

Rinnai Commercial Water Heater Submittal Form
Models: RCW399AN, RCW500AN, RCW750AN, RCW1000AN

Rinnai

Project Name:

Date:

Bid Date:

Location:

Model:

☐

RCW399AN

☐

RCW500AN

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RCW750AN

☐

RCW1000AN

Architect/Engr:

Wholesaler/Contr:

Gas:

☐

NG

☐

Propane

Btu/h Input:

Notes:

Water Heater Highlights:

Condensing, Gas-Fired, Indoor or Outdoor (convertible).
Floor-Standing, Commercial Applications

Standard Features

- 316L stainless steel water tube heat exchanger
- ASME certified, "HLW" stamped, and National Board Listed
- Fully welded design
- 160 PSI (11 bar) working pressure
- 210°F (99°C) and 150 PSI (10.3 bar) temperature and pressure (T&P) relief valve
- Easy access to combustion chamber and burner

Combustion System

- Modulating system with 10:1 turndown ratio.
- Direct spark ignition.
- Up to 98% thermal efficiency, Sealed combustion
- Low NOx emission (SCAQMD certified)
- Flame monitoring (flame rod)
- Water heater operates at elevation up to 10,200 ft (3,109 m)

Venting System

- Combustion analyzer test port
- Vertical and horizontal venting options
- Direct vent or power vent up to 140 feet (43 m)
 - RCW500AN model ONLY: For altitudes above 2,000 ft (609 m), vent length is reduced to 110 ft (33m)
 - RCW399AN model ONLY: For altitudes above 2,000 ft (609 m), vent length is reduced to 90 ft (27 m).
- PVC, CPVC, Polypropylene, and Stainless Steel

Additional Features

- High-limit supply temperature sensor
- Flue temperature high limit
- Water Flow Switch, Condensate trap
- Blocked vent and blocked condensate pressure switch

Control System

- Built-in Wi-Fi. Full color 7" touchscreen LCD display
- 0-10 VDC input for Building Management System (BMS)
- Built-in Modbus contacts for BMS
- Cascade up to 8 units with built-in redundancy
- Common venting up to 4 units
 - RCW399AN and RCW500AN model: 4 units
 - RCW750AN and RCW1000AN models: 2 units
- Simple cascade communication wiring (2 wires)
- Pump Control Provided (120VAC and up to 5A)
- Storage tank can be controlled via 10kOhm sensor or aquastat
- Password protected.
- Data logging (ignition attempts, error history, run hours)
- Custom maintenance reminder with contact information
- Error code & diagnostic information available on home screen

United States: Installations in the U.S. must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54.

Canada: Installations in Canada must conform with local codes or, in the absence of local codes, with the Natural Gas and Propane Installation Code, CSA B149.1.

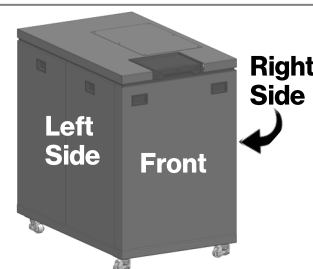
Included with Purchase:

- Water Heater and Documentation
- Pressure and Temperature Gauge
- Temperature and Pressure Relief Valve 150 PSI (10.3 bar), 210°F (99°C)

Clearances (See Fig 1)

Top	4 in. (102 mm). 0 in. from vent components
Bottom	0 in. (0 mm)
Front	6 in. (152 mm). Clearance for servicing: 24 in. (610 mm) in front of water heater.
Back	18 in. (457 mm)
Sides	2 in. (51 mm). Clearance for servicing is 12 in. (305 mm) on the left side and 24 in. (610 mm) on the right side.
Vent	0 in. (0 mm)

Fig 1



Optional Accessories

☐	Condensate Neutralizer: 1.6 GAL/HR (6 L/HR) (804000074)
☐	Condensate Neutralizer: 45 GAL/HR (170 L/HR) (103000067)
☐	Replacement Media: (103000068)
☐	Scale Cutter (103000038)
☐	Scale Cutter Refill Cartridge (103000039)
☐	Air Inlet Filter (803000050) (RCW399AN & RCW500AN models only)
☐	Cascade System Sensor (803000051)
☐	Gas Conversion Kit: 399 NG (803000054)
☐	Gas Conversion Kit: 399 Propane (803000049)
☐	Gas Conversion Kit: 500 NG (803000083)
☐	Gas Conversion Kit: 500 Propane (803000084)
☐	Gas Conversion Kit: 750 NG (803000085)
☐	Gas Conversion Kit: 750 Propane (803000086)
☐	Gas Conversion Kit: 1000 NG (803000087)
☐	Gas Conversion Kit: 1000 Propane (803000088)
☐	BACnet Adapter (803000078)
☐	BACnet Adapter with LonWorks (803000080)
☐	Water Temperature High Limit (CSD-1 Compliant) (803000089)
☐	Low Water Cut-Off (CSD-1 Compliant) (803000090)
☐	High and Low Gas Pressure Switches (CSD-1 Compliant) (803000091)
☐	Outdoor Installation Kit RCW399AN/RCW500AN (103000123)
☐	Outdoor Installation Kit RCW750AN/RCW1000AN (103000124)

Model	Fuel	Input MBH (Btu/h)		Turndown Ratio	Gross Output MBH	Therm Eff %	Water Content	Shipping Weight
		Min	Max					
RCW399AN	NG/LP*	39,900	399,000	10:1	391	98	2.20 Gal	227 lb (103 kg)
RCW500AN	NG/LP*	50,000	500,000	10:1	490	98	2.67 Gal	300 lb (136 kg)
RCW750AN	NG/LP*	75,000	750,000	10:1	735	98	6.60 Gal	591 lb (268 kg)
RCW1000AN	NG/LP*	99,900	999,000	10:1	989	99	8.10 Gal	633 lb (287 kg)

*Units ship as Natural Gas ONLY. Propane conversion kits available as accessory (purchased separately).

Circulator Sizing

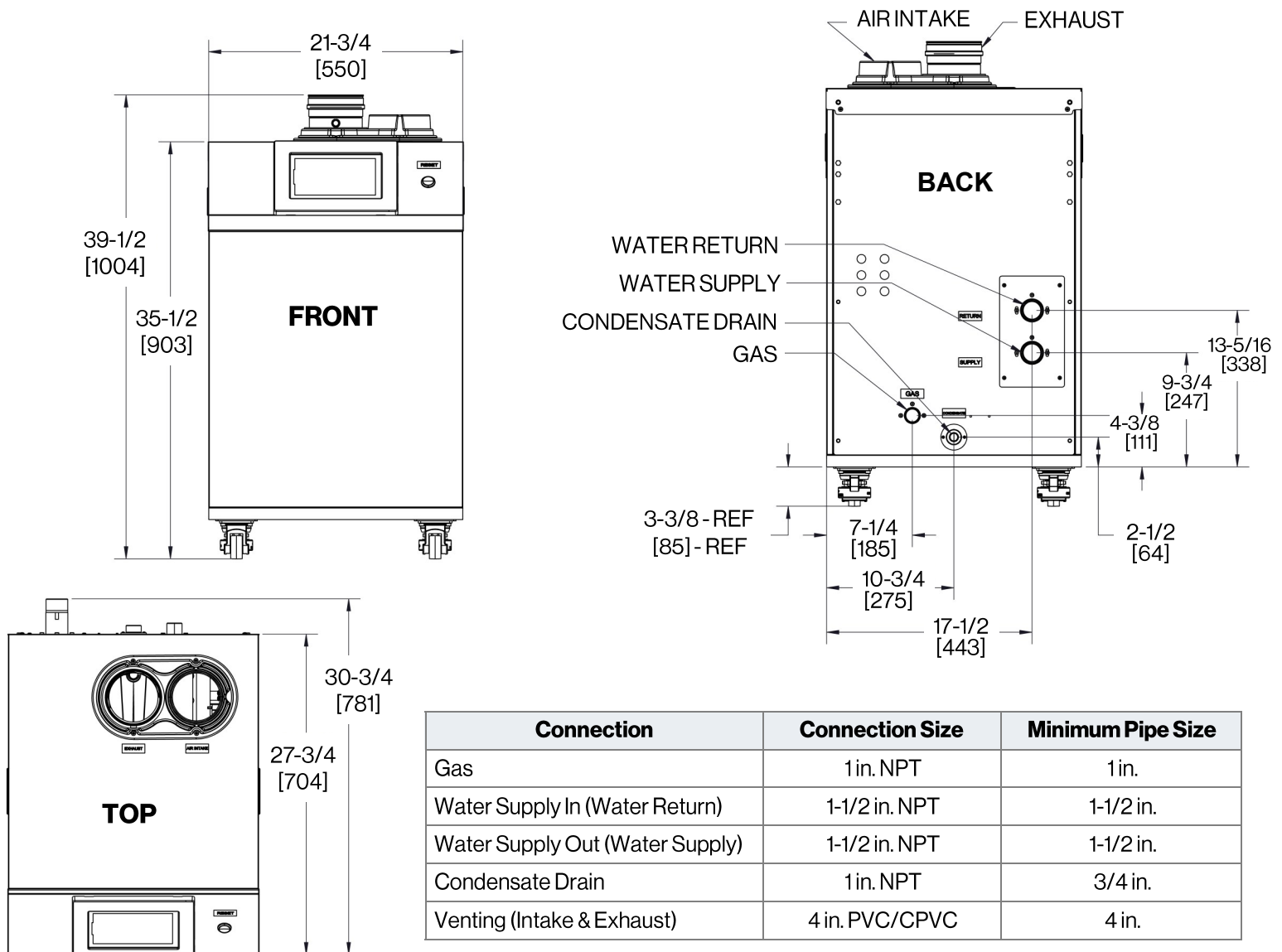
Circulator sizing information based on temperature rises:

Model	Minimum Pipe Size	20°F Water Hardness 12 - 15 GPG		25°F Water Hardness 4.7 - 12 GPG	
		GPM	Ft/Hd	GPM	Ft/Hd
RCW399AN	1-1/2 In.	39	36	31	22
RCW500AN	1-1/2 In.	49	41	39	22
RCW750AN	2 In.	73	12	58	8
RCW1000AN	2 In.	97	16	78	10

Dimensions: RCW399AN and RCW500AN MODEL S

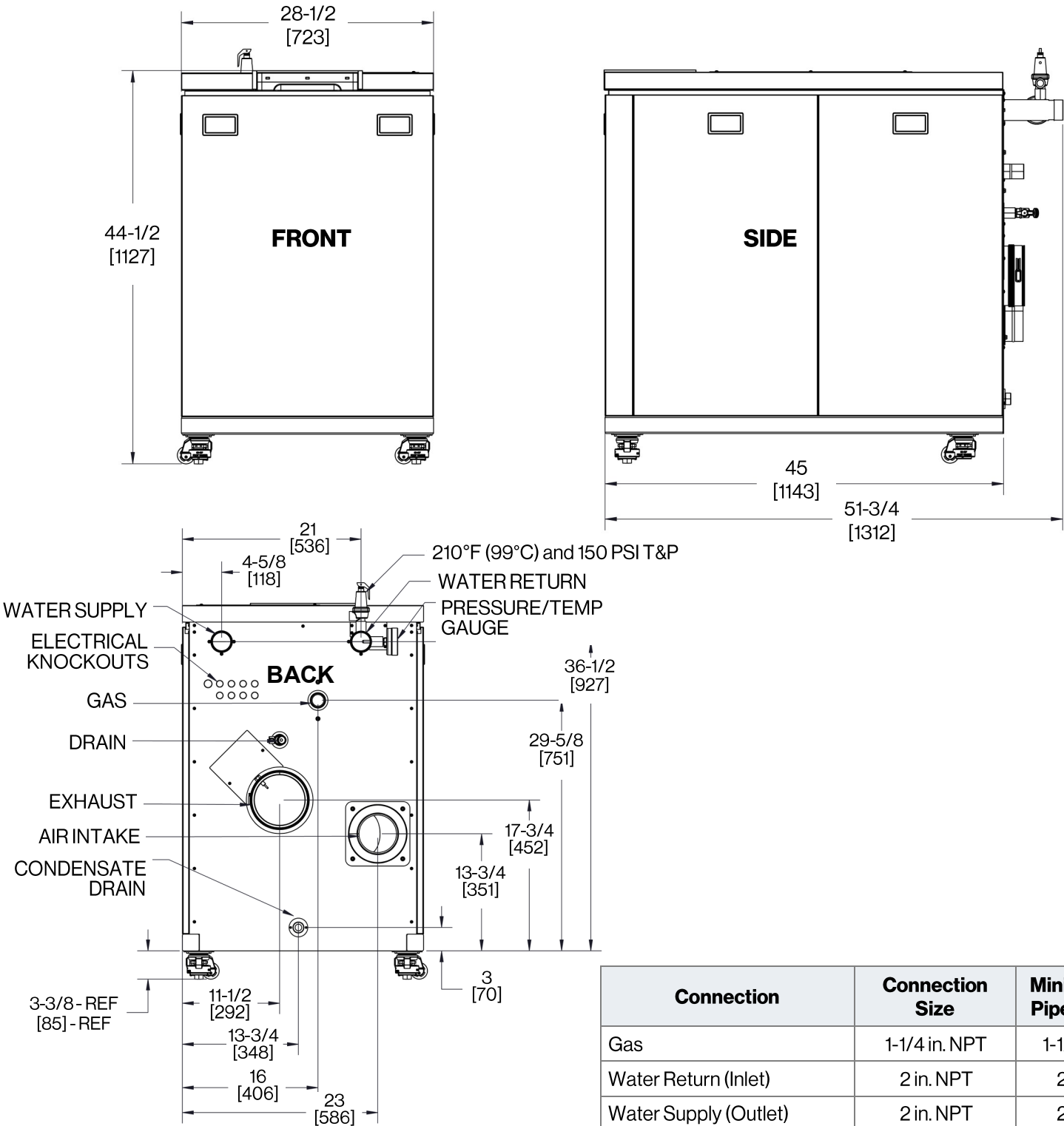
Dimensions (w, h, d): 21.75 in. x 39.5 in. x 30.75 in. (550 mm x 1004 mm x 781 mm)

Measurements: in. [mm]



Dimensions: RCW750AN & RCW1000AN MODELS

Dimensions (w, h, d): 28.5 in. x 44.5 in. x 51.75 in. (723 mm x 1127 mm x 1312 mm)
 Measurements: in. [mm]



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Low Lead Content



HLW



CSA/ANSI Z21.10.3 CSA 4.3