Commercial Heat Pump

Specification Guide

Rinnai

Class Leading Efficiency

Backed with 45+ Years of experience in building quality refrigeration systems, Rinnai's Commercial Hot Water Heat Pump boasts a range of class leading attributes. High efficiency performance, revolutionary environmentally friendly R290 refrigerant, multiple flexible installation options and a wide operating envelope to suit the harsh Australian climate.

Features

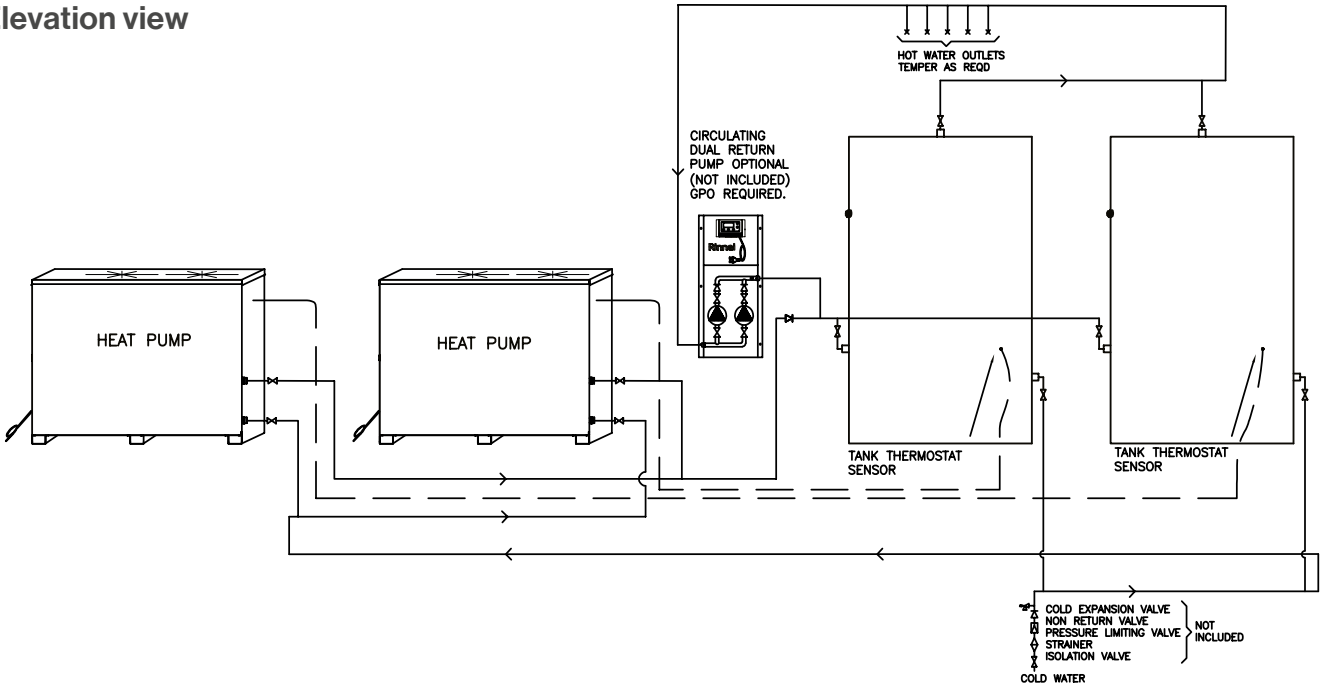
- Designed and manufactured in Australia for Australian conditions.
- Higher outlet temperatures of up to 70°C.
- Heavy duty galvanized steel construction.
- Designed with 45+ Years of APAC refrigerated experience.
- Wide ambient temperature operating range from -5°C to +50°C.
- Environmentally conscious R290 refrigerant delivers higher efficiency than traditional HFC systems, using a small, optimised low-GWP charge (GWP < 3) for a cleaner, non-HFC/HCFC solution.
- Class leading Coefficient of Performance (COP).
- Integrated primary circulation pump.
- Easy commissioning/diagnostics via smart phone app.
- Multiple installation configuration options.
- Optional back-up electric heating function for low ambient boost.
- Corrosion resistant Epoxy coated coils as standard.
- Custom options available:
  - 316L stainless steel cabinets.
  - Blygold treated coils for extra corrosion protection.
  - Circulation pump deletion option for retrofits.
  - High-static fan systems support plant-room applications, with a ducted configuration available for internal installations.
  - Stackable frame configurations designed to reduce installation footprint.
  - Pre plumbed skid mounted options available.
- Safety devices (R290 Leak sensor, temperature sensors, overheat sensors).
- Defrost function (reverse cycle).
- Digital display.
- Easy monitoring, parameter setting, and alarm viewing for simplified operation and troubleshooting.
- Bluetooth connectivity (Carel Applica App).
- Robust construction (scroll compressor, variable speed fans, corrosion-resistant heat exchanger).
- Double wall stainless steel heat exchanger.
- Electronic expansion valve.
- Multiple tank/unit integration (equal flow principle).
- Comprehensive safety and regulatory compliance.
- Flexible installation (indoor/outdoor, ventilation requirements).
- BMS integration (Modbus RTU protocol).
- IPX4 rated - Suitable for environments exposed to water splashes, increasing installation flexibility.

Typical Installations

Commercial Heat Pump Install with Storage & Re-circulation

Typical application utilising the Heat Pump unit/s to heat water and store in the tanks supplying hot water through a flow and return system. Most suitable for applications with stable ambient air temperatures throughout the year. Storage Tank/s may be installed with the auxiliary boost elements as an option in low ambient applications, or as a backup in the event of a fault.

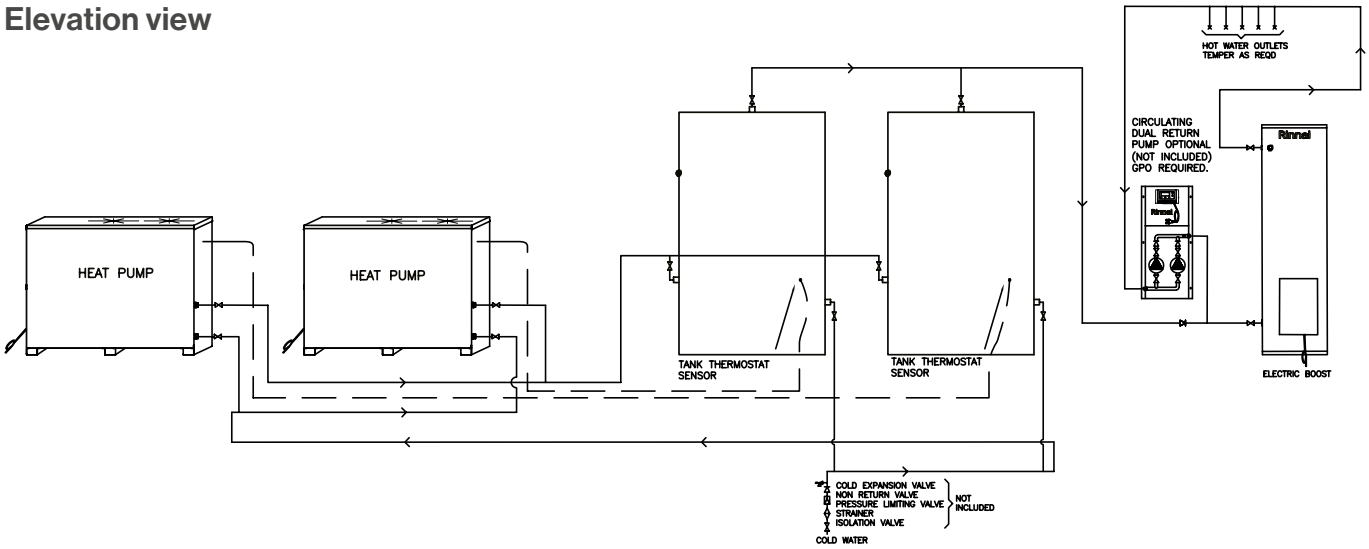
Elevation view



Commercial Heat Pump Install with Storage, Inline Boost & Re-Circulation

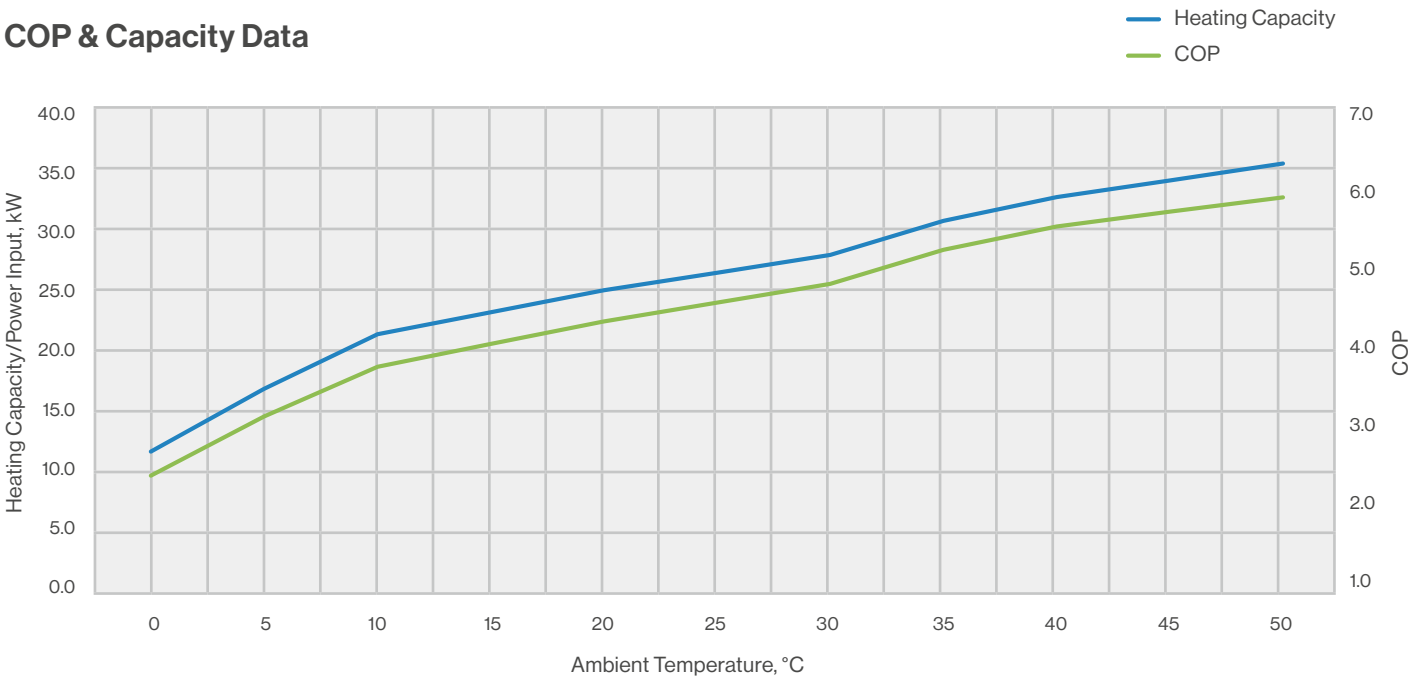
Installation showing Heat Pump unit/s to heat water for the storage tank/s with inline boost which then supplies hot water through a flow and return system. Provides inline boost support during periods of high hot water demand inside peak times, ensuring steadier hot water delivery across extreme low and high temperature fluctuations. The inline boost tank/s also ensures flow and return loop is kept at the specified temperature. Storage Tank/s may be installed with the auxiliary boost elements as an option in low ambient applications, or as a backup in the event of a fault.

Elevation view



CHP025 Performance Data

COP & Capacity Data



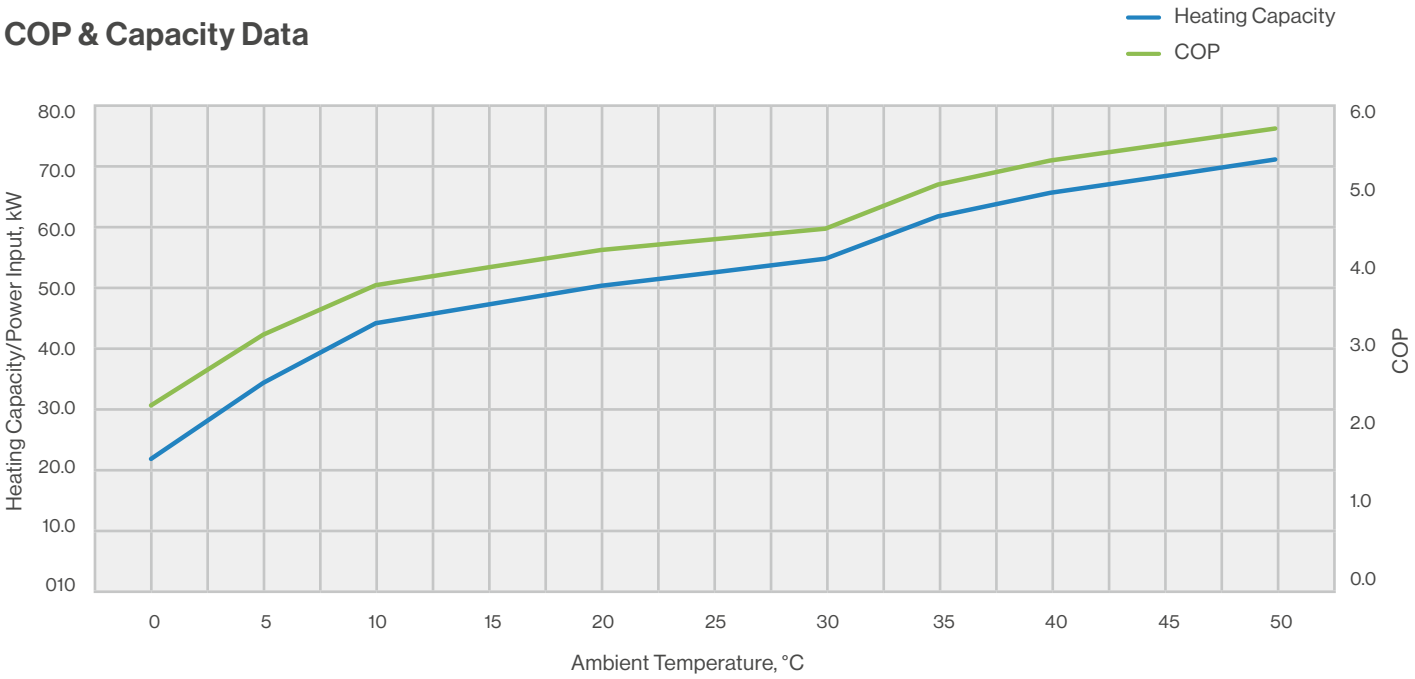
39 °C Entering Water	Amb Temp (°C)	0	5	10	15	20	25	30	35	40	45	50
Heating Capacity	kW	11.7	17.0	21.5	23.4	25.2	26.7	28.1	31.0	33.0	34.4	35.8
Power Input	kW	4.8	5.3	5.6	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.0
COP	-	2.5	3.2	3.8	4.1	4.4	4.6	4.9	5.3	5.6	5.8	5.9

Recovery (Litres per hour)

Recovery Litres p/h	Amb Temp (°C)	0	5	10	15	20	25	30	35	40	45	50
	Output (kW)	11.7	17.0	21.5	23.4	25.2	26.7	28.1	31.6	33.0	34.4	35.8
Water Rise (°C)	20	504	730	928	1006	1085	1148	1211	1363	1422	1481	1541
	25	403	584	742	805	868	919	969	1090	1137	1185	1233
	30	336	487	618	671	723	765	807	908	948	988	1027
	35	288	417	530	575	620	656	692	779	812	846	881
	40	252	365	464	503	543	574	606	681	711	741	770
	45	224	324	412	447	482	510	538	606	632	658	685
	50	202	292	371	403	434	459	484	545	569	593	616
	55	183	265	337	366	395	418	440	495	517	539	560

CHP050 Performance Data

COP & Capacity Data



39°C Entering Water	Amb Temp (°C)	0	5	10	15	20	25	30	35	40	45	50
Heating Capacity	kW	21.2	33.9	43.8	46.9	50.0	52.2	54.5	61.6	65.5	68.3	71.0
Power Input	kW	9.4	10.8	11.6	11.8	11.9	12	12.2	12.3	12.3	12.4	12.4
COP	-	2.3	3.2	3.8	4	4.2	4.3	4.5	5	5.3	5.5	5.7

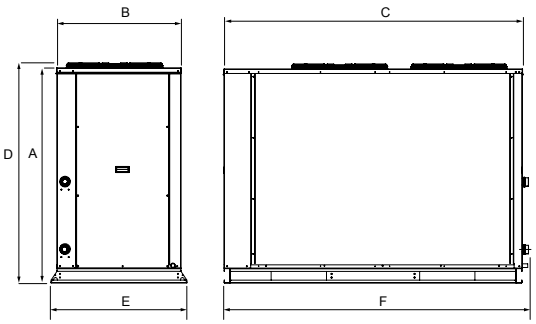
Recovery (Litres per hour)

Recovery Litres p/h	Amb Temp (°C)	0	5	10	15	20	25	30	35	40	45	50
	Output (kW)	21.2	33.9	43.8	46.9	50.0	52.2	54.5	61.6	65.5	68.3	71.0
Water Rise (°C)	20	914	1459	1887	2020	2153	2250	2346	2652	2821	2939	3057
	25	731	1167	1509	1616	1722	1800	1877	2122	2256	2351	2446
	30	609	972	1258	1347	1435	1500	1564	1768	1880	1959	2038
	35	522	834	1078	1154	1230	1286	1341	1515	1612	1679	1747
	40	457	729	943	1010	1077	1125	1173	1326	1410	1469	1529
	45	406	648	839	898	957	1000	1043	1179	1254	1306	1359
	50	366	583	755	808	861	900	939	1061	1128	1176	1223
	55	332	530	686	735	783	818	853	964	1026	1069	1112

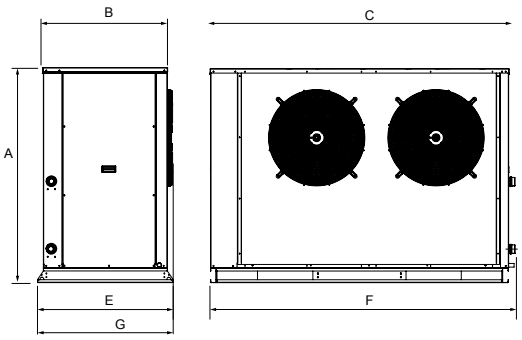
Dimensions and Clearances

Description		Dimensions (mm)						
Model	Version	A	B	C	D	E	F	G
CHP025	Vertical Discharge	1073	731	1550	1079	780	1586	-
	Horizontal Discharge	1073	731	1550	-	780	1586	768
CHP050	Vertical Discharge	1469	852	2052	1505	928	2093	-
	Horizontal Discharge	1469	852	2052	-	928	2093	932

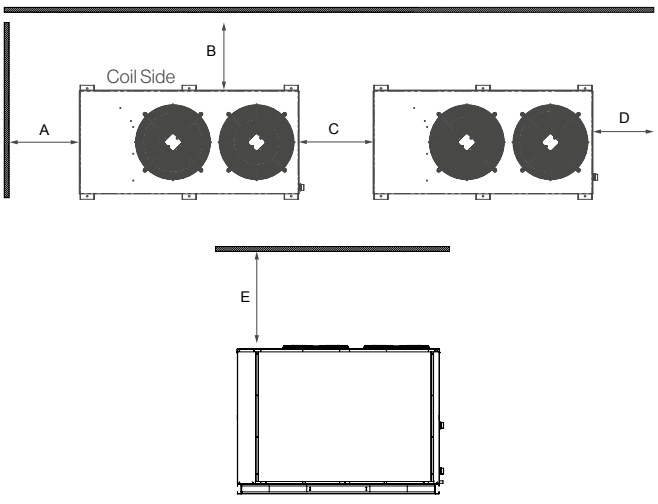
Vertical Discharge Unit



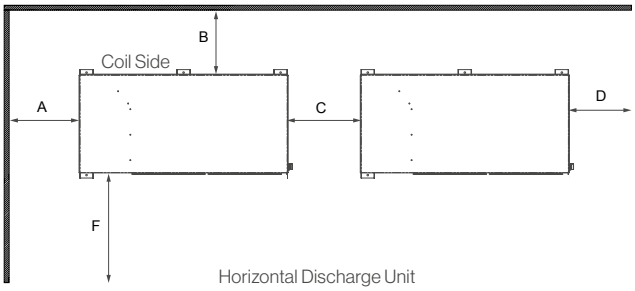
Horizontal Discharge Unit



Description		Dimensions (mm)					
Model	Version	A	B	C	D	E	F
CHP025	Vertical Discharge	850	500	1000	500	1500	-
	Horizontal Discharge					-	1500
CHP050	Vertical Discharge		650		600	1800	-
	Horizontal Discharge					-	1800



Vertical Discharge Unit



Horizontal Discharge Unit

Commercial Air to Water Heat Pump Water Heater		Heat Pump Water Heater	
		Compressor	Components[1]
Commercial Use	Parts	2	2
	Labour	2	2

Warranty

[1]Components include sensors, thermostats, valves, and all refrigeration components excluding the compressor.
Illustrations are for explanatory purposes only and the shape of your unit may vary slightly from that which is shown.

Specifications

Model	Units	CHP025	CHP050
Voltage/Phase	-	400-415V/3Ph+N/50Hz	
Heating Capacity [1]	kW	25	50
Power Input [2]	kW	5.7	11.9
COP	-	4.4	4.2
Rated Load Amps Per Phase [3]	A	15.5	32.5
Full Load Amps Per Phase [4]	A	18.5	38.5
Minimum Circuit Size Per Phase	A	20	40
Conductor Cross-Sectional Area	-	Refer to AS/NZS 3000& AS/NZS 3008	
WaterMark Certified	-	Yes	
Operating Range (Ambient)	°C	-5 to +50	
Refrigerant System	Type	R290	
	No. of Circuits	1	
	Charge (kg)	1.75	3.5
Compressor	Type	Scroll	
	Quantity	1	
Fan	Type	Hybrid Axial	
	Speed Control	Variable Speed	
	Qty	2	
Air Heat Exchanger	Type	High Corrosion Resistance Hydrophilic Fin-tube	
	Qty	1	
Nominal Airflow	L/s	2500	4750
Water/Refrigerant Heat Exchanger	Type	Double Wall Stainless Steel 316L	
	Qty	1	
Throttle	-	Electronic Expansion Valve	
Defrost	-	Reverse Operating	
Sound Pressure Level @3m	dB(A)	57	60
IP Grade	-	IPX4	
Rated Water Flow Rate	L/min	54	120
Water Pump	Model	CM 3-2	CM 10-1
	Power Supply	1PH 230V~50Hz	
Pressure Drop Inside Unit	kPa	35	45
Available Outer Water Head	m	9	8
Water Connections	-	R 1¼ MBSP	R 2 MBSP
Rated Water Pressure	kPa	1000	
Supply Water Pressure Maximum	kPa	800	
ECV Fitted	Fit PLV if mains pressure exceeds	680 kPa	
	Recommended PLV pressure rating	500 kPa	
ECV Not Fitted	Fit PLV if mains pressure exceeds	800 kPa	
	Recommended PLV pressure rating	500 kPa	
Maximum Return Water Temperature	°C	65	
Maximum Outlet Water Temperature	°C	70	
Dimensions	Height mm	1079	1505
	Width mm	780	928
	Length mm	1550	2050
Nominal Weight [5]	kg	237	413

[1] Test condition: 20°C ambient / 60% RH. 39°C water in / 45°C water out
[2] Water pump power is not included
[3] R.L.A - Run Load Amps are based on current drawn at nominal conditions @ 65°C water temp
[4] F.L.A - Full Load Amps are based on overload settings (max current) of all compressor,fan motor(s) and pump(s) @65°C water temp
[5] For base model only. Factory options will vary.

With our policy of continuous improvement, we reserve the right to change, or discontinue at anytime, specifications or designs without notice. Note: All images contained within this brochure are for illustrative purposes only, the colours and finishes of the products featured are as close to the respective product range as photographic lighting and printing processes allow. The heat pump must be installed in a freely ventilated space in accordance with the nominated installation clearances. Insufficient ventilation may impede product performance and efficiency.

Rinnai Australia Pty Ltd

ABN 74 005 138 769

88 Mills Rd,
Braeside, VIC, 3195

For further information
call 1300 555 545 or visit
rinnai.com.au

TOTAL HOME COMFORT

HOT WATER HEATING COOLING

Rinnai

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