

# Rinnai



## Demand Duo™ Hybrid Commercial Water Heating Solutions

For Trade Professionals





# The Time is Right to Switch to Demand Duo™.

Easy installation, superior performance and longer life mean there has never been a better time to switch from traditional tanks to the consistency and efficiency of Demand Duo H- and R-Series solutions.

## #1 Tankless Brand in North America – First to Manufacture Domestically

In 2018, Rinnai began manufacturing tankless gas water heaters and assembling all commercial water heating products at its Griffin, Georgia, factory. Creating jobs and boosting the local economy, the facility solidifies Rinnai's position as the industry leader and our commitment to innovate and drive category growth in North America.



## Application Engineering Center of Excellence

Our team of application engineers is available to create quotes, size your system and provide designs for your specific project — all at no charge and backed by our 100% sizing guarantee. Using proven sizing methodologies, Rinnai's Application Engineering Center of Excellence is there to consult with you and provide the best total solution for your next project.

**Call them at 1-800-621-9419 or email at [engineering@rinnai.us](mailto:engineering@rinnai.us).**

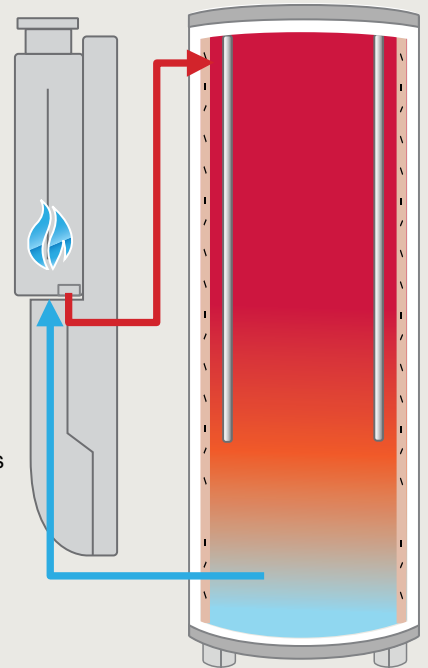
## Maximum Performance that Lasts Longer

- Unsurpassed 1st-hour delivery and efficient tank recovery keep pace with demand
- Saves money with lower energy costs
- Longer warranty – up to 2X longer than traditional tanks

## How Demand Duo Works

Water heats in the tankless unit rather than inside the tank, providing:

- Zero thermal stress on the tank
- More hot water capacity, since tank only holds two magnesium anode rods
- Easy, cost-effective tankless maintenance versus replacing an entire tank every few years
- Ideal for emergency replacement; installs like a tank but up to 20% lighter



# Transforming the Way Water is Heated.

## Mainstay Suites® Winnipeg | Hospitality

### THE SMARTER WAY TO DO HOT WATER

For nearly six years, since it opened in 2011, the Mainstay Suites Winnipeg had relied on four leaky, inefficient 80-gallon atmospheric hot water tanks. Not that long ago, guests at the Mainstay Suites Winnipeg Hotel might face a rude awakening in their morning shower when the hot water ran out. But now, since four Rinnai Demand Duo™ Hybrid units were installed in June 2017, the hotel is running at full capacity, and both guests and management are happy with the change. Combining the best of both tank and tankless design, Demand Duo delivers hot water so efficiently that the hotel's **natural gas savings have totaled more than \$9,000 in the first eight months**, despite the colder-than-normal winter.



## Countryside High School | Education

### SAVINGS FROM DAY ONE

For years, the Pinellas County School System, located in the Tampa Bay area of Florida, relied on traditional tank-style water heaters that lasted typically only six to eight years, at the most. "With such a short life span, I knew there had to be a better alternative," said Ty Crawford, in charge of maintenance for the school system. Since October of 2016, when the Countryside High School installation took place, the Pinellas County School System has replaced tank-style units in another seven schools with Rinnai's Demand Duo Hybrid Water Heating Systems. "If the heat exchanger ever does fail, I can swap it out for a fraction of the cost of new water heaters," Crawford added. On average, Countryside High School **saves close to 20% on their monthly utility bills** since switching to the Rinnai Demand Duo units.



## Crowne Plaza Atlanta – Midtown | Hospitality

### WORRY-FREE INSTALLATION

Rinnai's total turnkey solution for this 432-room hotel delivered immediate savings on energy costs in November 2019. Managing all aspects of design, logistics, installation and billing, Rinnai replaced two aging, increasingly inefficient dual-burner boilers with 10 Demand Duo 2 Hybrid Water Heating units. Now, **Demand Duo's 97% thermally efficient system serves all the domestic hot water needs for the property**, fitting in the same footprint as just one of the boilers and freeing up space in the mechanical room. Additionally, two Demand Duo 2 units in the sub-basement supply all the hot water needs of the hotel's commercial kitchen and laundry.



## Performance. Reliability. Peace of Mind.

### High-Efficiency Hybrid Technology.

### Venting Options



#### H-SERIES VENTING OPTIONS

Available in:

**Single Vent:** Two Pipe PVC/CPVC, Concentric Polypropylene (PP)

**Common Vent:** PP and PVC/CPVC  
Common venting means significantly fewer wall or roof cuts, less labor, and longer vent lengths with single-unit venting.\*

#### Installation Ease

- 1 **New Multiple Venting Options, Easy to Install**
- 2 **New Pre-assembled Gas Connection**
- 3 **New Pre-assembled Electrical Connection**

#### Optimized Performance

- 4 **New High Flow Recovery Pump**
- 5 **New Digital Controller**
- 6 **New Multiple Tankless Options**

#### Multiple Sizes

- 7 **New 80 or 119-Gallon Tank Options**



### WHERE SMART PERFORMANCE MEETS QUICK INSTALLATION



- Optimized pump design for increased flow and faster recovery
- DuoSmart™ Digital Controller for precise temperature control and integrated recirculation – no aquastat needed
- Free system sizing with 100% guarantee

- Gas swivel flex line rotates 360° for 36", 180° radius connection to gas line
- Factory installed gas dirt leg
- Factory installed electrical access
- Lighter weight for easier handling
- Pre-assembled condensate drain



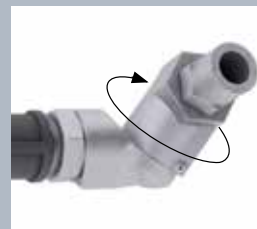
Pre-installed Electrical



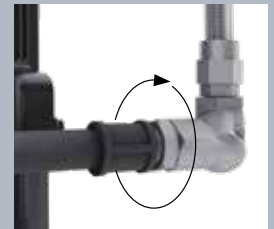
DuoSmart™ Digital Controller




High Flow Recovery Pump



Two-way Gas Line Rotation for Easy Installation



 SAVE TIME WITH FACTORY INSTALLED COMPONENTS	<b>\$250</b> EST. SAVINGS WITH FACTORY INSTALLED COMPONENTS
<b>551</b> UP TO 551 GALLONS FIRST HOUR DELIVERY @ 100°F Δ*	<b>33-46%</b> SMALLER FOOTPRINT, UP TO 46% SPACE SAVINGS**

When maximum performance and high efficiency are critical, the Rinnai Demand Duo H-Series Condensing Commercial Hybrid Water Heating System delivers. Customers never miss a beat with hot water, whether it's brief, high-spike draws or continuous, heavy use, day-in and day-out.

- Demand Duo 2V stacks tankless engines vertically – saves valuable commercial space
- Available in a wide range of Btu outputs and tank sizes
- ASME-certified tank (optional) list models
- Install without removing lower cover

**Info at a Glance**

- Warranty: heat exchanger – 8 years; tank – 6 years; parts – 5 years; labor – 1 year
- High altitude approved to 10,200 ft.
- BMS compatible
- Wi-Fi ready








Before



After / Demand Duo 2V

**DEMAND DUO H-SERIES SPECIFICATIONS | CONDENSING MODELS**

MODELS	DEMAND DUO™ 2 / 119 GAL				DEMAND DUO™ 119 GAL		DEMAND DUO™ 80 GAL		
									
Model	CHS398100H	CHS398100HV	CHS398100HVA***	CHS320100HV	CHS199100H	CHS160100H	CHS19980H	CHS16080H	CHS13080H
Part Number	CHS398100HIN/ CHS398100HIP	CHS398100HVIN/ CHS398100HVIP	CHS398100HVAIN/ CHS398100HVAIP	CHS320100HIN/ CHS320100HIP	CHS199100HIN/ CHS199100HIP	CHS160100HIN/ CHS160100HIP	CHS19980HIN/ CHS19980HIP	CHS16080HIN/ CHS16080HIP	*CHS13080HIN/ CHS13080HIP
Dimensions - w x h x d Inches (mm)	38.8 x 69.6 x 40.9 (986 x 1,769 x 1,040)		32.4 x 78.8 x 40.2 (823 x 2,001 x 1,021)		34.7 x 71.1 x 40.2 (883 x 1,805 x 1,021)		31.8 x 64.7 x 36 (809 x 1,643 x 914)		
Product Weight (lbs/kg)	530 / 240	530 / 240	530 / 240	530 / 240	431 / 195	429 / 195	307 / 139	305 / 138	305 / 138
Installation Type	Indoor				Indoor				
Storage Tank	119 Gallons				119 Gallons		80 Gallons		
Min/Max Input (1,000 Btu/h)	15 / 398	15 / 398	15 / 398	15 / 320	15 / 199	15 / 160	15 / 199	15 / 160	15 / 130
Thermal Efficiency (TE)	97%				97%				
Temperature Range	98°–185°F / 37–85°C				98°–185°F / 37–85°C				98°–140°F / 37–60°C
First Hour Delivery @ 100 °F ΔT*** (gph/ph)	551 / 2086	551 / 2086	551 / 2086	460 / 1741	317 / 1199	271 / 1025	290 / 1097	244 / 923	209 / 791
Recovery @ 100 °F ΔT (gph/ph)	459 / 1738	459 / 1738	459 / 1738	376 / 1423	234 / 885	188 / 711	234 / 885	188 / 711	153 / 579

\* Demand Duo 2 and 2V  
 \*\* Demand Duo 2V vs. two 200 Btu tanks in cubic ft.  
 \*\*\* Per test results from Rinnai testing lab based on storage volume and 70 percent usable hot water.  
 \*\*\*\* ASME Tank ©2020 Rinnai America

# Standard Efficiency Hybrid Technology Connects to 6" B-Vent. Simply Better.

The Demand Duo R-Series easily vents through existing 6" B-Vent, so you save installation time and costs. What's more, our patented technology delivers reliable performance, longer service life and lower total cost of ownership when compared to traditional atmospheric tanks.



### Installation Ease

- 1** New 6" B-Vent Exhaust Connector
- 2** New Pre-assembled Gas Connection
- 3** New Pre-assembled Electrical Connection

### Optimized Performance

- 4** New Digital Controller
- 5** New Certified Hybrid System Technology

### Multiple Sizes

- 6** New 80 or 119-Gallon Tank Options



**DuoSmart**<sup>TM</sup>  
TANK TECHNOLOGY



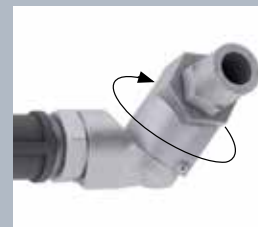
Intake Filter Exhaust Connector



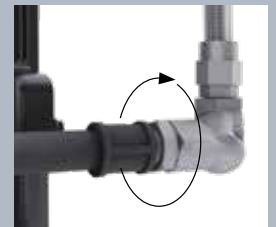
Pre-installed Electrical



DuoSmart<sup>TM</sup> Digital Controller



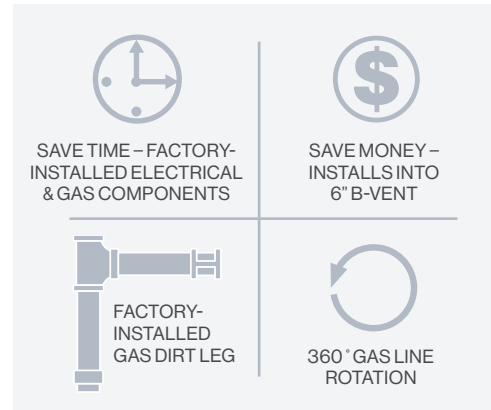
Two-way Gas Line Rotation for Easy Installation



# Cost-Saving Reliability That Installs Easily.



Tankless 1st-hour: 276 gph





When you need a quick, simple replacement for a traditional atmospheric tank, Rinnai's Demand Duo R-Series Commercial Hybrid Water Heating System produces consistent, reliable hot water in a cost-saving package.

- Vents into existing 6" B-Vent
- Eliminates new vent runs
- Cuts cost of additional venting material
- No new ceiling, roof or wall penetrations
- Easy to install, lighter than tanks

### Info at a Glance

- Warranty: heat exchanger – 8 years; tank – 6 years; parts – 5 years; labor – 1 year
- High altitude approved to 5,400 ft.
- Certification System: AHRI, ANSI, CSA
- Wi-Fi ready

## DEMAND DUO R-SERIES SPECIFICATIONS | NON-CONDENSING MODELS

	DEMAND DUO™ 100 GAL	DEMAND DUO™ 80 GAL
		
Model	CHS199100R	CHS19980R
Part Number	CHS199100RiN / CHS199100RiP	CHS19980RiN / CHS19980RiP
Dimensions - w x h x d Inches (mm)	32.9 x 71.3 x 38.1 (835.6 x 1811 x 967.7)	27.8 x 64.7 x 34.1 (706.1 x 1643.4 x 866.1)
Product Weight (lbs/kg)	455 / 208	320 / 145
Installation Type	Indoor	Indoor
Storage Tank	119 / 450	80 / 303
Min/Max Input (1,000 Btu/h)	22 / 199	22 / 199
Thermal Efficiency (TE)	80%	80%
Temperature Range	120°–180°F / 49°–82°C	120°–180°F / 49°–82°C
First Hour Delivery @ 100 °F ΔT* (gph/lph)	276 / 1045	249 / 942
Recovery @ 100 °F ΔT (gph/lph)	193 / 730	193 / 730

### Before



### After



Learn more at [rinnai.us](http://rinnai.us)



## Creating a Healthier Way of Living

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

**[rinnai.us](http://rinnai.us) | [rinnai.ca](http://rinnai.ca)**

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