RSC199i, RSC160i

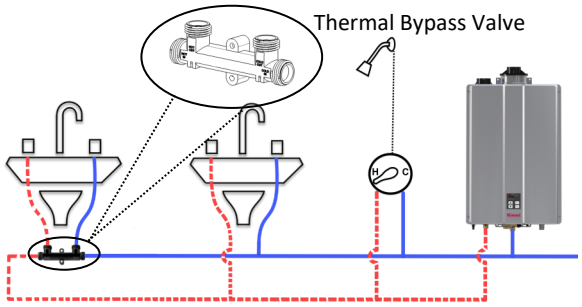
INTERNAL (INDOOR) CONDENSING TANKLESS WATER HEATER

(WITH INTEGRATED RECIRCULATION PUMP)

CIRC-LOGIC RECIRCULATION TECHNOLOGY

Rinnai Circ-Logic recirculation technology allows users 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. Two recirculation modes are available:

- **Dedicated Mode** - With a dedicated return line, the integrated pump recirculates water from the tankless water heater through the return line and back to the heater.
- **Crossover Mode** - In applications where a dedicated return line is not available or is difficult to install, Circ-Logic technology allows for the simple installation of a **Thermal Bypass Valve** (included with purchase) at the fixture farthest away from the water heater.



Smart-Circ™
Intelligent Recirculation™

- Intelligent Recirculation "learns" users' hot water patterns to schedule recirculation.

EASE OF INSTALLATION AND SERVICEABILITY

- Compact Design to Save Space
- Wi-Fi Technology for Remote Monitoring and Management
- Simple Gas Conversion

SUPER-HIGH-EFFICIENCY (CONDENSING) TANKLESS WATER HEATER

Installation Type	Internal (Indoor) Applications	
Model Numbers	RSC199i (REU-NP3237FF-US(A)) RSC160i (REU-NP2530FF-US(A))	
Approved Gas Types	Natural and Propane	
Efficiency	AHRI CERTIFIED	UEF: 0.95
	Ratings not certified by AHRI	EF: 0.96
High Altitude Approved	Up to 10,200 ft (3,109 m)	
Water Flow Control	Water Flow Sensor, Electronic Water Control and Bypass Control	
Controller	Standard: MC-91-2US Required for scheduled Recirculation: MC-195T-US or control·r™ Wi-Fi Module	
Certifications	AHRI, ANSI Z21.10.3, CSA 4.3, and ENERGY STAR®	

Warranty

- Heat Exchanger: 15 years or 12,000 operation hours, whichever occurs first
- All Other Parts and Components: 5 Years
- Reasonable Labor: 1 Year

Safety Devices

Flame Failure - Flame Rod, Boiling Protection, Combustion Fan RPM Check, Over Current - Glass Fuse, Remaining Flame (OHS) and Automatic Frost Protection

Included with Purchase

Tankless Water Heater, Thermal Bypass Valve, Pressure Relief Valve and Adapter, Isolation Valve Kit, Integrated Controller

Additional Features

- Complies with South Coast Air Quality Management District 14 ng/J or 20 ppm NOx Emission Levels
- Ultra Low NOx
- Tankless Rack System™ Compatible
- 1/2 in. (13 mm) Gas Line Compatible

OPTIONAL ACCESSORIES

Room Air Screen, Condensate Neutralizer, ScaleCutter, Drain Down Kit, Additional Controllers, Pipe Cover, Recirculation Pump, DPS/MIS Switch, EZConnect™ Cables, Wireless Accessories, and many more. Visit rinnai.us for a complete list of accessories.

CSA C US LOW LEAD CONTENT · CSA SANITATION · CSA CERTIFIED · DESIGN CERTIFIED · ENERGY STAR

CERTIFIED TO ANSI Z21.10.3 — CSA 4.3

SENSEI™ TECHNICAL SPECIFICATIONS

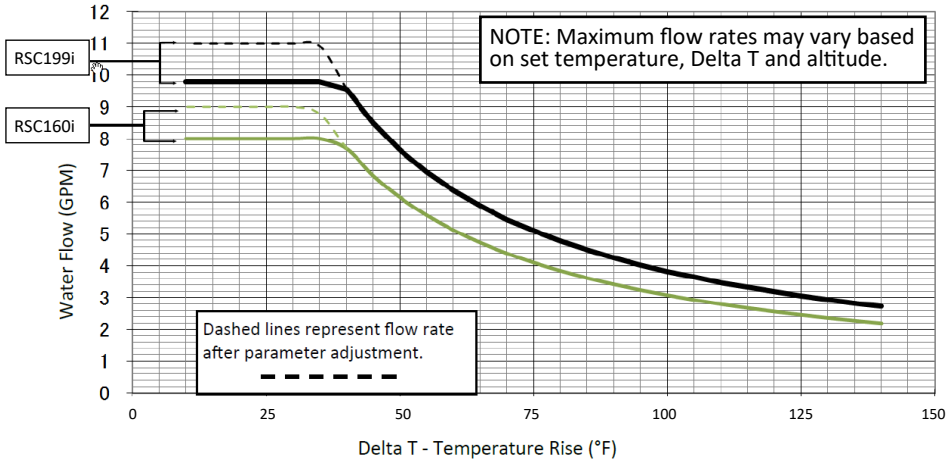
SPECIFICATION		RSC199i	RSC160i
Dimensions - w, h, d		18.5 in. x 26.4 in. x 11.4 in. (470 mm x 670 mm x 290 mm)	
Minimum Gas Consumption Btu/h		15,000	
Maximum Gas Consumption Btu/h		199,000	160,000
Flow Rate[1] (Min - Max)		0.26 - 9.8 GPM (1.0 - 37 L/min)	0.26 - 8.0 GPM (1.0 - 30 L/min)
Max Flow Rate with Parameter Adjustment		11 GPM (42 L/min)	9 GPM (34 L/min)
Weight		68 lb (31 kg)	66 lb (30 kg)
Sound Level		53 dB	52 dB
Electrical	Normal	78 W	57 W
	Standby	2.3 W	
	Freeze Protection	150 W	
	Max Current	4 Amps	
	Fuse	10 Amps	
Temperature		• Minimum: 98° F (37° C) Default 120° F (49° C) Crossover Mode • Maximum: 120° F (49° C) Default 140° F (60° C) With Parameter Adjustment	
By-Pass Flow Control		Electronic	
Gas Supply Pressure[2]		• Natural: 3.5 in. w.c. - 10.5 in. w.c. • Propane: 8.0 in. w.c. - 13.5 in. w.c.	
Ignition System		Direct Electronic Ignition	
Electronic Connections		• Appliance: AC 120 Volts, 60Hz. • Temperature Controller: DC 12 Volts (Digital)	
Water Supply Pressure		• Minimum: 50 PSI (Recommended 60-80 PSI for max performance) • Maximum: 150 PSI	
Controller Cable		Non-Polarized Two Core Cable (Minimum 22 AWG)	
Service Connections		• Gas Supply: 3/4 in. (19 mm) NPT • Cold Water Inlet: 3/4 in. (19 mm) NPT • Hot Water Outlet: 3/4 in. (19 mm) NPT • Condensate Drain: 1/2 in. (13 mm) NPT	
Clearances		• Top: 2 in. (51 mm)* • Bottom/Ground: 12 in. (305 mm) • Front: 0 in.** • Back: 0 in. • Sides: 2 in. (51 mm)*** • Front Exhaust: 24 in. (610 mm)	

* 0 in. from vent components
** Clearance for servicing is 24 in. (610 mm) in front of water heater
*** Add 0.25 in. (6.35 mm) for recess box

[1] Minimum flow may vary slightly depending on the temperature setting and the inlet water temperature. Minimum activation flow is 0.4 GPM (1.5 L/min).
[2] The maximum gas supply pressure must not exceed the value specified by the manufacturer.

SENSEI™ WATER FLOW CURVE

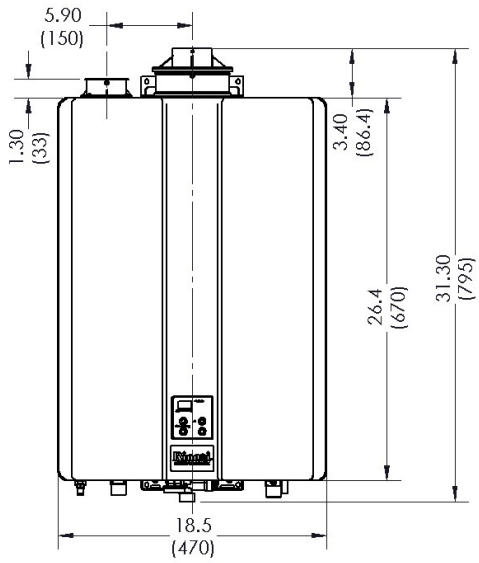
Flow curves apply only to incoming water temperatures of 70° F (21° C) or less.
For incoming water temperatures greater than 70° F (21° C), please contact Rinnai.



SENSEI™ DIMENSIONS

in. (mm)

FRONT

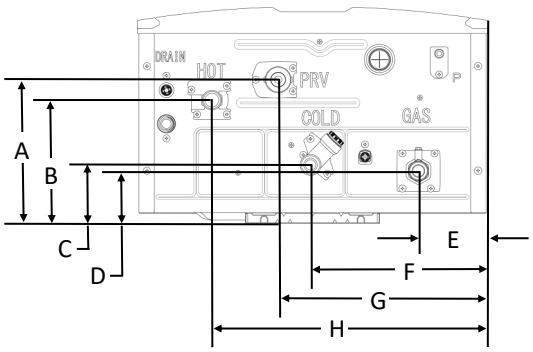


SIDE

Vent Connection:

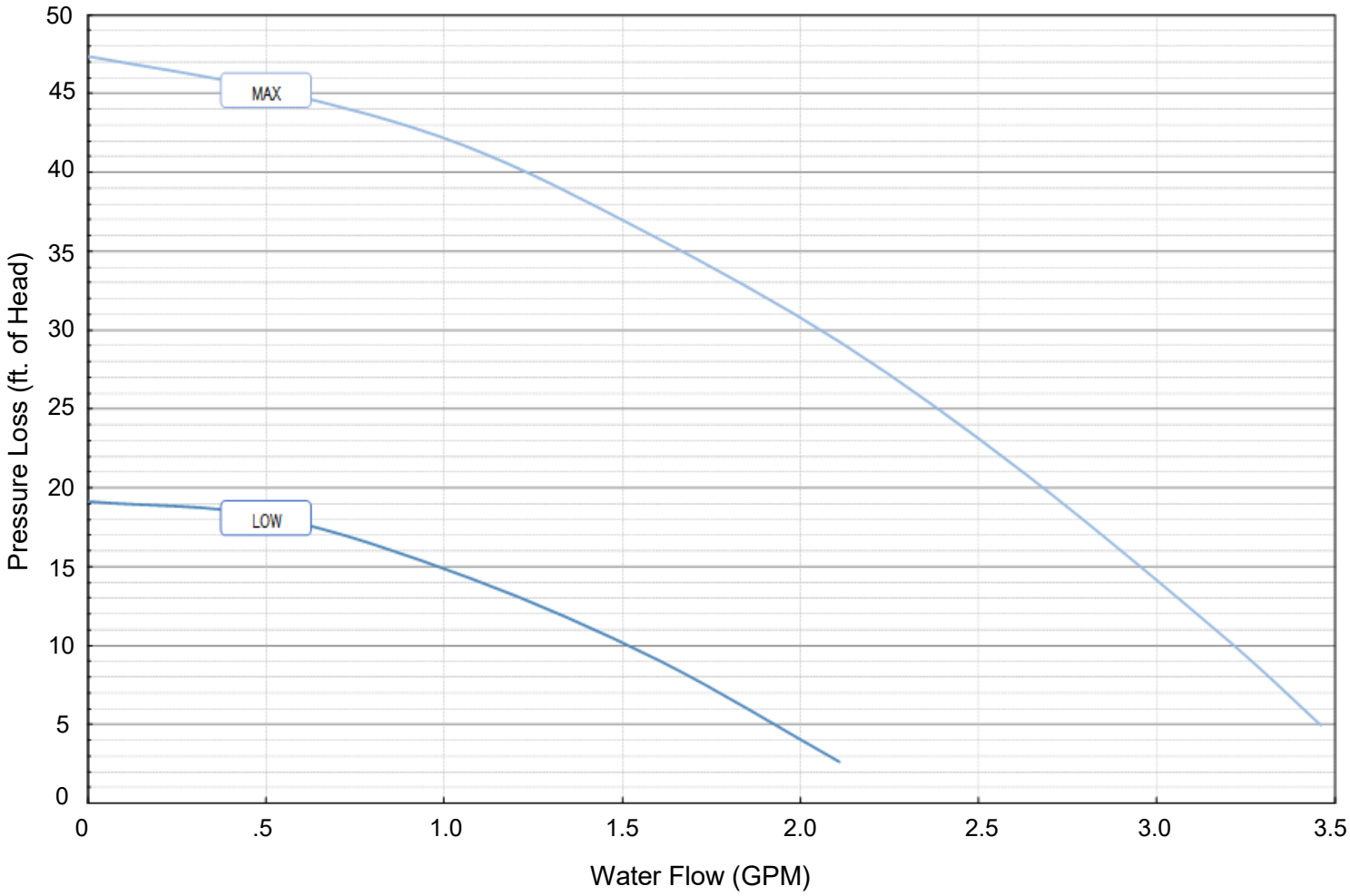
2 in. (51 mm) nominal PVC/ Polypropylene or 3 in./5 in. Concentric.

BOTTOM



Connection		in.	mm
COLD	F	9.27	235
	C	3.15	79
HOT	H	14.49	368
	B	6.56	166
GAS	E	3.57	91
	D	2.79	71
PRV	G	10.40	264
	A	7.60	193

SENSEI™ PUMP PERFORMANCE AND PUMP + TANKLESS PERFORMANCE CURVE



Recirculation Pump Control	• Smart-Circ™ "learns" users' hot water patterns to activate recirculation. • Manual schedule selection is available with Accessory controllers (MC-195T or control•r™ Wi-Fi module)
Internal Multi-Speed DC Pump	Integrated pump allows for recirculation through a dedicated return line or crossover with thermal bypass valve.
Maximum Recirculation Pipe Lengths	• 400 equivalent feet for 3/4 in. pipe diameter • 100 equivalent feet for 1/2 in. pipe diameter *Take equivalent elbow lengths into consideration when calculating pipe length.* **For dedicated return lines:** Total length includes both hot water supply and dedicated return lines. **Cross-over mode:** Total length includes both hot water supply and cold water piping length from the tankless water heater to the thermal bypass valve. Cross-over mode requires the use of a thermal bypass valve (included).