



## COMMERCIAL HEAT PUMP

### HIGH EFFICIENCY HEAT PUMP WATER HEATING

Understanding hot water is what Rheem does best and this experience has led to the development of a truly commercial grade heat pump that delivers high thermal efficiency and hot water up to 65°C, something not all heat pumps can boast.

#### Built Tough

The Rheem Commercial Heat Pump delivers up to 65°C hot water with the use of R134a refrigerant. Fine tuning of the system performance in our world class psychrometric test facility has resulted in a Coefficient of Performance (COP) of 4.0, which increases efficiency and reduces energy consumption, whilst an increased recovery rate provides more hot water in a shorter time frame.

Building recirculation can be reheated through the heat pump, negating the need for auxiliary heaters to perform this function, further reducing building energy costs.

#### Easier Installation

1 1/4" threaded inlet and outlet fittings make connections easier and a high head pump improves installation flexibility and system reliability. The aluminium base tray has in-built fall which helps to remove condensate faster.

#### Quality Product

The Rheem Commercial Heat Pump is truly commercial grade with quality components used throughout such as a Copeland scroll compressor, EBM fans, SWEP heat exchanger and Danfoss control gear. The evaporator is dipped to provide extra protection in corrosive atmospheres.

#### Options

The Rheem Commercial Heat Pump is supplied with a stucco aluminium cabinet and vertical discharge fans as standard. A horizontal discharge fan option is available in both ducted and non-ducted versions.

Horizontal discharge models can be stacked two high to reduce plant footprint.

Ducted models are designed to discharge the cold air outside of the plant room. Maximum static pressure in the duct is 40Pa.

A duct 565mm wide x 800mm high with minimum resistance at the duct outlet is recommended.

#### Warranty\*

- 2 year parts and labour on sealed system
- 1 year parts and labour on remainder

\* **Conditions apply:** For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at [www.rheem.com.au](http://www.rheem.com.au)

All Weather Performance

Automatic defrost is now a standard feature on every Rheem Commercial Heat Pump. This feature allows the heat pump to continue performing in low ambient temperature conditions by diverting a portion of the hot refrigerant to the evaporator coil to melt any ice which may form.

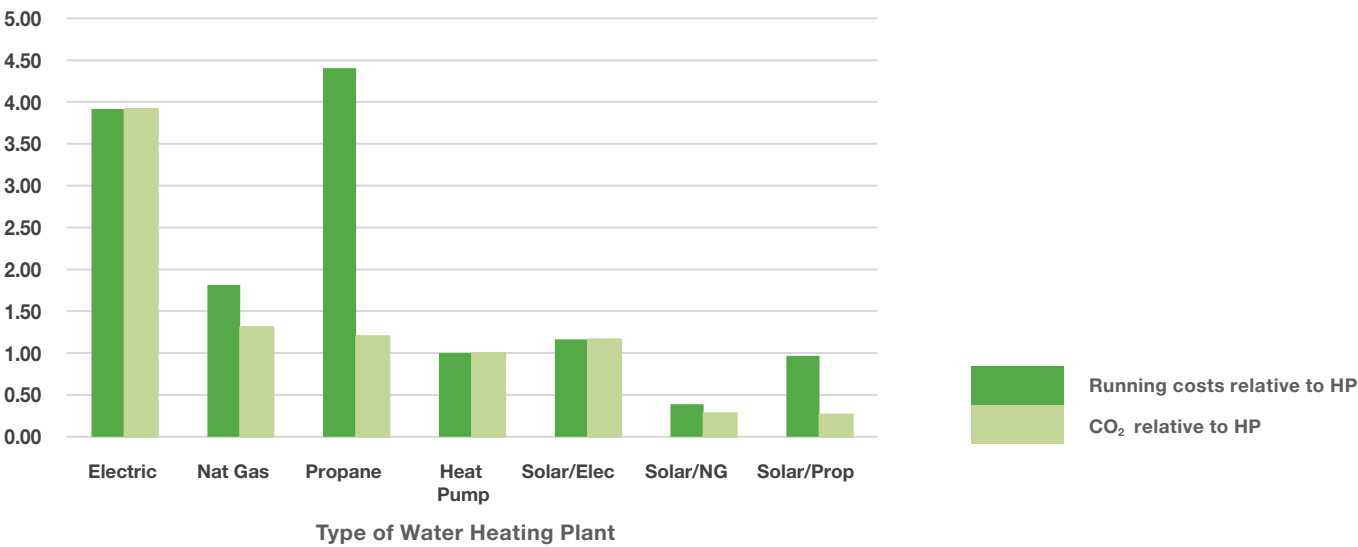
Installation

Non-ducted models can be installed outdoors or indoors as long as there is sufficient ventilation to ensure an adequate turn over of fresh air. Ducted units are recommended for indoor installations when cold exhaust air cannot be readily replenished with fresh air.

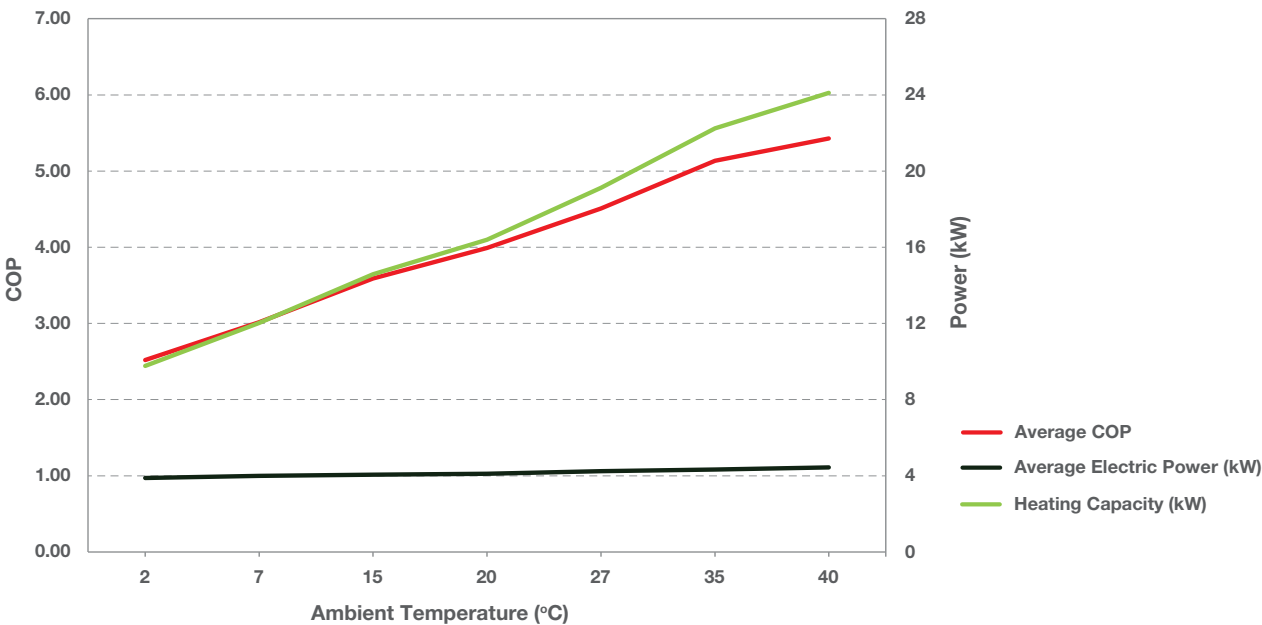
Rheem Back-Up

Like all Rheem commercial water heaters, the Commercial Heat Pump is supported by a nationwide service team and local technical support, to ensure correct sizing, specification and installation.

Relative Running Cost and CO<sub>2</sub> Emissions<sup>5</sup>



Input, Output and COP vs Ambient Temperature

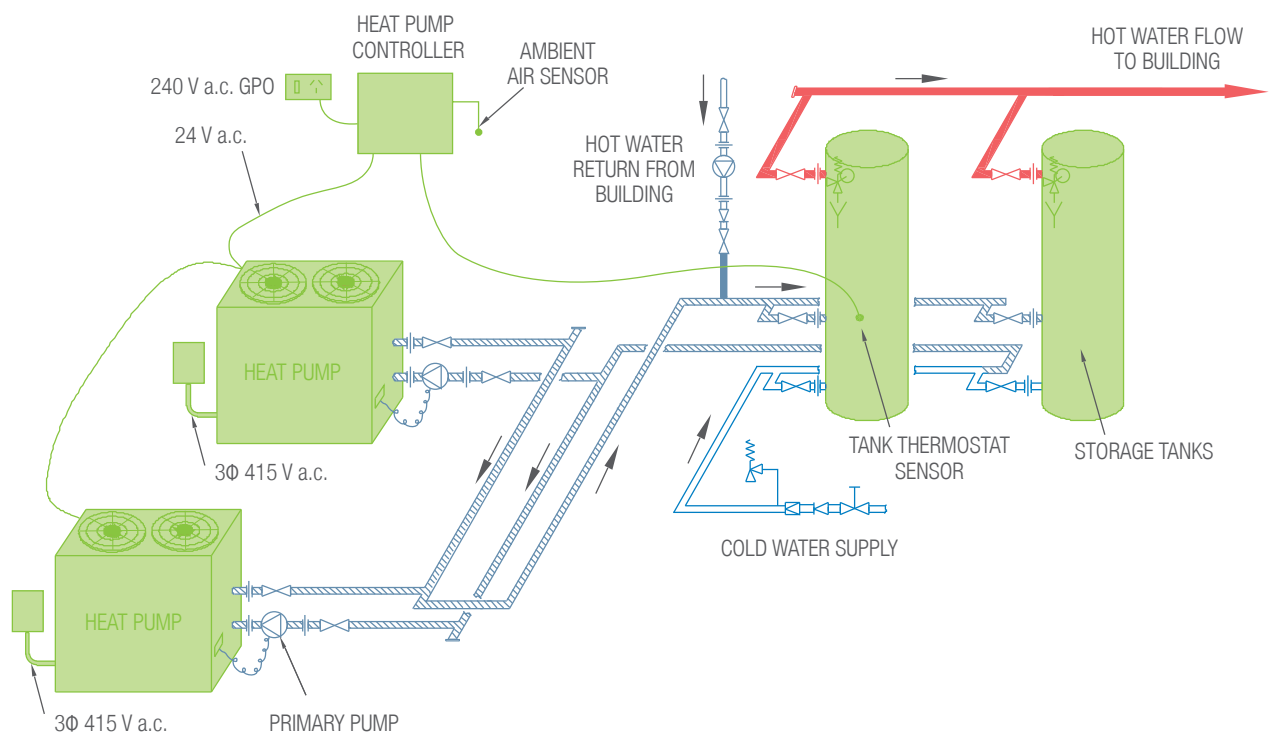


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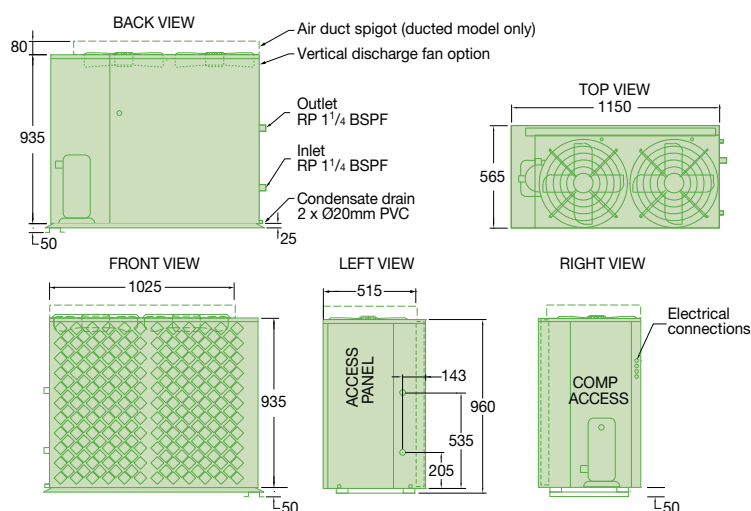
Rheem Commercial Heat Pumps provide hot water to Southern Ocean Lodge — Kangaroo Island, SA

## TYPICAL INSTALLATION

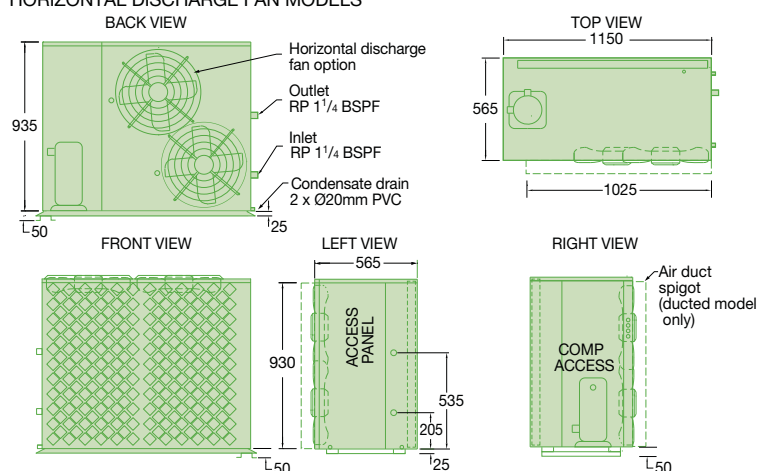




## VERTICAL DISCHARGE FAN MODELS



## HORIZONTAL DISCHARGE FAN MODELS



## HEAT PUMP PIPE SIZING CHART

Number of Heat Pumps in Parallel	1	2	3	4	5	6
Primary Pump	Grundfos CM 3-2					
Branch Size	32	32	32	32	32	32
Header Size	32	50	65	65	80	80

Note: Header pipe sizing is based on a total length of 20m of primary flow and return piping and 20 bends, excluding equa-flow manifolds on storage tanks and heat pumps @ 1.6m/sec velocity. One pump per Heat Pump.

## ACCESSORIES

Storage Tank 410L	610430	Primary Pump	CM 3-2
Storage Tank 1,000L	RT1000N9ALU-T	Controller	052140

## RECOVERY

Ambient Temperature °C									
	0	5	10	15	20	25	30	35	40
Output (kW)	9.0	11.1	13	14.6	16.4	18.3	20.3	22.2	24.1
Recovery – Litres per hour @									
20°C rise	387	478	558	627	705	789	872	956	1036
30°C rise	258	319	372	418	470	526	582	638	691
35°C rise	221	273	319	358	403	451	499	546	592
40°C rise	194	239	279	313	353	394	436	478	518
45°C rise	172	213	248	279	313	351	388	425	461
50°C rise	155	191	223	251	282	316	349	383	415
55°C rise	141	174	203	228	256	287	317	348	377

<sup>4</sup> 20°C / 65%RH.

<sup>5</sup> Comparison will vary depending upon your location, configuration of system installed, type of water heater being replaced, hot water consumption and fuel tariff. Maximum financial savings can be achieved only when the tariff for the electric water heater replaced was 24 hour continuous.

CO<sub>2</sub> emissions for fuel types is based on AGO published information. Materials and data are subject to change without notice due to ongoing product improvements. Data correct as at July 2015.

<sup>6</sup> ECV not supplied with the water heater.

## PRODUCT DATA

		Ducted Exhaust	Non Ducted Exhaust
Vertical Discharge		952 022	953 022
Heating Capacity <sup>4</sup>	kW	16.4	16.4
Power Input <sup>4</sup>	kW	4.1	4.1
Coefficient of Performance <sup>4</sup>		4.0	4.0
Recovery @ 50°C Rise <sup>4</sup>	L/hr	282	282
Operating Range (ambient)	°C	0 – 40	0 – 40
Outlet Temperature	°C	65	65
Refrigerant		R134a	R134a
Water Pressure Relief Valve Setting	kPa	1,000	1,000
Water Expansion Control Valve Setting <sup>6</sup>	kPa	850	850
Maximum Water Supply Pressure			
Without ECV <sup>6</sup>	kPa	800	800
With ECV <sup>6</sup>	kPa	650	650
Electrical Connection		3 Phase / 415V / 50Hz	
Max Current per Phase (running)	Amps	14.9 / 11.2 / 11.2	
Minimum Circuit Size (per phase)	Amps	20	20
Air Flow	L/s	1,600	1,600
Maximum Static Pressure	Pa	40	-
Minimum Ventilation per inlet and outlet	m <sup>2</sup>	1	1
Minimum room volume for indoor installation	m <sup>3</sup>	7.5	7.5
Sound Pressure Level @ 1m	dBA	70	61
Approx Weight Empty	kg	130	130
Approx Weight Full	kg	135	135
Storage per Heat Pump	L	400 to 4,000	
Dimensions			
Length	mm	1,150	1,150
Depth (Discharge Vert/Horiz)	mm	565/640	565/585
Height	mm	1045	980
Clearances			
Front	mm	600	600
Back (vertical discharge models)	mm	50	50
Back (horizontal discharge option)	mm	1,200	1,200
Sides	mm	600	600
Top (vertical discharge models)	mm	800	1,200
Top (horizontal discharge option)	mm	50	50