



# CHS320100HVCXiN

INTERNAL (INDOOR)  
COMMERCIAL HYBRID SYSTEM

## Engineering Specifications

Commercial hybrid system shall include two Rinnai tankless CX160iN 160,000 BTU/hr condensing water heaters, storage tank with 119 gallon (450.4 liter) capacity, circulation pump and system controller. Controller shall have integrated circulation logic to control the circulation pump.

System shall include a pre-installed electrical junction box.

Tankless Water Heaters shall be condensing, gas fired, water heater design certified to the ANSI Z21.10.3 standard for gas fired water heaters.

Tankless Water Heaters shall have a residential energy star rating.

Tankless Water Heaters shall have a thermal efficiency of 97% and a Uniform Energy Factor of 0.97.

Tankless Water Heaters shall produce no more than 20 ppm NOx emissions when tested in accordance with the Rules and Regulations of the South Coast Air Quality Management District (SCAQMD).

Tankless Water Heaters shall be configured to operate with natural gas and a 120 volt/60 Hz AC power source.

Tankless Water Heaters shall have a combined BTU input range of 30,000 BTU/hr to 320,000 BTU/hr, and a maximum hot water outlet capacity of 18 gallons per minute (68.1 liter per minute) (with a 30°F (-1.11°C) temperature rise).

Tankless Water Heaters shall be microprocessor controlled and utilize a direct electronic ignition system (with no standing pilot), fully modulating gas control valve, turbine flow meter, automatic electro-mechanical water flow control valve, and water temperature thermistors to maintain outlet water temperature between  $\pm 2^{\circ}\text{F}$  (-17°C to -19°C) of set point temperature.

Tankless Water Heaters shall incorporate the following internal safety devices: flame failure lockout, boiling protection lockout, thermal overheat protection, internal freeze protection for ambient temperatures as low as -22°F (-30°C), and lockout protection in the event of a blocked flue.

Tankless Water Heaters shall be provided with a temperature thermostat with an adjustable set point range of 98°F (37°C) to 185°F (85°C).

Tankless Water Heaters shall also be capable of storing and displaying a history of up to nine diagnostic maintenance codes, via the display on the temperature thermostat controller.

Tankless Water Heaters shall have downward fired fiber mesh burners, solid brass water flow control valve, and solid brass inlet and outlet water connections.

Storage tanks shall have 119 gallon (450.4 liter) internal capacity and 2 in. (51 mm) thick uniform foam insulation. Inner tank shall be formulated with an enamel coating. Storage tank(s) shall have a test pressure of 300 PSI (21 bar) and working pressure of 150 PSI (10.3 bar). Storage tank(s) shall have 1-1/2 in. (38.1 mm) MNPT dielectric hot and cold water connections, pressure relieve valve, brass drain valve and dual magnesium anode rods.

Tankless Water Heaters shall have a primary stainless steel heat exchanger and a secondary stainless steel heat exchanger warranted against material defects or workmanship for a period of:

- 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

For full warranty details refer to water heater manual available at [www.rinnai.us](http://www.rinnai.us) or [www.rinnai.ca](http://www.rinnai.ca).

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Local, state, provincial, federal and national fuel gas codes must be adhered to prior to and upon installation.

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