

Ruud Commercial Condensing Tankless Water Heaters

Commercial Tankless Models



RUTGH-C95DVL (P)



RUTGH-C95XL (P)

Commercial Tankless Models with Manifold Control



RUTGH-CM95DVL (P)



RUTGH-CM95XL (P)

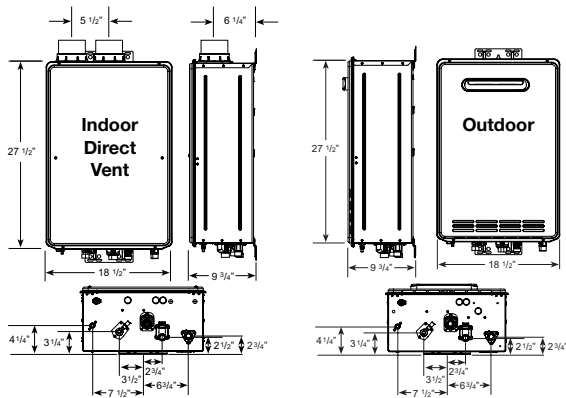


| Ruud Model Number | RUTGH-C95DVLN / RUTGH-CM95DVLN | | RUTGH-C95DVL / RUTGH-CM95DVL | | RUTGH-C95XLN / RUTGH-CM95XLN | | RUTGH-C95XLP / RUTGH-CM95XLP | |
|----------------------------------|---|--|---------------------------------|--|----------------------------------|--|---------------------------------|--|
| Operation / Installation | Forced Combustion / Indoor Only | | | | Forced Combustion / Outdoor Only | | | |
| Minimum/Maximum Gas Rate (Input) | 11,000 / 199,900 | | | | | | | |
| Approved Gas Types | Natural Gas | | Liquid Propane | | Natural Gas | | Liquid Propane | |
| Dimensions (Inches) | Height: 27-1/2 / Width: 18-1/2 / Depth: 9-3/4 / Weight: 82 Lbs. | | | | | | | |
| Maximum Altitude | 8,400 ft. | | | | | | | |
| Electrical | | | | | | | | |
| – Appliance | (120 VAC/60 Hz) | | | | | | | |
| – Temperature Controller | 12 V DC | | | | | | | |
| Ignition System | Direct Ignition | | | | | | | |
| Hot Water Capacity | | | | | | | | |
| – Minimum Activation Flow Rate | 0.4 | | | | | | | |
| – Min Flow Rate (Gpm) | 0.26 | | | | | | | |
| – Maximum Flow Rate | 9.5 | | | | | | | |
| Temperature | | | | | | | | |
| – Factory Default Range | 100°-120°F | | | | | | | |
| – Optional Range | 85°-185°F | | | | | | | |
| Temperature (without Remote) | 120°F | | | | | | | |
| Service Connections | | | | | | | | |
| – Gas Supply | 3/4" (19mm) MNPT | | | | | | | |
| – Cold Water Inlet | 3/4" (19mm) MNPT | | | | | | | |
| – Hot Water Outlet | 3/4" (19mm) MNPT | | | | | | | |
| Controller | UMC-117 | | | | | | | |
| Controller Cable | 18 AWG | | | | | | | |

Chart continued on reverse

Ruud Commercial Condensing Tankless Water Heaters Continued

| Ruud Model Number | RUTGH-C95DVLN / RUTGH-CM95DVLN | | RUTGH-C95DVLP / RUTGH-CM95DVLP | RUTGH-C95XLN / RUTGH-CM95XLN | RUTGH-C95XLP / RUTGH-CM95XLP |
|--|---|----------------------------------|------------------------------------|----------------------------------|---------------------------------|
| Safety Devices | | | | | |
| Clearances to Combustible and Noncombustable | *24 inches (610mm) recommended for service | | | | |
| – Top of Heater | 12" (30cm) | | | | |
| – Front of Heater | 12" (30cm) | | | | |
| – Sides of Heater | 0.5" (1.3cm) | | | | |
| – Back of Heater | 0" | | | | |
| – Bottom of Heater | 12" (30cm) | | | | |
| – From Vent Pipe | 0" | | | | |
| Min/Max Gas Supply Pressure | 4" wc (1.0kPa) / 10.5" wc (2.6kPa) | 8" wc (2.0kPa) / 13" wc (3.2kPa) | 4" wc (1.0kPa) / 10.5" wc (2.6kPa) | 8" wc (2.0kPa) / 13" wc (3.2kPa) | |
| Min/Max Water Supply Pressure | 14 psi (97kPa) / 150 psi (1035kPa) | | | | |
| NOx | Complies with South Coast Air Quality Management District 14 ng/J or 20 ppm NOx emission levels | | | | |
| Venting | | | | | |
| | Centrotherm PPs (polypropylene stabilized) | | | N/A | |
| | PVC (Schedule 40, ASTM D-1785) | | | N/A | |
| | CPVC (Schedule 40, ASTM) | | | N/A | |
| | ABS (Schedule 40, ASTM D-2661) | | | N/A | |
| Common Venting | Centrotherm PPs (polypropylene stabilized) | N/A | | N/A | |
| Power Venting (Room Air Intake) | Individual or Common Vent | Individual | | N/A | |
| Warranty | 5 Year Heat Exchanger / 5 Year Parts / 1 Year Labor | | | | |



Maximum Vent Length (air intake and exhaust) each:

| # OF WATER HEATERS | 6" COMMON VENT | 8" COMMON VENT | 10" COMMON VENT |
|--------------------|----------------|----------------|-----------------|
| 2 | 70' (21 m) | 100' (30 m) | 100' (30 m) |
| 3 | 50' (15 m) | 100' (30 m) | 100' (30 m) |
| 4 | 40' (12 m) | 100' (30 m) | 100' (30 m) |
| 5 | N/A | 100' (30 m) | 100' (30 m) |
| 6 | N/A | 78' (24 m) | 100' (30 m) |
| 7 | N/A | 55' (17 m) | 100' (30 m) |
| 8 | N/A | 43' (13 m) | 100' (30 m) |
| 9 | N/A | N/A | 100' (30 m) |
| 10 | N/A | N/A | 85' (26 m) |

Equivalent Vent Length:

| | 6" COMMON VENT | 8" COMMON VENT | 10" COMMON VENT |
|-----------------|----------------|----------------|-----------------|
| 87 Degree Elbow | 8.0' (2.4 m) | 5.0' (1.5 m) | 5.0' (1.5 m) |
| 45 Degree Elbow | 4.0' (1.2 m) | 2.5' (0.8 m) | 2.5' (0.8 m) |

NOTES:

- Tee Termination has same equivalent vent length as 87 Degree Elbow.
- The system may be vented horizontally through a wall or vertically through the roof.
- Header kits have already been counted and do not need to be added.
- Systems with 9-10 heaters can be vented in-line only.

Maximum Single Unit Vent Length (intake/outlet):

| NUMBER OF 90° ELBOWS | MAX. LENGTH OF 2" STRAIGHT PIPE | MAX. LENGTH OF 3" STRAIGHT PIPE | MAX. LENGTH OF 4" STRAIGHT PIPE |
|----------------------|---------------------------------|---------------------------------|---------------------------------|
| 0 or 1 | 5.0 ft. (1.5 m) | 38.0 ft. (11.6 m) | 94.0 ft. (28.6 m) |
| 2 | 3.5 ft. (1.0 m) | 36.5 ft. (11.1 m) | 88.0 ft. (26.8 m) |
| 3 | 2.0 ft. (0.6 m) | 35.0 ft. (10.6 m) | 82.0 ft. (25.0 m) |
| 4 | N/A | 33.5 ft. (10.2 m) | 76.0 ft. (23.2 m) |
| 5 | N/A | 32.0 ft. (9.8 m) | 70.0 ft. (21.3 m) |
| 6 | N/A | 30.5 ft. (9.3 m) | 64.0 ft. (19.5 m) |

(ULC-S636 pipe must be used for Canada.)

Tankless Multi-Unit Flow Rates

| Manifold QTY | Total System BTU Based on 199,900 Btu per Unit | Total System Gallons Per Minute (GPM) - Per Temperature Rise (ΔT) | | | | | | | | | | | | | |
|--------------|--|---|-------|-------|-------|-------|------|------|------|------|------|------|------|--|--|
| | | 35 | 45 | 50 | 60 | 70 | 77 | 80 | 90 | 100 | 110 | 120 | 140 | | |
| 1 | 199,900 | 9.5 | 8.4 | 7.5 | 6.3 | 5.4 | 4.9 | 4.7 | 4.2 | 3.8 | 3.4 | 3.1 | 2.7 | | |
| 2 | 399,800 | 19.0 | 16.7 | 15.0 | 12.5 | 10.7 | 9.8 | 9.4 | 8.4 | 7.5 | 6.8 | 6.3 | 5.4 | | |
| 3 | 599,700 | 28.5 | 25.1 | 22.5 | 18.8 | 16.1 | 14.6 | 14.1 | 12.5 | 11.3 | 10.2 | 9.4 | 8.1 | | |
| 4 | 799,600 | 38.0 | 33.4 | 30.1 | 25.1 | 21.5 | 19.5 | 18.8 | 16.7 | 15.0 | 13.7 | 12.5 | 10.7 | | |
| 5 | 999,500 | 47.5 | 41.8 | 37.6 | 31.3 | 26.8 | 24.4 | 23.5 | 20.9 | 18.8 | 17.1 | 15.7 | 13.4 | | |
| 6 | 1,199,400 | 57.0 | 50.1 | 45.1 | 37.6 | 32.2 | 29.3 | 28.2 | 25.1 | 22.5 | 20.5 | 18.8 | 16.1 | | |
| 7 | 1,399,300 | 66.5 | 58.5 | 52.6 | 43.8 | 37.6 | 34.2 | 32.9 | 29.2 | 26.3 | 23.9 | 21.9 | 18.8 | | |
| 8 | 1,599,200 | 76.0 | 66.8 | 60.1 | 50.1 | 42.9 | 39.0 | 37.6 | 33.4 | 30.1 | 27.3 | 25.1 | 21.5 | | |
| 9 | 1,799,100 | 85.5 | 75.2 | 67.6 | 56.4 | 48.3 | 43.9 | 42.3 | 37.6 | 33.8 | 30.7 | 28.2 | 24.2 | | |
| 10 | 1,999,000 | 95.0 | 83.5 | 75.2 | 62.6 | 53.7 | 48.8 | 47.0 | 41.8 | 37.6 | 34.2 | 31.3 | 26.8 | | |
| 11 | 2,198,900 | 104.5 | 91.9 | 82.7 | 68.9 | 59.1 | 53.7 | 51.7 | 45.9 | 41.3 | 37.6 | 34.4 | 29.5 | | |
| 12 | 2,398,800 | 114.0 | 100.2 | 90.2 | 75.2 | 64.4 | 58.6 | 56.4 | 50.1 | 45.1 | 41.0 | 37.6 | 32.2 | | |
| 13 | 2,598,700 | 123.5 | 108.6 | 97.7 | 81.4 | 69.8 | 63.4 | 61.1 | 54.3 | 48.9 | 44.4 | 40.7 | 34.9 | | |
| 14 | 2,798,600 | 133.0 | 116.9 | 105.2 | 87.7 | 75.2 | 68.3 | 65.8 | 58.5 | 52.6 | 47.8 | 43.8 | 37.6 | | |
| 15 | 2,998,500 | 142.5 | 125.3 | 112.7 | 94.0 | 80.5 | 73.2 | 70.5 | 62.6 | 56.4 | 51.2 | 47.0 | 40.3 | | |
| 16 | 3,198,400 | 152.0 | 133.6 | 120.3 | 100.2 | 85.9 | 78.1 | 75.2 | 66.8 | 60.1 | 54.7 | 50.1 | 42.9 | | |
| 17 | 3,398,300 | 161.5 | 142.0 | 127.8 | 106.5 | 91.3 | 83.0 | 79.9 | 71.0 | 63.9 | 58.1 | 53.2 | 45.6 | | |
| 18 | 3,598,200 | 171.0 | 150.3 | 135.3 | 112.7 | 96.6 | 87.9 | 84.6 | 75.2 | 67.6 | 61.5 | 56.4 | 48.3 | | |
| 19 | 3,798,100 | 180.5 | 158.7 | 142.8 | 119.0 | 102.0 | 92.7 | 89.3 | 79.3 | 71.4 | 64.9 | 59.5 | 51.0 | | |
| 20 | 3,998,000 | 190.0 | 167.0 | 150.3 | 125.3 | 107.4 | 97.6 | 94.0 | 83.5 | 75.2 | 68.3 | 62.6 | 53.7 | | |

In keeping with its policy of continuous progress and product improvement, Ruud reserves the right to make changes without notice.



Suggested Specifications

RUTGH-C95DVLN, RUTGH-C95DVLP, RUTGH-C95XLN, or RUTGH-C95XLP

The fully modulating, on-demand, condensing gas fired tankless water heater(s) shall be Ruud models RUTGH-C95DVLN, RUTGH-C95DVLP, RUTGH-C95XLN, or RUTGH-C95XLP, having an input rating of 11,000 BTU/h through 199,900 BTU/h and available in NG or LP. The heater(s) shall have ¾ in. male NPT water and gas connections. The heater(s) shall have a minimum flow rate of 0.26 GPM and an activation rate of 0.40 GPM. An integrated condensate neutralizer will be included with every unit. The inlet gas supply pressures shall be 4.0 in. WC (min.) up to 10.5 in. WC (max) for NG and 8.0 in. WC (min.) up to 13 in. WC (max.) for LP. The heater(s) shall be factory supplied with a manual gas shutoff valve, a pressure relief valve, 2 water service valves and a temperature remote, RTG20006, that can be installed up to 195 ft. from the heater using 18 gauge type T (minimum) control wire. The temperature remote shall provide diagnostic information, fault history, and heater set temperature with a minimum set water temperature of 85°F and maximum set water temperature of 185°F. The heater(s) shall operate using 120 V / 60 Hz power source. The heater(s) will incorporate a factory installed power cord (indoor models only).

The indoor heater(s) shall be vented with 2", 3" or 4" diameter PVC schedule 40, CPVC schedule 40, CentroTherm PPs or ABS (U. S. only) with a length not to exceed 5 ft. (equivalent) for 2", 38 ft. (equivalent) for 3" vent or 94 ft. (equivalent) for 4" vent, terminating horizontally or vertically. The intake pipe may use material such as PVC, ABS, PP, or aluminum and cannot exceed 5 ft. (equivalent) for 2", 38 ft. (equivalent) for 3" vent or 94 ft. (equivalent) for 4" vent. For single vent applications the heater can use room make up air. RUTGH-C95DVLN or RUTGH-CM95DVLN can be common vented with up to 8 units in-line with an 8" diameter trunk line. The outdoor heater(s) shall be constructed with an integral exhaust vent on the front of the heater.

The water heater(s) shall use a copper, fin tube primary heat exchanger. The secondary heat exchanger shall be constructed from stainless steel 316L. The heater(s) shall be controlled by an on-board solid-state printed circuit board which uses the following factory installed components: thermistors to monitor water inlet and outlet temperatures and heat exchanger temperature; a flow sensor to measure flow rate; flame rods to monitor flame is on or off and if oxygen level is appropriate. The heater shall include in-line fusing for electrical surge protection, an electronic igniter coil, aluminized stainless steel burners, Guardian OFW overheat film wrap, heat exchanger thermistor and outlet thermistor to work as high limit switch, modulating gas valve, and ambient thermistor.

The heaters can manifold controls to EZ-Link up to 2 heaters to provide additional capacity. The EZ-Link controls shall be built onto the on-board solid-state printed circuit board and does not require external controls. The heaters can use a MIC-6 controller, RTG20213A, to manifold 2-6 heaters or a MIC-185 controller, RTG20126A & RTG20126B, to manifold 2-20 heaters. The EZ-Link, MIC-6, or MIC-185 controls shall modulate the system for the most efficient performance and rotate the initial heater for balanced duty/cycle operation. The heater(s) shall be CSA approved for sale in the United States and Canada, with a Thermal Efficiency of 96% for Indoor and 95% for Outdoor units, meets the energy efficiency requirements of the U.S. Department of Energy and ASHRAE 90.1-2007, and complies with Ultra-Low NOx emissions of 14 ng/J or 20 ppm.

Suggested Specifications

RUTGH-CM95DVLN, RUTGH-CM95DVLP, RUTGH-CM95XLN, or RUTGH-CM95XLP

The fully modulating, on-demand, condensing gas fired tankless water heater(s) shall be Ruud models RUTGH-CM95DVLN, RUTGH-CM95DVLP, RUTGH-CM95XLN, or RUTGH-CM95XLP

Same as non-manifold ready (see above) until 4th paragraph

The manifold ready heaters can manifold controls to EZ-link up to 20 heaters to provide additional capacity. Each manifold ready heater shall include a factory installed control module and the control cable shall be included with the units. The heaters controls shall modulate the system for the most efficient performance and rotate the initial heater for balanced duty/cycle operation. The heater(s) shall be CSA approved for sale in the United States and Canada, ENERGY STAR® qualified with a minimum Thermal Efficiency of 96% for Indoor and 95% for Outdoor units, meets the energy efficiency requirements of the U. S. Department of Energy and ASHRAE 90.1-2007, and complies with Ultra-Low NOx emissions of 14 ng/J or 20 ppm.

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