The Ultra Experience Of An

ENDLESS SUPPLY OF HOT WATER.

ULTRA SERIES TANKLESS WATER HEATERS

Rinnai®

Our performance is proven.

OUR PROMISES ARE KEPT.

Nearly 100 years ago, we at Rinnai established a tradition of never settling for less than the absolute best—a tradition that has grown even stronger today.

Thanks to superior design and engineering, Rinnai residential and commercial water heating and home heating solutions continually raise the standard in comfort, convenience and reliability. In fact, our commitment to building in quality at every level has made Rinnai Tankless Water Heaters the #1 selling tankless water heating brand in the U.S. and Canada.

Beyond manufacturing the highest quality tankless water heaters and home heating products, our people stand behind all that we make, before, during and long after installation. From 24/7/365 technical support for professionals, to our national network of independent installers, to on-staff engineers who can assist with choosing the right products and sizes—we're inspiring confidence right along with the comfort our solutions provide.

From products to service and everything in between, our dedication to delivering our absolute best never wavers.

Enhancing the COMFORTS OF HOME.

With either Rinnai Tankless Water Heaters or the RH180 Hybrid Tank-Tankless Water Heater, homeowners can now have more hot water than they ever thought possible.

The innovation behind our high-efficiency water heaters provides an endless supply of hot water wherever and whenever it's needed – even for multiple tasks at the same time. Showers and baths? Laundry and dishes? On-demand heating means hot water is always available, so prioritizing activities and scheduling water use is no longer necessary.

Because they operate on an as-needed basis, Rinnai Tankless Water Heaters can use up to 40 percent* less energy than traditional systems, which helps reduce utility costs. This efficient operation can also contribute to a favorable HERS rating and optimize LEED certification.

On top of efficiency, our tankless water heaters feature a copper heat exchanger for unparalleled quality, durability and safety. And their compact design offers substantial space savings in the home.

The RH180 Hybrid Tank-Tankless Water Heater harnesses the same on-demand tankless technology coupled with an efficient storage tank to deliver more hot water with less recovery time than a traditional tank. And professionals enjoy time and labor savings with quick and easy installation using standard tank connections.

The flexibility and convenience of endless hot water. The reliability of proven engineering. It's everything homeowners need to feel comfortable.

*As based on the average cost to run an electric tank water heater per the DOE Average Energy Costs (www.doe.gov).

Only from Rinnai.

Commercial Solutions – where the demands are greatest, RINNAI DELIVERS.

Leveraging decades of global commercial water heating experience, Rinnai Tankless Water Heaters deliver performance and reliability. Precision engineering and commercial-grade features allow Rinnai Tankless Water Heaters to produce an endless supply of hot water to suit even the most demanding applications—from restaurants to hotels to multifamily residences to schools and more— conserving energy that can save thousands of dollars in capital, operational and life cycle costs, while providing redundancy and saving space. But it's not just performance that sets us apart. Our commitment to safety, quality and support has made us the #1 selling tankless brand in the U.S. and Canada.

From products to service and everything in-between, our dedication to delivering our absolute best never wavers.

For A Free Sizing Consultation, Call Our Application Engineers At 866-383-0707.

Rinnai Tankless Solutions Give You THE POWER TO LIVE BETTER.

Tankless technology that saves you time.

Never think about your hot water needs again: Innovative technology provides an endless supply of hot water whenever and wherever it's needed – even for simultaneous uses at multiple fixtures. Showers and baths? Absolutely. Laundry and dishes? No problem. Prioritizing activities and scheduling hot water use is a thing of the past.

Save money, splurge on performance.

Designed for efficiency: Rinnai's tankless technology features copper heat exchangers to provide maximum efficiency and uses up to 40 percent less energy* than a traditional tank.

Save energy: By operating only when hot water is needed, and no storage tank to heat and reheat water, our tankless technology helps save on energy and utility costs. The use of an electronic ignition means no standing pilot light that constantly uses energy.

A smart investment: Increase your home's value with premium technology, increased energy efficiency, an improved Home Energy Rating System (HERS) Index Score and optimized LEED certification. Available energy efficiency rebates and tax credits offer the opportunity to help make your purchases more affordable.

Multiple sizes: Rinnai gives you options to right-size your installation and customize your efficiency.

Replace parts, not systems: Every part of a Rinnai Tankless Water Heater is replaceable. Components can be easily exchanged, if needed, versus replacing the entire system.

Save space with a compact design.

Maximum output, minimum space: About the size of a small suitcase at 18.5" x 26" x 10" or smaller, these wall-mounted models can be installed on interior or exterior walls and in compact spaces to free up valuable space.

Flexible installation: Small size allows for installation in non-traditional spaces such as crawl spaces and attics, making it perfect for use in any size home, including manufactured and modular homes.

Stay green with a sustainable choice.

Earth-friendly efficiency: Our tankless technology achieves maximum energy efficiency, helping to conserve natural resources.

Less waste: Compact heat exchanger design, longer product lifespan up to twice as long as a traditional tank** and recyclable parts means less waste in landfills.

High standards for low emissions: Lower CO_2 emissions contribute to cleaner air and a healthier environment.

CONDENSING TECHNOLOGY

Ultra Series

THE ULTIMATE IN EFFICIENCY.

Delivering our most energy-efficient performance, the Ultra Series features a condensing design with two heat exchangers to maximize heating value to enhance reliability and durability and reduce maintenance.

UNIQUE FEATURES OF ULTRA SERIES

- Energy Factor of up to .96
- ENERGY STAR® qualified
- Available in five sizes:130,000, 152,000, 160,000, 180,000 and 199,000 BTU
- Allows for either Concentric Polypropylene or dual-pipe PVC/CPVC venting, providing the most venting flexibility in a single application of any manufacturer
- Faster hot water provided by integrated recirculation pump and internal bypass line (RUR models) with or without a dedicated return line
- Easy maintenance is achieved with included isolation valves

* As based on the average cost to run an electric tank water heater per the DOE Average Energy Costs (www.doe.gov).
** Based on DOE ENERGY STAR® lifecycle estimates.

RINNAI ULTRA SERIES - RUR MODEL

Imagine turning on a shower and getting hot water almost immediately. Considering the average family loses precious time and numerous gallons a day waiting for water to heat up, that would be an invaluable change in routine. If you're tired of standing idly by while time and water go down the drain, Rinnai has five words that are sure to inspire you: Faster Hot Water Is Here!

Bringing Faster Hot Water Home.

Our focus on enhancing homeowners' lives by changing the way water is heated has created an exciting breakthrough in recirculation that puts faster hot water a turn of the knob away.

Rinnai's Ultra Series Tankless Water Heater RUR Models use thermal bypass technology that includes an integrated recirculation pump, an internal bypass line inside the model and a thermal bypass valve, and MC-195T 24-Hour Digital Controller provided inside the box to send unlimited hot water wherever and whenever it's needed, all in one comprehensive solution. By keeping a steady supply of heated water in the supply line during active circulation periods, the RUR makes hot water rapidly available in showers, sinks and appliances such as washing machines and dishwashers.

Wait Less, Waste Less.

Getting hot water faster creates significant benefits above and beyond the convenience of saving time. Recirculation means less water and money down the drain, saving on natural resources and the utility costs related to gas and water usage. And you can save even more energy by programming the 24-hour digital controller that's included in the box. It enables the scheduling of multiple recirculation events throughout the day to align with usage patterns and ensure hot water is available at the fixtures during peak demand times such as early morning before work and school.

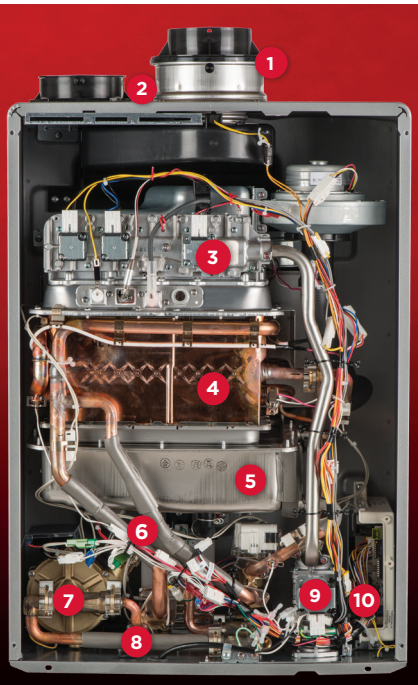
With the typical U.S. home wasting potentially thousands of gallons of water annually waiting for hot water, the RUR's fast-track delivery system pays off at the faucet and in the budget. And the convenience and comfort of hot water recirculation is an attractive feature that adds resale value to a home.

Adaptable to plumbing systems with or without a dedicated recirculation line, the Ultra Series Tankless Water Heater RUR Models are the only tankless water heaters to feature both Concentric and PVC/CPVC venting options on the same model, offering the ultimate flexibility.

The pleasure of faster hot water is truly at hand. And big water and gas savings are on tap, too. Thanks to Rinnai's smart recirculation technology, there is less waiting and less waste.

Rinnai introduces the first and only tankless water heater in the industry to offer both concentric and PVC/CPVC venting and integrated recirculation on the same model. Rinnai Tankless Water Heaters deliver trusted quality and proven reliability you can count on. From efficient, durable products to experienced support, there is simply no better choice than Rinnai.

- Wide range of quality product offerings
- Easy, safe ventilation options
- 24/7 technical support for professionals
- Engineering application support for commercial customers
- Industry-leading recirculation capabilities
- More venting solutions on the same model



1. **Concentric Vent Stack**
2. **Dual Pipe Vent Option**
3. **Burner & Gas Manifold**
4. **Primary Heat Exchanger**
5. **Secondary Heat Exchanger**
6. **Integrated Condensation Trap**
7. **Built-In Circulation Pump**
8. **Internal Bypass Line**
9. **Modulating Gas Valve**
10. **Built-In Surge Protector & PC Board**

The Rinnai Ultra Series Tankless Water Heater
SAVING TIME, WATER AND

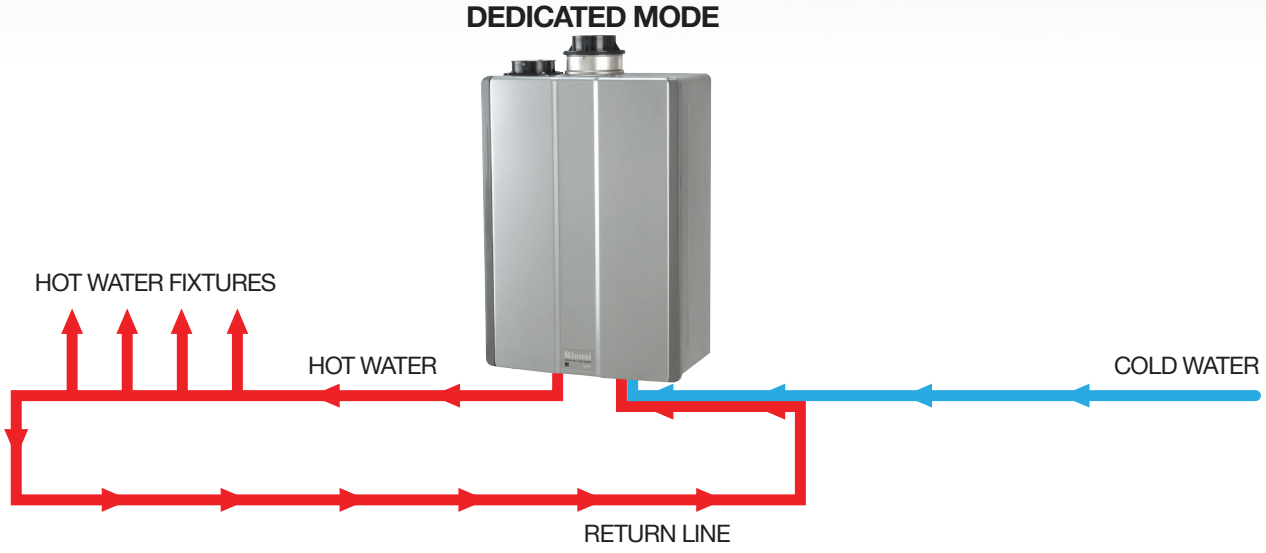
Recirculation in action...

Dedicated Return Line

Rinnai is the only manufacturer to offer a tankless model, the RUR, which is easily adaptable to plumbing systems with or without a dedicated recirculation return line right out of the box.

In the Dedicated Recirculation Line mode, the integrated pump circulates water from the tankless water heater through the hot water supply line and back to the tankless water heater via the dedicated return line. A temperature thermistor installed in the RUR's inlet pipe is utilized to control the on/off sequence of the integrated pump.

In homes with a dedicated return line, the RUR also provides for additional control of the integrated pump through Rinnai's time and temperature-based Comfort or Economy mode. In the Comfort mode, the pump on/off intervals can vary from 9 to 31 minutes depending on the temperature setting. When the return water reaches the temperature called for at the tankless water heater, the pump will turn off. In the Economy mode, the pump on/off intervals are less frequent and vary from 18 to 62 minutes depending on the temperature setting, providing additional energy and cost savings.



MC-195T 24-Hour Digital Controller

Both indoor and outdoor RUR models include a MC-195T 24-Hour Digital Controller, allowing you to adjust the timing and duration of the circulation system operation for maximum energy savings. Rinnai Circ-Logic technology built into the water heater operates the pump during active circulation periods.

RUR Models

MONEY WITH SMART RECIRCULATION.

HOW THE RUR WORKS.

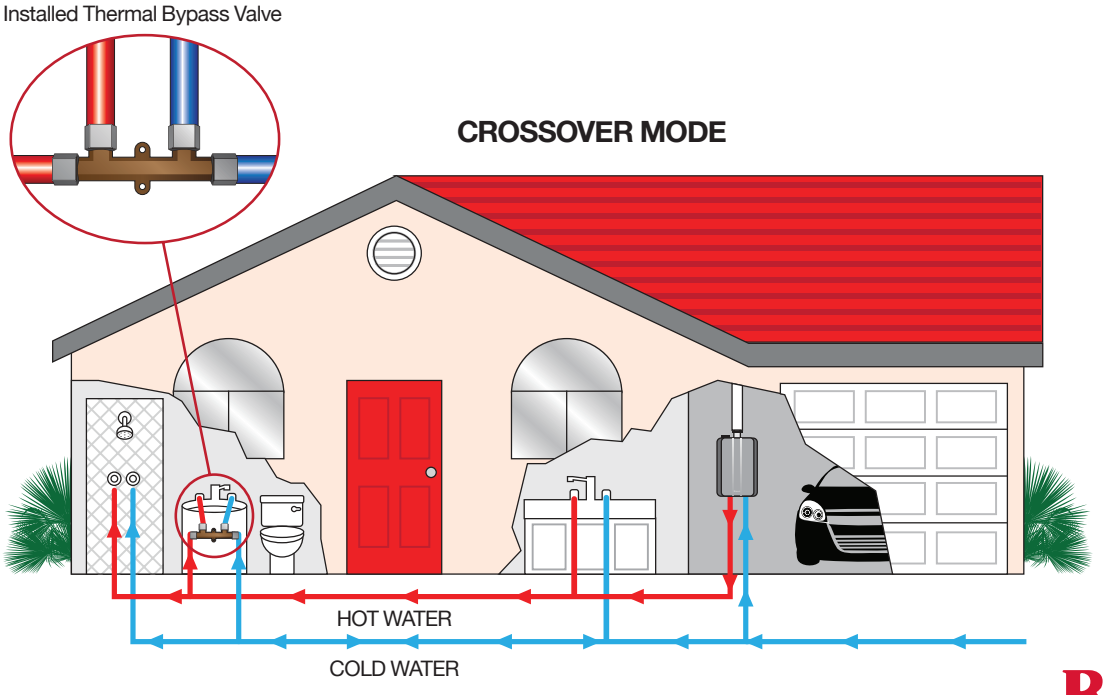
Crossover Valve

In applications where a dedicated recirculation line is not available or difficult to install, the RUR Tankless Water Heater utilizes the Crossover mode of hot water recirculation. The RUR's integrated recirculation pump, internal bypass line and thermal bypass valve, which is included as standard with every RUR model, make the Crossover mode of recirculation possible. The valve is installed between the hot and cold supply lines on the furthest fixture in the plumbing line from the tankless water heater. The cold water line is then used temporarily as the return portion of the circulation loop.

In the Crossover mode, the integrated pump circulates water from the tankless water heater through the hot water supply line, through the thermal bypass valve, and back to the tankless water heater via the cold water line. When hot water is detected at the valve, the water flow through the thermal bypass valve reduces down to barely a trickle, continuing to sense water temperature in the line. The pump will continue to operate and recirculate inside the water heater only until the end of the time interval and will restart at the beginning of the next interval. Installation of the bypass filter that's included in the box is used in the Crossover mode to allow the internal circulation of water through the water heater after the thermal bypass valve has closed.

In Crossover mode, the RUR again provides for additional control of the integrated pump through time-only based Comfort or Economy mode settings. In Comfort mode, the typical pump on/off intervals will vary depending on the length of recirculation loop used. For a short loop, the pump will be on for 8 minutes, off for 4; long loop, on for 16 minutes off for 4. In Economy mode, again the typical pump on/off intervals will vary depending on the length of recirculation loop used. For a short loop, the pump will be on for 8 minutes, off for 10; long loop, on for 16 minutes, off for 10, providing additional energy and cost savings.

Regardless of the hot water recirculation method used, the end result is the same: During active circulation periods, hot water is always available as it circulates from the hot water line back to the Rinnai RUR Tankless Water Heater.



Other Recirculation SOLUTIONS

Rinnai recirculation solutions build on the already endless supply of hot water Rinnai Tankless Water Heaters provide—adding the convenience of faster hot water.

Rinnai Circ-Logic technology comes standard on all Ultra models, and can be used in combination with the following accessories to allow homeowners to set recirculation patterns that coincide with their hot water usage patterns. Hot water is available when needed, without the expense of circulating it during times of inactivity.

SOLUTION 1: GTK15 PUMP AND TIMER KIT

Allows homeowners to schedule multiple recirculation events throughout the day to align with usage patterns, such as getting ready in the morning.

SOLUTION 2: MC-195T 24-HOUR DIGITAL CONTROLLER AND PUMP

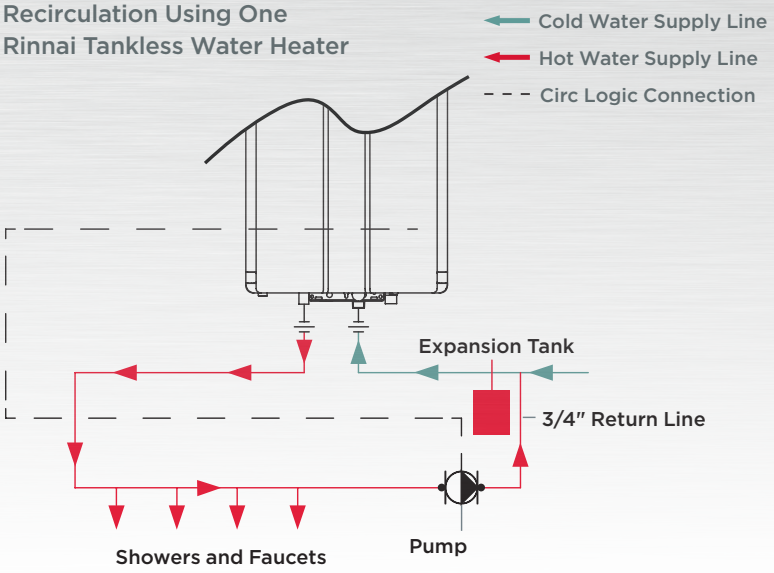
A stylish, wall-mountable digital control panel works seamlessly with Rinnai Circ-Logic technology and any properly sized pump. Multiple unique recirculation events can be programmed as well as an override function for homeowners to start recirculation outside of scheduled events.

SOLUTION 3: RINNAI CIRC-LOGIC AND PUMP

For recirculation without scheduled events, simply pair a Circ-Logic equipped tankless model with a properly sized pump. Recirculation intervals can be set to Comfort mode (shorter time intervals) or Economy mode (longer time intervals). Recirculation deactivates once the water has reached set temperature.

Feature	Pump and Timer Kit (GTK15)	24-Hour Digital Timer Controller (MC-195T) & Pump	Pump Only with Circ-Logic Control
System Override Capacity	No	Yes	No
Changes WH Temp	No	Yes	No
Displays WH Codes	No	Yes	No
Dedicated Return	Yes	Yes	Yes
24-Hour Clock	Yes	Yes	No
Timed Events	Yes	Yes	No
# Timed Events	Multiple	Multiple	N/A

Recirculation Using One Rinnai Tankless Water Heater



FLEXIBLE TANKLESS

A First in Both Concentric and PVC/CPVC Venting for Condensing Tankless Water Heaters On One Model

The new RUR and RUC models of the Rinnai Ultra Series Tankless Water Heaters are the only tankless water heaters to offer Concentric Polypropylene or dual-pipe PVC/CPVC venting options on the same model. The dual venting configuration on the top allows for maximum flexibility for installers and dealers — one Concentric vent or two PVC/CPVC pipes can be used for venting.

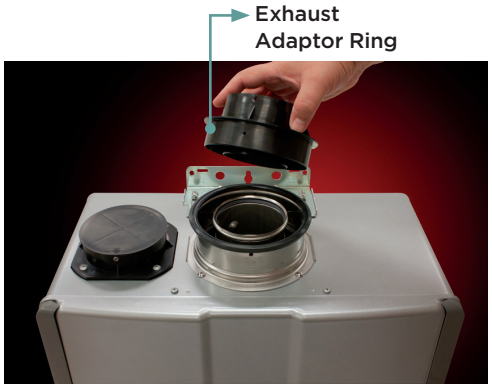
As the #1 selling brand of tankless water heaters in the U.S. and Canada, we still favor Concentric Polypropylene for its superior joint fit, no cure time, quick installation and reduced wall or roof penetrations, but as leaders in the industry, we understand that PVC/CPVC can sometimes be more readily available or preferred in some installations.

Rinnai is the only tankless water heater manufacturer to offer both Concentric and dual-pipe PVC/CPVC on the same model, providing more venting options right out of the box — saving time, money and offering the best flexibility for faster installations in homes and businesses — from one project to the next.

Dual pipe venting options available on RUR and RUC Tankless Water Heaters include:

- 3" or 4" PVC/CPVC*
- 3" Centrotherm InnoFlue Vent System (ULC-S636 listed)*
- IPEX Concentric and Low Profile Termination Kit*
- Snorkel and Tee Terminations*

DUAL VENTING OPTIONS



For concentric venting, installers simply remove and discard the exhaust adaptor ring.

For PVC/CPVC configurations, the intake cap is removed and discarded. With this option, installers can use three- or four-inch PVC/CPVC pipe for the intake and exhaust.

VENT TYPE	RUR / RUC NATURAL GAS	RUR / RUC PROPANE	RUCS
Concentric PP	**65 Feet** (19.8 m)**	41 Feet (12.5 m)	41 Feet (12.5 m)
Twin Pipe PP (Centrotherm)	**41 Feet** (12.5 m)**	41 Feet (12.5 m)	41 Feet (12.5 m)

VENT TYPE	RUR / RUC NATURAL GAS	RUR / RUC PROPANE	RUCS
3” Dual Pipe PVC/CPVC (76.2 mm)	**65 Feet** (19.8 m)**	41 Feet (12.5 m)	41 Feet (12.5 m)
4” Dual Pipe PVC/CPVC (10.16 m)	**100 Feet** (30.5 m)**	65 Feet (19.8 m)	100 Feet (30.5 m)

*Reference Rinnai Tankless Water Heater Installation and Operation Manual for further information.

**Maximum equivalent vent lengths are specific to the fuel type of the RUC and RUR tankless water heater. Use of elbows in installation will reduce the maximum vent length. It is imperative when performing equivalent vent length calculations, that you refer to the Installation Manual and any applicable technical bulletins.

INSTALLATION OPTIONS

Optimized Concentric Venting for Non-Condensing Tankless Water Heaters

Rinnai Tankless Water Heaters were the first to use a unique Concentric Venting System, a single-vent assembly option featuring an inner tube for exhaust and an outer tube for fresh air from outdoors. The result is a direct-vent, sealed combustion system that offers optimum safety and performance.

Beyond performance, our concentric system option can make installation faster and easier with:

- Single penetration through the wall reducing install time and costs
- Simple positive-fit components for secure connection
- Joint seals that expand and contract with weather to prevent damage
- Ease of assembly, adjustment and disassembly

Venting available in vertical and horizontal configurations. Concentric structure allows hot exhaust to exit through interior tube, while fresh air enters through the outer layer.

Rinnai Makes Your 1/2" Gas Line an Option, Not an Obstacle.

If your tankless water heater installation calls for the use of ½" gas line, Rinnai has two words for you… no problem. Pick the gas line – and the Rinnai – that's right for you.‡

Rinnai Tankless Water Heaters are designed to always provide maximum performance and operating efficiency using either a ¾" or ½" gas line, as long as sufficient gas flow is available.

RINNAI TANKLESS WATER HEATER MODELS	BTU	GAS LINE	
		1/2"	3/4"
		MAXIMUM EQUIVALENT LENGTH	
V53e	120,000	100' (30.4 m)	450' (137.2 m)
RUCS65i	130,000		350' (106.7 m)
RUS65e			
V65e	150,000	70' (21.34 m)	300' (91.44 m)
V65i			
RUC80i	152,000		250' (76.2 m)
RU80e			
RUCS75i	160,000	60' (18.29 m)	
RUS75e			
RL75i	180,000	50' (15.24 m)	200' (60.96 m)
RL75e			
V75i			
V75e			
RUC90i			
RU90e			
RLX94i	192,000	40' (12.19 m)	175' (53.34 m)
RUC98i	199,000		
RU98e			
RL94i			
RL94e			
RUR98i			
RUR98e			

Source: NFPA 54/ANSI Z223.1 National Fuel Gas Code.

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

Because an undersized gas line can stress a tankless system and potentially reduce its life span, Rinnai Tankless Water Heaters, unlike other tankless water heaters, are equipped with innovative technology that safely ceases operation if it detects inadequate gas flow in order to avoid compromising performance and efficiency.

The table to the left lists the maximum length for both ½" and ¾" gas lines when paired with each of Rinnai's Tankless Water Heaters.

How To Properly Size Your Gas Line:

- Determine what type of gas is being utilized
- Determine the inlet pressure
- Determine the allowed pressure drop
- Determine what other types of gas appliances are sharing the gas line
- Determine the maximum loads expected on the whole system as stated in the National Fuel Gas Code

VENTING PARTS

TERMINATION & TERMINATION KITS

Part Number	Image	Description		Inner Exhaust Material	Outer Intake Material
223176PP	1	Condensing Horizontal Termination Kit	12” / 304.8 mm	PP	Plastic
223177PP	1	Condensing Horizontal Termination Kit	21” / 533.4 mm	PP	Plastic
223186PP	2	Condensing Horizontal Term Diverter Kit	19” / 482.6 mm	PP	Plastic
184162PP	3	Condensing Roof Discharge TerminationShort (above)	38” / 965.2 mm	PP	Plastic
224047PP	4	Condensing Raised Horizontal Termination Kit ("Snorkel")	—	PP	Plastic
185344PP	—	Roof Termination Extension Kit	—	PP	Plastic

Termination Kits include elbow and rubber wall plate.

ELBOWS

Part Number	Image	Description	Inner Exhaust Material	Outer Intake Material
224077PP	5	45-Degree Elbow (Quantity of 2)	PP	Plastic
224078PP	6	90-Degree Elbow	PP	Plastic

VENT PIPE EXTENSIONS

Part Number	Image	Description		Inner Exhaust	Outer Intake Material
224087PP	7	Vent Pipe Extension	10”/ 254 mm	PP	Plastic
224079PP	7	Vent Pipe Extension	19.5” / 495.3 mm	PP	Plastic
224080PP	7	Vent Pipe Extension	39” / 990.6 mm	PP	Plastic

ADDITIONAL

Part Number	Image	Description	
146141	8	Roof Flashing Assembly (flat roof)	Suitable for use with plastic and metal components
189950	9	Shingle Roof Flashing (1/12 to 6/12 pitch; plastic)	
189951	9	Shingle Roof Flashing (6/12 to 12/12 pitch; plastic)	
189952	9	Shingle Roof Flashing (8/12 to 16/12 pitch; plastic)	
50171949	10	Tile/Shingle Roof Flashing (1/12 to 6/12 pitch; metal)	
50171961	10	Tile/Shingle Roof Flashing (6/12 to 12/12 pitch; metal)	
50171954	10	Tile/Shingle Roof Flashing (8/12 to 16/12 pitch; metal)	
242141	11	Flashing for Metal Roof	
710342	12	Rubber Wall Plate (white)	
710602	12	Rubber Wall Plate (black)	
224045	13	Thimble (1 piece per box)	
169044	14	Pipe Clamp	
224097	15	Metal Pass Through Plate	
224042	16	Universal Bug Guard	

ACCESSORIES

To further enhance the performance of Rinnai tankless water heating products, these accessories add even more flexibility.

DIGITAL TEMPERATURE CONTROLLER

Part Number	Description	Temp. Range	Color
MC-91-2S	Residential/Commercial Standard Digital Controller	98°–140°F / 36°–60°C	Silver
MC-91-2W	Residential/Commercial Standard Digital Controller	98°–140°F / 36°–60°C	White
MCC-91-2W	Commercial Controller	>140°F / 60°C	White
MC-100V-1S	Deluxe Digital Controller with Clock and Call Feature	98°–140°F / 36°–60°C	Silver
MC-100V-1W	Deluxe Digital Controller with Clock and Call Feature	98°–140°F / 36°–60°C	White
BC-100V-1S	Bath Fill Digital Controller	98°–140°F / 36°–60°C	Silver
BC-100V-1W	Bath Fill Digital Controller	98°–140°F / 36°–60°C	White
MC-195T-US	24-Hour Digital Controller (For Recirculation)	98°–140°F / 36°–60°C	Silver/Black


MC-195T-US


BC-100V-1S


MC-100V-1S


MC-91-2S

SCALECUTTER®

Part Number	Description	Feed
103000038	ScaleCutter System 3/4" Feed	3/4"
103000039	ScaleCutter System Refill	3/4"


ScaleCutter System

ADDITIONAL ACCESSORIES

Part Number	Description	Series
GTK15	Grundfos® Pump with Timer Kit for Rinnai Circ-Logic Enabled Units	Ultra
804000074	Condensate Neutralizer Kit for Condensing Tankless Models	Ultra
PCD07-SM	Pipe Cover Enclosure	Ultra
RGB-CTWH-2	Tankless Recess Box for Condensing Models	Ultra
REU-MSB-M	Multi-Unit Controller Master Unit	Ultra
REU-MSB-C1	Cable to Connect Ultra and Luxury Series Water Heaters	Ultra
REU-MSB-C2	Cable to Connect MSB-M Control Units	Ultra
REU-EZC-1US	EZConnect® Cable for Connecting 2 Units	All


Grundfos Pump with Timer Kit


Condensate Neutralizer Kit


Pipe Cover Enclosure


Recess Box

Ultra Series

	RUR Models		RUC Models		
					
Model	RUR98i	RUR98e	RUC98i	RUC90i	RUC80i
Dimensions - w, h, d Inches (mm)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)
Weight (lbs / kg)	72.8 / 33	72.8 / 33	61.7 / 28.0	61.7 / 28.0	61.7 / 28.0
Installation Type	Indoor	Outdoor	Indoor	Indoor	Indoor
Min./Max. BTU (natural gas)	15,200/199,000	15,200/199,000	15,200/199,000	15,200/180,000	15,200/152,000
Min./Max. BTU (propane)	15,200/199,000	15,200/199,000	15,200/199,000	15,200/180,000	15,200/152,000
Energy Factor	0.95	0.95	0.95	0.96	0.96
Temp. Range Residential	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C
Temp. Range Commercial	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	98°–185° F / 37°–85° C**	98°–185° F / 37°–85° C**	98°–185° F / 37°–85° C**
Min. Activation Rate	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)
Flow Rate (70° / 50° Temp. Rise)	5.5 / 7.7 (20.8 / 29.2)	5.5 / 7.7 (20.8 / 29.2)	5.5 / 7.7 (20.8 / 29.2)	5.0 / 7.0 (18.9 / 26.5)	4.2 / 5.9 (15.9 / 22.3)
Hot Water Flow Rate Range	0.26–9.8 gpm (0.98–37.1 lpm)	0.26–9.8 gpm (0.98–37.1 lpm)	0.26–9.8 gpm (0.98–37.1 lpm)	0.26–9.0 gpm (0.98–34.1 lpm)	0.26–8.0 gpm (0.98–30.3 lpm)
Controller (standard)	MC-195T-US	MC-195T-US	Integrated	Integrated	Integrated
Controllers (optional)	MC-91-2US	MC-91-2US	MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US	MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US	MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US
Ultra Low NOx	yes	yes	yes	yes	yes
Warranty (Residential)*	Limited 12-year on heat exchanger, 5-year on parts, 1-year on labor (5-year optional on labor)				
Warranty (Commercial)*	Limited 5-year on heat exchanger, 5-year on parts, 1-year on labor (2-year optional on labor)				
Mobile Home Certified	yes	yes	yes	yes	yes
Valves Shipped in Box	yes	yes	yes	yes	yes
High Altitude Approved	Up to 10,200 ft. (3,109 m)		Up to 10,200 ft. (3,109 m)		
Certifications	AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®
Venting Options	Concentric or PVC / CPVC	N/A	Concentric or PVC / CPVC	Concentric or PVC / CPVC	Concentric or PVC / CPVC
Tankless Rack System (TRS/ TRW) Compatible	no	no	yes	no	no
½" Gas Line Compatible***	yes	yes	yes	yes	yes

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

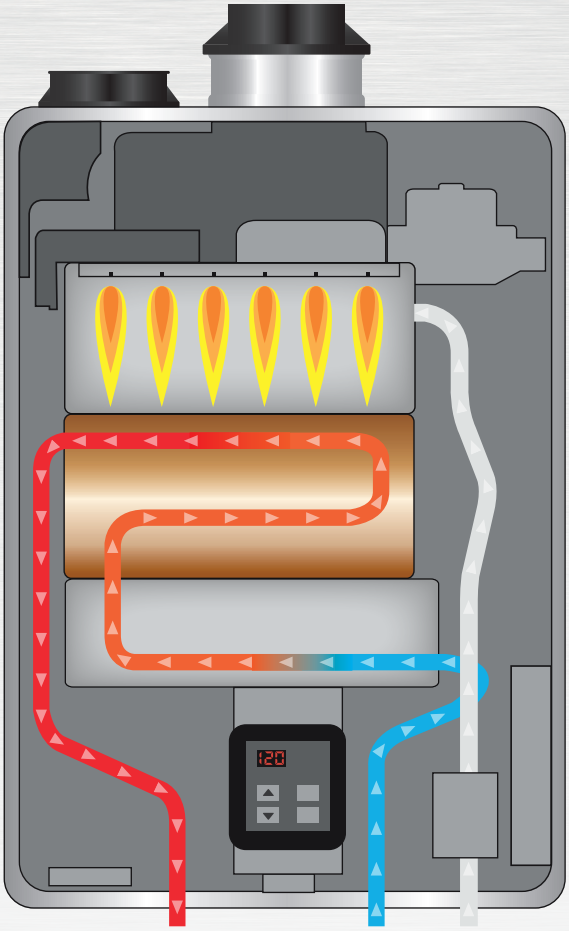
** To achieve temperatures over 140° F, an MCC-91 commercial controller must be purchased separately.

RU Models			RUCS / RUS Models			
						
RU98e	RU90e	RU80e	RUCS75i	RUS75e	RUCS65i	RUS65e
18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)	18.5 X 26 X 10 (469.9 X 660.4 X 254)
61.7 / 28.0	61.7 / 28.0	61.7 / 28.0	57.3 / 26	57.3 / 26	57.3 / 26	57.3 / 26
Outdoor	Outdoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
15,200/199,000	15,200/180,000	15,200/152,000	10,300/160,000	10,300/160,000	10,300/130,000	10,300/130,000
15,200/199,000	15,200/180,000	15,200/152,000	10,300/160,000	10,300/160,000	10,300/130,000	10,300/130,000
0.95	0.96	0.96	0.93	0.93	0.93	0.93
98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	98°–140° F / 37°–60° C	120°–140° F / 49°–60° C	120°–140° F / 49°–60° C	120°–140° F / 49°–60° C	120°–140° F / 49°–60° C
98°–185° F / 37°–85° C**	98°–185° F / 37°–85° C**	98°–185° F / 37°–85° C**	Residential Only	Residential Only	Residential Only	Residential Only
0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)	0.4 gpm (1.5 lpm)
5.5 / 7.7 (20.8 / 29.2)	5.0 / 7.0 (18.9 / 26.5)	4.2 / 5.9 (15.9 / 22.3)	4.2 / 5.9 (15.9 / 22.3)	4.2 / 5.9 (15.9 / 22.3)	3.4 / 4.8 (12.9 / 18.1)	3.4 / 4.8 (12.9 / 18.1)
0.26–9.8 gpm (0.98–37.1 lpm)	0.26–9.0 gpm (0.98–34.1 lpm)	0.26–8.0 gpm (0.98–30.3 lpm)	0.26–7.5 gpm (0.98–28.4 lpm)	0.26–7.5 gpm (0.98–28.4 lpm)	0.26–6.5 gpm (0.98–24.6 lpm)	0.26–6.5 gpm (0.98–24.6 lpm)
MC-91-2US	MC-91-2US	MC-91-2US	Status Monitor	Status Monitor	Status Monitor	Status Monitor
MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US	MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US	MC-195T-US, MC-100V-1US, BC-100V-1US, MCC-91-2US	MC-91-2US	MC-91-2US	MC-91-2US	MC-91-2US
yes	yes	yes	yes	yes	yes	yes
Limited 12-year on heat exchanger, 5-year on parts, 1-year on labor (5-year optional on labor)			Limited 12-year on heat exchanger, 5-year on parts, 1-year on labor			
Limited 5-year on heat exchanger, 5-year on parts, 1-year on labor (2-year optional on labor)			Residential Only	Residential Only	Residential Only	Residential Only
yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	no	no	no	no
Up to 10,200 ft. (3,109 m)			Up to 5,400 ft. (1,646 m)			
AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®	AHRI, CSA, ENERGY STAR®	AHRI, CSA ENERGY STAR®	AHRI, CSA ENERGY STAR®	AHRI, CSA ENERGY STAR®	AHRI, CSA, ENERGY STAR®
N/A	N/A	N/A	Concentric or PVC / CPVC	N/A	Concentric or PVC / CPVC	N/A
yes	no	no	no	no	no	no
yes	yes	yes	yes	yes	yes	yes

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

RINNAI TANKLESS WATER

How a Rinnai Tankless Water Heater Works



When the need for hot water arises by turning on a shower, washing machine, dishwasher or faucet, cold water enters the Rinnai Tankless Water Heater from the inlet pipe at the bottom of the model. The PC board is then signaled to activate the flame igniter or ignition.

A combustion fan turns on to allow oxygen into the burner to ignite the flame as the gas control valve opens at a low frequency. Once an adequate flame is present the igniter stops sparking — beginning the next sequence of operation in a matter of seconds.

Water is heated as it passes through the coils of the copper heat exchanger, and exits from the hot water outlet pipe to travel through the pipes of the home or business to the water fixture where hot water is needed. For Condensing models, the water is preheated as it passes through a secondary stainless steel (latent) heat exchanger, capturing any extra heat (or latent heat) before it escapes into the vent system.

The gas valve and blower automatically adjust the incoming gas and oxygen to meet the water heating demands. If the demand is small, the Rinnai Tankless Water Heater can use a smaller flame and less gas. If the demand is greater, the flame can expand across the width of the entire burner to heat more water. The tankless water heater adjusts as needed to ensure the temperature set point is maintained. A digital controller allows the user to choose the desired temperature.

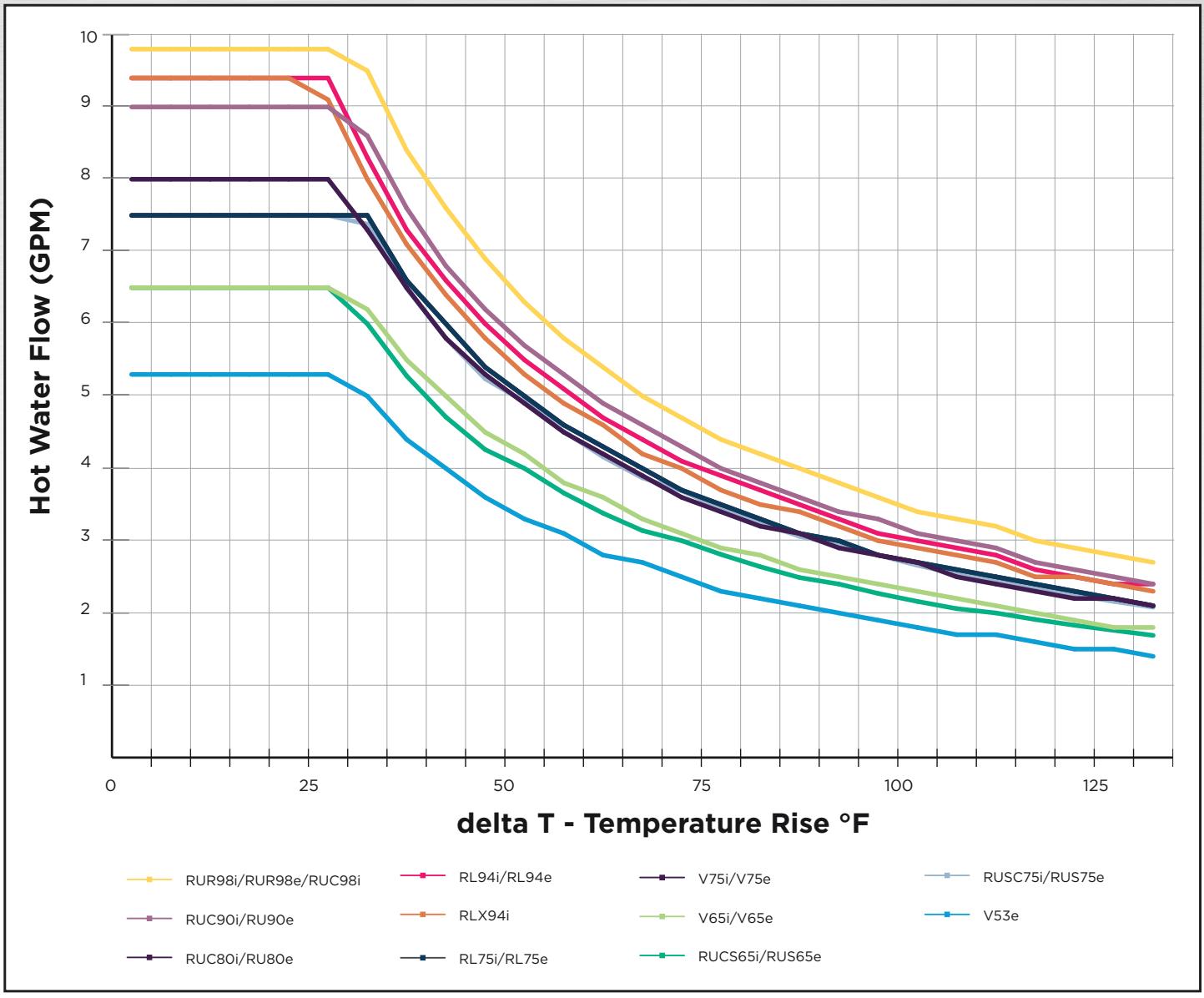
As the hot water fixture shuts off, cold water stops entering the tankless water heater and the flame diminishes. The combustion fan continues to operate at a low speed for a short period of time. This allows the exhaust of any leftover combustion gases in the system.

Tank vs. Tankless Annual Operating Costs*

Water Heater Technology	Fuel Type/ Energy Source	EF (Energy Factor)	Annual Operating Costs*
Standard 50-Gallon Gas Storage Tank	Natural Gas	0.60	$273
Standard 50-Gallon Gas Storage Tank	Propane	0.60	$646
Standard 50-Gallon Electric Storage Tank	Electricity	0.95	$557
Mid-Efficiency Non-Condensing Tankless	Natural Gas	0.82	$200
Mid-Efficiency Non-Condensing Tankless	Propane	0.82	$473
High Efficiency Condensing Tankless	Natural Gas	0.96	$171
High Efficiency Condensing Tankless	Propane	0.96	$404

*Based on national averages per Department of Energy, U.S. Energy Information Administration.

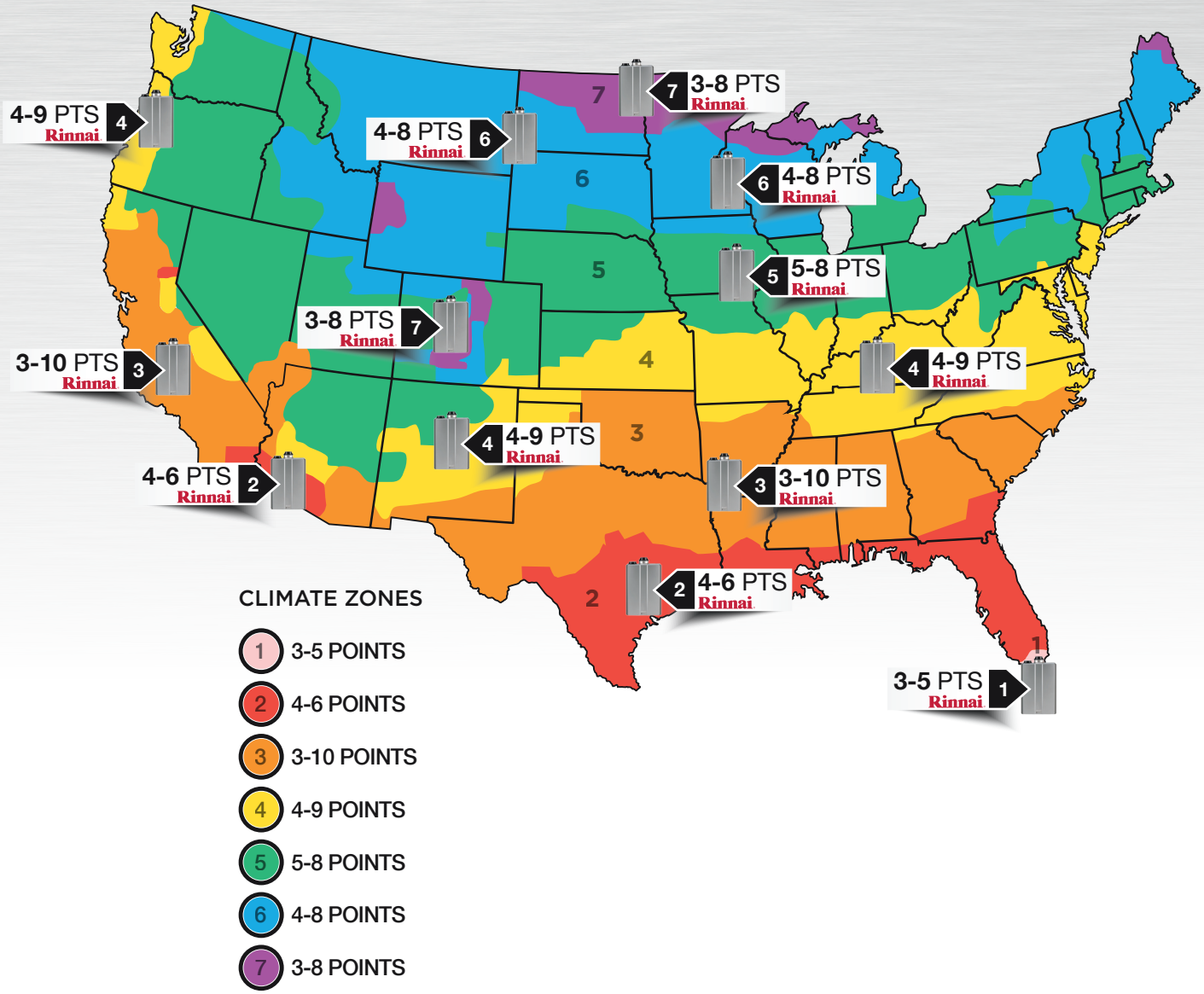
RINNAI TANKLESS WATER HEATERS HOT WATER FLOW CURVE



Tankless water heater output is based on delta T which is the difference between the incoming water temperature and the requested output temperature. This chart is used along with other factors to help size the Rinnai Tankless model for your application.

– FLOW CHART AND HERS DATA

HERS SCORES IMPROVE WITH RINNAI TANKLESS WATER HEATERS



The Home Energy Rating System (HERS) Index is the industry standard by which a home's energy efficiency is measured. A lower HERS Index Score means a more energy efficient home, which means lower energy costs.

Data analysis conducted by independent third party HERS rater compares traditional electric and gas residential storage tank water heaters to Rinnai's Condensing and Non-Condensing Tankless Water Heaters. Consult and validate your specific application with a local HERS rater.

For more information specific to your zone or city, visit www.hersindex.com.

A tradition of
TRUE RELIABILITY.

For nearly 100 years, we at Rinnai have been fiercely committed to delivering nothing less than a superior experience at every touch point.

Beyond manufacturing the highest quality products, our people stand behind all that we make—before, during and long after installation. From the 24/7/365 technical support for professionals, to our national network of independent installers for homeowners, to on-staff engineers who can assist with choosing the right products and sizes—we're inspiring confidence right along with the comfort our solutions provide.

Rinnai®

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

www.rinnai.us

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