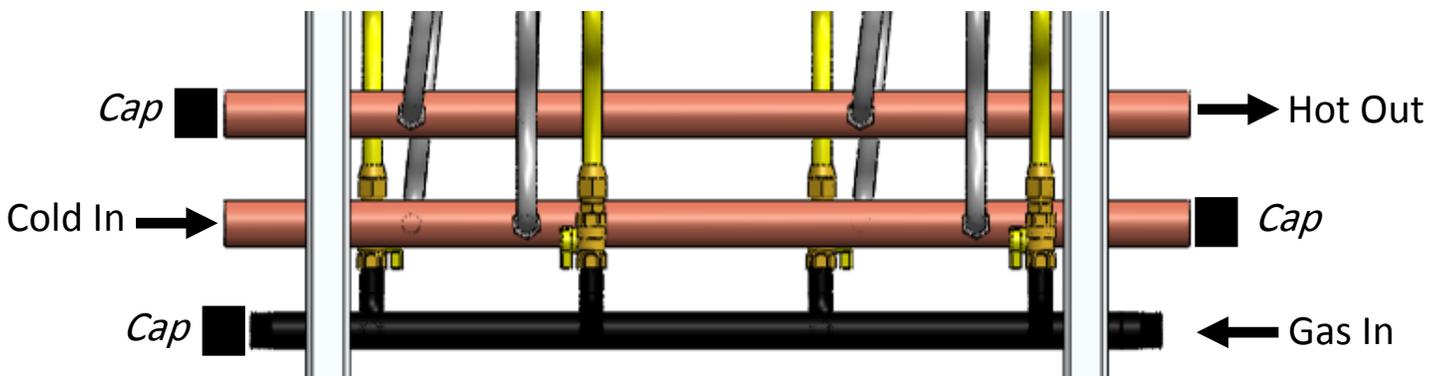
# Piping End Caps / Connections

End caps are field-supplied and must be the following materials:

- Cold water cap - Brass or Copper
- Hot water cap - Brass or Copper
- Gas cap - Black Iron

When flow direction and gas supply side are determined, the other (opposite) side of the manifold must be capped. See the example below.

Leak check the capped ends of the manifolds.



# Condensate Drain

Each Rinnai Tankless Water Heater has a condensate drain outlet on the bottom of the unit. A drain line must be connected to each water heater.

Free-standing rack systems with 3 or more units will include a prefabricated condensate manifold. For all other rack systems, a condensate drain manifold must be field-fabricated (not shown in diagram).

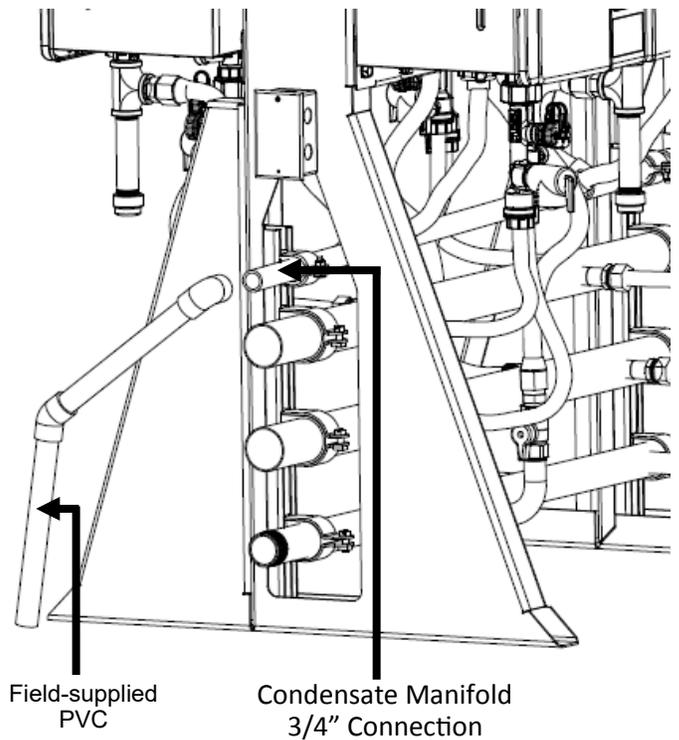
Condensate piping must be CPVC or PVC material and must not be smaller than the drain connection on the appliance.

Components of the condensate drainage shall be CPVC or PVC material. All components must be selected for the pressure and temperature rating of the installation.

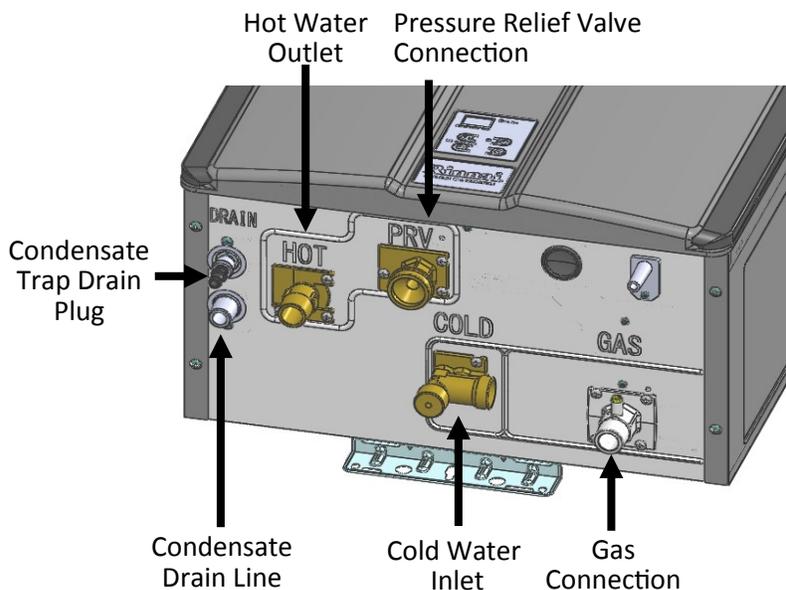
Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an approved method as dictated by local codes.

Condensate must be disposed of according to local codes.

Condensate drain must be sloped downward from the rack system. Condensate must be disposed of per local codes.



## Piping Diagram for Basic Installation



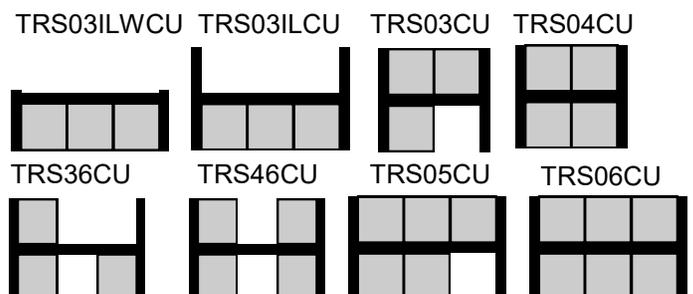
The condensate drain pipe (along its entire length) must be at least the same diameter as the drain line.

**NOTICE**

The telescoping fitting on the capped side of the condensate manifold is for air relief. **DO NOT** plug the opening.

## Condensate Manifold

Condensate manifolds are installed above the water manifolds of the following racks for single point condensate connection. Models available with condensate manifolds include:



**⚠ WARNING**

- A licensed professional must install the gas supply.
- Turn off 120V power supply.
- Turn off the gas.
- Gas is flammable. Do not smoke or provide other ignition sources while working with gas.
- Do not turn on the water heater or gas until all fumes are gone.

## Instructions

To connect the gas supply, follow the instructions below:

- 1 Check the type of gas and gas supply pressure before connecting the water heaters. If the water heaters are not of the gas type that the building is supplied with, DO NOT connect the water heaters. Contact the dealer for the proper water heaters to match the gas type.
- 2 Check the gas supply pressure immediately upstream at a location provided by the gas company. Supplied gas pressure must be within the limits shown in the **Specifications** section with all gas appliances operating.
- 3 Before placing the appliance in operation, all joints, including the heaters, must be checked for gas tightness by means of soap, gas leak detector solution, or an equivalent nonflammable solution, as applicable. Since some leak test solutions, including soap and water, may cause corrosion or stress cracking, the piping shall be rinsed with water after testing, unless it has been determined that the leak test solution is non-corrosive.
- 4 Any compound used on the threaded joint of the gas piping shall be a type that resists the action of liquefied petroleum gas (Propane/LPG).
- 5 The gas supply line shall be gas tight, sized, and installed as to provide a supply of gas sufficient to meet the maximum demand of the heaters and all other gas consuming appliances at the location without loss of pressure.
- 6 Perform a leak and pressure test prior to operating the water heaters. If a leak is detected, do not operate the water heaters until the leak is repaired.

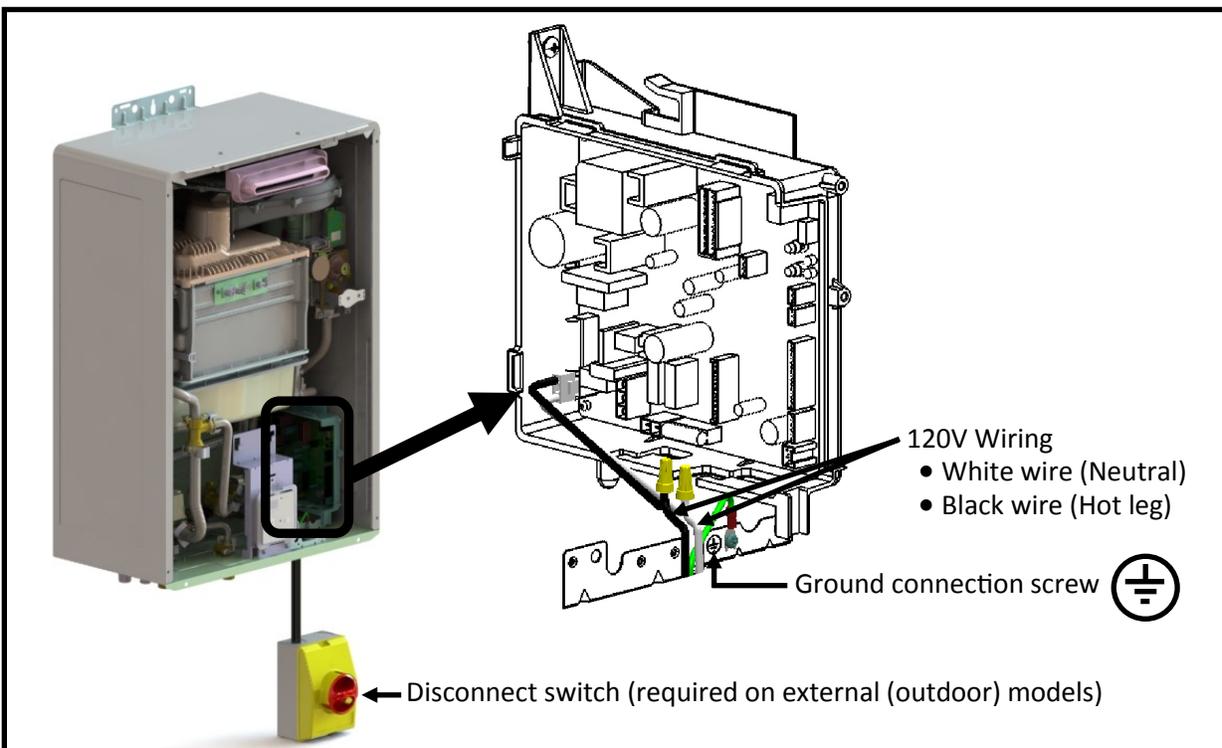
# 10 Power Supply

## ⚠ WARNING

- Do not use an extension cord or adapter plug with this appliance.
- The water heaters must be electrically grounded in accordance with local codes and ordinances or, in the absence of local codes, in accordance with the National Electrical Code, ANSI/NFPA No. 70.
- Indoor water heaters are equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding terminal from this plug.

When connecting the power supply, follow these guidelines:

- Do not rely on the gas or water piping to ground the water heaters. Ground locations are provided inside each water heater.
- The water heaters requires 120 VAC, 60 Hz power from a properly grounded circuit.
- If using the 5 ft (1.5 m) power cord (supplied with internal/indoor water heaters), plug it into a standard 3 prong 120 VAC, 60 Hz properly grounded wall outlet.
- On external (outdoor) models, a disconnect switch must be provided and installed for the incoming 120 VAC power. The switch should be a type that is suitable for outdoor use. Check the National Electrical Code, ANSI/NFPA 70 and your local codes for a proper switch type to use in your area. Power connections must be protected from the weather and flexible cords must use an appropriate strain relief.
- The wiring diagram is located on the inside of the water heater front cover.



## Post-Power Supply Connection Checklist

- Confirm that the electricity is supplied from 120 VAC, 60 Hz power source and is in a properly grounded circuit.
- Confirm that an extension cord or an adapter plug has **NOT** been used with the water heater.

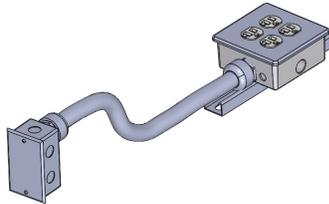
# Pre-Wired Electrical Assembly

Electrical Assemblies are installed on the middle rack frame of the following indoor racks for single point electrical connection.

Refer to the **Specifications** sections in this manual for electrical requirements.

## Interior Models Available with Electrical Assemblies

**4 Unit Electrical Assembly with (2) 20 A, 125 V, 2-Pole, 3 Wire Grounding Receptacles**



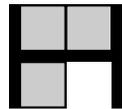
TRS031LWCU



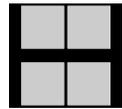
TRS031LCU



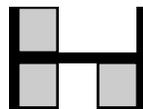
TRS03CU



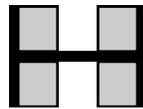
TRS04CU



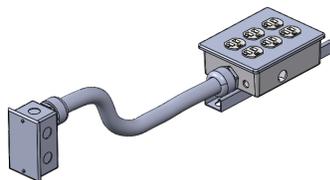
TRS36CU



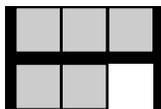
TRS46CU



**6-Unit Electrical Assembly with (3) 20 A, 125 V, 2-Pole, 3 Wire Grounding Receptacles**



TRS05CU



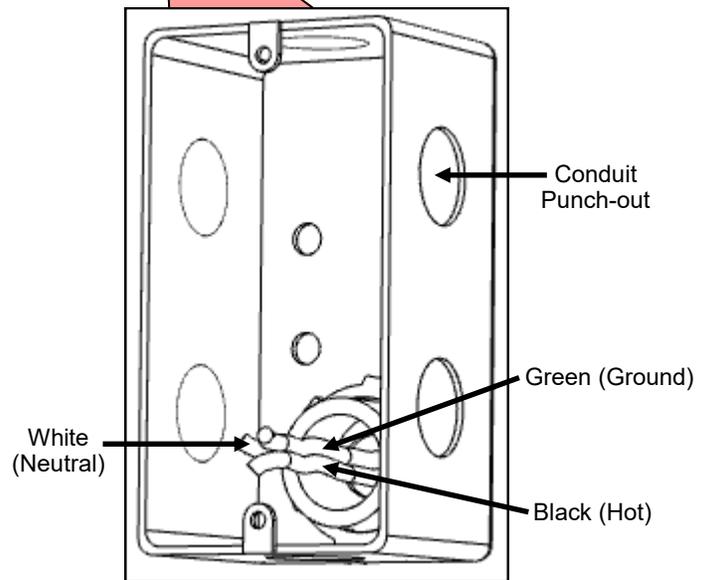
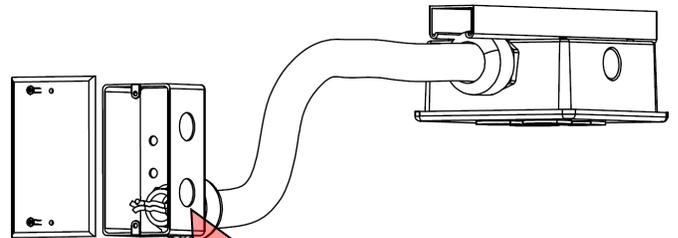
TRS06CU



## Instructions

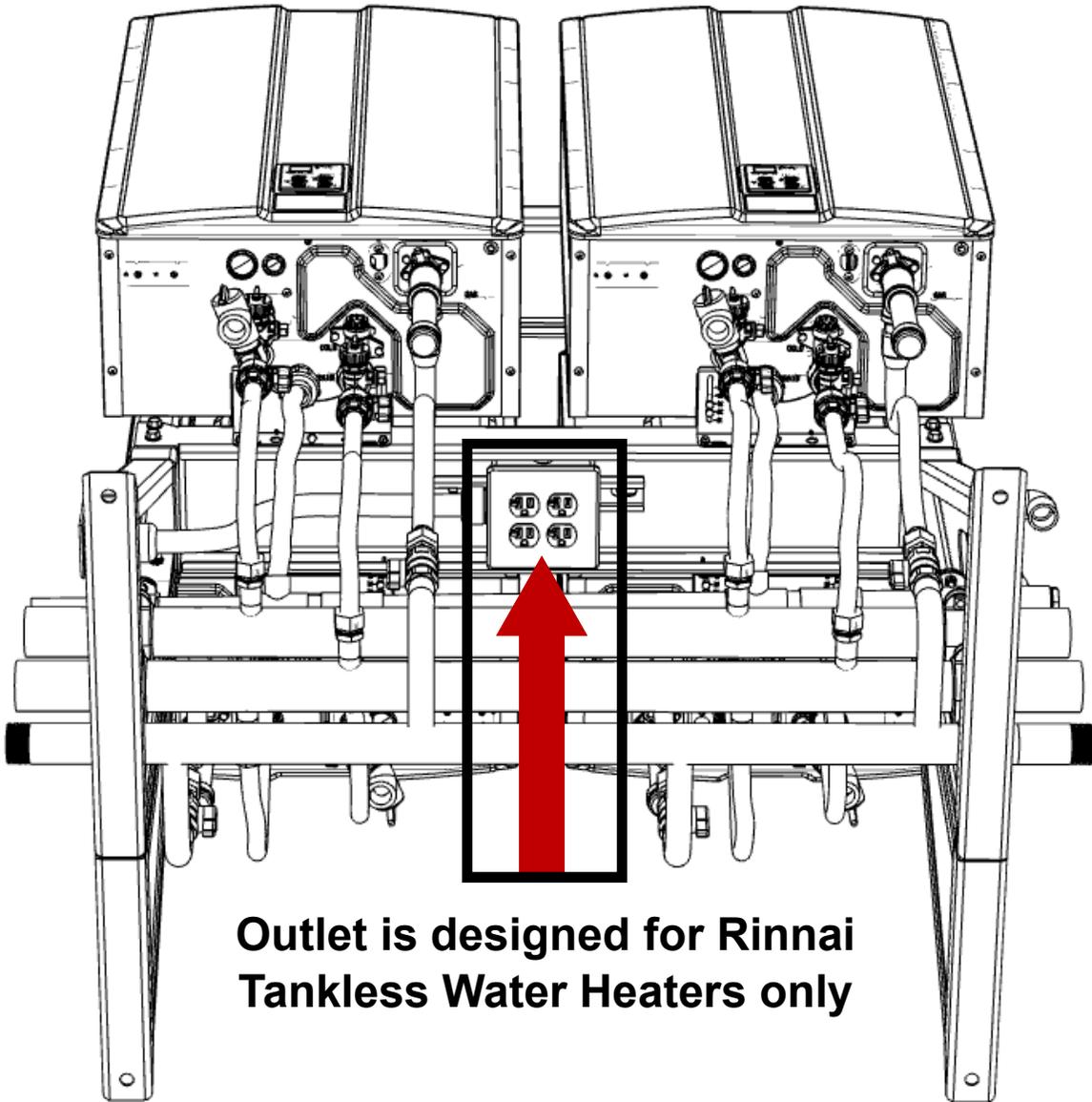


Shut off building supply power prior to connecting to TRS electrical assembly. Failure to do so may result in property damage, bodily harm, or death.



1. Locate the gang box on the side of the TRS frame.
2. Remove the 2 screws securing the front panel to the gang box.
3. Remove the front panel.
4. Run building-supplied electrical wiring and conduit to the gang box.
5. Connect building wiring to the 3 12AWG, THHN wires, Hot (Black), Neutral (White), and Ground (Green).
6. Reinstall the front panel to the gang box using 2 screws.
7. When the building electrical power supply has been wired to the rack system, plug the indoor units into the outlet located under the center rack frame as shown on the next page.

**IMPORTANT:** The outlet is designed for use with Rinnai Tankless Water Heaters only. Do not insert power cords belonging to other appliances or electrical sources into the outlet.



**Outlet is designed for Rinnai Tankless Water Heaters only**

**⚠ NOTICE ⚡**  
**DO NOT** connect the tankless water heaters to the outlet located under the center rack prior to connecting building power supply to the rack electrical gang box. Doing so may cause damage to the PC Boards of the tankless water heaters.

# 11

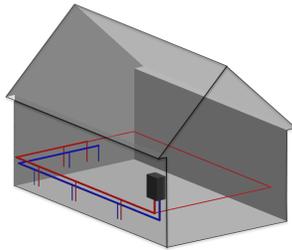
# Configuring TRW02ST and TRW03ST Rack Models

## This Section is Applicable for TRW02ST and TRW03ST Rack Models Only

TRW02ST and TRW03ST rack models are designed for the SE+ Featuring ThermaCirc360™ tankless water heaters, which include a built-in recirculation pump and two recirculation modes:

### DEDICATED MODE

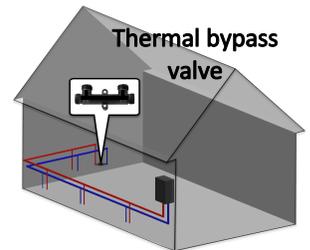
**(Factory Default)** Home/business includes a dedicated circulation return line in the plumbing system. All TRW02ST and TRW03ST rack models and the RUR199 Tankless Water Heater are shipped configured for a dedicated recirculation return line.



See the following section for Dedicated Mode instructions: **Configure TRW02ST and TRW03ST Racks For Dedicated Mode (Dedicated Recirculation Return Line)**

### CROSSOVER MODE

Home/business does not include a dedicated circulation return line. Requires installation of a thermal bypass valve (included with purchase) at the furthest fixture in the plumbing system.

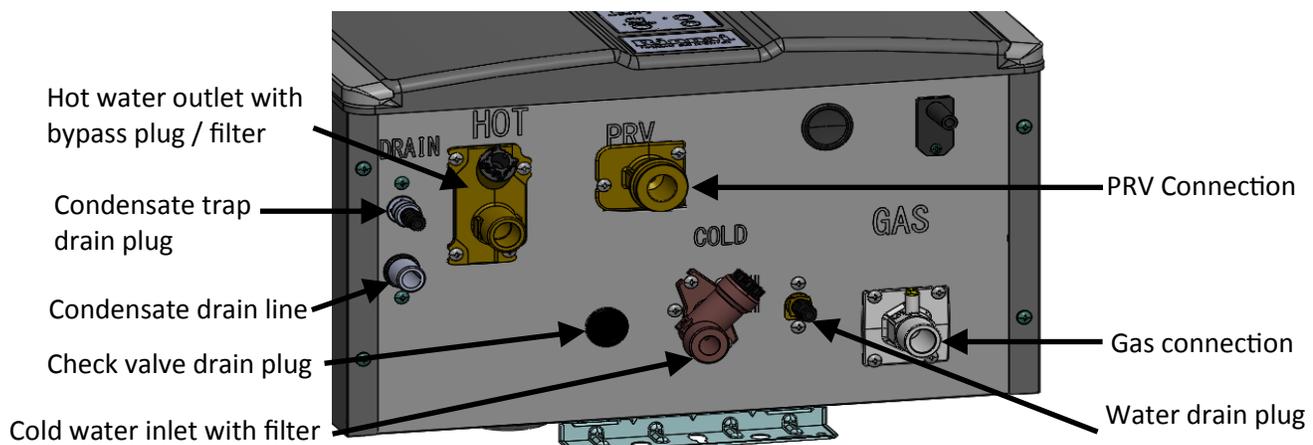


See the following section for Crossover Mode instructions: **Configure TRW02ST and TRW03ST Racks For Crossover Mode (Thermal Bypass Valve)**

## General Guidelines

- For the licensed installer / professional
- For installation in residential domestic hot water applications only.
- Rinnai strongly recommends installing insulation to the hot water and dedicated return lines to decrease the amount of heat loss.
- DO NOT install in combination with hydronic heating applications.
- DO NOT install the MC-195T-US Timer/Controller and Control-R™ Wi-Fi Module together as they are not compatible accessories.

## Connection Diagram

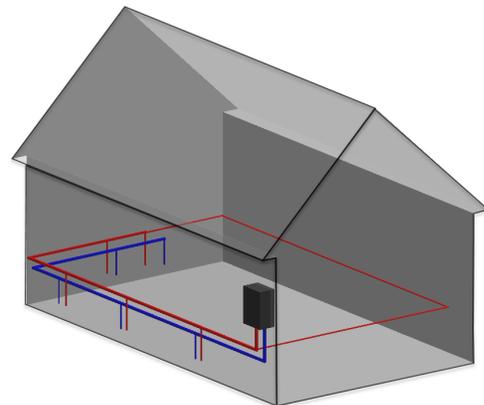


# Configure TRW02ST and TRW03ST Racks for Dedicated Mode (Dedicated Recirculation Return Line)

TRW02ST & TRW03ST

**IMPORTANT:** This section is only for TRW02ST and TRW03ST rack models utilizing a dedicated recirculation return line in the plumbing system.

All TRW02ST and TRW03ST racks are shipped configured for a dedicated recirculation return line. A single return line will connect to the RUR199 unit below the cold isolation valve as shown in the below schematic. Using an EZConnect cable, connect the primary unit (RUR199) to a secondary unit (RU199).

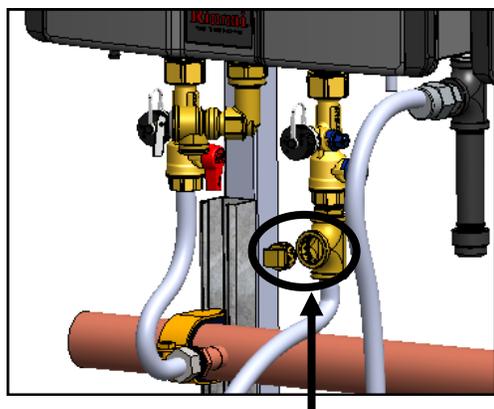


For the TRW03ST model with multiple RU199 units, the second RU199 must utilize a Pressure Activated Valve.

**RUR199  
(Primary)**

**RU199  
(Secondary)**

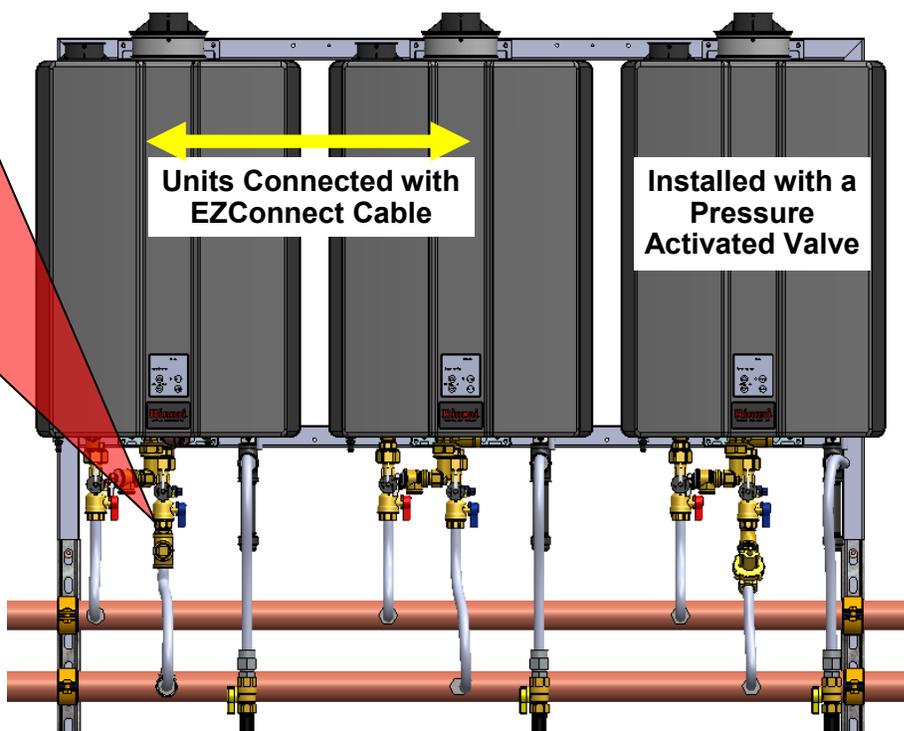
**RU199**



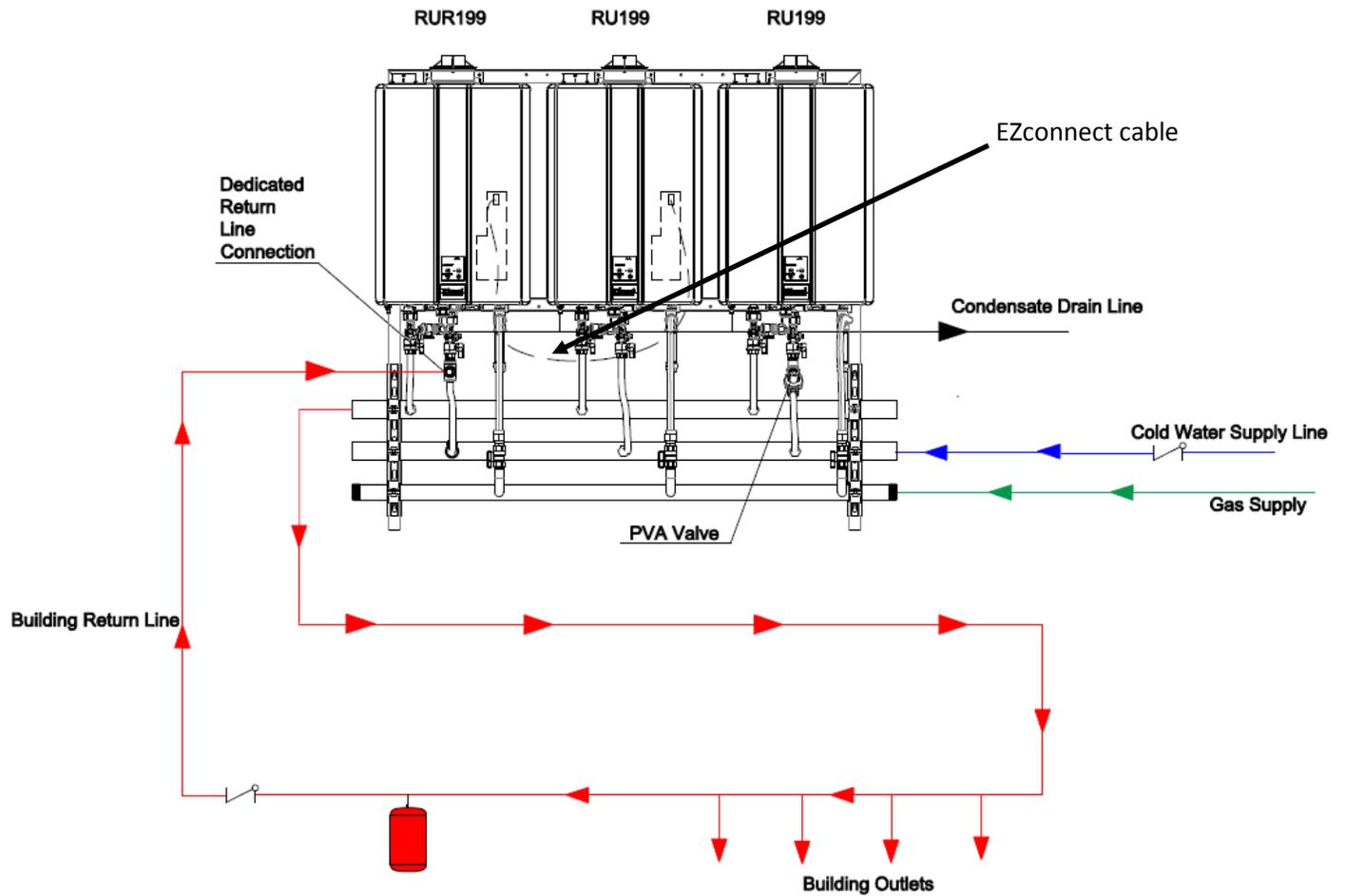
Dedicated return line connection  
3/4" FNPT

Unscrew the square head threaded plug to connect the building dedicated recirculation return line.

**WARNING:** Make sure the water supply is off and the system is depressurized.



## Plumbing Diagram (Dedicated Mode)



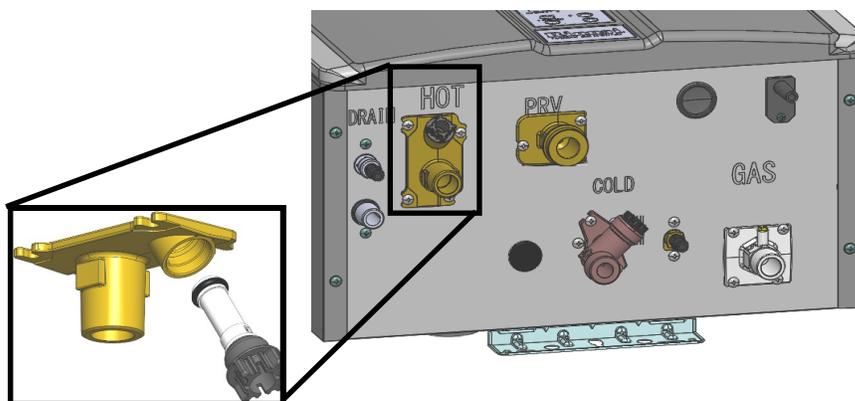
TRW02ST & TRW03ST

## Plug/Filter Assembly (Dedicated Mode)

ThermaCirc360 water heaters are factory set for dedicated recirculation.

A threaded cap and bypass plug assembly are installed in the hot water outlet at the base of the water heater.

For dedicated recirculation, it is **NOT** necessary to remove this plug.



## Parameter Settings (Dedicated Mode)

Refer to the **Parameter Setting** section of the “Rinnai Tankless Water Heater Installation and Operation Manual” for instructions on accessing and changing parameter settings.

SETTING #	SETTING DESCRIPTION	SELECTION			
		R	b	c	d
04	Recirculation Settings	No Recirculation	Recirculation		
			Dedicated Mode	Crossover Mode	
				Long Loop	Short Loop
05	Recirculation Modes	Economy	Comfort		

### 04 Recirculation Settings

**Dedicated Mode:** Adjust parameter setting to 04b for dedicated recirculation applications. Maximum recirculation loop length of 400 ft (122 m) with 3/4 in. pipe or 100 ft (30 m) with 1/2 in. pipe.

Maximum Pipe Length*		
Maximum pipe length includes the hot water supply line and dedicated return line.		
Pipe Diameter	3/4 in.	1/2 in.
Total	400 ft (122 m)	100 ft (30 m)

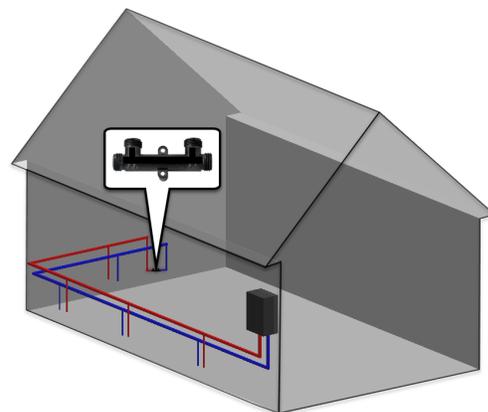
\*Take equivalent elbow lengths into consideration when calculating pipe length.

### 05 Recirculation Modes

- **Economy (Factory Default):** Adjust parameter setting to 05R for Economy mode. This mode cycles the pump less often, using less energy to maintain the circulation loop temperature.
- **Comfort:** Adjust parameter setting to 05b for Comfort mode. This mode cycles the pump more frequently, ensuring the loop temperature remains higher (but also uses more energy).

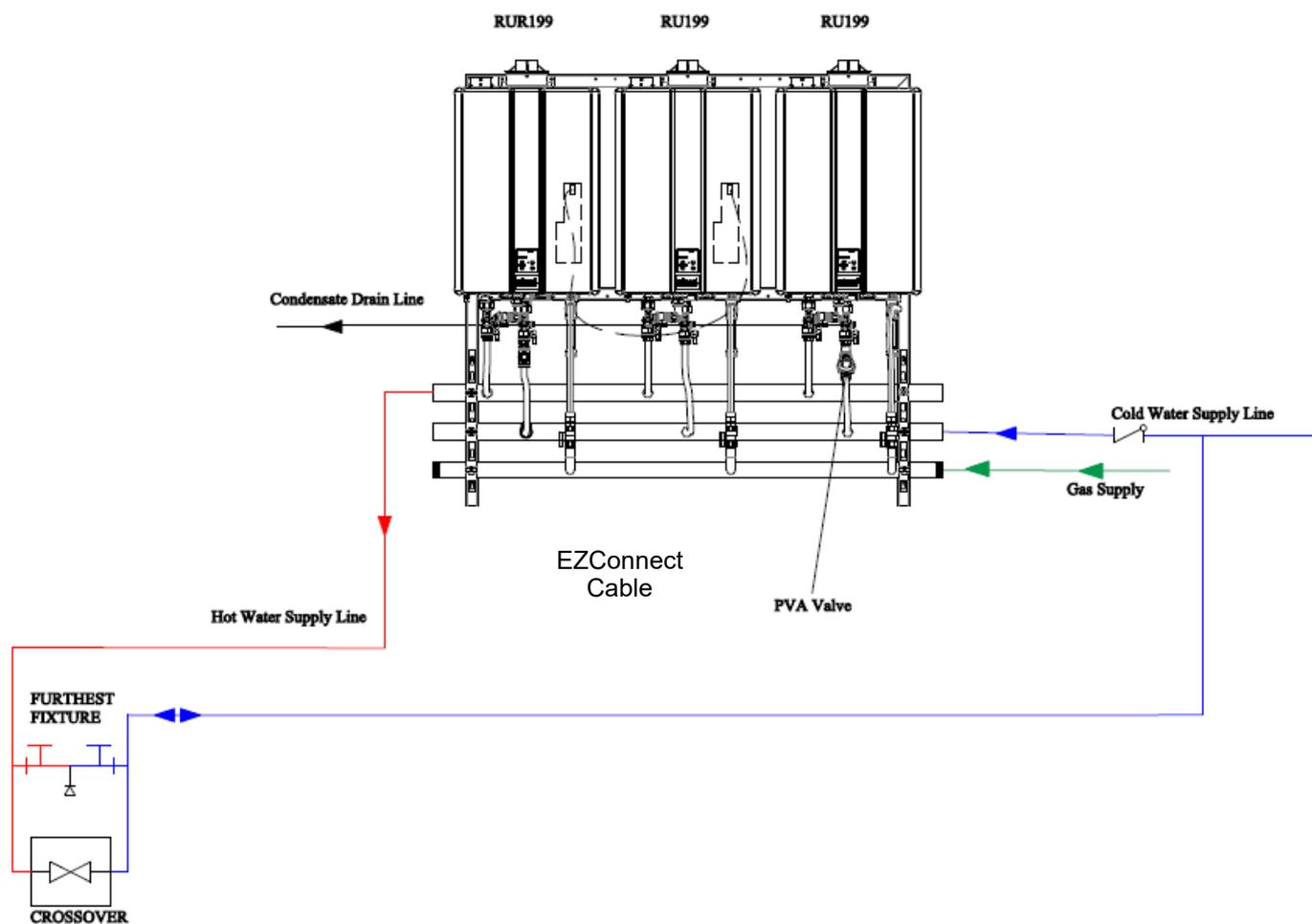
# Configure TRW02ST and TRW03ST Racks for Crossover Mode (Thermal Bypass Valve)

**IMPORTANT:** This section is only for TRW02ST and TRW03ST rack models using a thermal bypass valve for recirculation in the plumbing system.



- 1 On the RUR199, remove the bypass plug and replace with the bypass filter.
- 2 Configure the parameter settings for Crossover Mode on each water heater. Refer to the “Rinnai Tankless Water Heater Installation and Operation Manual” for detailed instructions.

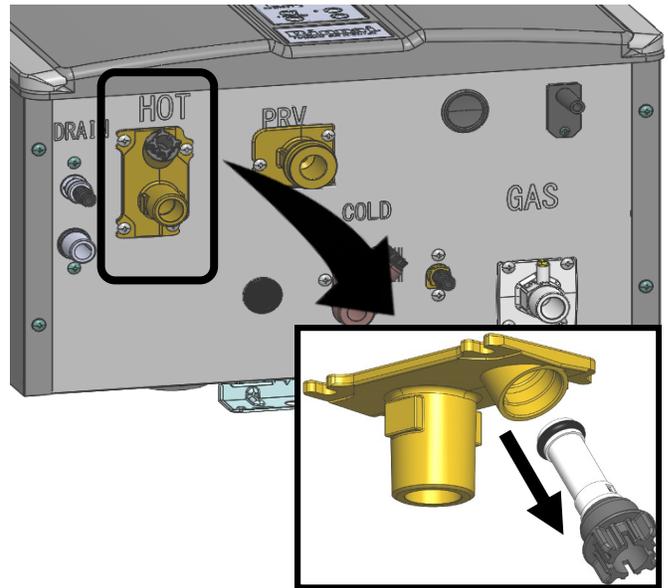
## Plumbing Diagram (Crossover Mode)



## Plug/Filter Assembly (Crossover Mode)

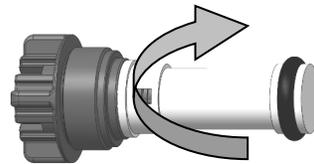
Follow the steps below to remove the **bypass plug** and replace it with the **bypass filter** (packaged with the Thermal Bypass Valve).

- 1 Remove threaded cap and Bypass Plug assembly from the hot water outlet at the base of each water heater.

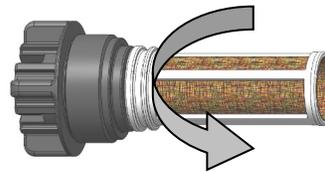


Bypass Plug Assembly

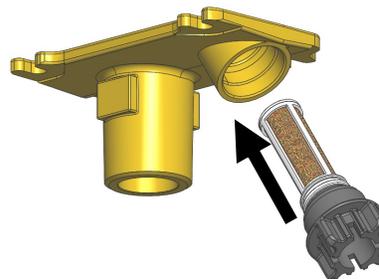
- 2 Remove Bypass Plug from the threaded cap.



- 3 Assemble bypass filter to the threaded cap.



- 4 Assemble threaded cap and Bypass filter assembly to the hot water outlet at the base of each water heater.



### IMPORTANT

Do not discard bypass plug. Keep in safe place in case system is changed from Crossover Mode to Dedicated Mode.



## Parameter Settings (Crossover Mode)

Refer to the **Parameter Setting** section of the “Rinnai Tankless Water Heater Installation and Operation Manual” for instructions on accessing and changing parameter settings.

SETTING #	SETTING DESCRIPTION	SELECTION			
		A	b	c	d
04	Recirculation Settings	No Recirculation	Recirculation		
			Dedicated Mode	Crossover Mode	
				Long Loop	Short Loop
05	Recirculation Modes	Economy	Comfort		

### 04 Recirculation Settings

**Crossover Mode (Long Loop):** Adjust parameter setting to 04C for loop length of 201 ft (60 m) to 400 ft (122 m) with 3/4 in. pipe or for 51 ft (15 m) to 100 ft (30 m) with 1/2 in. pipe.

**Crossover Mode (Short Loop):** Adjust parameter setting to 04d for loop length of less than 200 ft (60 m) with 3/4 in. pipe or for less than 50 ft (15 m) with 1/2 in. pipe.

Maximum Pipe Length*		
Pipe Diameter	3/4 in.	1/2 in.
Short Loop	~200 ft (60 m)	~50 ft (15 m)
Long Loop	201 ft (60 m)~400 ft (122 m)	51 ft (15 m)~100 ft (30 m)

\*Take equivalent elbow lengths into consideration when calculating pipe length.

### 05 Recirculation Modes

**Economy (Factory Default):** Adjust parameter setting to 05A for Economy mode. This mode cycles the pump less often, using less energy to maintain the circulation loop temperature.

**Comfort:** Adjust parameter setting to 05b for Comfort mode. This mode cycles the pump more frequently, ensuring the loop temperature remains higher (but also uses more energy).

# 12

# Connect Water Heaters

With use of cascade cable(s) up to 24 water heaters can be electronically connected. This connection will rotate water heater operation order to ensure equal usage among the entire system and enables all water heaters connected to modulate operation and function as one hot water source.

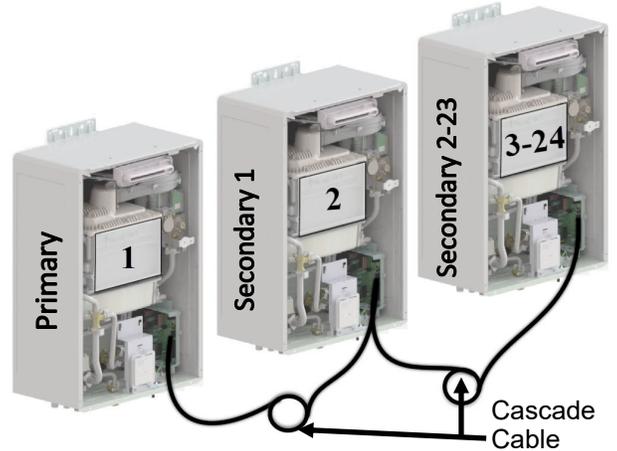
For proper operation, do not combine different models with cascade communication.

### Cascade Cable Required:



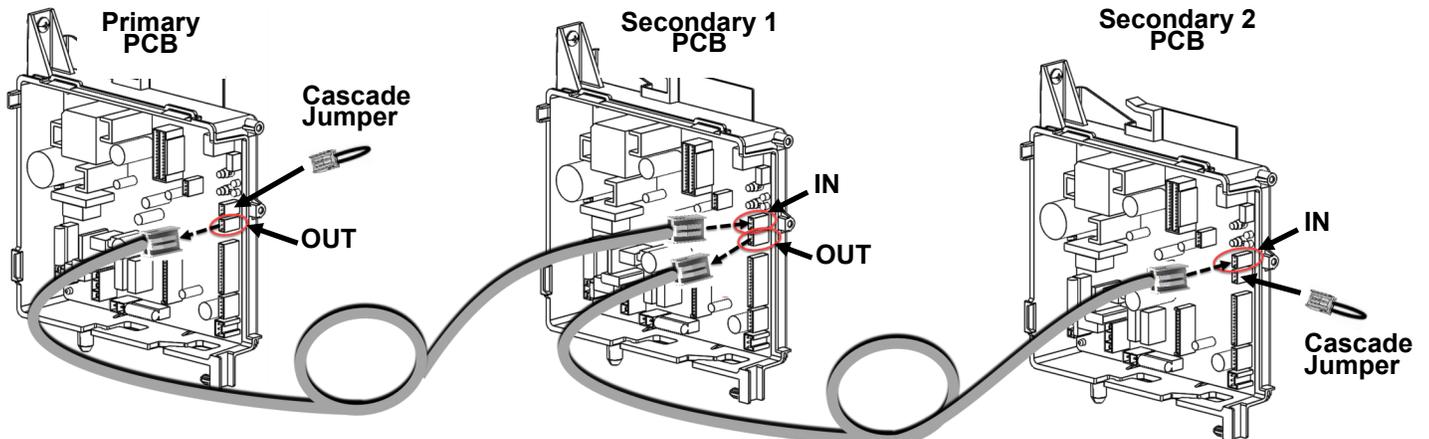
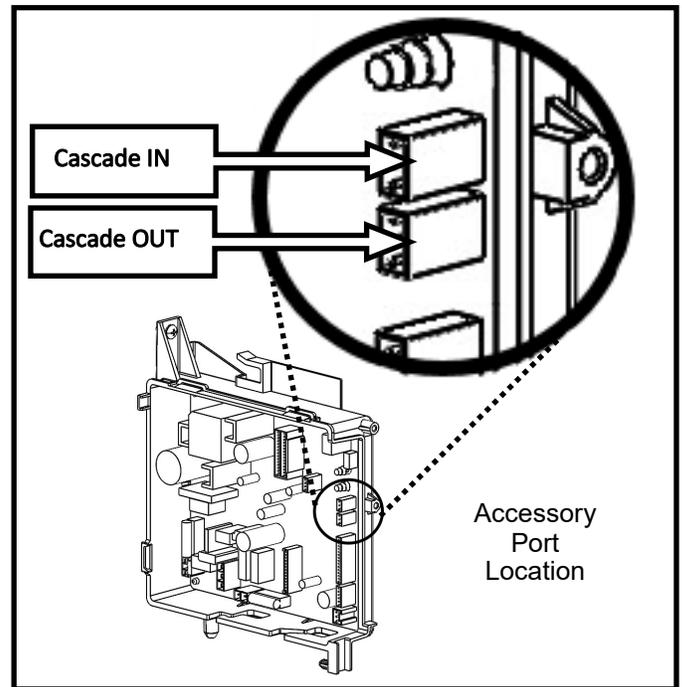
- Cable length: 26 ft (8 m)  
OR
- Cable Length: 10 ft (3 m)
- One cable required for each water heater.

- Includes 1 cable and 2 cascade jumpers.



## Cascade Cable Assembly

1. Connect one end of the Cascade Cable to the "Cascade OUT" accessory port on the PCB.
2. Connect the other end of the cascade cable to the "Cascade IN" accessory port on the PCB of the next water heater.
3. Repeat steps 1 and 2 for each subsequent water heater in the system.
4. Connect the "Cascade Jumper" (Included with the cascade cable) to the open accessory ports.
5. Proceed to "Programing Cascade Communication" on the following page.



# Programming Cascade Communication

## Parameter Settings (Cascade Communication)

Refer to the **Parameter Setting** section of the “Rinnai Tankless Water Heater Installation and Operation Manual” for instructions on accessing and changing parameter settings.

SETTING #	SETTING DESCRIPTION	SELECTION					
		a	b	c	d	e	f
08	Cascade	Secondary (1-23)	Primary				
09	Units in Standby (Cascade)	1	2	3	4	5	6

### 08 Cascade:

**Primary:** Select the water heater intended to be the Primary water heater for cascade communication. Set the parameter setting for this water heater to “Primary” (**08 b**).

NOTE: Controller will display the set temperature for the system.

**Secondary:** Factory Default setting for each water heater is set to “Secondary”. Parameter adjustment is only needed on the water heater identified as “Primary”.

NOTE: Controller will display “- - -”.

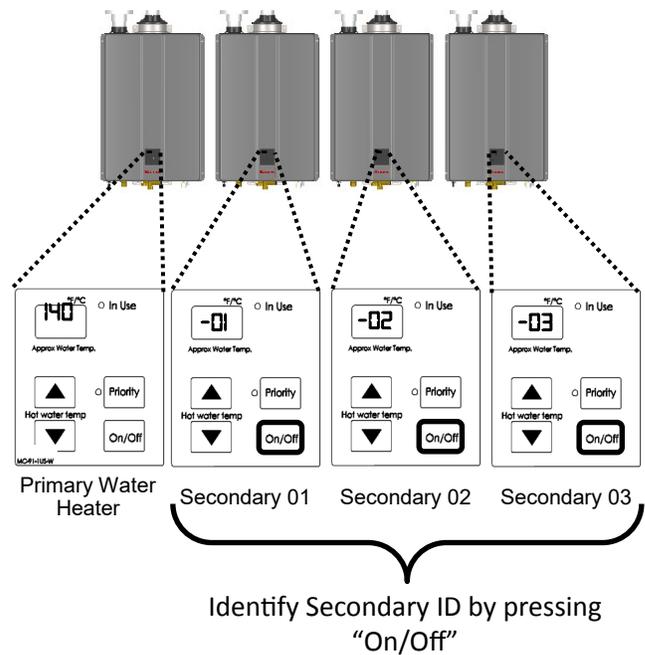
### 09 Units in Standby:

Adjust the parameter setting of the primary unit to set the number of water heaters in standby. Standby units will maintain operation with the water flow control valve in the open position. The remaining water heaters will maintain the water flow control valve in the closed position.

### Setting Secondary ID

After identifying the “Primary” water heater in the parameter settings, set the Secondary ID for all remaining water heater in the system by pressing the “On/Off” button on the controller.

When ID setting is successful, the controller display will change from “- - -” to the newly set ID number.



# 13

# Installation Checklist

Complete the following checklist when installation is complete. You should be able to answer YES to each question. If you answer NO to any question, installation is not complete. Refer to the applicable section in the “Rinnai Tankless Water Heater Installation and Operation Manual” for additional information.

Reference the “Rinnai Tankless Water Heater Installation and Operation Manual” For Additional Information on the Items Below

INSTALLATION LOCATION	YES	NO
Have you verified the units, vents and air intakes meet the clearance requirements?	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION AIR & VENTING	YES	NO
Have all corrosive compounds been removed from around the combustion air inlet of the tankless water heaters?	<input type="checkbox"/>	<input type="checkbox"/>
Have you followed the combustion air requirements to provide sufficient combustion air for the tankless water heaters?	<input type="checkbox"/>	<input type="checkbox"/>
Are the correct venting products for the installed models being utilized?	<input type="checkbox"/>	<input type="checkbox"/>
Have you installed the vent screen(s) for PVC vent applications?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified the vent systems do not exceed maximum length?	<input type="checkbox"/>	<input type="checkbox"/>
PLUMBING	YES	NO
Have you ensured that a pressure relief valve is installed with a rating that exceeds the BTU input of the water heater models? Refer to the rating plate on the side of each water heater for BTU input.	<input type="checkbox"/>	<input type="checkbox"/>
Have the water lines been purged of all debris and the filter cleaned? Debris will damage the water heaters. Clean the inlet water filter by closing the cold and hot water inlet isolation (shut-off) valves. Put a bucket under the filter at the bottom of each water heater to catch any water that is contained inside the unit. Unscrew the water filter. Rinse the filter to remove any debris. Install the filter and open the isolation valves.	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified the hot and cold water manifolds to each tankless water heater are not interchanged?	<input type="checkbox"/>	<input type="checkbox"/>
Does the water supply to the heaters have adequate pressure? Minimum water pressure is 50 psi. Rinnai recommends 60-80 psi for maximum performance. Is the water supply free of chemicals? Did you verify the water supply does not exceed total hardness that will damage the heat exchangers?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified that toxic chemicals were not introduced to the potable water?	<input type="checkbox"/>	<input type="checkbox"/>
Did you drain the tankless water heaters if not intended to be used immediately?	<input type="checkbox"/>	<input type="checkbox"/>
Have water quality issues (if any) been addressed?	<input type="checkbox"/>	<input type="checkbox"/>
Have you performed the leak and pressure test for the tankless water heaters and plumbing system?	<input type="checkbox"/>	<input type="checkbox"/>

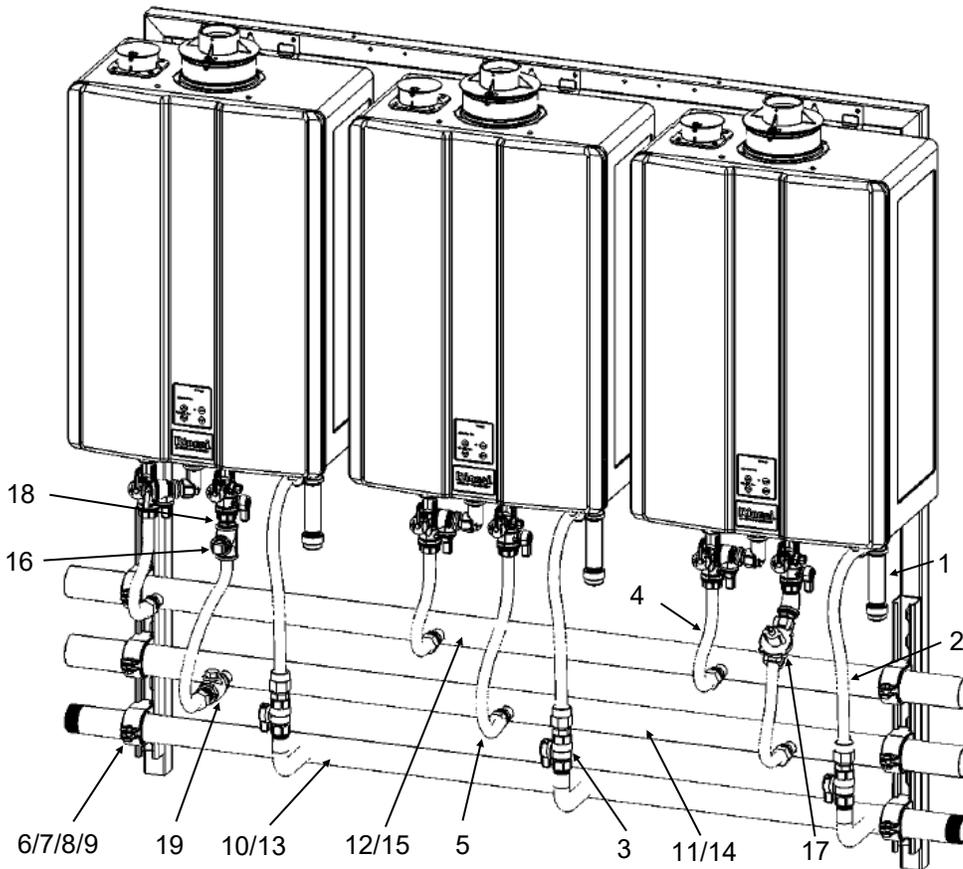
*Continued on next page*

<b>PRESSURE RELIEF VALVE (PRV)</b>	<b>YES</b>	<b>NO</b>
Is the discharge from the PRV piped to the ground or into a drain system as per local codes?	<input type="checkbox"/>	<input type="checkbox"/>
Is the discharge line from the PRV pitched downward and does it terminate 6 in. (152 mm) above the drains?	<input type="checkbox"/>	<input type="checkbox"/>
Is the discharge end of the line plain (unthreaded) and a minimum of 3/4 in. diameter?	<input type="checkbox"/>	<input type="checkbox"/>
Is the discharge line material suitable for at least 180° F water?	<input type="checkbox"/>	<input type="checkbox"/>
Did you take measures to protect the PRV and PRV discharge line from freezing?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified the PRV <b>is not</b> plumbed with the condensate drain line?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified the PRV <b>is not</b> plugged and that reducing fittings, valves, or other restrictions are not installed in the relief line?	<input type="checkbox"/>	<input type="checkbox"/>
<b>CONDENSATE DRAIN</b>	<b>YES</b>	<b>NO</b>
If the condensate pump is installed, is it wired to deactivate the tankless water heaters in the event of failure?	<input type="checkbox"/>	<input type="checkbox"/>
Did you verify the condensate drain pipe is as short as possible and has a downward pitch toward the drain or condensate pump?	<input type="checkbox"/>	<input type="checkbox"/>
Is all condensate drained and disposed of as per local codes?	<input type="checkbox"/>	<input type="checkbox"/>
Did you use <b>ONLY</b> corrosion resistant materials for the condensate drain lines?	<input type="checkbox"/>	<input type="checkbox"/>
Did you verify the condensate drain pipe along its entire length is at least the same diameter as the drain line (1/2 in. NPT)?	<input type="checkbox"/>	<input type="checkbox"/>
Did you check to ensure the condensation drain lines are protected from freezing?	<input type="checkbox"/>	<input type="checkbox"/>
If a floor pump is not available or the drain is above the level of the condensate drain, did you install a condensate pump?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified the condensate drain line is not plumbed with the pressure relief valve?	<input type="checkbox"/>	<input type="checkbox"/>
Have you confirmed the condensate drain line is not connected with an air conditioning evaporator coil drain?	<input type="checkbox"/>	<input type="checkbox"/>
Have you verified an external condensate trap is not installed?	<input type="checkbox"/>	<input type="checkbox"/>
Have you confirmed the end of the condensate drain pipe is open to atmosphere?	<input type="checkbox"/>	<input type="checkbox"/>
<b>GAS SUPPLY</b>	<b>YES</b>	<b>NO</b>
Did you verify the gas system is appropriately sized?	<input type="checkbox"/>	<input type="checkbox"/>
Did you verify each water heater is rated for the gas type supplied?	<input type="checkbox"/>	<input type="checkbox"/>
Have you performed a gas line and connection leak test?	<input type="checkbox"/>	<input type="checkbox"/>
Is the inlet gas pressure within limits?	<input type="checkbox"/>	<input type="checkbox"/>
Did you purge the gas line of any debris before connecting the water heaters?	<input type="checkbox"/>	<input type="checkbox"/>

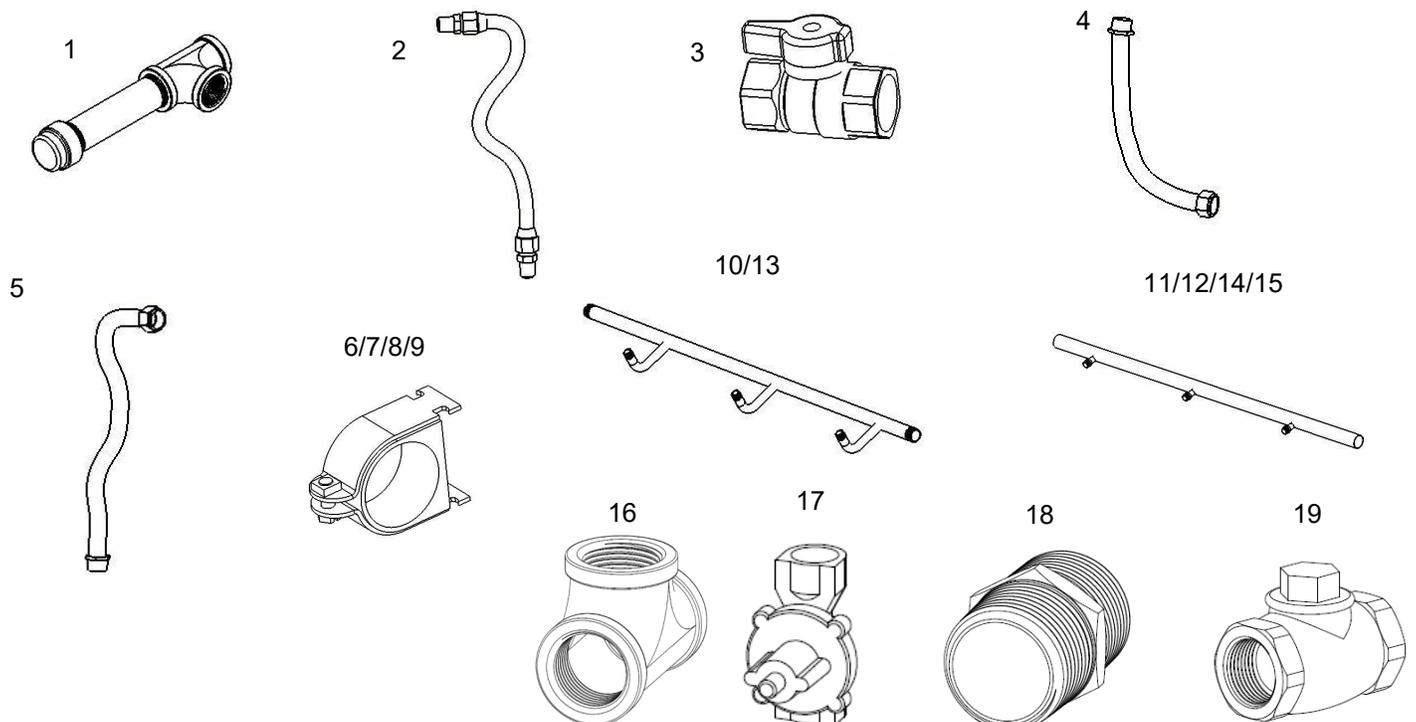
# 14 Appendices

## TRW Replacement Parts

APPENDICES

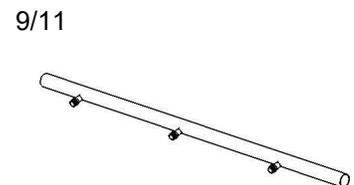
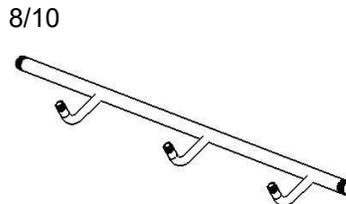
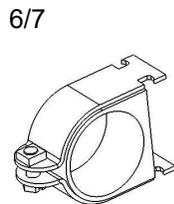
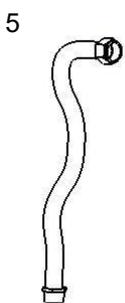
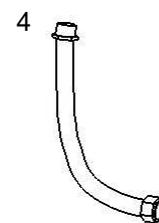
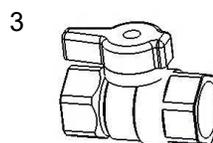
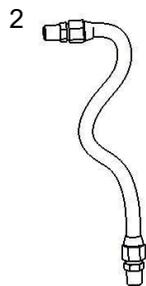
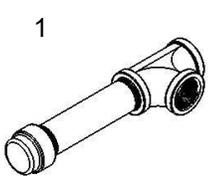
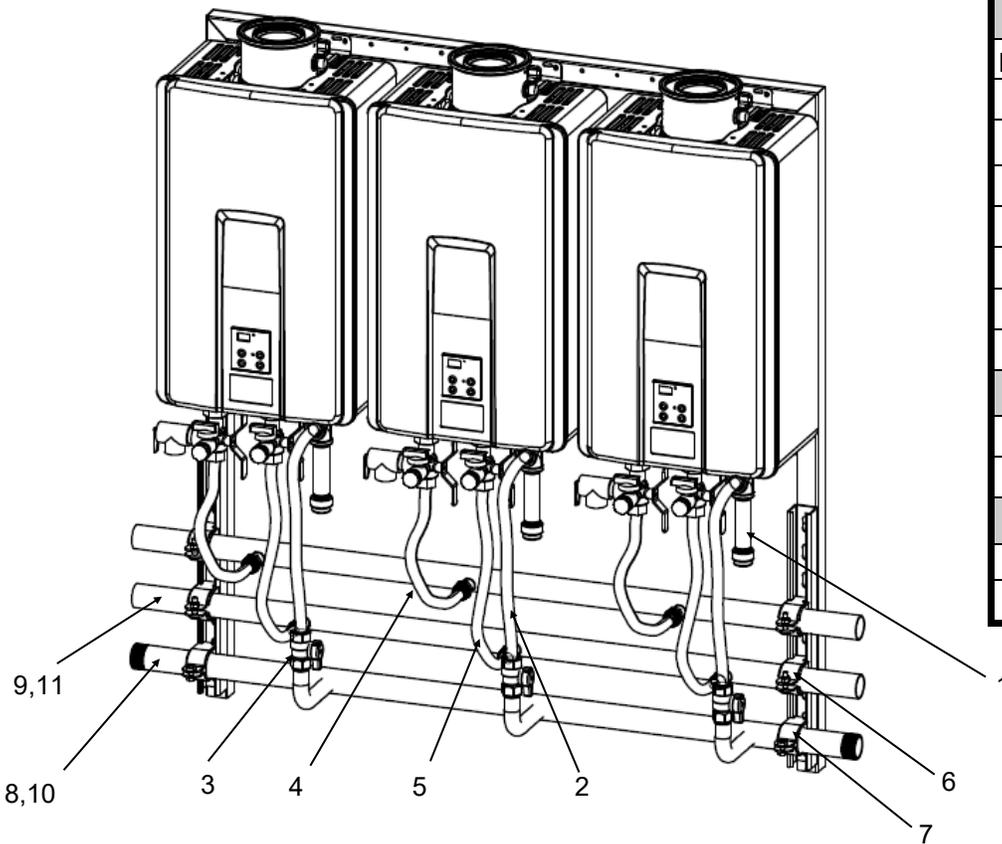


ALL TRW MODELS	
Ref.	Description
1	Dirt Leg
2	Gas Flex Line Assembly
3	Gas Valve
4	Hot Water Flex Line
5	Cold Water Flex Line
7	Cush Clamp 2.125 ID
9	Cush Clamp 1.66 ID
TRW03 / TRW03ST	
10	Manifold, Gas - 3WM
11	Manifold, Water Cold - 3WM
12	Manifold, Water Hot - 3WM
TRW02 / TRW02SE / TRW02ST	
13	Manifold, Gas - 2WM
14	Manifold, Water Cold - 2WM
15	Manifold, Water Hot - 2WM
TRW02ST / TRW03ST	
16	Threaded Tee
17	PVA Valve
18	Threaded Nipple
19	Check Valve

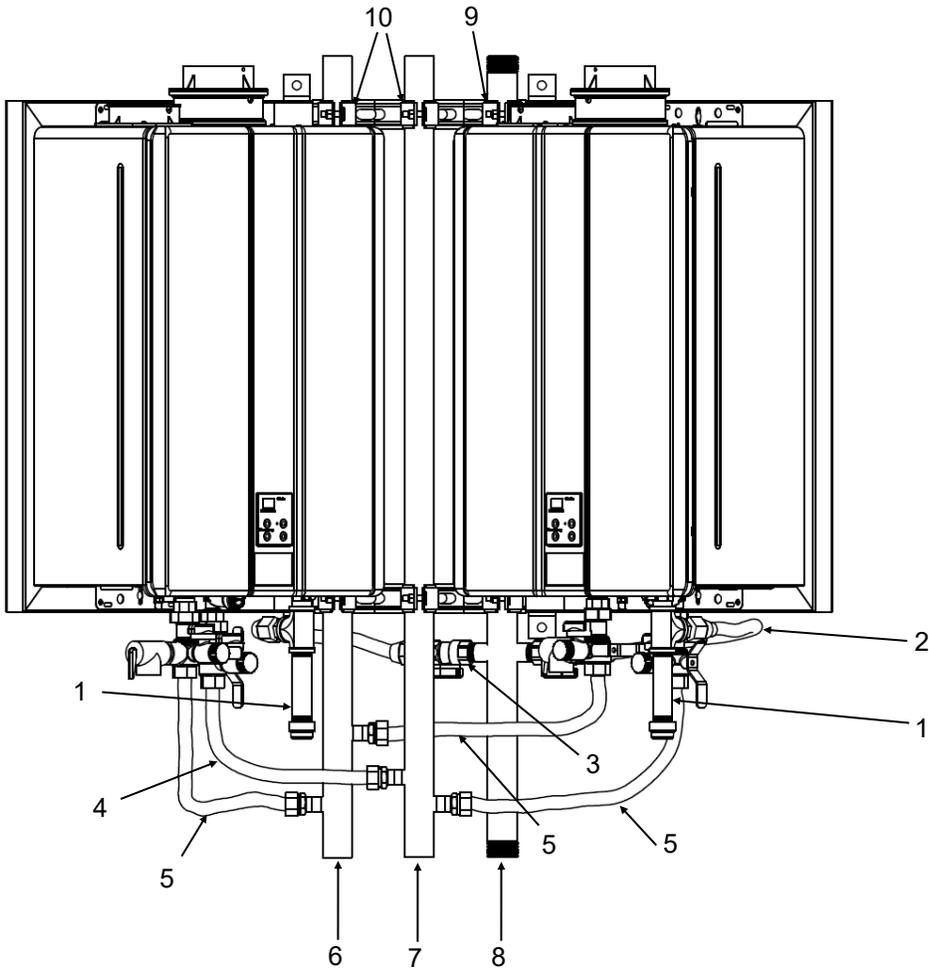


# TRW HE Series Replacement Parts

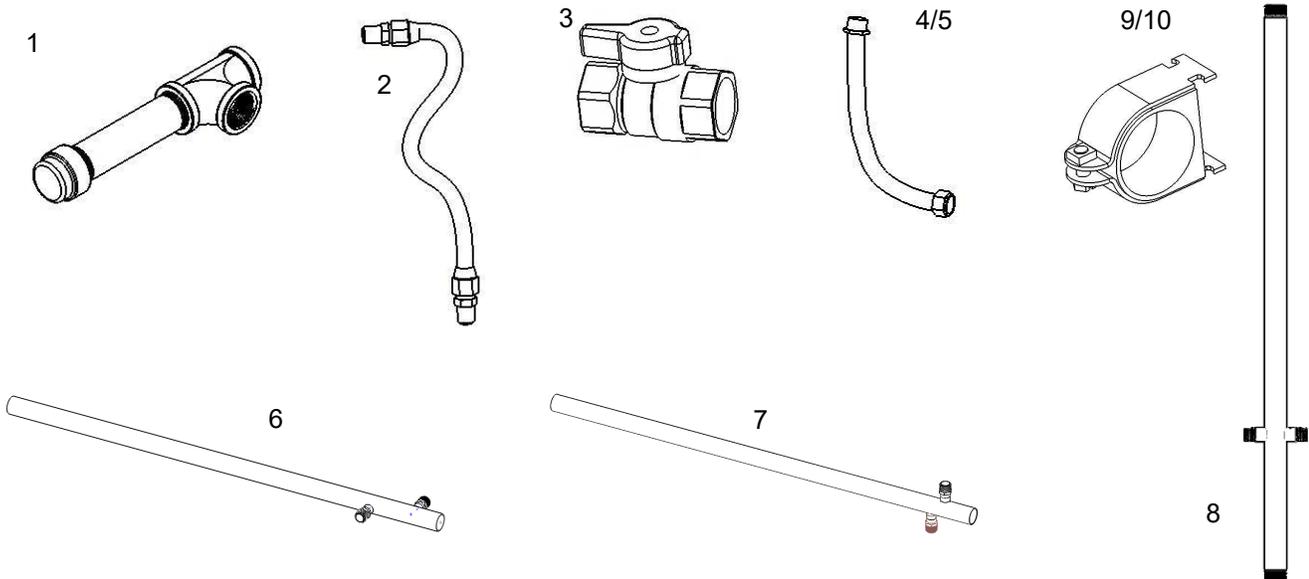
TRW02HE / TRW02HEX / TRW03HE / TRW03HEX	
REF.	Description
1	Dirt Leg
2	Gas Flex Line Assembly
3	Gas Valve
4	Hot Water Flex Line
5	Cold Water Flex Line
6	Cush Clamp 1.625 ID
7	Cush Clamp 1.66 ID
TRW03HE / TRW03HEX	
8	Manifold, Gas (TRW03HE)
9	Manifold, Water (TRW03HE)
TRW02HE / TRW02HEX	
10	Manifold, Gas (TRW02HE)
11	Manifold, Water (TRW02HE)



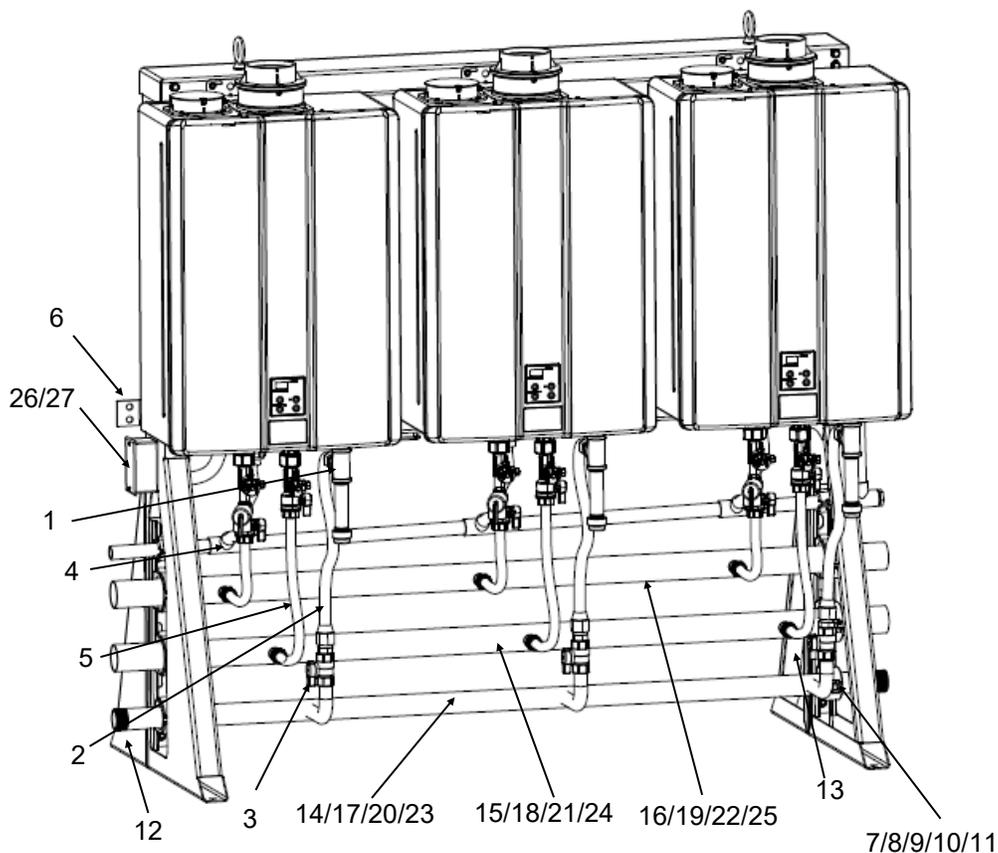
# TRC Replacement Parts



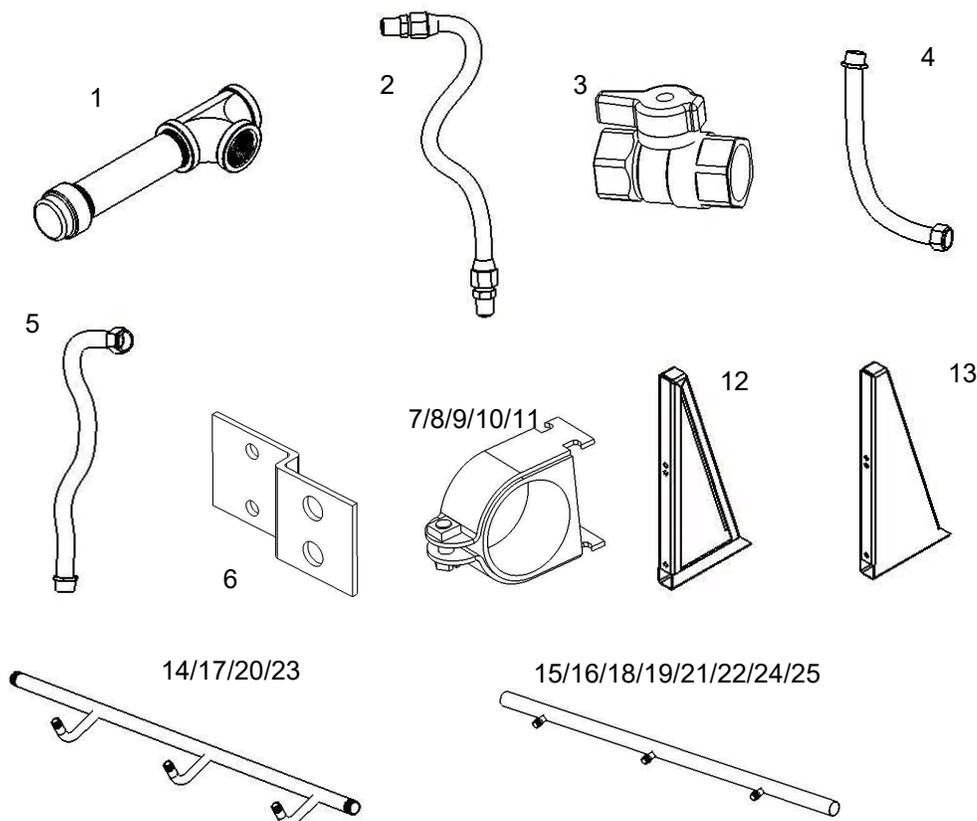
TRC02	
REF.	Description
1	Dirt Leg
2	Gas Flex Line Assembly
3	Gas Valve
4	18" Flex Line
5	21" Flex Line
6	Hot Water Manifold
7	Cold Water Manifold
8	Gas Manifold
9	Cush Clamp 1.66 ID
10	Cush Clamp 1.625 ID

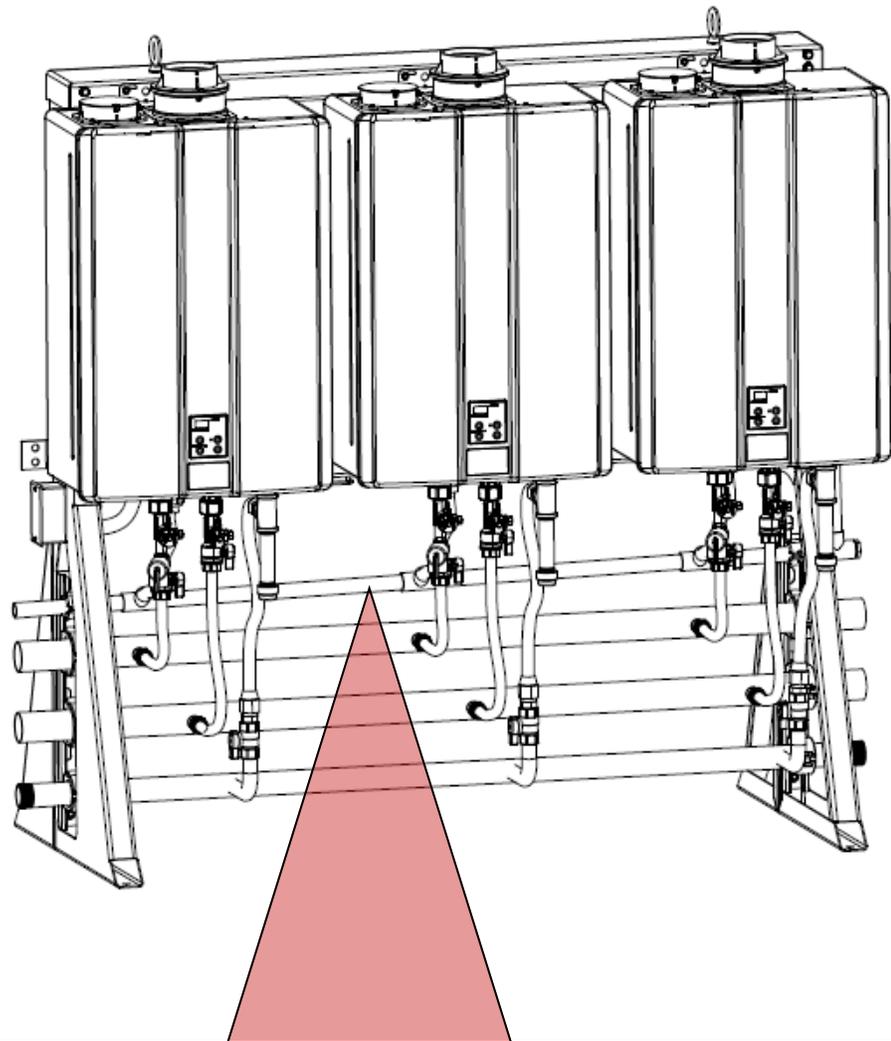


# TRS Replacement Parts

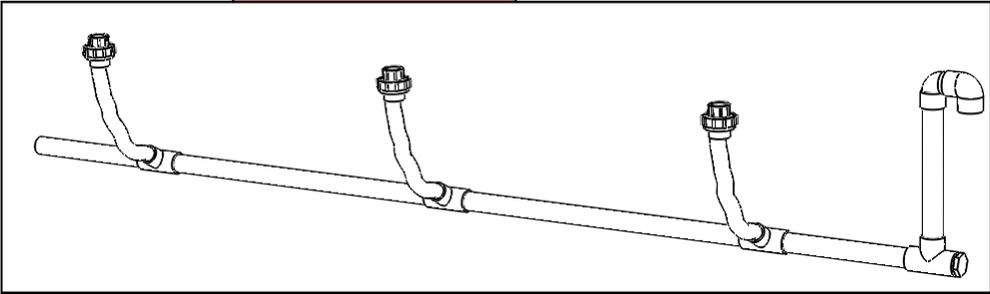


ALL TRS/TRSILW	
REF.	Description
1	Dirt Leg
2	Gas Flex Line Assembly
3	Gas Valve
4	Hot Water Flex Line
5	Cold Water Flex Line
6	Wall Bracket
7	Cush Clamp 2.63 ID
8	Cush Clamp 2.125 ID
9	Cush Clamp 1.90 ID
10	Cush Clamp 1.66 ID
11	Cush Clamp 1.05 ID
12	Frame, Rack Left Rear
13	Frame, Rack Right Rear
TRS05/TRS06/TRS36/TRS46	
14	Manifold, Gas - 6B2B
15	Manifold, Water Cold - 6B2B
16	Manifold, Water Hot - 6B2B
TRS02/TRS03/TRS04	
17	Manifold, Gas - 4B2B
18	Manifold, Water Cold - 4B2B
19	Manifold, Water Hot - 4B2B
TRS03IL/TRS03ILW/TRS23	
20	Manifold, Gas - 3WM
21	Manifold, Water Cold - 3WM
22	Manifold, Water Hot - 3WM
TRS02IL/TRS02ILW	
23	Manifold, Gas - 2WM
24	Manifold, Water Cold - 2WM
25	Manifold, Water Hot - 2WM
TRS03/TRS03ILW/TRS03IL/ TRS04/TRS36/TRS46	
26	Electrical - 4 Connections
TRS05/TRS06	
27	Electrical - 6 Connections





CONDENSATE MANIFOLD	
RACK	DESCRIPTION
TRS03IL/ILW	3 Connections - In-Line
TRS03CU	3 Connections - 3B2B
TRS04CU	4 Connections - 4B2B
TRS05CU	5 Connections - 5B2B
TRS06CU	6 Connections - 6B2B
TRS36CU	3 Connections - 3B2B
TRS46CU	4 Connections - 4B2B



## REGISTRATION REQUIRED\*

Rinnai is providing the opportunity to extend your Rinnai Standard Limited Warranty for labor only on the tankless water heater product installed as part of the Tankless Rack System and used in a commercial application. You must register the product within 30 days of purchase of the system to qualify.

The limited warranty period on the Labor coverage for Tankless Water Heaters installed on the Tankless Rack System is extended for an additional 12 months (a total of 24 months labor coverage from date of purchase), when registered. **Products not registered will still be covered under the Rinnai standard product limited warranty as provided in the Operating Instruction manual which comes with the Tankless water heater. Warranty information is also available on Rinnai's web site at [www.rinnai.us](http://www.rinnai.us). You can register at [www.rinnairegistration.com](http://www.rinnairegistration.com) or by calling 1-866-RINNAI-1 (746-6241), except registration is not required in California and Quebec.**

### What is covered?

This Limited Warranty covers any defects in materials or workmanship when the product is installed and operated according to Rinnai written installation instructions, subject to the terms within this Limited Warranty document. This Limited Warranty applies only to products that are installed correctly. Improper installation may void this Limited Warranty. In order for this warranty to apply, it is required that you use a licensed professional who has attended a Rinnai installation training class before installing this water heater. This Limited Warranty extends to the original purchaser and subsequent owners, but only while the product remains at the site of the original installation. This Limited Warranty only extends through the first installation of the product and terminates if the product is moved or reinstalled at a new location.

### How long does coverage last?

Item	Period of Coverage (from date of purchase)
Tankless Water Heaters	Refer to the Water Heater Installation and Operation Manual shipped with your system for complete warranty details on your Rinnai Tankless Water Heater.
Rack and Components	1 year

**Only applicable if product is registered within 30 days of purchase and the other conditions are met. Note to California and Quebec Residents, and residents of other jurisdictions that prohibit warranty benefits conditioned on registration, registration is not required to obtain longer warranty periods and failure to register does not diminish your warranty rights. [www.rinnai.us/warranty](http://www.rinnai.us/warranty)**

### What will Rinnai do?

Rinnai will repair or replace the covered product or any part or component that is defective in materials or workmanship as set forth. Rinnai will pay reasonable labor charges associated with the repair or replacement of any part or component of the tankless water heater. All repair parts must be genuine Rinnai parts. All repairs or replacements must be performed by a licensed professional that is properly trained, state qualified or licensed to do the type of repair.

Replacement of the product may be authorized by Rinnai only. Rinnai does not authorize any person or company to assume for it any obligation or liability in connection with the replacement of the product. If Rinnai determines that repair of a product is not possible, Rinnai will replace the product with a comparable product at Rinnai's discretion. The warranty claim for product parts and labor may be denied if a component or product returned to Rinnai is found to be free of defects in material or workmanship; damaged by improper installation, use or operation; or damaged during return shipping.

### How do I get service?

You must contact a licensed professional for the repair of a product under this Limited Warranty. For the name of a licensed professional please contact your place of purchase, visit the Rinnai website ([www.rinnai.us](http://www.rinnai.us)), call Rinnai at 1-800-621-9419 or write to Rinnai at 103 International Drive, Peachtree City, Georgia 30269.

Proof of purchase is required to obtain warranty service. You may show proof of purchase with a dated sales receipt, or by registering within 30 days of purchasing the product. To register your tankless water heater, please visit [www.rinnai.us](http://www.rinnai.us). For those without internet access, please call 1-866-RINNAI1 (746-6241). Receipt of Registration by Rinnai will constitute proof-of-purchase for this product. However, Registration is not necessary in order to validate this Limited Warranty.

## What is not covered?

This Limited Warranty does not cover any failures or operating difficulties due to the following:

- accident, abuse, or misuse
- alteration of the product or any component part
- misapplication of this product
- improper installation (such as but not limited to)
  - Product being installed in a corrosive environment
  - condensate damage
  - improper venting
  - incorrect gas type
  - incorrect gas or water pressure
  - absence of a drain pan under the appliance
- water quality
- improper maintenance (such as but not limited to scale build-up, freeze damage, or vent blockage)
- incorrect sizing
- any other cause not due to defects in materials or workmanship
- Problems or damage due to fires, flooding, electrical surges, freezing or any acts of God.
- force majeure

There is no warranty coverage on product installed in a closed loop application, commonly associated with space heating only applications.

The integrated controller on indoor models has a 1 year warranty on parts.

This Limited Warranty does not apply to any product whose serial number or manufacture date has been defaced. This Limited Warranty does not cover any product used in an application that uses chemically treated water such as a pool or spa heater. This appliance is suitable for filling large or whirlpool bath tubs with potable water.

## Limitation on warranties

No one is authorized to make any other warranties on behalf of Rinnai America Corporation. Except as expressly provided herein, there are no other warranties, expressed or implied, including, but not limited to warranties of merchantability or fitness for a particular purpose, which extend beyond the description of the warranty herein and further Rinnai shall not be liable for indirect, incidental, special, consequential or other similar damages that may arise, including lost profits, damage to person or property, loss of use, inconvenience, or liability arising from improper installation, service or use. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

Any implied warranties of merchantability and fitness arising under state law are limited in duration to the period of coverage provided by this Limited Warranty, unless the period provided by state law is less. Some states do not allow limitations on how long an implied Limited Warranty lasts, so the above limitation may not apply to you.

This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

[www.rinnai.us/warranty](http://www.rinnai.us/warranty)

# Notes

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Learn more about Rinnai high-performance Tankless Water Heaters, Hybrid Water Heating Systems, Boilers, Vent-Free Fan Convectors and EnergySaver® Direct Vent Wall Furnaces at:

[rinnai.us](http://rinnai.us) | [rinnai.ca](http://rinnai.ca)

# Rinnai®

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Local, state, provincial, federal and national fuel gas codes must be adhered to prior to and upon installation.

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