Tankless Water Heaters, Endless Hot Water & Carbon Emissions Reductions

ESC 2025

7/10/2025

Rinnai America Corporation

Rinnai®

Creating a healthier way of living®

Agenda

- **About Rinnai**
- **Why Tankless?**
  - Endless Hot Water
  - Instant Hot Water – Water Savings
  - Energy Savings
- **Rinnai Tankless Technology**
  - Residential Lineup
  - Commercial Lineup
- **Tankless Units & Carbon Emissions**

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Rinnai®

About Rinnai

- 100 Year Commitment to Quality - Founded in 1920
- Operate in 16 Countries
- World's #1 Selling Brand Of Tankless Water Heaters
- In House Innovation Team and Hundreds of Engineers
- 100% Live Fire Product Testing

- CSA Certified Testing Lab & Accredited Technicians
- *Growing 2021/2022*:
  - R&D Innovation & Training Center Expanded (Peachtree City, GA)
  - Manufacturing Tankless Product In The USA (Griffin, GA)

Partnership with FOLDS of HONOR

Applications & Sizing Support

866.383.0707| engineering@rinnai.us

- System Engineering Support
- 100% Sizing guarantee
- 48-hour sizing turnaround
- 90% within 24 Hours
- Pipe Diagrams and Material List
- Design Review Pre-Install
- On-Site Support Available

Sizing requests

New to Tankless?

RELY on Rinnai™

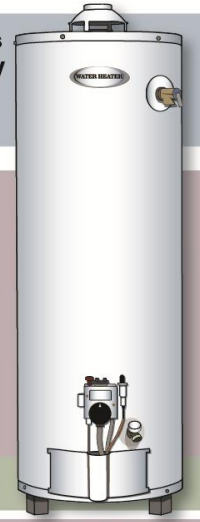
High Hot Water Usage
Every year **American home owners spend $400 to $600,** on average, to heat water for bathing, washing & cleaning.*

Average Household Consumes 64 Gallons of Hot Water Per Day
(23,000 gallons per year)

TANKLESS
WATER HEATERS
Continous hot water heater system

VS
Over 20 Years

TANK
WATER HEATERS
Traditional hot water storage tank system



• EFFICIENCY •	
Tankless water heaters are **much more energy efficient;** no hot water is stored. **24-34% more efficient than tanks.***	Tank water heaters are **susceptible to standby heat loss** and a continously heated tank means water is heated all day long, 24/7, for **less efficiency.**
• COST •	
Tankless water heaters have **lower operational costs** and **last much longer than tank water heaters,** which can offset installation costs.	Tank water heaters have a lower purchase price but are **more expensive to operate** since they must constantly keep water heated 24/7.
• LIFESPAN •	
With periodic maintenance, tankless water heaters can **last for 20+ years.***	Traditional tank water heaters have a **lifespan of 10-15 years.***
• SIZE • SPACE •	
Tankless water heaters are about the **size of a small suitcase** and are wall mounted for significant space savings.	Traditional tank water heaters **require much more area** for installation than tankless units potentially reducing net living or storage space.
• BOTTOM LINE •	
• **Up to 34% more energy efficient*** • **Longer lifespan** • **Compact space saving design** • **Unlimited hot water capacity**	• **Heats water even when not being used** • **Takes up valuable space** • **Shorter lifespan** • **40-60 gallon capacity**

* As based on the average operating costs, efficiency and lifespans of tankless vs. storage water heaters per the Department of Energy (energy.gov).

Why Tankless? Comfort

- Solving the HOT WATER WARS at home!
- Endless hot water supplied to multiple points of use
  - Simultaneous & Endless Hot Water – at 120degrees, the 199kbtu unit can provide hot water to 3-4 standard flow rate fixtures depending on incoming water temps.
  - Great for large households, high flow-rate fixtures or back-to-back showers

TWH Basics – How It Works

- Fixture is turned on and cold water passes thru the system, engages electronic ignition & burner assembly.
- Burner heats water as it passes thru the HEX, within 3 seconds desired temp is achieved.
- As long as water is flowing through system the unit will continue to heat the water to within +/- 2 degrees of set temp.
- Fixture is turned off, water stops flowing through the system and unit completely shuts down.

Rinnai Tankless Reference Chart

PROUDLY ASSEMBLING IN GRIFFIN, GEORGIA, USA

	RE·SERIES™ NON-CONDENSING TECHNOLOGY		SENSEI® RX CONDENSING TECHNOLOGY	
	RE	**REP** (with built-in pump)	**RX**	**RXP** (with built-in pump)
				
	RE MODELS	**REP MODELS**	**RX MODELS**	**RXP MODELS**
UEF (Uniform Energy Factor)*	0.81 - 0.82	0.81 - 0.82	0.97 - 0.98	0.98
Wi-Fi Capable	✓	✓	✓	✓
Available in Natural Gas or Propane	✓	✓	✓	✓
Indoor and Outdoor installation	✓	✓	✓	✓
Smart·Circ™ Intelligent Recirculation™		✓	Smart-Circ capable with installation of pump or pump accessory kit	✓
Isolation Valves included		✓		
Smart Home Automation**	✓	✓	✓	✓

* As based on the 2017 DOE new metric for communicating the energy efficiency of residential water heaters.

** Rinnai RWM200 Wireless module necessary (module sold separately). When used on models with Smart-Circ™ for scheduled or on demand recirculation, the Wireless module overrides Smart-Circ™ recirculation patterns. Amazon, Alexa, and all related logos are trademarks of Amazon.com, Inc. or its affiliates.

Condensing vs Non-condensing

34K Btu lost at exhaust

199K Btu gas into water heater

165K Btu transferred into the water

Heat exchanger thermal efficiency: 83%
<u>165K ÷ 199K = .83</u>

Non-condensing Water Heater

10K Btu lost at exhaust

Heat exchanger: 95%
<u>189K ÷ 199K = .95</u>

199K Btu gas into water heater

Primary heat exchanger transfer = 165K Btu

Secondary heat exchanger transfer = 24K Btu

189K Btu transferred into the water

Condensing Water Heater

Rinnai®

Condensing vs Non-condensing

		Non-Condensing	Condensing Product / SE+ Series (Sensei)		
What's the difference? 					
Model Series		RE / REP Models	RX Models	CX Models	RXP Models
Uniform Energy Factor (UEF)		0.81-0.82	0.97-0.98		
Installation differences between non-condensing and condensing models?	Venting	Exhaust≥300°F Venting options: Concentric metal exhaust only Venting material cost may be more	Exhaust=100-150°F (due to higher efficiency) Venting options: PVC/CPVC/PP (polypropylene), Concentric PP exhaust, 2 pipe or room air. Venting material cost can be less		
	Condensate	Little condensation created – mainly in vent (drain at vent if needed)	Due to higher efficiency, more condensation created Must always drain condensation (dedicated ½" NPT connection at bottom)		
What about cost?		$	$$		

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RE·SERIES™
Rinnai Efficiency Series

Product Lineup

NEW RE·Series™ with Built-In Recircualtion Pump								
Model	Max Input (KBTU)	Min Input (KBTU)	UEF	Interior/ Exterior	Gas Type	Temp Range (°F)	Min Activation Rate (GPM)	De-Activation Rate (GPM)
REP199	199	10.4	0.82	i/e	NG/ LP	120-140	0.4	0.26
REP160	160		0.81					

NEW RE·Series™								
Model	Max Input (KBTU)	Min Input (KBTU)	UEF	Interior/ Exterior	Gas Type	Temp Range (°F)	Min Activation Rate (GPM)	De-Activation Rate (GPM)
RE199	199	10.4	0.82	i/e	NG/ LP	98-140	0.4/0.26**	0.26/0.13**
RE180	180		0.82					
RE160	160		0.81			120-140	0.4	0.26
RE140	140		0.81					
* All RE·Series™ Models Ultra Low Nox Certified, ** Above 140F DHW temp								

THE POWER OF PROGRESS

Product line up

Sensei-X RX/CX Series Condensing Tankless Water Heater

Residential	
Without Pump	With PUMP
RX199iN	RXP199iN
RX180iN	RXP160iN
RX160iN	
RX130iN	

Commercial	
Without Pump	With PUMP
CX199iN	CXP199iN
CX160iN	CXP160iN

- 6 Residential and 4 Commercial SKUs
- Consolidate 24 SKUs on current Sensei Residential to 4 SKUs
- 2 new with pump models added to Sensei CX Commercial offerings

Sensei to Sensei RX SKU comparison

REDUCE YOUR SKUs from 24 MODELS to 6!

REDUCE YOUR SKUs from 24 MODELS to 6!

		SENSEI® Indoor/Outdoor Natural Gas/Propane		NEW SENSEI® RX / RXP Default is Indoor Natural Gas Only. Unit can be modified to Outdoor and Propane (see details below).						
		Current	Max KBTU	NEW	MAX KBTU	UEF	Included in the Box	Propane Conversion	Outdoor Conversion	Accessories (Sold Separately) NEW*
RESIDENTIAL (RX/RXP)	No Built-In Pump	RU199iN RU199iP RU199eN RU199eP	199	**RX199iN**	199	0.98	• Sensei RX/RXP Water Heater • Wall Mounting Bracket • 4-Self Tapping Screws (4.2X25MM) • Gas Conversion label (Propane) • 2-Vent Screens • 2-Vent Screws • Installation and Operation Manual • Wall mounting Bracket Template	• Field Convertible to Propane • Leverages **Smart -Sense™** Adaptive Gas Valve built in the unit • No Conversion kit needed. • Propane gas rating label provided with the unit	Use Outdoor **Versa-Vent™** Vent Cap (RXOVC) Sold separately	• Isolation Valves with PRV (MIVK-T-LW) • Outdoor Vent Cap (RXOVC)* • Internal add-on recirc. pump conversion Kit (RX2RXPCK)* • Dedicated return with isolation valves and PRV (107000639)* • Pipe Cover (PCD11-SHS)* • Recess Box (RGBCTWHRX)* • Retrofit Door for RX/CX in RGB-CTWH-4 (104000335)* • Retrofit Door for RX/CX in RGB-CTWH-3,2,1 (104000336)* • Leak Detection Kit (RXLeakKit)* • Bottom plate for Pipe Cover (109001364)* • Recirculation Push Button (RPB200)* • Rinnai Wireless Module (RWM200)* • EZConnect Cable (REU-EZC-3)* • Gas conversion kit (Rating Plate Labels only) (104000330)* • Controllers- MC-601-BK/W, MC-195T-US • Condensate Neutralizer (804000074) • Scale Cutter (103000038), Scale Cutter Refill (103000039) • OPU Switch (REU-OPU3)
		RU180iN RU180iP RU180eN RU180eP	180	**RX180iN**	180	0.98				
		RU160iN RU160iP RU160eN RU160eP	160	**RX160iN**	160	0.97				
		RU130iN RU130iP RU130eN RU130eP	130	**RX130iN**	130	0.97				
	Recirculation with Built-In Pump	RSC199iN RSC199iP RSC199eN RSC199eP	199	**RXP199iN**	199	0.98	All items listed above and 1-Thermal Bypass Valve (Cross-over valve)			
		RSC160iN RSC160iP RSC160eN RSC160eP	160	**RXP160iN**	160	0.97				

*New-for SENSEI® RX/CX Series Water Heaters

CX Commercial Tankless

- High Temperature up to 185°F
- Integrated Cascade Controls
- Brass Internal Fittings
- Integrated Pump Models
- Cascade Pump Models

Rinnai Commercial Product Portfolio

CX Commercial Tankless

- 0.98 UEF / 97% TE
- Cascade Controls
- Pump and Non-Pump Models
- Brass Internal connections

Demand Duo H Series

- Integrated Pump Controller
- Overshoot Logic
- Dual Pumps DD2
- ASME variations

Demand Duo R Series

- Integrated Pump Controller
- Overshoot Logic
- Dip Tube tank
- Vent Transition

Tankless Rack Systems

- Aluminum Wall Racks
- Multi-pump CXP models
- Includes Valve Kit

Commercial Boiler

- 97% TE / SS HEX
- 7″ Color LCD
- Common Vent
- Cascade Controls
- Wi-Fi and BMS

Why Tankless? Comfort

- Models with recirculation can have hot water available at fixtures even quicker

Smart-Circ™ Intelligent Recirculation™ – Fast Facts

- **What is Smart-circ? Rinnai's new recirc learning logic**
  - Schedules recirc based on recent hot water usage
- **On what models is Smart-circ available?**
  - All new RX/RXP (Sensei) condensing models
  - All other Sensei CX/CXP, RU/CU models (with V9 firmware and beyond)
  - All new REP non-condensing integrated pump models.
- **When will it operate?**
  - When an MC195T or control-r is NOT connected and recirc is turned on (through parameters)
  - Control-r Wi-Fi/on demand modules will no longer be included with any models (RUR)
- **How does it work?**
  - Recirc begins 30 minutes before to 30 minutes after each hot water use
  - 7-day memory
  - Hot Water "Event" - Minimum 20 second hot water "in-use"

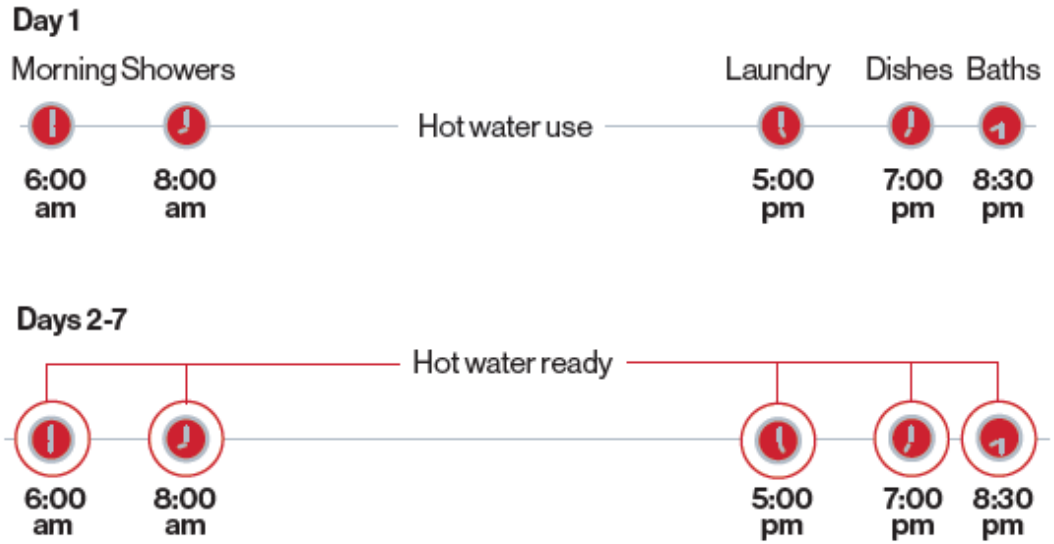
THE POWER OF PROGRESS

Smart-Circ™ Intelligent Recirculation™

Extraordinary Convenience. Unbeatable Efficiency.

With Smart-Circ™ installation just got easier. External controllers are no longer needed to ensure your customers have hot water when they need it. Smart-Circ™ "learns" users' hot water patterns over a seven-day period, then schedules pump and tankless recirculation patterns accordingly. Users enjoy instant hot water during regular demand periods, while saving energy and money.

Smart-Circ™
Intelligent Recirculation™



You're all set!

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

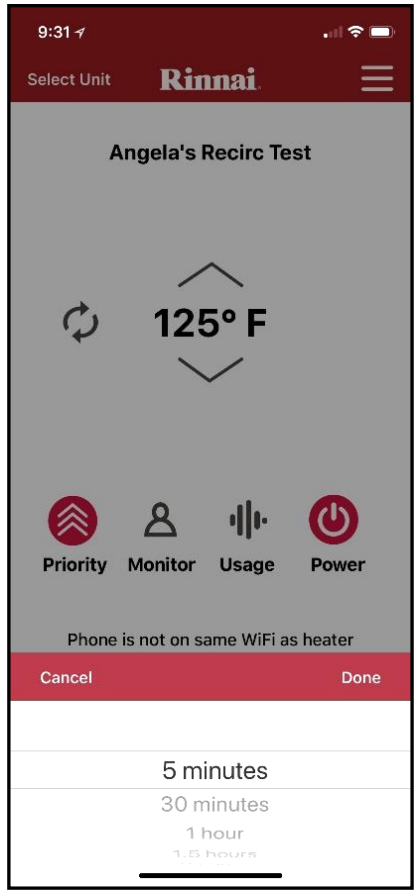
- Work with all RX/RXP, CXP/CX, RSC, RU/ CU & REP models
- Consecutive 7- day memory.
- Learns and repeats hot water usage patterns from last 6 days.
- Operates as a default recirculation option when MC195T or Control-R are not connected.
- Helps prevent 24-hour recirculation and extends product life.

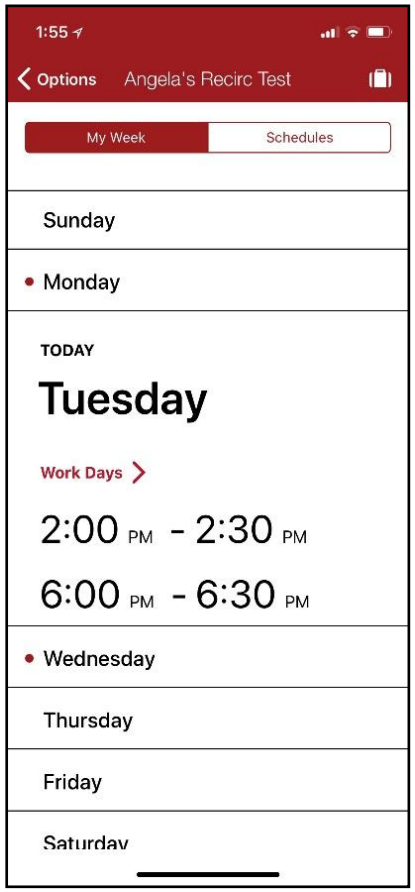
THE POWER OF PROGRESS

Creating a healthier way of living®

Rinnai Mobile App

Control-R™
Connect for smarter hot water.





alexa

Google Home

WORKS WITH SmartThings

- Programable schedules
- Vacation mode
- Mobile On-Demand
- Dealer monitoring!

Superior Warranty!

Rinnai Tankless Product Warranty

Description	SENSEI™ RX/RXP Series		RE/REP Series		Value Series (HE)	
	Res	Comm	Res	Comm	Res	Comm
Heat Exchanger (Or Equivalent Combustion Hours)	**15 Yrs** (12k hours)	**8 Yrs** (12k hours)	**12 Yrs**	**5 Yrs**	**10 Yrs***	**0 Yrs**
Parts	**5 Yrs**		**5 Yrs**		**5 Yrs**	
Labor	**1 Yr**		**1 Yr**		**1 Yr**	
Free Extended Labor (Days to Register/Qualify)	**+4 Yrs** (90 Days)	**+1 Yr** (90 Days)	**+4 Yrs** (30 Days)	**+1 Yr** (30 Days)	**N/A**	

- *Value Series' (HE) Heat Exchanger Warranty extends to 12 years with addition of Isolation Valves

Rinnai Support

Customer Service	Applications Support	Parts / Warranty

1-800-621-9419

Available from 8 am to 8 pm EST, Monday - Friday

Technical Support Department

1- 888-RINNAIS (746-6247)

This Phone Number is only provided to Technicians
FOR CALLS WHILE SERVICING PRODUCT

Office Hours: Monday – Friday **8 a.m**. to **8 p.m**. EST

On Call hours: ***24 / 7 / 365***

Key Takeaways

Tankless is better!

- Gas Savings
- Endless Hot Water
- Reliability
- Environmentally Sound
- Redundancy

Rinnai Innovation

- Innovative Design
- Installation Flexibility
- Recirc Solutions
- Wi-Fi Ready!

Rinnai Advantage

- Leading Warranty
- 24/7 Tech Support
- In-depth Training
- Dealer Programs

Why Tankless?

- Reduced gas usage
- Less water usage with Circ-Logic programming
- Constructed with recyclable components
- Lower emissions

- Multiple tankless water heaters create redundancy
  - Important for for commercial applications

Carbon Emissions Reductions

🔋 1. Higher Energy Efficiency

- No standby heat loss: Unlike traditional tank heaters that continuously heat stored water, tankless systems heat water only when needed. This eliminates standby energy loss, which is a major inefficiency in tank systems.
- Efficiency ratings: Tankless water heaters typically have efficiency ratings of 90–98%, compared to 60–70% for conventional tank models

🌎 2. Reduced Greenhouse Gas Emissions

- Because they use less energy overall, tankless systems result in fewer greenhouse gas emissions, especially when powered by natural gas from renewable sources.
- Gas tankless units use less fuel due to on-demand operation, lowering CO_2 output per household.

Carbon Emissions Reduction

🔧 3. Longer Lifespan = Fewer Replacements

- Tankless units often last 20+ years (compared to 10–15 for tanks), meaning fewer units are manufactured, transported, and disposed of—reducing emissions associated with production and waste.

♻️ 4. Smart Technology Integration

- Many models offer smart controls to reduce unnecessary energy use and can integrate with home energy management systems for even greater efficiency.

Summary of Carbon Reduction Benefits

Benefit	Carbon Impact
No standby loss	Lower energy demand → reduced emissions
High operational efficiency	Less fuel used per gallon heated
Long lifespan	Fewer units manufactured and landfilled
Smart energy use	Minimizes unnecessary water/energy waste

Thank you

Rinnai

CREATING A HEALTHIER WAY OF LIVING