

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

Richmond®
Commercial Heat Pump
Water Heaters (Split System)



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

Richmond®
The Water Heater Experts™

Super Efficient, Surprisingly Versatile, Smart Decision

Richmond® 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 Richmond 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, Richmond® Commercial Heat Pumps are an ideal choice.



Sustainability, Savings and So Much More

Richmond® 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 Richmond 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

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.

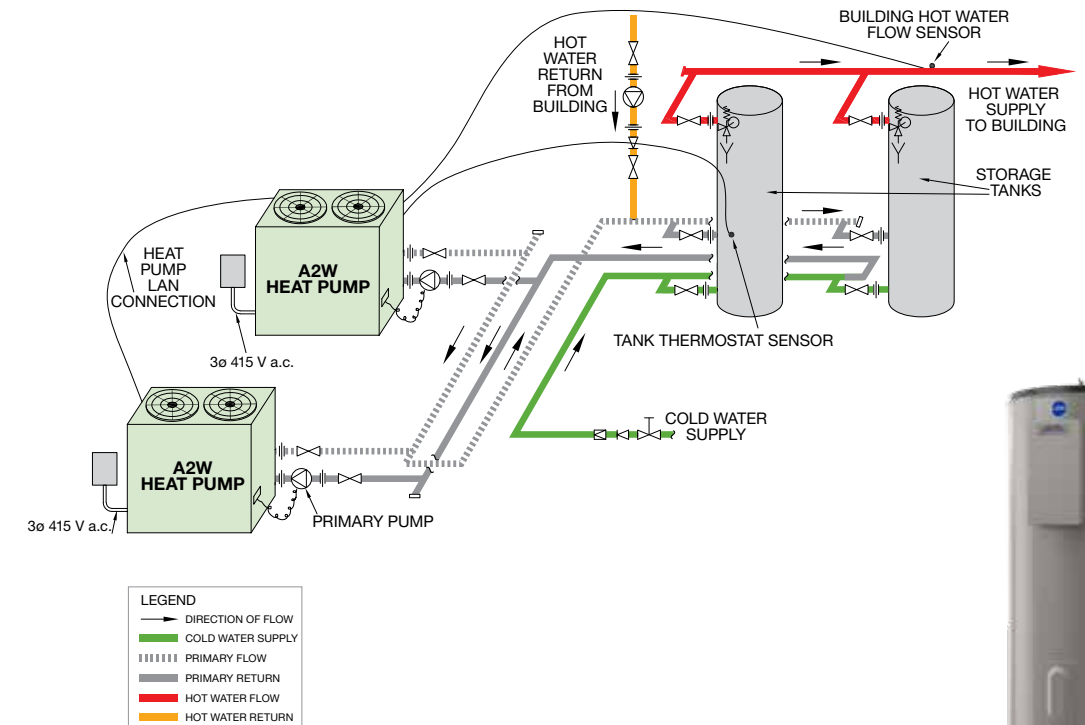
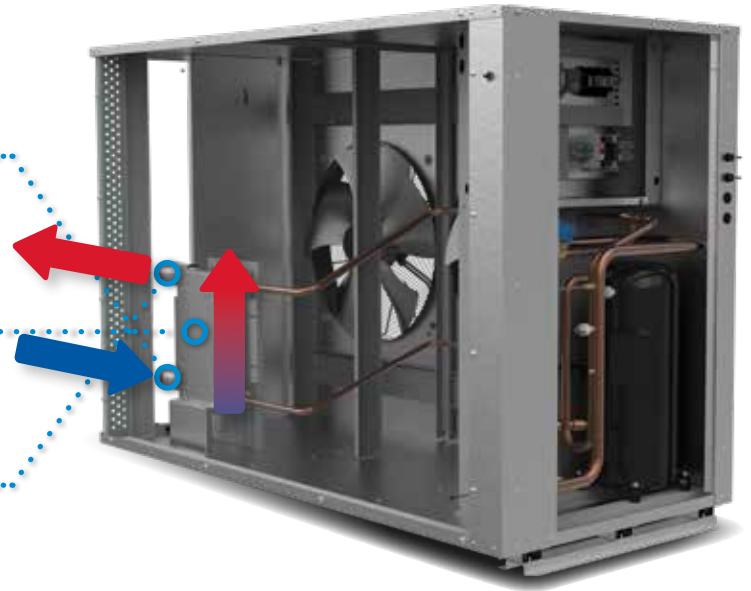
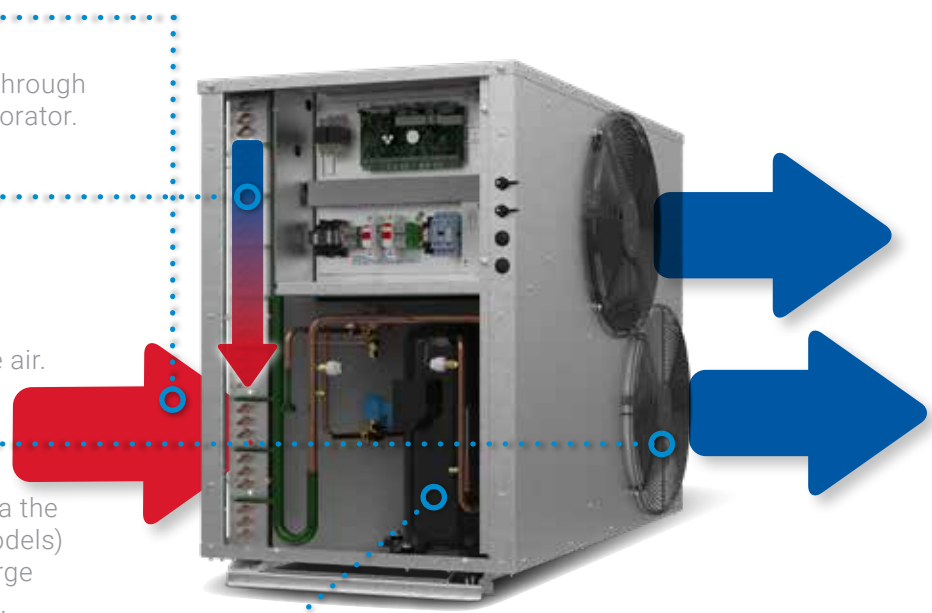
4 Cooled air is exhausted via the top (vertical discharge models) or side (horizontal discharge models) of the heat pump.

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.

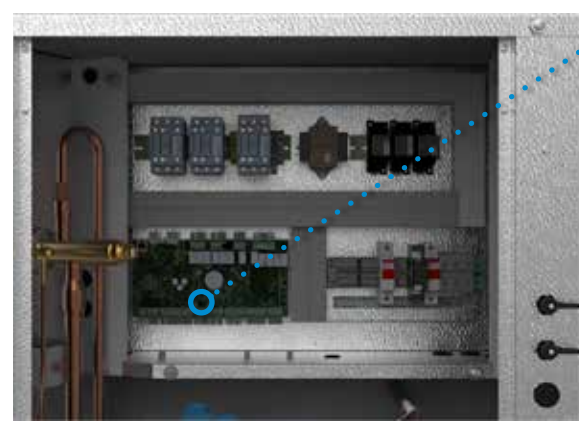
7 The heat exchanger heats cold inlet water with refrigerant vapor.

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



Accessories – HPHD-60 and HPHD-135 Models

Pump	BMS Card	LAN Cable	Tank Options
AP22760A CM 3-2 (60K BTU)	17412 BACNET MS/ TP over RS485	19616	ST Models – Storage E Models – Electric backup
AP22760B CM 10-1 (135K BTU)	17447 PCOWEB SE Ethernet Card IP Protocols	17615	
	17414 PCOS004850 Serial Card		

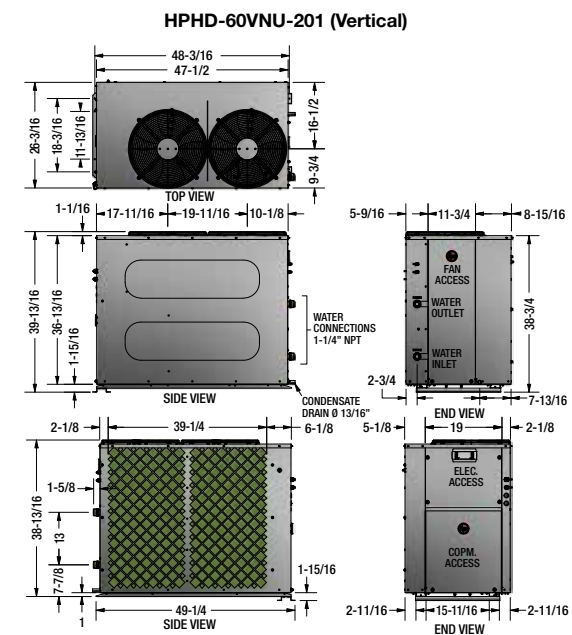
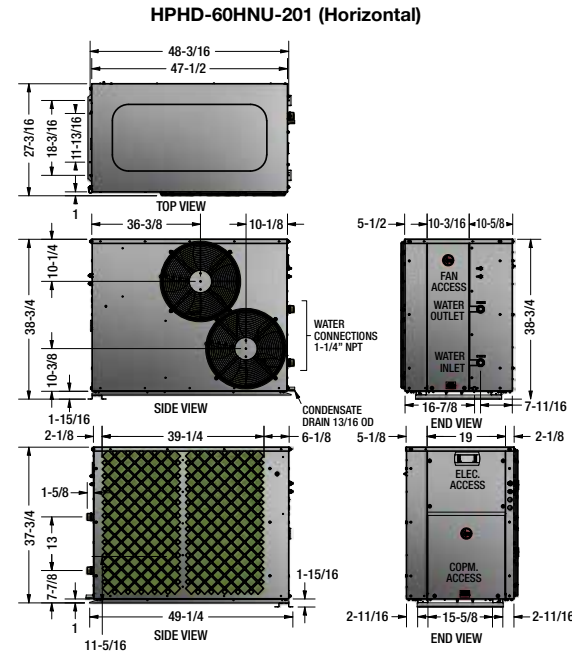


BMS Connectivity
Richmond Commercial Heat Pumps can be connected to a customer's Building Management System (BMS) or Building Automation System (BAS) via an interface card. Modbus or BACnet interface cards are available as accessories.

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 Heat Pump Specifications

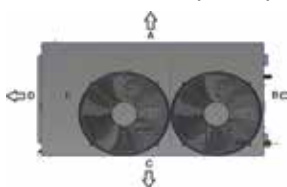
Richmond Model Number	HPHD-60HNU-201 (Horizontal)	HPHD-60VNU-201 (Vertical)		
ELECTRICAL INPUT				
Voltage/Phase	208/240 Volt / 1 Phase / 60 Hz			
Full Load / Locked Rotor (Amps Per Phase)	29.5 FLA / 176 LRA			
Min. Circuit Amperage	40 Amps			
Refrigerant	R134a			
Heating Capacity, BTU/hr	Up to 84,752			
Power Input, kW	5.2			
COP	Up to 6.13			
Noise Level, dBA @ 10ft	54			
Rated Load Amps @ 54°F SST / 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"	



HPHD-60HNU-201 (Horizontal)



HPHD-60VNU-201 (Vertical)



Performance Table

WATER 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	4.03	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	3.73	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 required for service personnel to stand

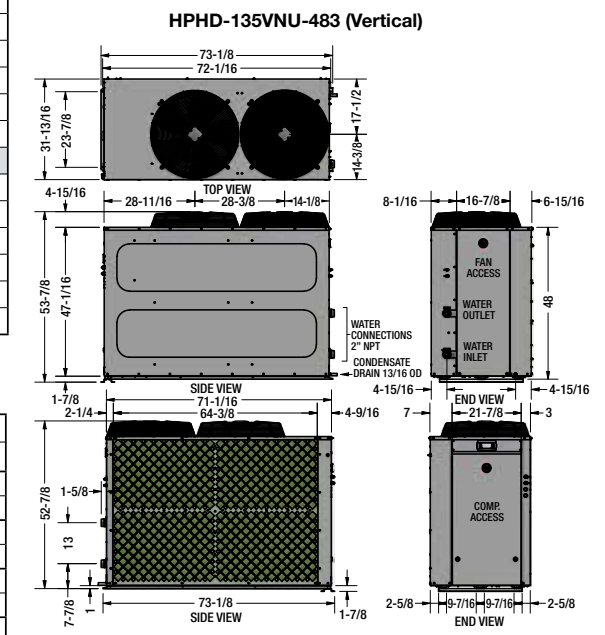
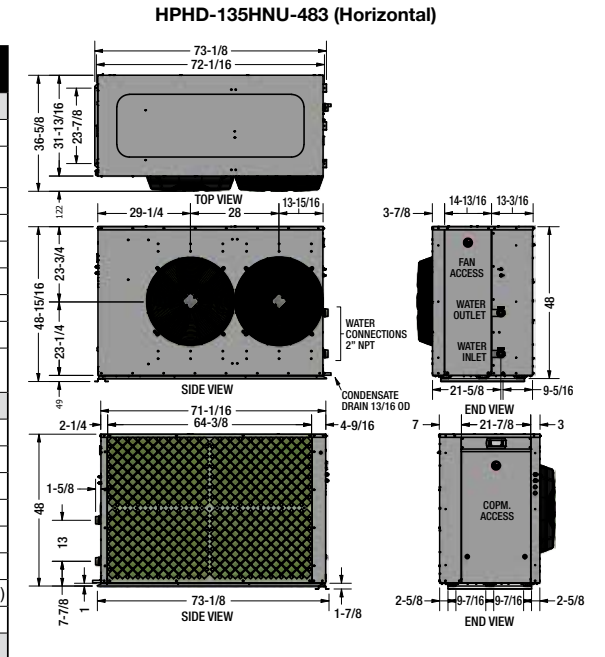
Unit Clearances

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

Air to Water 135k BTU Heat Pump Specifications

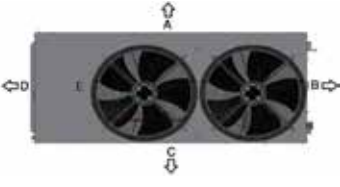
Richmond Model Number	HPHD-135HNU-483 (Horizontal)	HPHD-135VNU-483 (Vertical)		
ELECTRICAL INPUT				
Voltage/Phase	480 Volts / 3 Phase / 60 Hz			
Full Load / Locked Rotor (Amps Per Phase)	26.9 FLA / 150 LRA			
Min. Circuit Amperage	35 Amps			
Refrigerant	R134a			
Heating Capacity, BTU/hr	Up to 196,508			
Power Input, kW	12.3			
COP	Up to 5.60			
Noise Level, dBA @ 10ft	62			
Rated Load Amps @ 54°F SST / 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"	



HPHD-135HNU-483 (Horizontal)



HPHD-135VNU-483 (Vertical)



Performance Table

WATER 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 required for service 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

Why Richmond Commercial?

Behind every product solution is the support of Richmond commercial experts. Richmond 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

Richmond Applications Engineers are standing by to help you determine the right solution for your next project—get help with specifying products and pro-active 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 Richmond Commercial Heat Pump Solutions at
RichmondWaterHeaters.com/Commercial

To get in touch with our sizing pros, call Richmond Customer Service:
1.866.720.2076