

DEMAND DUO™ H-SERIES: DEMAND DUO™ (119/80) SUBMITTAL FORM

PROJECT DETAILS

Job Name: _____

Location: _____

Application Type: _____

Commercial

Architect / Engineer: _____

Wholesaler/ Contractor: _____

Gas Fuel Type: Natural Gas Liquid Propane Total System BTU/hr: _____

Notes: _____

FEATURES AND BENEFITS

More capacity, longer warranty, better performance, easy installation

Rinnai's Demand Duo™ Commercial Hybrid Water Heating System is the smart choice when it is time to replace a standard tank. Our unique "best of both" system lets your business quickly and easily upgrade to a unit that offers an on-demand and continuous supply of hot water.

- A direct high-efficiency tank replacement solution
- Warranty: Heat exchanger 8 years or 12,000 operation hours, whichever occurs first, tank - 6 years, parts - 5 years, reasonable labor - 1 year
- Built standard Tankless Water Heater:
 - Ultra Low NOx compliant
 - Commercial ENERGY STAR® certified
 - 97% Thermal Efficiency
- Integrated temperature controller provides 98° F - 185° F
- Multiple venting options (PVC, Room Air, Concentric, Common Vent)
- Easy and cost-effective maintenance - all parts field replaceable
- System weight up to 40% lighter than competitive units

OPTIONS

CHS199100Hi

CHS160100Hi

CHS19980Hi

CHS16080Hi

CHS13980Hi

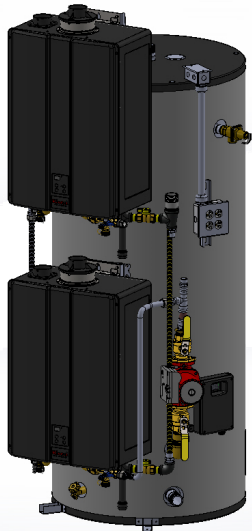




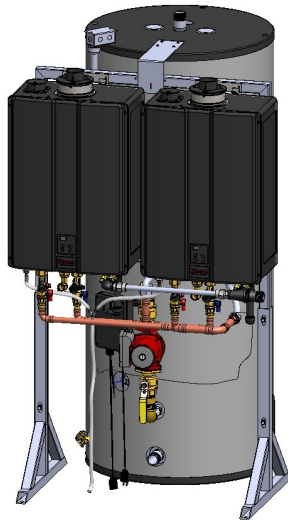
119 Gallon Model



80 Gallon Model



Vertical Double Units



Horizontal Double Units

OPTIONAL ACCESSORIES

Room Air Screen, Condensate Neutralizer, ScaleCutter, Control-R™ Wi-Fi Module, Wireless Accessories, and many more. Visit rinnai.us for a complete list of accessories.

EASE OF INSTALLATION AND SERVICEABILITY

- Wi-Fi Technology for Remote Monitoring and Management
- Simple Gas Conversion

SUPER-HIGH-EFFICIENCY (CONDENSING) HYBRID WATER HEATING SYSTEM

Installation Type	Internal (Indoor) Commercial Applications	
Model Numbers	CHS398100HV, CHS398100HVA, CHS320100HV, CHS398100Hi, CHS199100Hi, CHS160100Hi, CHS19980Hi, CHS16080Hi, CHS13080Hi	
Approved Gas Types	Natural and Propane	
Maximum System Gas Consumption	Up to 398,000 BTU/h (See specific models on following pages)	
Efficiency	Ratings Not Certified by AHRI	UEF up to 0.93 Thermal Efficiency: Up to 97%
	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: Integrated Controller Optional: MC-91-2US	
Certifications	AHRI, ANSI Z21.10.3, CSA 4.3, and Energy Star® (Tankless Water Heater)	
Storage Tank	<ul style="list-style-type: none"> • 2" Eco-friendly foam insulation • Glass-lined inner tank • 1-1/2" MNPT dielectric hot and cold connections • Pre-installed temperature & Pressure relief valve • Brass drain valve • Dual magnesium anode rods • Hand hole clean-out 	
Warranty	<ul style="list-style-type: none"> • Heat Exchanger: 8 years or 12,000 operation hours, whichever occurs first • Tank: 6 years • All Other Parts and Components: 5 Years • Reasonable Labor: 1 Year (Refer to the Installation and Operation Manual for further warranty information.)	
Safety Devices	Flame Failure - Flame Rod, Boiling Protection, Combustion Fan RPM Check, Over Current - Glass Fuse, Remaining Flame (OHS) and Automatic Freeze Protection	
Additional Features	<ul style="list-style-type: none"> • Complies with South Coast Air Quality Management District 14 ng/J or 20 ppm NOx Emission Levels • Ultra Low NOx 	
Venting Options:	<ul style="list-style-type: none"> • Concentric or schedule 40 PVC/CPVC • Direct Vent (Concentric and Twin Pipe) • Non-Direct Vent (Room Air) • Common Vent (Direct Vent and Room Air) Vent lengths up to 150 ft with eight Tankless Water Heater units. 	

Maximum Equivalent Vent Lengths:

Twin Pipe

Vent Sizes	2 in. (51 mm)	3 in. (76 mm)
Vent Lengths	65 ft (20 m)	150 ft (46 m)

Concentric

Vent Sizes	2 in. X 4 in.	3 in. X 5 in.
Vent Lengths	65 ft (20 m)	150 ft (46 m)

Note: Sizes and lengths apply to single engine or non-common vent double engine systems.

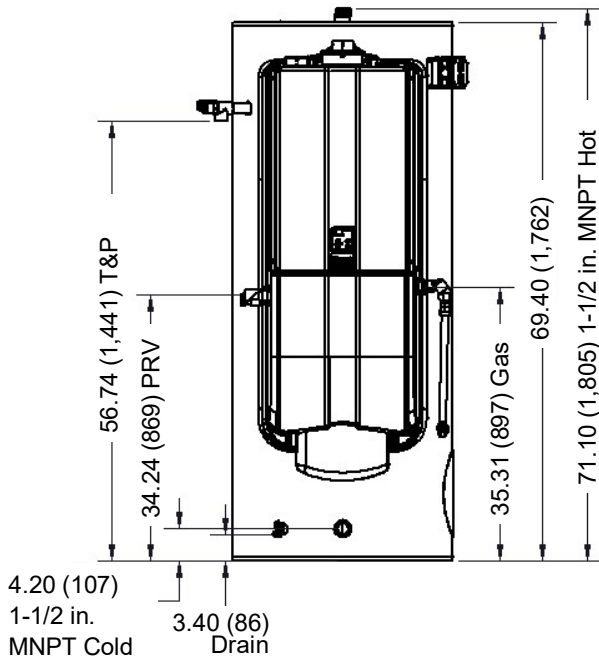


CERTIFIED TO ANSI Z21.10.3 — CSA 4.3

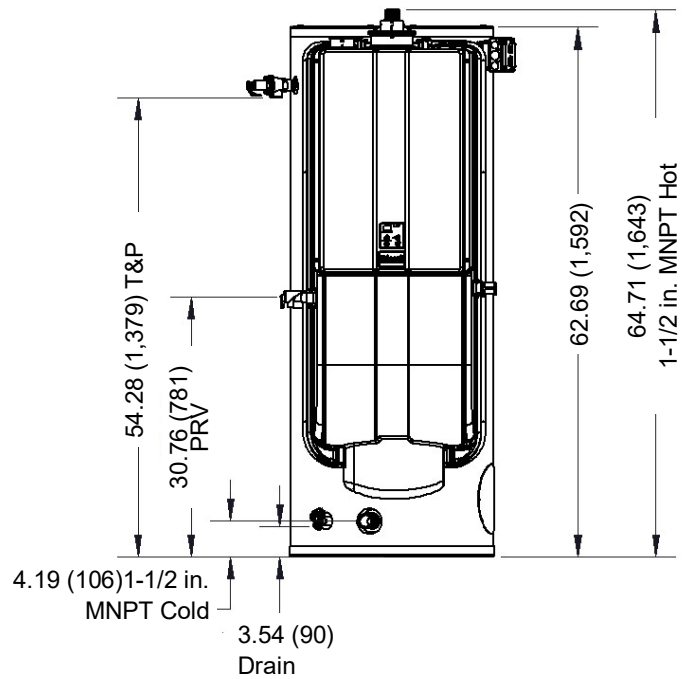
DIMENSIONS (SINGLE UNITS)

IN. (MM)

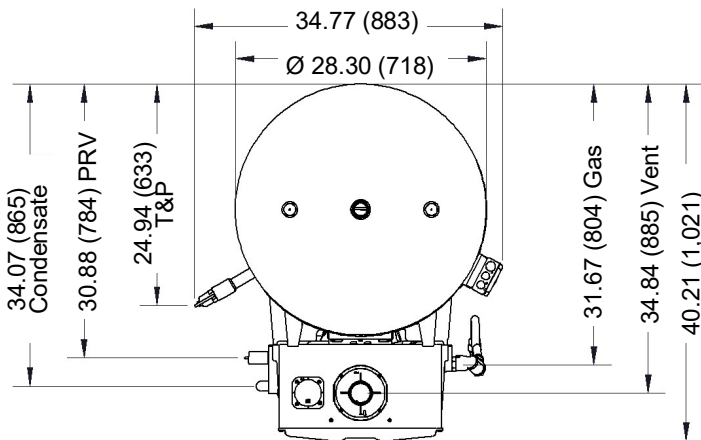
FRONT (119 Gallon Models)



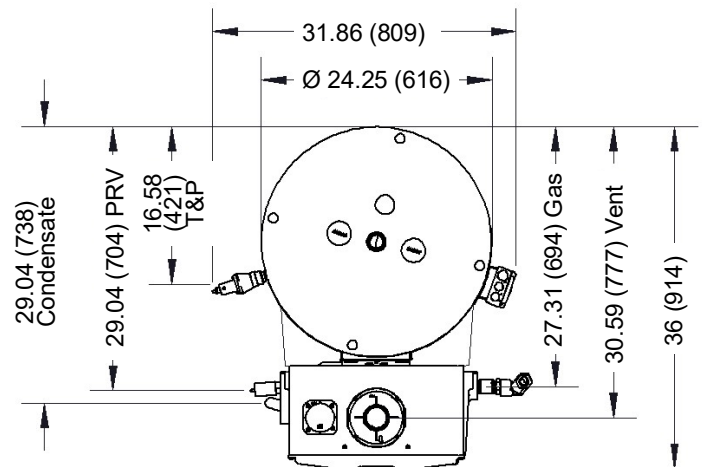
FRONT (80 Gallon Models)



TOP (119 Gallon Models)



TOP (80 Gallon Models)



RECOVERY CAPACITIES

Product Number	Gas Type	Input		U.S. Gallon / HR Liters / HR at Temperature Rise Indicated													
				Tank Capacity	°F	30°F	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F
		BTU/HR	kW		°C	17°C	22°C	28°C	33°C	39°C	44°C	50°C	56°C	61°C	67°C	72°C	78°C
CHS199100Hi	NG/LP	199,000	58	119 Gals.	GPH	780	585	468	390	334	292	260	234	213	195	180	167
				450 Liters	LPH	2,953	2,214	1,771	1,476	1,264	1,105	984	886	806	738	681	632
CHS160100Hi	NG/LP	160,000	58	119 Gals.	GPH	627	470	376	314	269	235	209	188	171	157	145	134
				450 Liters	LPH	2,374	1,780	1,424	1,187	1,017	890	791	712	647	593	548	509
CHS19980Hi	NG/LP	199,000	58	80 Gals.	GPH	780	585	468	390	334	292	260	234	213	195	180	167
				303 Liters	LPH	2,953	2,214	1,771	1,476	1,264	1,105	984	886	806	738	681	632
CHS16080Hi	NG/LP	160,000	58	80 Gals.	GPH	627	470	376	314	269	235	209	188	171	157	145	134
				303 Liters	LPH	2,374	1,780	1,424	1,187	1,017	890	791	712	647	593	548	509
CHS13080Hi	NG/LP	130,000	58	80 Gals.	GPH	509	382	306	255	218	191	170	153	139	127	118	109
				303 Liters	LPH	1,929	1,446	1,157	964	827	723	643	579	526	482	445	413

TECHNICAL SPECIFICATIONS (For Single Units)

Model Number	CHS199100	CHS160100	CHS19980Hi	CHS16080Hi	CHS13080Hi	
Minimum Gas Consumption Btu/hr (kW/hr)	15,000 (4.3)					
Maximum Gas Consumption Btu/hr (kW/hr)	199,000 (58.3)	160,000 (46.9)	199,000 (58.3)	160,000 (46.9)	130,000 (38.1)	
Tank Volume	119 Gallons (450 Liters)		80 Gallons (303 Liters)			
First Hour Delivery at 100°F Rise *	317 Gallons (1,200 Liters)	271 Gallons (1,026 Liters)	290 Gallons (1,098 Liters)	244 Gallons (924 Liters)	209 Gallons (791 Liters)	
Product Weight	431 lb (195 kg)	429 lb (195kg)	307 lb (139 kg)	305lb (138 kg)	305lb (138 kg)	
Sound Level	49 dB	48 dB	49 dB	48 dB	48 dB	
Installation Type	Internal (Indoor) Commercial Applications					
Category	Category IV					
Ignition System	Direct Electronic Ignition					
Water Supply Pressure	150 PSI (Maximum)					
Temperature Setting	98°F (37°C) to 185°F (85°C)				98°F (37°C) to 140°F (60°C)***	
Electrical Data	Normal	265 W	223 W	265 W	233 W	219 W
	Standby	44 W	44 W	44 W	44 W	44 W
	Freeze Protection	148 W	148 W	148 W	148 W	148 W
	Max Current	5.5 A	5.5 A	5.5 A	5.5 A	5.5 A
	Fuse	Tankless Water Heater Engine: 10 Amps, Controller: 10 Amps				
Gas Supply Pressure**	Natural	3.5 - 10.5 in. w.c.				
	Propane	8.0 - 13.5 in. w.c.				
By-Pass Flow Control	Electronic					
Connections	Gas Supply Inlet: 3/4 in. MNPT Hot Water Outlet: 1-1/2 in. MNPT Cold Water Inlet: 1-1/2 in. MNPT					
Electric Connections	Appliance: AC 120 Volts, 60Hz. Integrated Temperature Controller: DC 12 Volts (Digital)					
Water Temperature Control	Simulation Feed Forward and Feedback					
ENERGY STAR® Certified (Tankless engine)	Yes					

*First Hour Delivery Rating is a theoretical calculation based on 70% usable tank capacity (Tank Capacity x 0.70 + (recovery) = First Hour Delivery Rating

**The maximum gas supply pressure must not exceed the value specified by the manufacturer.

***Temperature limit of 185°F can be achieved using optional MCC-91 controller.

Rinnai products are continually being updated and improved; therefore, specifications are subject to change without prior notice.