

Proven **PERFORMANCE.**  
Unmatched **SAVINGS.**  
Sustainable **SOLUTION.**

**Ruud® Commercial Heat Pump  
Water Heaters (Split System)**



*These products meet a stringent  
set of our company's internally defined  
sustainability standards.*





# Super Efficient, Surprisingly Versatile, Smart Decision

Ruud® Commercial Heat Pump Split Systems use heat extracted from the air and transfer it to water, so there's no need to choose between sustainability goals and the hot water needed for the business to operate. Although Ruud Commercial Heat Pump Systems are a relatively new option in the North American market, they've been helping businesses in Australia save energy, save money, and reduce their carbon footprint for more than a decade.

Whether you're interested in its super high efficiency design for saving money, reducing impact on the environment or positively contributing to regional decarbonization goals, Ruud® Commercial Heat Pumps are an ideal choice.





# Sustainability, Savings and So Much More

Ruud® Commercial Heat Pumps deliver business advantages that go on and on.

## SUSTAINABILITY

**Super High Efficiency** – Exceeds 4.0 coefficient of performance (COP) at 80°F ambient and 60% relative humidity using less energy than electric, natural gas or propane water heaters. 135k BTU models are ENERGY STAR® certified

**Decarbonization** – No fossil fuel consumption and zero combustion emissions

**Improved Building Ratings** – Ideal for green building programs and increased efficiency ratings like LEED

**Building Energy Compliance** – Supports requirements set forth in legislative bills SB 350, AB 758, SB 1477, AB 3232

## SAVINGS

**Energy Savings** – Super high energy efficiency with over 70% energy savings compared to gas or electric resistance heating\*

**Decarbonization Incentive Eligibility** – Available rebates, incentives and tax credits offset initial capital costs

**High ROI** – Save upfront with rebates and incentives, and continue to save with energy cost savings

**Low Maintenance** – With minimum moving parts, routine maintenance is fast and inexpensive

## PROVEN PERFORMANCE

**Proven Performance** – While new in the US, this Ruud solution has been used in Australia's challenging environments for over a decade

**Suits Most Mild Climates** – The heat pump will efficiently perform in ambient temperatures down to 40F. For colder days, it includes an auxiliary boost mode and auto defrost

**Exceptional Durability** – High quality components and epoxy-coated evaporator coils provide protection in corrosive environments. Rated for marine environments

## FLEXIBLE INSTALLATION & SERVICE

**Multiple Install Options** – Reduced System footprint with stackable. Horizontal and Vertical exhaust options can be installed indoors or outdoors

**Design Customization** – Single or multiple heat pumps and storage units easily meet the facility performance and layout requirements

**Faster Servicing** – The control panel provides on board diagnostics, system configuration and optional high level BMS connectivity via Modbus or BACnet

\*Rating Conditions: 80°F ambient, 60% RH, 110°F Water in, 120°F Water out. Tested in accordance with ASHRAE 118.1-2012. Ratings as per 10 CFR Appendix E to Subpart G of Part 431



# How it Works

- 1 When there is a call for hot water, the evaporator fans, compressor and water pump activate.

- 2 Evaporator fans draw air through air inlet and over the evaporator.

- 3 As warm air passes over the evaporator coils, low temperature refrigerant absorbs the heat from the air.

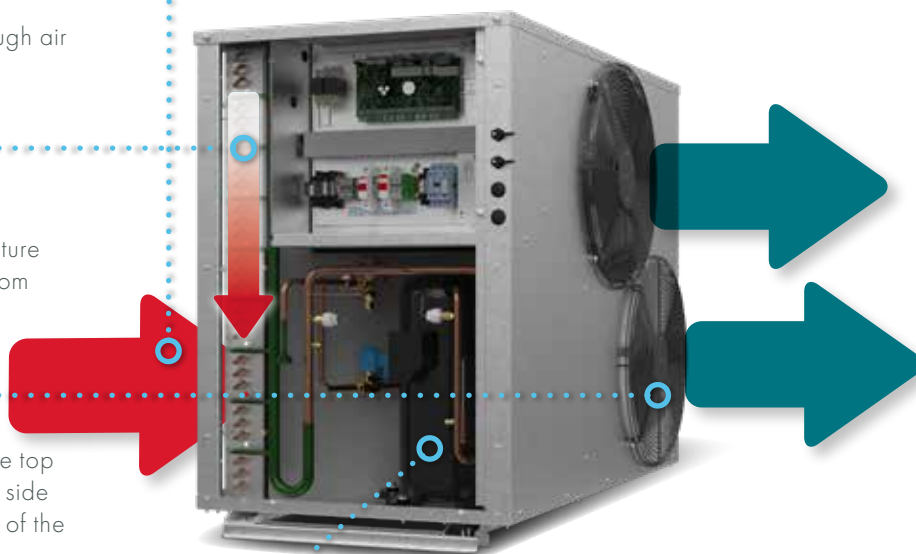
- 4 Cooled air is exhausted via the top (vertical discharge models) or side (horizontal discharge models) of the heat pump.

- 5 The compressor increases the temperature of the refrigerant and pumps refrigerant vapor out to the heat exchanger and around the refrigerant system.

- 6 Water pump pulls cold water from the storage tanks to the inlet connection.

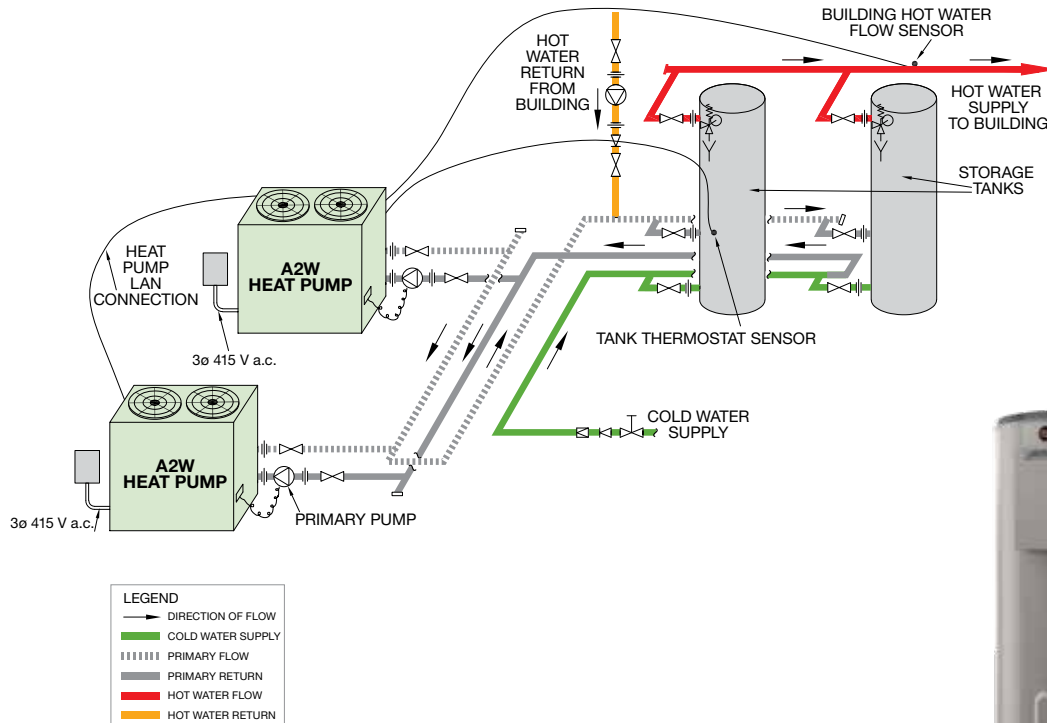
- 7 The heat exchanger heats cold inlet water with refrigerant vapor.

- 8 Hot water is then pumped out to the storage tanks.



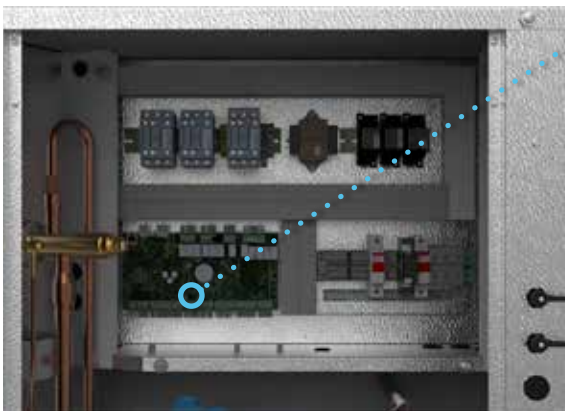


# Typical Installation



## Accessories – HPHD-60 and HPHD-135 Models

| Pump                           | BMS Card                                      | LAN Cable | Tank Options                                      |
|--------------------------------|---|-----------|---|
| AP22760A CM 3-2<br>(60K BTU)   | 17412 BACNET MS/ TP over RS485                | 19616     | ST Models – Storage<br>E Models – Electric backup |
| AP22760B CM 10-1<br>(135K BTU) | 17447 PCOWEB SE Ethernet<br>Card IP Protocols |           |   |
|                                | 17414 PCOS004850 Serial Card                  |           |   |



### BMS Connectivity

Ruud Commercial Heat Pumps can be connected to a customer's Building Management System (BMS) or Building Automation System (BAS) via an interface card. Modbus or BACnet interface cards are available as accessories.

With this feature, the system is discoverable and can be remotely monitored and managed, making it easy for facility managers to receive equipment alarms on their dashboard and dispatch maintenance as needed.



## Air to Water 60k BTU/h Heat Pump Specifications

| Ruud Model Number                            | HPHD-60HNU-201<br>(Horizontal)     |                | HPHD-60VNU-201<br>(Vertical) |                |
|--|------------------------------------|----------------|------------------------------|----------------|
| ELECTRICAL INPUT                             |                                    |                |                              |                |
| Voltage/Phase                                | 208/240 Volt/ 1 Phase / 60 Hz      |                |                              |                |
| Full Load / Locked Rotor<br>(Amps Per Phase) | 29.5 FLA / 176 LRA                 |                |                              |                |
| Min. Circuit Amperage                        | 40 Amps                            |                |                              |                |
| Refrigerant                                  | R134a                              |                |                              |                |
| Heating Capacity, BTU/hr                     | Up to 84,752                       |                |                              |                |
| Power Input, kW                              | 5.2                                |                |                              |                |
| COP  | Up to 6.13                         |                |                              |                |
| Noise Level, dBA @ 10ft                      | 54                                 |                |                              |                |
| Rated Load Amps @ 54°F SST /<br>113°F SCT    | 22.6                               |                |                              |                |
| TECHNICAL DATA                               |                                    |                |                              |                |
|  | Compressor                         | Fan            | Compressor                   | Fan            |
| Type   | Scroll                             | Axial          | Scroll                       | Axial          |
| Number Per Unit                              | 1                                  | 2              | 1                            | 2              |
| FLA (Full Load Amps, each)                   | 27.3                               | 1.06           | 27.3                         | 1.06           |
| Voltage / Phase                              | 208/240v / 1 P                     | 208/240v / 1 P | 208/240v / 1 P               | 208/240v / 1 P |
| Pole/RPM                                     | 2/3500                             | 6/1060         | 2/3500                       | 6/1060         |
| Air Flow, CFM                                | N/A                                | 1695 (Per Fan) | N/A                          | 1695 (Per Fan) |
| Max. Static Pressure for Ducting             | .08" W.C.                          |                |                              |                |
| HEAT EXCHANGER (Water Side)                  |                                    |                |                              |                |
| Type of Water Tube                           | Double Wall - 316L Stainless Steel |                |                              |                |
| Design                                       | Vented Brazed Plate                |                |                              |                |
| Flow Rate Excl. By Pass, gpm                 | 17.4                               |                |                              |                |
| Max. Outlet Water Temp, °F                   | 150                                |                |                              |                |
| Design Pressure Drop, PSI                    | 4.8                                |                |                              |                |
| Max. Operating Pressure, PSI                 | 145                                |                |                              |                |
| GENERAL INFORMATION                          |                                    |                |                              |                |
| Water Connections                            | 1-1/4" Copper                      |                |                              |                |
| Drain  | 3/4" Aluminium                     |                |                              |                |
| Defrost                                      | Hot Gas Injection                  |                |                              |                |
| Cabinet Construction                         | 18 Gauge Stucco Aluminium          |                |                              |                |
| Approx. Shipping Weight, lbs                 | 500                                |                |                              |                |
| Size L x W x H                               | 49.2" x 27.2" x 38.7"              |                | 49.2" x 26.2" x 39.8"        |                |

## Performance Table

| WATER<br>OUT °F | AMBIENT TEMPERATURE |        |        |        |        |        |        |        | UNITS  |
|-----------------|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|
|                 | 40°F                | 50°F   | 60°F   | 70°F   | 80°F   | 90°F   | 100°F  | 110°F  |        |
| 100°F           | 44,057              | 49,866 | 57,130 | 62,806 | 67,307 | 78,937 | 81,845 | 84,752 | BTU/hr |
|                 | 3.01                | 3.42   | 3.85   | 4.26   | 4.65   | 5.14   | 5.64   | 6.13   | COP    |
| 110°F           | 41,267              | 47,617 | 55,059 | 61,310 | 66,667 | 77,383 | 80,062 | 82,741 | BTU/hr |
|                 | 2.98                | 3.32   | 3.67   | 4.01   | 4.33   | 4.74   | 5.15   | 5.56   | COP    |
| 120°F           | 38,477              | 45,369 | 52,988 | 59,813 | 65,031 | 76,194 | 78,985 | 81,776 | BTU/hr |
|                 | 2.96                | 3.22   | 3.50   | 3.77   | 3.76   | 4.23   | 4.70   | 5.17   | COP    |
| 130°F           | 35,687              | 43,120 | 50,917 | 58,316 | 64,917 | 73,934 | 76,188 | 78,442 | BTU/hr |
|                 | 2.93                | 3.13   | 3.33   | 3.52   | 3.57   | 3.82   | 4.08   | 4.33   | COP    |
| 140°F           | 32,897              | 40,872 | 48,846 | 56,820 | 64,784 | 72,768 | 74,762 | 76,755 | BTU/hr |
|                 | 2.90                | 3.03   | 3.15   | 3.28   | 3.40   | 3.52   | 3.65   | 3.77   | COP    |
| 150°F           | N/A                 | 38,623 | 46,775 | 55,323 | 64,737 | 71,599 | 73,314 | 75,030 | BTU/hr |
|                 |                     | 2.93   | 2.98   | 3.03   | 3.28   | 3.30   | 3.32   | 3.34   | COP    |

## Installation Clearances

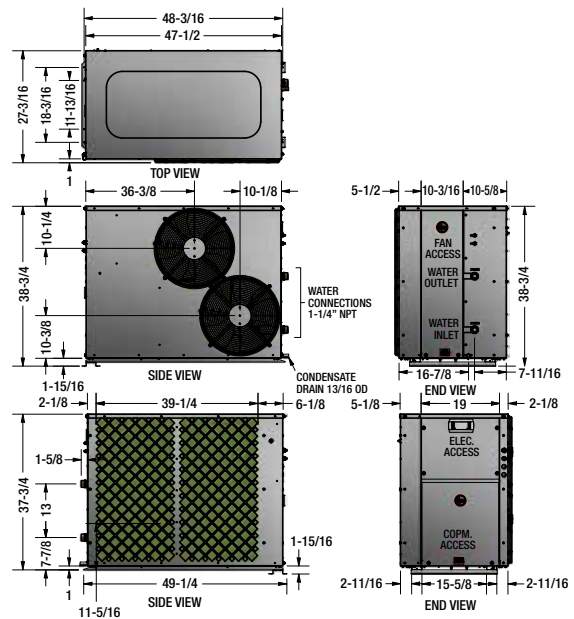
| Sides                   | 60K BTU  |
|-------------------------|--|
| Evap Coil Side          | 20"  |
| Back (Vert. Discharge)  | Nil  |
| Back (Horiz. Discharge) | 47"  |
| Display Side            | 34"  |
| Water Conn. Side        | 20"  |
| Top (Vert. Discharge)   | 47"  |
| Top (Horiz. Discharge)  | Clearance above unit<br>required for service<br>personnel to stand |

## Unit Clearances

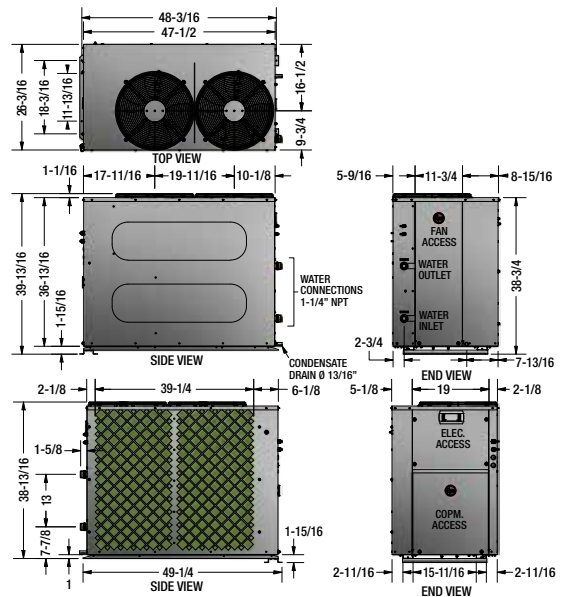
| Direction | Description                | Minimum Clearance Required |          |
|-----------|----------------------------|----------------------------|----------|
|           |                            | Horizontal                 | Vertical |
| A         | Evaporator Coil            | 20"                        |          |
| B         | Water Connections          | 20"                        |          |
| C         | Horizontal - Fan Discharge | 47"                        | Nil      |
| D         | Compressor Access          | 34"                        |          |
| E         | Top - Fan Discharge        | 20"                        | 47"      |

When units are placed side by side, allow at least 40" between evaporator coils.  
Rating Conditions: 80°F ambient, 60% RH, 110°F Water in, 120°F Water out. Tested in accordance  
with ASHRAE 118.1-2012. Ratings as per 10 CFR Appendix E to Subpart G of Part 431

### HPHD-60HNU-201 (Horizontal)



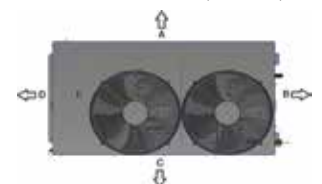
### HPHD-60VNU-201 (Vertical)



### HPHD-60HNU-201 (Horizontal)



### HPHD-60VNU-201 (Vertical)



## Air to Water 135k BTUh Heat Pump Specifications

| Ruud Model Number                            | HPHD-135HNU-483<br>(Horizontal)    |                | HPHD-135VNU-483<br>(Vertical) |                |
|--|------------------------------------|----------------|-------------------------------|----------------|
| ELECTRICAL INPUT                             |                                    |                |                               |                |
| Voltage/Phase                                | 480 Volts / 3 Phase / 60 Hz        |                |                               |                |
| Full Load / Locked Rotor<br>(Amps Per Phase) | 26.9 FLA / 150 LRA                 |                |                               |                |
| Min. Circuit Amperage                        | 35 Amps                            |                |                               |                |
| Refrigerant                                  | R134a                              |                |                               |                |
| Heating Capacity, BTU/hr                     | Up to 196,508                      |                |                               |                |
| Power Input, kW                              | 12.3                               |                |                               |                |
| COP  | Up to 5.60                         |                |                               |                |
| Noise Level, dBA @ 10ft                      | 62                                 |                |                               |                |
| Rated Load Amps @ 54°F SST /<br>113°F SCT    | 21.9                               |                |                               |                |
| TECHNICAL DATA                               |                                    |                |                               |                |
|  | Compressor                         | Fan            | Compressor                    | Fan            |
| Type   | Scroll                             | Axial          | Scroll                        | Axial          |
| Number Per Unit                              | 1                                  | 2              | 1                             | 2              |
| FLA (Full Load Amps, each)                   | 23.7                               | 1.6            | 23.7                          | 1.6            |
| Voltage / Phase                              | 480 / 3                            | 480 / 3        | 480 / 3                       | 480 / 3        |
| Pole/RPM                                     | 2/3500                             | 6/1065         | 2/3500                        | 6/1065         |
| Air Flow, CFM                                | N/A                                | 6144 (Per Fan) | N/A                           | 6144 (Per Fan) |
| Max. Static Pressure for Ducting             | .08" W.C.                          |                |                               |                |
| HEAT EXCHANGER (Water Side)                  |                                    |                |                               |                |
| Type of Water Tube                           | Double Wall - 316L Stainless Steel |                |                               |                |
| Design                                       | Vented Brazed Plate                |                |                               |                |
| Flow Rate Excl. By Pass, gpm                 | 34.9                               |                |                               |                |
| Max. Outlet Water Temp, °F                   | 150                                |                |                               |                |
| Design Pressure Drop, PSI                    | 5.8                                |                |                               |                |
| Max. Operating Pressure, PSI                 | 145                                |                |                               |                |
| GENERAL INFORMATION                          |                                    |                |                               |                |
| Water Connections                            | 2" Copper                          |                |                               |                |
| Drain  | 3/4" Aluminium                     |                |                               |                |
| Defrost                                      | Hot Gas Injection                  |                |                               |                |
| Cabinet Construction                         | 18 Gauge Stucco Aluminium          |                |                               |                |
| Approx. Shipping Weight, lbs                 | 800                                |                |                               |                |
| Size L x W x H                               | 73.1" x 36.6" x 48.0"              |                | 73.1" x 31.8" x 53.8"         |                |

## Performance Table

| WATER<br>OUT °F | AMBIENT TEMPERATURE |         |         |         |         |         |         |         | UNITS  |
|-----------------|---------------------|---------|---------|---------|---------|---------|---------|---------|--------|
|                 | 40°F                | 50°F    | 60°F    | 70°F    | 80°F    | 90°F    | 100°F   | 110°F   |        |
| 100°F           | 98,398              | 110,187 | 121,986 | 133,329 | 143,606 | 175,748 | 186,128 | 196,508 | BTU/hr |
|                 | 3.34                | 3.54    | 3.74    | 3.97    | 4.27    | 5.09    | 5.34    | 5.60    | COP    |
| 110°F           | 96,532              | 107,240 | 117,948 | 129,300 | 142,153 | 174,023 | 184,612 | 195,201 | BTU/hr |
|                 | 2.76                | 3.03    | 3.30    | 3.59    | 3.92    | 4.58    | 4.86    | 5.13    | COP    |
| 120°F           | 96,184              | 106,935 | 117,687 | 128,787 | 140,701 | 161,898 | 176,735 | 191,571 | BTU/hr |
|                 | 2.77                | 2.92    | 3.06    | 3.26    | 3.57    | 4.08    | 4.37    | 4.66    | COP    |
| 130°F           | 94,907              | 105,488 | 116,069 | 126,896 | 138,298 | 157,661 | 173,249 | 188,837 | BTU/hr |
|                 | 2.50                | 2.64    | 2.78    | 2.95    | 3.23    | 3.63    | 3.96    | 4.28    | COP    |
| 140°F           | 93,631              | 104,040 | 114,450 | 125,004 | 135,894 | 153,458 | 169,781 | 186,103 | BTU/hr |
|                 | 2.24                | 2.36    | 2.49    | 2.65    | 2.89    | 3.18    | 3.54    | 3.90    | COP    |
| 150°F           | N/A                 | 102,172 | 109,994 | 118,472 | 128,482 | 141,953 | 163,580 | 185,208 | BTU/hr |
|                 |                     | 1.82    | 1.96    | 2.12    | 2.31    | 2.54    | 3.12    | 3.70    | COP    |

## Installation Clearances

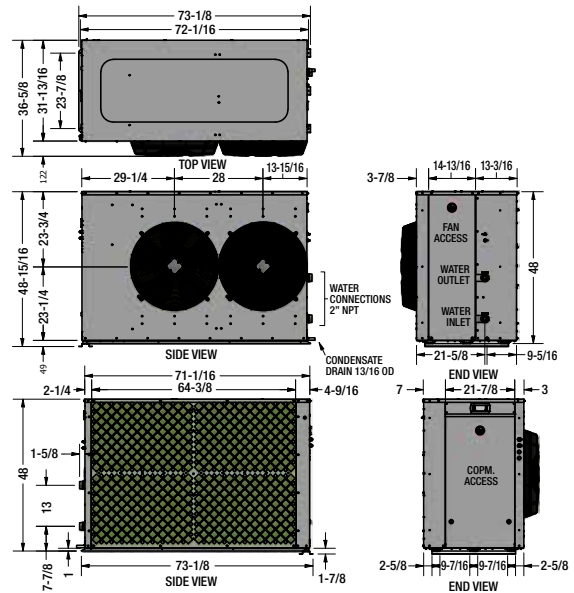
| Sides                   | 135K BTU   |
|-------------------------|--|
| Evap Coil Side          | 40"  |
| Back (Vert. Discharge)  | Nil  |
| Back (Horiz. Discharge) | 78"  |
| Display Side            | 34"  |
| Water Conn. Side        | 24"  |
| Top (Vert. Discharge)   | 79"  |
| Top (Horiz. Discharge)  | Clearance above unit<br>required for service<br>personnel to stand |

## Unit Clearances

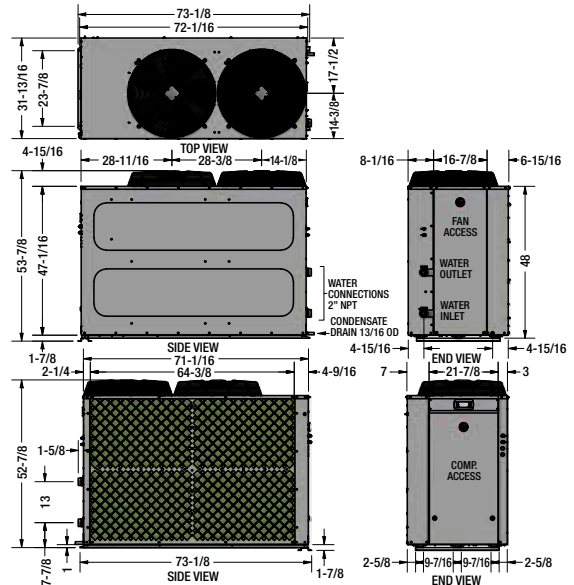
| Direction | Description                | Minimum Clearance Required |          |
|-----------|----------------------------|----------------------------|----------|
|           |                            | Horizontal                 | Vertical |
| A         | Evaporator Coil            | 40"                        |          |
| B         | Water Connections          | 24"                        |          |
| C         | Horizontal - Fan Discharge | 78"                        | Nil      |
| D         | Compressor Access          | 34"                        |          |
| E         | Top - Fan Discharge        | 20"                        | 79"      |

When units are placed side by side, allow at least 40" between evaporator coils.  
Rating Conditions: 80°F ambient, 60% RH, 110°F Water in, 120°F Water out. Tested in accordance  
with ASHRAE 118.1-2012. Ratings as per 10 CFR Appendix E to Subpart G of Part 431

### HPHD-135HNU-483 (Horizontal)



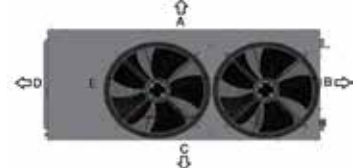
### HPHD-135VNU-483 (Vertical)



### HPHD-135HNU-483 (Horizontal)



### HPHD-135VNU-483 (Vertical)





# Why Ruud Commercial?

Behind every product solution is the support of Ruud commercial experts. Ruud will be with customers every step of the way through application and design, install, start up, maintenance and service—for an unmatched experience.



## Sizing Support Application Engineers

Ruud Applications Engineers are standing by to help you determine the right solution for your next project—get help with specifying products and proactive replacements for location layouts

## Installation, Start-up & Technical Support

Training, technical assistance and easily accessible live support when you need help



## Stocked Solution

Units and system parts are stocked and available through distributor locations in California and Utah, ensuring quick turnaround on orders, getting you what you need in days versus months

## Contractor Network

Our network is trained in every aspect of our commercial heat pump product from application to technical support and servicing



Learn more about Ruud Commercial Heat Pump Solutions at  
**[Ruud.com/CommercialHPWH](https://Ruud.com/CommercialHPWH)**

To get in touch with our sizing pros, go to:  
**[rheem.com/application-form](https://rheem.com/application-form)**

