

# Rinnai®

NEW and IMPROVED

# SENSEI™

FEATURING

**Smart-Circ™**  
Intelligent Recirculation™



# SENSEI®

## Major Time and Energy Savings

Introducing the new and improved **SENSEI™**. Rinnai is delivering the same superior quality that is now even **EASIER FOR THE PRO TO INSTALL**. New features include:

- Smart-Circ™ Intelligent Recirculation™
- New more powerful multi-speed DC Pump
- Simplified recirculation operation no longer requiring an internal bypass and recirculation plug/filter
- And so much more!



### THE ADVANTAGES



**EASY  
INSTALLATION**

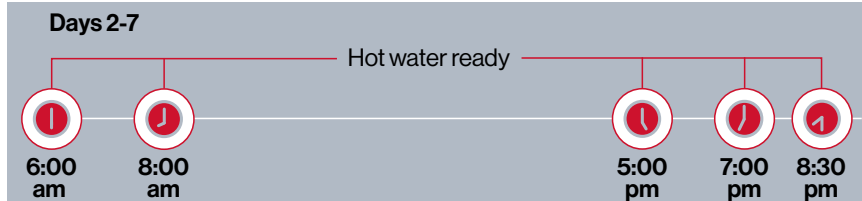
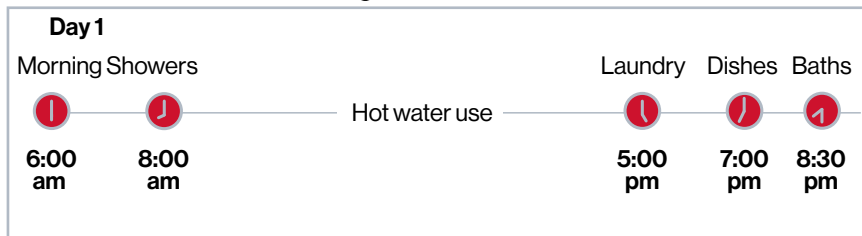


**PERFORMANCE**



**SERVICEABILITY**

### Smart-Circ™ Intelligent Recirculation™



With Smart-Circ, installation just got easier. External controllers are no longer required to set-up recirculation for your customers. Smart-Circ “learns” users’ hot water patterns over a seven-day period, then schedules pump and tankless recirculation patterns accordingly. Users enjoy hot water during regular demand periods, while saving energy and money.

#### You're all set!

Hot water will be ready for you based on your previous usage schedule. As hot water events are added throughout the week, scheduled recirculation adjusts accordingly.

### What about usage changes?



Smart-Circ does not distinguish between weekday and weekend patterns.



Additional activity, like when users have guests. This will set a usage pattern that continues for 7 days before returning to normal.

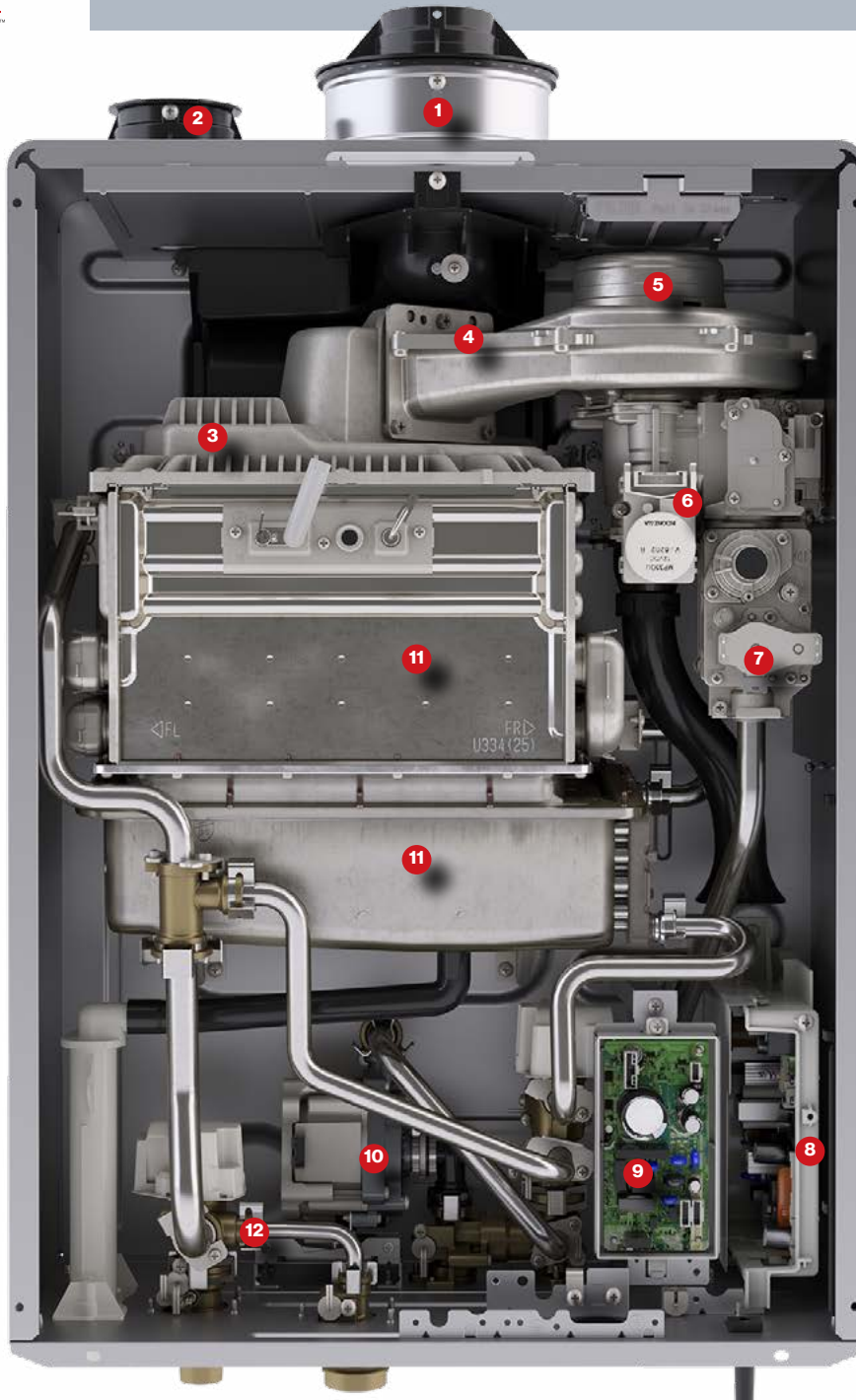


To achieve scheduled recirculation or on-demand operation, control•r™ Wi-Fi module or MC-195T controllers are required (sold separately). Additional controllers will override Smart-Circ Intelligent Recirculation.

Hot water usage must be greater than 20 seconds to be added to Smart-Circ's memory. This minimizes unwanted recirculation.

## Look Inside

Vertically integrated components paired with the most advanced recirculation technology delivering superior product performance.



**1 Concentric Vent or 2-Inch Exhaust\***

- Allows for easy use of concentric 2" / 4" or 3" / 5" direct vent or exhaust in 2-pipe or room-air configurations

**2 2-Inch Intake Vent Connections**

- Allows for maximum flexibility with the use of 2" PVC/CPVC/PP on vent runs up to 65 feet

**3 Fiber Mesh Premix Burner\***

- Provides even flame distribution for optimal performance for any demand

**4 Integrated Check Valve**

- Located between the turbo fan and combustion chamber
- Prevents cold air from entering the venting system and backflow of exhaust in common vent applications

**5 Turbo Fan\***

- Enables longer vent runs and flexible vent options
- Up to 65 feet vent runs with 2" / 4" concentric and 2" PVC/CPVC/PP
- Up to 150 feet vent runs with 3" / 5" concentric and 3" PVC/CPVC/PP

**6 Switching Venturi\***

- Provides consistent mixture of air and gas to burner for low turn-down ratios
- Self-compensates in areas with low or fluctuating gas pressures

**7 Zero Governor Gas Valve\***

- Optimal combustion by delivering the right mixture of air and gas for hot water demand

**12 NEW**

**Simplified Recirculation Operation**

- New system logic simplifies installation by eliminating the need for the internal bypass and recirculation plug/filter

**11 Primary and Secondary Stainless Steel Heat Exchangers\***

- Resists the corrosive nature of the condensate, which occurs earlier in the high-efficiency combustion process

**10 NEW**

**Multi-Speed DC Pump**

- Improved more efficient performance
- Higher flow rate
- Better head pressure and for more flexible operation

**9 NEW**

**Smart-Circ**<sup>™</sup>  
Intelligent Recirculation

- Intelligent Recirculation™ "learns" users' hot water patterns to schedule recirculation
- Recirculation controllers available separately either MC-195T or control+r WiFi

**8 NEW**

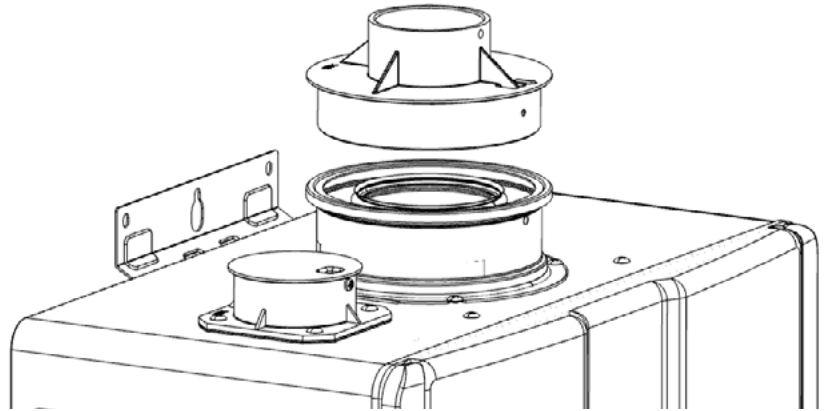
**Low Flow Activation Logic**

- Improved performance in high temperature climates with low flow rates

# Most Flexible Venting in the Industry

The Rinnai SENSEI™ can go in an existing condensing vent system for replacement if needed, but new installs can use smaller, lighter, less expensive concentric venting.

- 14 possible vent configurations
- 9 compatible vent manufacturers\*



**2" adaptor ring and cap allow for 3"x 5" concentric venting or 2" twin pipe venting**

\*Includes 40 PVC

## Now Including 2" Venting Options

### CONCENTRIC

DIAMETER	EQUIVALENT LENGTH	TERMINATION
2" X 4"	65' (20 M)	VERTICAL OR HORIZONTAL
3" X 5"	150' (46 m)	VERTICAL OR HORIZONTAL

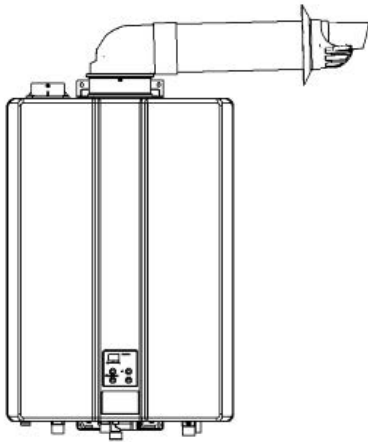
- Unit requires only a single penetration through the wall, reducing install time and costs
- Simple positive-fit components offer a secure connection
- Joint seals expand and contract with weather to prevent damage
- Assembly and adjustment are easy

### TWIN PIPE AND ROOM AIR

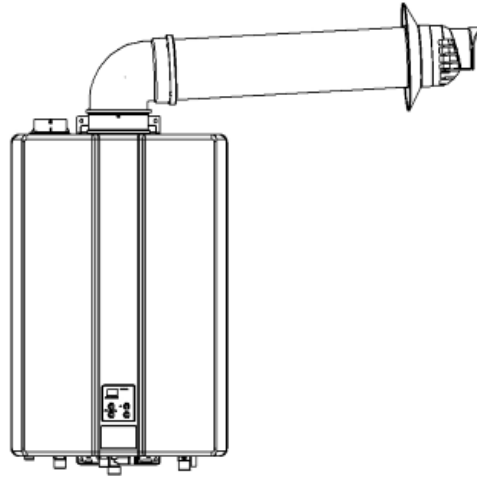
DIAMETER	MATERIAL	EQUIVALENT LENGTH	TERMINATION
2"	PP, PVC, CPVC	65' (20 m)	VERTICAL OR HORIZONTAL
3"	PP, PVC, CPVC	150' (46 M)	VERTICAL OR HORIZONTAL

# Example Vent Configurations

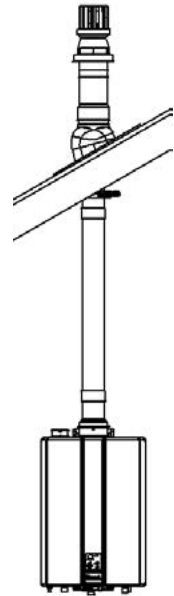
## CONCENTRIC



**2" x 4" horizontal wall termination configuration**

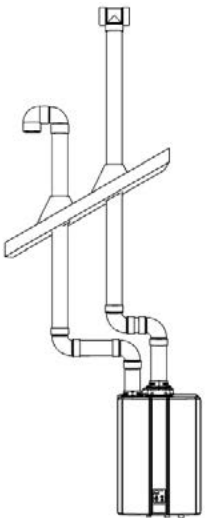


**3" x 5" horizontal wall termination configuration**



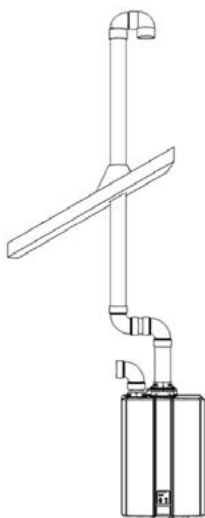
**2" x 4" or 3" x 5" vertical roof termination configuration**

## TWIN PIPE



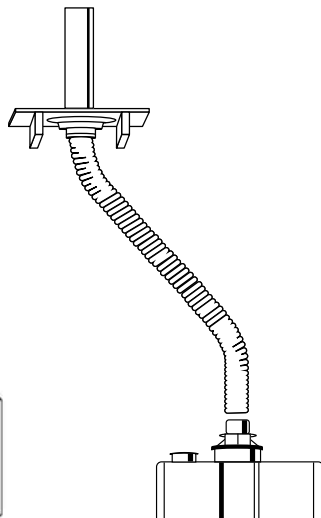
**Vertical termination direct vent configuration**

## ROOM AIR



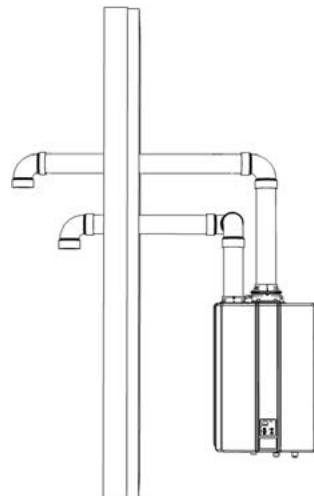
**Vertical termination room air configuration**

## FLEX PP VENT

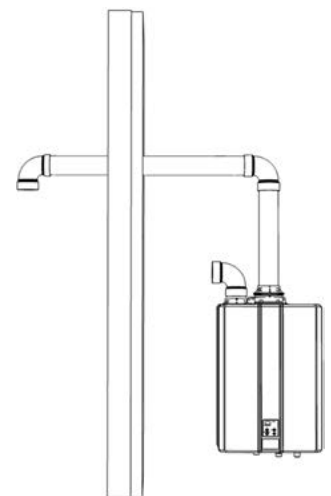


**Flex vent terminates directly to the Tankless Water Heater**

## ELBOWS OR TEES



**Elbow or tee side wall termination direct vent configuration**

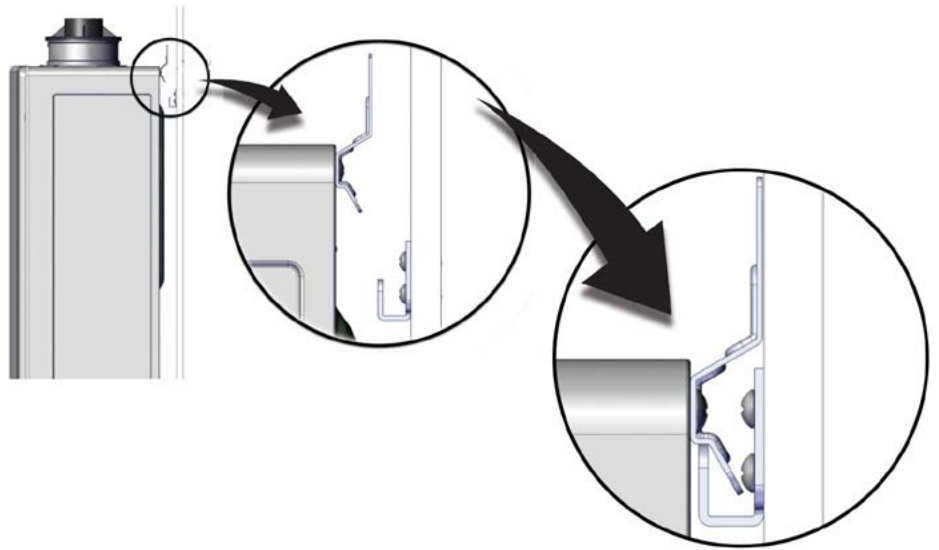


**Elbow or tee side wall termination room air configuration**

# Easy Installation and Serviceability

## Mounting Bracket

A versatile design enables side to side movement for easy vent alignment, intended to improve single contractor installation.



## Quick & Easy Gas Conversion

An inexpensive conversion kit requires just three simple steps.

1

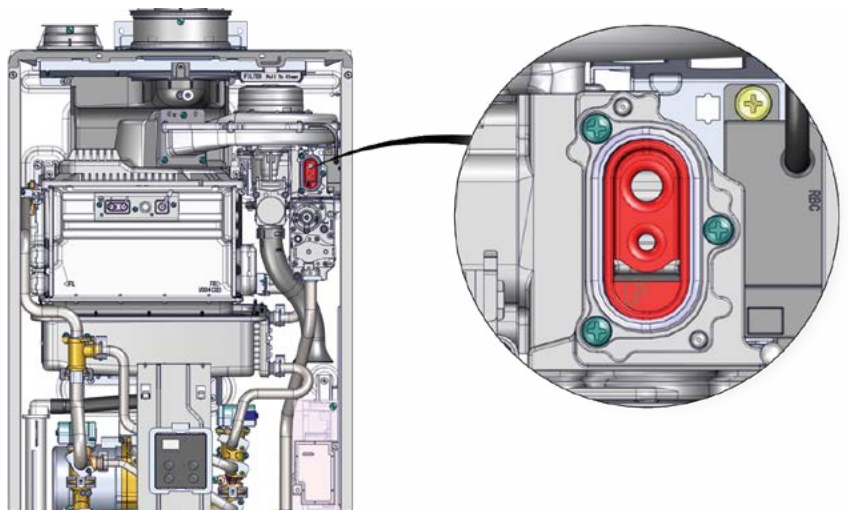
Remove  
3 screws

2

Change the orifice  
and parameter

3

Apply new  
data plate

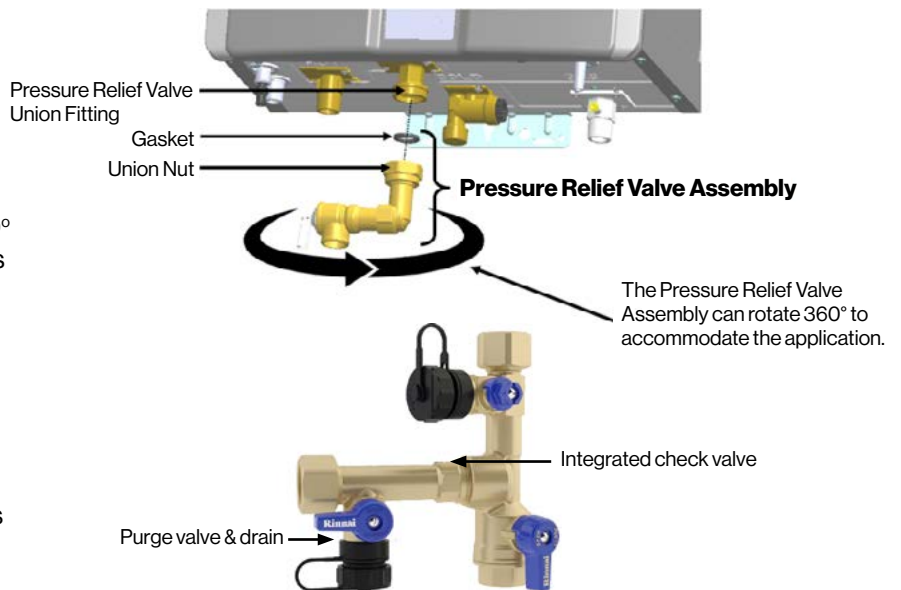


## Convenient Isolation Valves + PRV

The pressure relief valve assembly can rotate 360° to accommodate the installation of isolation valves in any application.

RSC models include isolation and PRV valves adding value compared to similar models in the industry.

Rinnai offers a (optional accessory) dedicated return valve kit that includes required check valves and purge points.







## Easy Parameter Adjustments

- Installation is more efficient with easily accessible control panel
- Controls are integrated on internal and external models
- A parameter adjustment can be made for greater hot water flow (up to 11 GPM) in areas with warm groundwater applications
- Simply use the buttons on the built-in control panels to select a temperature setting



# MODEL CHART AND SPECIFICATIONS

## SUPER-HIGH-EFFICIENCY (CONDENSING) TANKLESS WATER HEATERS





				
MODEL	RSC199i (replaces RUR199i)	RSC199e (replaces RUR199e)	RSC160i (replaces RUR160i)	RSC160e (replaces RUR160e)
BUILT-IN PUMP	YES	YES	YES	YES
<b>Smart-Circ</b> Intelligent Recirculation	YES	YES	YES	YES
PRODUCT DIMENSIONS W, H, D INCHES (MM)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)
PRODUCT WEIGHT (LBS / KG)	68 / 31	68 / 31	66 / 30	66 / 30
INSTALLATION TYPE	INDOOR	OUTDOOR	INDOOR	OUTDOOR
MIN./MAX. BTU	15,000/199,000	15,000/199,000	15,000/160,000	15,000/160,000
TEMP. RANGE RESIDENTIAL	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C
TEMP. RANGE COMMERCIAL*	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C
MINIMUM ACTIVATION RATE	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)
FLOW RATE (70°/50° TEMP. RISE)	5.4 / 7.6	5.4 / 7.6	4.3 / 6.1	4.3 / 6.1
HOT WATER FLOW RATE RANGE	0.26 - 9.8 GPM (1.0 - 37 L/MIN)	0.26 - 9.8 GPM (1.0 - 37 L/MIN)	0.26 - 8.0 GPM (1.0 - 30 L/MIN)	0.26 - 8.0 GPM (1.0 - 30 L/MIN)
CONTROLLER (STANDARD)	INTEGRATED			
CONTROLLERS (OPTIONAL)	MC-60i; for scheduled recirculation use MC-195T-US or control-r™ WiFi Module			
CERTIFICATIONS	AHRI, CSA, ENERGY STAR®			
WARRANTY (RESIDENTIAL)**	Limited 15-year on heat exchanger, 5-year on parts, 1-year on labor Register within 90 days and receive an additional 4 years of labor coverage for free (\$250 value).			
WARRANTY (COMMERCIAL)**	Limited 8-year on heat exchanger, 5-year on parts, 1-year on labor Register within 90 days and receive an additional 1 year of labor coverage for free (\$250 value).			
MOBILE HOME CERTIFIED	YES	YES	YES	YES
VALVES SHIPPED IN BOX	YES	YES	YES	YES
THERMAL BYPASS CROSS VALVE IN BOX	YES	YES	YES	YES
HIGH ALTITUDE APPROVED	UP TO 10,200 FT. (3,109 M)			
VENTING OPTIONS	CONCENTRIC OR PVC/CPVC/PP	N/A	CONCENTRIC OR PVC/CPVC/PP	N/A
ULTRA LOW NOX	YES	YES	YES	YES
TANKLESS RACK SYSTEM™ (TRS/TRW) COMPATIBLE	YES	YES	YES	YES
1/2" GAS LINE COMPATIBLE†	YES	YES	YES	YES
WI-FI READY	YES	YES	YES	YES





RU199i	RU199e	RU180i	RU180e
NO	NO	NO	NO
YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)
18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)
64 / 29	62 / 28	64 / 29	62 / 28
INDOOR	OUTDOOR	INDOOR	OUTDOOR
15,000/199,000	15,000/199,000	15,000/180,000	15,000/180,000
98° F – 140° F / 37° C – 60° C*	98° F – 140° F / 37° C – 60° C*	98° F – 140° F / 37° C – 60° C*	98° F – 140° F / 37° C – 60° C*
98° F – 185° F / 37° C – 85° C*	98° F – 185° F / 37° C – 85° C*	98° F – 185° F / 37° C – 85° C*	98° F – 185° F / 37° C – 85° C*
0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)
5.4 / 7.6	5.4 / 7.6	4.9 / 6.9	4.9 / 6.9
0.26 - 9.8 GPM (1.0 - 37 L/MIN)	0.26 - 9.8 GPM (1.0 - 37 L/MIN)	0.26 - 9.0 GPM (1.0 - 34 L/MIN)	0.26 - 9.0 GPM (1.0 - 34 L/MIN)
INTEGRATED			
<b>MC-601; for scheduled recirculation use MC-195T-US or control-r™ WiFi Module</b>			
AHRI, CSA, ENERGY STAR®			
Limited 15-year on heat exchanger, 5-year on parts, 1-year on labor Register within 90 days and receive an additional 4 years of labor coverage for free (\$250 value).			
Limited 8-year on heat exchanger, 5-year on parts, 1-year on labor Register within 90 days and receive an additional 1 year of labor coverage for free (\$250 value).			
YES	YES	YES	YES
YES	YES	YES	YES
N/A	N/A	N/A	N/A
UP TO 10,200 FT. (3,109 M)			
CONCENTRIC OR PVC/CPVC/PP	N/A	CONCENTRIC OR PVC/CPVC/PP	N/A
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES

# MODEL CHART AND SPECIFICATIONS SUPER-HIGH-EFFICIENCY (CONDENSING) TANKLESS WATER HEATERS

SE+ SERIES				
				
MODEL	RU160i	RU160e	RU130i	RU130e
BUILT-IN PUMP	NO	NO	NO	NO
Smart-Circ Intelligent Recirculation	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)
PRODUCT DIMENSIONS W, H, D INCHES (MM)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)
PRODUCT WEIGHT (LBS / KG)	64 / 29	62 / 28	64 / 29	62 / 28
INSTALLATION TYPE	INDOOR	OUTDOOR	INDOOR	OUTDOOR
MIN./MAX. BTU	15,000/160,000	15,000/160,000	15,000/130,000	15,000/130,000
TEMP. RANGE RESIDENTIAL*	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C	98° F – 140° F / 37° C – 60° C
TEMP. RANGE COMMERCIAL*†	98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C
MIN. ACTIVATION RATE	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)
FLOW RATE (70°/50° TEMP. RISE)	4.3 / 6.1	4.3 / 6.1	3.5 / 4.9	3.5 / 4.9
HOT WATER FLOW RATE RANGE	0.26 - 8.0 GPM (1.0 - 30 L/MIN)	0.26 - 8.0 GPM (1.0 - 30 L/MIN)	0.26 - 6.6 GPM (1.0 - 24 L/MIN)	0.26 - 6.6 GPM (1.0 - 24 L/MIN)
CONTROLLER (STANDARD)	INTEGRATED			
CONTROLLERS (OPTIONAL)	MC-601; for scheduled recirculation use MC-195T-US or control-r™ WiFi Module			
CERTIFICATIONS	AHRI, CSA, ENERGY STAR®			
WARRANTY (RESIDENTIAL)**	LIMITED 15-YEAR ON HEAT EXCHANGER, 5-YEAR ON PARTS, 1-YEAR ON LABOR REGISTER WITHIN 90 DAYS AND RECEIVE AN ADDITIONAL 4 YEARS OF LABOR COVERAGE FOR FREE (\$250 VALUE).			
WARRANTY (COMMERCIAL)**	LIMITED 8-YEAR ON HEAT EXCHANGER, 5-YEAR ON PARTS, 1-YEAR ON LABOR REGISTER WITHIN 90 DAYS AND RECEIVE AN ADDITIONAL 1 YEAR OF LABOR COVERAGE FOR FREE (\$250 VALUE).			
MOBILE HOME CERTIFIED	YES	YES	YES	YES
VALVES SHIPPED IN BOX	YES	YES	YES	YES
HIGH ALTITUDE APPROVED	UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)
VENTING OPTIONS	CONCENTRIC OR PVC/CPVC/PP	N/A	CONCENTRIC OR PVC/CPVC/PP	N/A
ULTRA LOW NOX	YES	YES	YES	YES
TANKLESS RACK SYSTEM™ (TRS/TRW) COMPATIBLE	YES	YES	YES	YES
1/2" GAS LINE COMPATIBLE††	YES	YES	YES	YES
WI-FIREADY	YES	YES	YES	YES

# COMMERCIAL SERIES



CU199i	CU199e	CU160i	CU160e
NO	NO	NO	NO
YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)	YES (REQUIRES EXTERNAL PUMP)
18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)	18.5 X 31.3 X 11.45 (470 X 670 X 291)	18.5 x 29.2 x 11.45 (470 x 742 x 291)
64 / 29	64 / 29	62 / 28	62 / 28
INDOOR	OUTDOOR	INDOOR	OUTDOOR
15,000/199,000	15,000/199,000	15,000/160,000	15,000/160,000
N/A	N/A	N/A	N/A
98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C	98° F – 185° F / 37° C – 85° C
0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)	0.4 GPM (1.5 L/MIN)
5.4 / 7.6	5.4 / 7.6	4.3 / 6.1	4.3 / 6.1
0.26 – 9.8 GPM (1.0 – 37 L/MIN)	0.26 – 9.8 GPM (1.0 – 37 L/MIN)	0.26 – 8.0 GPM (1.0 – 30 L/MIN)	0.26 – 8.0 GPM (1.0 – 30 L/MIN)
INTEGRATED			
<b>MC-601, MCC-601; for scheduled recirculation use MC-195T-US or control-r™ WiFi Module</b>			
AHRI, CSA, ENERGY STAR®			
COMMERCIAL ONLY			
LIMITED 8-YEAR ON HEAT EXCHANGER, 5-YEAR ON PARTS, 1-YEAR ON LABOR REGISTER WITHIN 90 DAYS AND RECEIVE AN ADDITIONAL 1 YEAR OF LABOR COVERAGE FOR FREE (\$250 VALUE).			
NO	NO	NO	NO
YES	YES	YES	YES
UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)	UP TO 10,200 FT. (3,109 M)
CONCENTRIC OR PVC/CPVC/PP	N/A	CONCENTRIC OR PVC/CPVC/PP	N/A
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES

\*\*For complete information and details regarding Rinnai's warranty, visit rinnai.us.

††For complete information on gas sizing for Rinnai Tankless Water Heaters, consult the Operation and Installation Manual.



**Rinnai Manufacturing**  
Griffin, Georgia, USA

# First Major Tankless Brand to Manufacture in the USA

Rinnai established its US operations in 1974 and introduced Tankless Water Heating to the North American Market in 1999. In 2018 Rinnai manufactured its first tankless water heater in the United States in Griffin, Georgia. Our new manufacturing facility was completed in 2021 with production of the new RE• Series™ tankless water heaters beginning in 2022. Rinnai continues to make significant investments in expanding its operations and product portfolio, focusing on its brand promise of **Creating a healthier way of living®**.



Water Heating Solutions



Home Heating Solutions



Commercial Water Heating Solutions

## Every. Detail. Matters.™

You don't become a market leader without thinking through every single detail. Then overthinking it. Then rethinking it. Every small detail matters. A lot. From flexible venting to customizable solutions and maximum ROI, we've thought through all the possible barriers and potential problems before they exist. Simply put, we're not just in the business of tankless water heaters. We're in the business of solving problems. That means we won't relax. Ever. We just can't. We'll keep rethinking every single tiny detail, innovating, and improving our products, services, and programs.

Learn more about Rinnai high-performance Tankless Water Heaters, Hybrid Water Heating Systems, Boilers, Vent-Free Fan Convectors, EnergySaver® Direct Vent Wall Furnaces, Hydronic Air Handlers and Infrared Radiant Heaters.

**rinnai.us**



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