COMMERCIAL & INDUSTRIAL

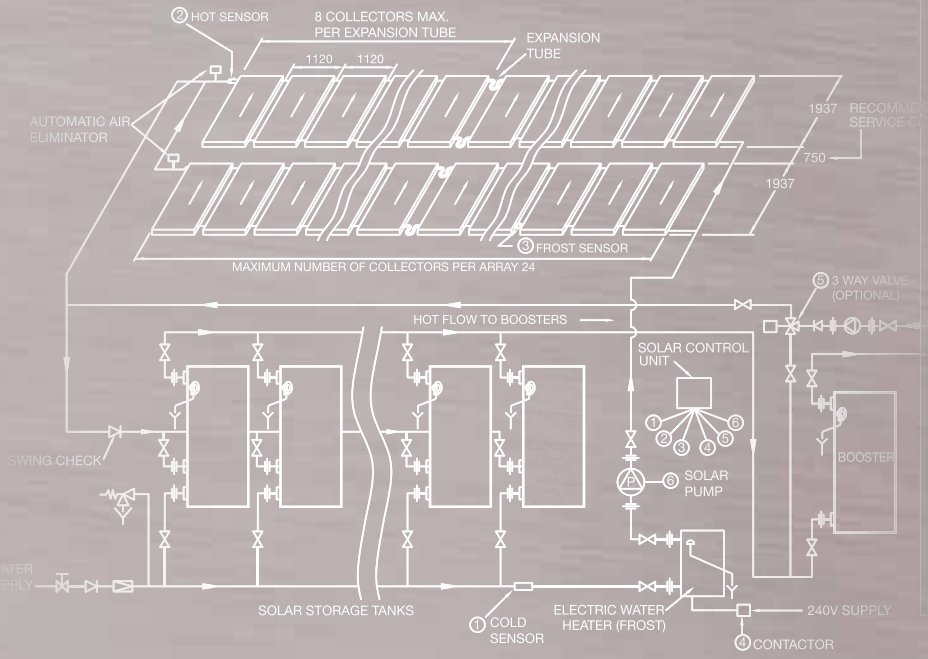
SOLAR & HEAT PUMP

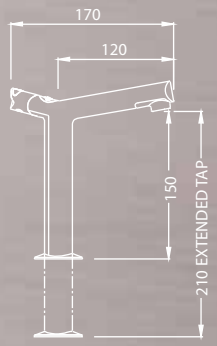
GAS STORAGE & CONTINUOUS FLOW

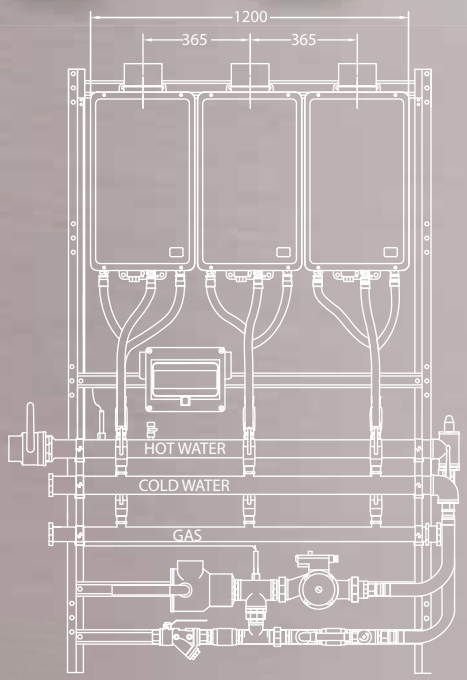
RAYPAK® HEATING & HOT WATER

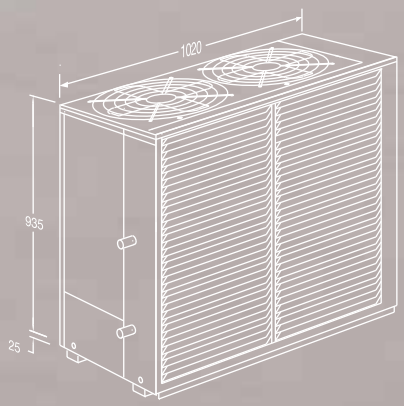
BOILING/CHILLED WATER & ELECTRIC

WARM WATER









UNDERSTANDING HOT WATER IS WHAT RHEEM DOES BEST

Our reputation is built on reliability, support and integrity, providing a range of water heating solutions.

It's who we are!

Only Rheem is up to the job!

Today, more than ever, Rheem is the right choice to make.

To start with, we're the leaders in designing and manufacturing water heaters specifically for commercial applications.

Rheem has been manufacturing water heaters in Australian plants since 1939, and with Research and Development facilities throughout Australia, New Zealand and across the globe our expertise is second to none. We are also committed to solar technology as the largest solar water heater manufacturer in Australia.

Our water heaters are robust and designed for the demands of business and industry.

Rheem is Everywhere

There is an unequalled network of experienced Rheem technical advisors and professional after sales service technicians across the country. No matter where you are in Australia there is expert advice available to ensure that you get the Rheem solution that is right for you.

We have the right Rheem for you

Rheem has the most extensive range of energy efficient hot water systems available in Australia. Whether it be Solar, Gas or Electric Storage, Continuous Flow, Heat Pump, Boiling Water or Warm Water, Rheem has a truly commercial range and the know how to put it all together.

Our focus is on delivering quality outcomes through our product solutions and highly trained, professional team.

Certified Product™ Australian Standard
AS/NZS 2712
Lic SMK 0757
Lic SMK 1048
Lic SMKP 21548
SAI Global

Certified System™ Quality ISO 9001

WaterMark™
AS 3498
Lic WMKA 00153
Lic WMKA 00177
Lic WMKA 00299
Lic WMKA 00500
Lic WMKA 00519
Lic WMKA 21549
Lic WMKA 21766
SAI Global

The Australian Gas Association

CONTENTS

Flexible modular solution

Intelligent smarter design

Efficiency, safety and style

FILTERED BOILING & CHILLED WATER

A FLEXIBLE SOLUTION FOR EVERY APPLICATION

The modular on-tap series provides a beautifully efficient solution, regardless of your needs and application. Filtered boiling and chilled water combinations can be specified with the intelligent Rheem on-tap series.

Energy efficient

The 7 day programmable timer and sleep mode saves energy and meets the energy efficient requirements of Specification J6 of the Building Code of Australia (BCA).

Filter out the taste of chlorine

The Rheem on-tap series is fitted with a filter that removes chlorine, taste and odours for a perfect drink of water or cup of tea. Fine dirt and sediment particles are removed while an advanced phosphate compound reduces costly lime-scale build-up.

Filtered boiling and chilled drinking water, on-tap

The Rheem on-tap series is the ideal solution for filtered boiling water and chilled water for any office environment. 3 and 5 litre TB models deliver up to 170 cups of boiling water per hour. The under counter TB cabinet is compact in size, requires only a cold water connection and a standard power point.

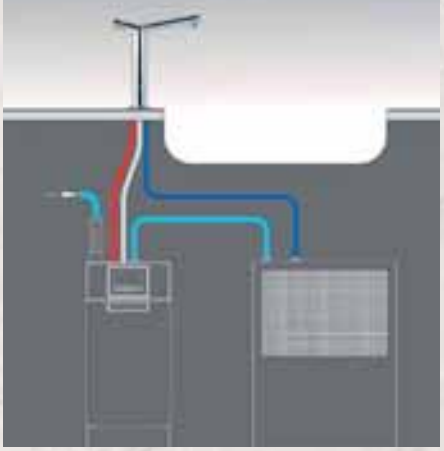
A built-in safe tray eliminates need for separate tray and drainage, adding peace of mind and reducing installation costs.

Perfectly chilled

Optional Rheem chillers are available in 3 litre and 6 litre models providing up to 175 glasses of chilled water per hour. Flexible, modular design ensures maximum use of under cupboard space. Optional Rheem chillers automatically mirror the timer and auto-shut off programming of the TB boiling water systems.

Rheem TB on-tap

The Rheem TB on-tap provides filtered boiling and chilled drinking water at the press of a button.



Discreet Ventilation Kit

Ventilation is essential when installing a chiller. Rheem provides the option of a discreet ventilation kit.

Sink-free Kit

The Rheem sink-free kit eliminates the need for a sink, allowing bench top mounting.

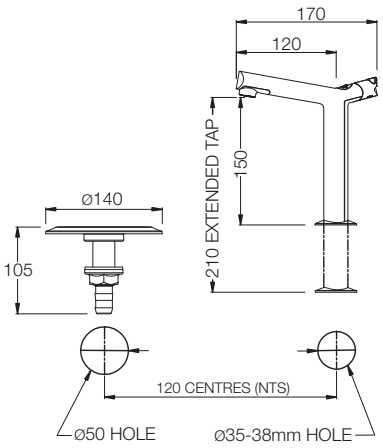
Warranty*

- 2 years Parts & Labour
- 5 years on the tank

*** Conditions Apply**: For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at www.rheem.com.au

RHEEM ON-TAP SERIES TECHNICAL DATA		TB		CHILLER	
		Filtered Boiling & Drinking Water		Filtered Chilled Water	
Model		**TB3**	**TB5**	**CH3**	**CH6**
Specification Code		740003	740005	290250	290251
Nominal Size	Litres (L)	3	5	3	6
Initial Delivery	Cups[1]	24	31	15	30
One Hour	Cups[1] per hr	145	170	125	175
Approx Weight Empty	kg	12	12	13	15
Approx Weight Full	kg	18	18	16	21
Minimum Water Supply Pressure	kPa	200	200	–	–
Maximum Water Supply Pressure	kPa	1000	1000	–	–
Input	kW	1.5	1.8	0.28	0.32
Electrical Connection		Supplied with 10 Amp 3 Pin Plug and Flex		Powered by TB	
Plumbing Connections	Cold Water	½" BSPF	½" BSPF	¼" John Guest	
Dimensions					
Width	mm	175	175	285	300
Depth	mm	450	450	430	450
Height	mm	405	405	360	405
Chiller Clearance					
Front	mm	–	–	20	20
RHS or LHS	mm	–	–	50	50

TAP AND SINK-FREE KIT SPECIFICATIONS



RHEEM ON-TAP SERIES COMBINATION MODELS	
Specification Code	Description
TB3CH3	3L Boiling and 3L Chilled combination 145/125 cups
TB3CH6	3L Boiling and 6L Chilled combination 145/175 cups
TB5CH3	5L Boiling and 3L Chilled combination 170/125 cups
TB5CH6	5L Boiling and 6L Chilled combination 170/175 cups

ACCESSORIES	PART NUMBER				
5 Micron Filter Kit	317327	Supplied	Supplied		
Sink-free Kit	317453	Optional	Optional		
Discreet Ventilation Kit	317255	–	–	Optional	Required

[1] Cup size 170ml, glass size for chilled water 200ml.

Safety lock requires two-finger operation for boiling water

Ready and filter lights advise when water is boiled or when filter requires replacing

Quality chrome plated cast metal body for style and durability

Drip-free design for cleaner work areas

Soft tipped activation levers feature momentary and lock-on positions to assist with filling individual cups or large jugs

Energy saving features on all models

Model range from 3 - 40 litre capacity

Smart, compact and efficient

LAZER® BOILING WATER

THE SMART RHEEM LAZER® RANGE OF BOILING WATER UNITS

Rheem Lazer® – The Trusted Name In Boiling Water

In an age where conserving energy and reducing carbon footprints are as much about smart business practice as they are environmental issues, Rheem has developed a sophisticated, energy efficient range of water boilers.

Now you control how much energy it takes to have boiling water on tap.

More Energy Saving Features

A timer is now standard on all Rheem Lazer® water boilers, allowing you to programme when boiling water is not required so that the unit turns on and off automatically for maximum savings. What's more, a clever sleep mode senses when no one is around and powers down to conserve energy.

Programming is simple and intuitive and the backlit LED screen activates only when you need it. The new front panel displays the time, day and the mode the unit is currently operating in, while four interface buttons make setting and changing programmes a quick and easy procedure.

Single tank design is used to reduce heat loss which helps cut energy use.

So Much Smarter

With only two moving parts, one being the tap, the Lazer® uses state of the art technology to maintain boiling water "at-the-ready" when needed.

The controller is so smart it even knows its position above sea level and automatically adjusts the boiling point. And unlike other models, this water boiler doesn't rely on sensing cold water temperature which means the Lazer® can also be connected to a hot water supply.

As for maintenance, with handy features including self diagnostics, it couldn't be easier or more cost effective.

Compact Size

Rheem have managed to pack all the features of this clever boiling water unit into an exceptionally compact casing and at the same time, improve performance.

The Lazer® can be plumbed from underneath or the plumbing may be concealed behind the unit for a neater overall finish.

Better Range

We've made a Rheem Lazer® boiling water unit for the smallest office right through to the largest commercial kitchen with models ranging in size from 3 litre to 40 litre capacity, in a choice of white powder coat or brushed stainless steel.

Warranty*

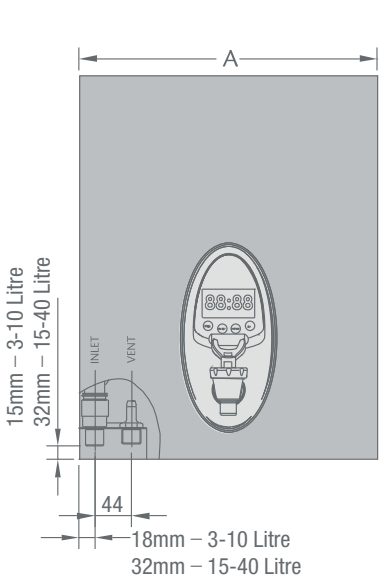
- 1 year parts and labour

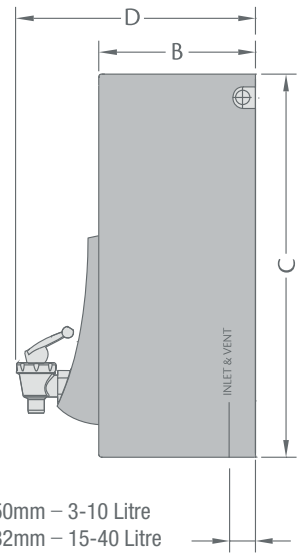
*** Conditions Apply**: For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at www.rheem.com.au

The 7 day programmable timer and sleep mode saves energy and meets the energy efficient requirements of specification J6 of the Building Code of Australia (BCA).

WHITE POWDER COAT		710 003	710 005	710 007	710 010	710 015	710 025	710 040
STAINLESS STEEL				720 007	720 010	720 015	720 025	720 040
Capacity	Litres	3	5	7.5	10	15	25	40
Delivery – Initial	Litres	3.5	5.5	8.5	11	17	27	42
	Cups	20	35	50	65	100	159	247
Recovery	L/hr	17.5	21	21	21	21	33	41
	Cups/hr[2]	103	123	123	123	123	194	241
Approx Weight Empty	kg	6	8	9	10	15	17	19
Approx Weight Full	kg	10	15	19	22	34	47	67
Minimum Water Pressure	kPa	50	50	50	50	75	75	100
Maximum Water Pressure	kPa	1000	1000	1000	1000	1000	1000	1000
Input	kW	1.8	2.4	2.4	2.4	2.4	3.6	4.6
Electrical Connection		Supplied with 10 Amp 3 Pin Plug and Flex					Hard Wired by Electrician	
Plumbing Connections		½" BSPM						
Product Dimensions								
A width of unit	mm	283	334	334	334	490	490	490
B depth of unit excluding tap	mm	143	176	176	176	180	235	325
C height of unit	mm	400	430	515	615	615	615	615
D depth of unit including tap	mm	234	267	267	267	271	326	416

[2] Cup size 170ml.





Low ambient operation options

Compact and flexible design

Ducted and non-ducted models

Rheem reliability

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 at 60°C, something not all heat pumps can boast.

Built Tough

Rheem's Commercial Heat Pump is designed with the commercial user in mind. Up to 22kW output means over 6,500 litres of hot water can be produced per day.

Only quality components from around the world have been selected to ensure optimal performance and durability.

Superior scroll compressor technology is employed to provide a quieter unit and the reliability expected in a commercial product.

The entire evaporator coil is epoxy coated to provide long lasting protection from corrosive atmospheres and a stainless steel heat exchanger provides protection on the water side.

Options

The Rheem Commercial Heat Pump is available with a range of options including:

- Dipped evaporator coils to provide extra protection in corrosive environments
- Aluminium or stainless steel cabinet
- Horizontal discharge fans (ducted and non-ducted)

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

High Efficiency

The Rheem Commercial Heat Pump has an average Coefficient of Performance (COP) of 3.81[3], which means more than 73% of the energy used to produce hot water is free from the atmosphere. Naturally, the hotter the conditions the better the performance.

The evaporator incorporates rifle bore copper tubes, which increase heat transfer by up to 20% over smooth bore tubing. Slit aluminium fins provide even greater transfer of heat from the air to the refrigerant.

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

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.

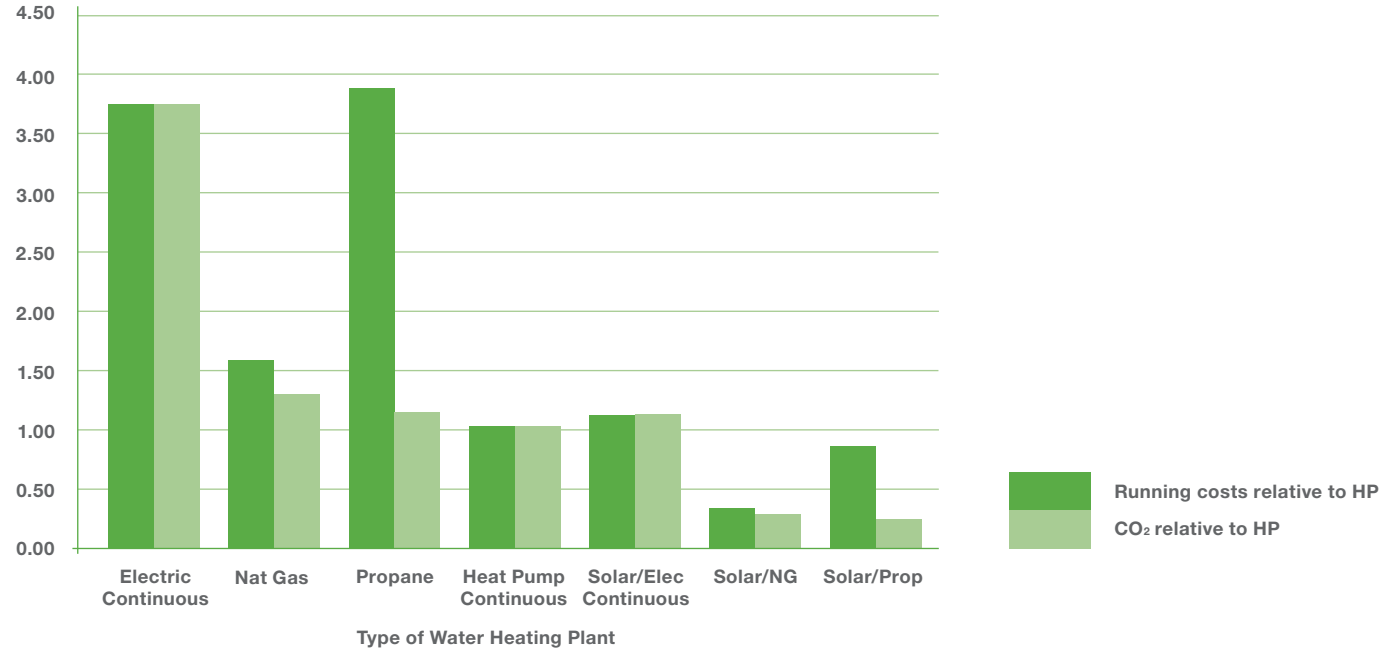
Rheem Back-Up

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.

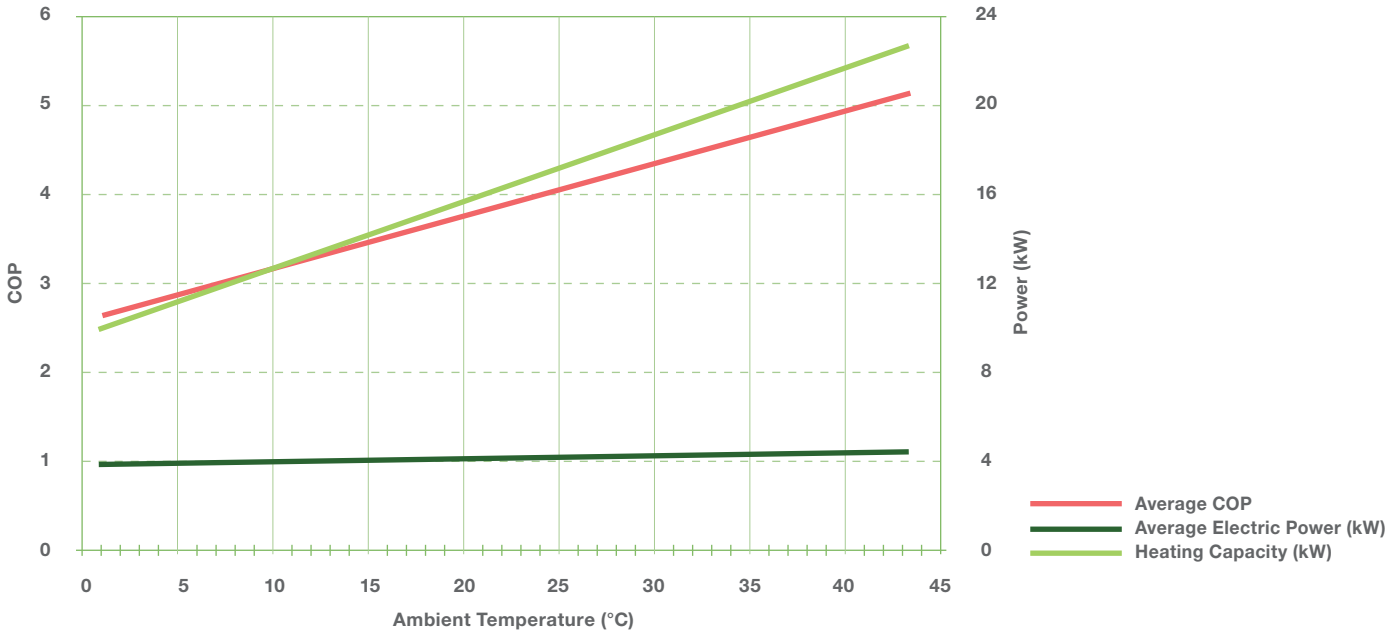
Options

- Dipped evaporator coils provide extra protection in corrosive environments
- Available in stainless steel or aluminium for greater protection

Relative Running Cost and CO_2 Emissions[4]



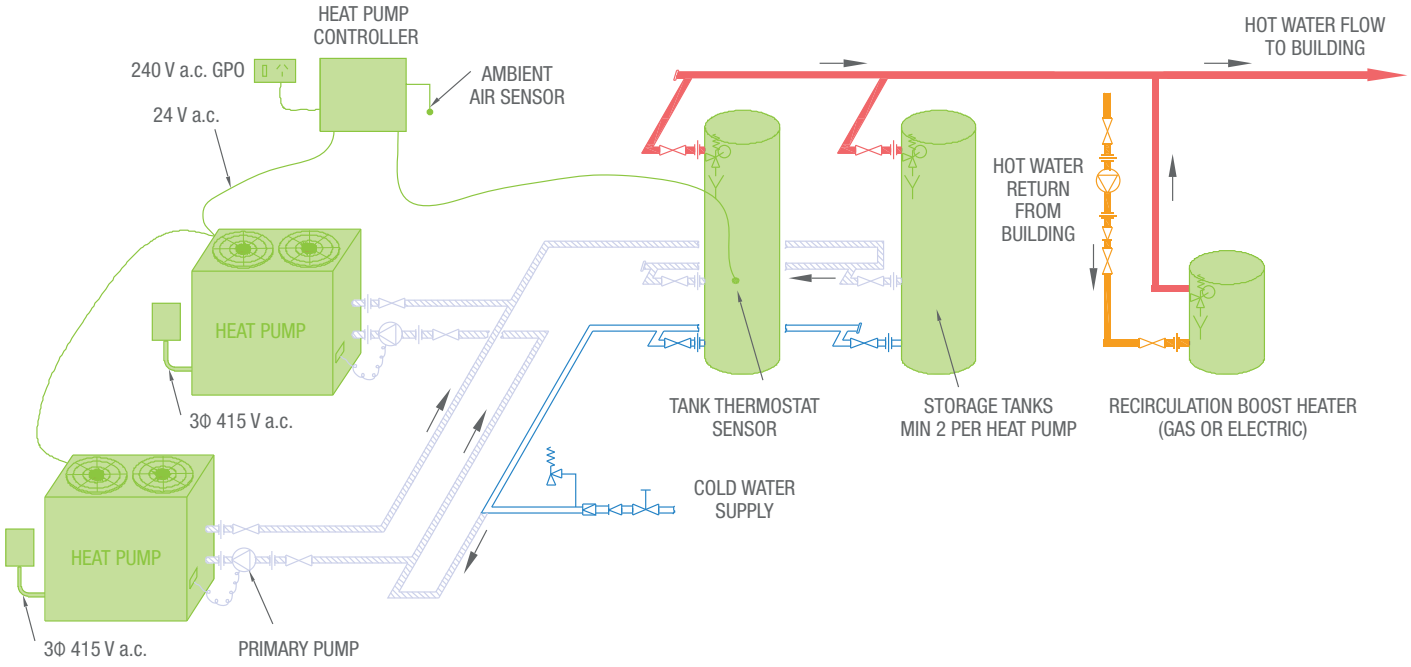
Input, Output and COP vs Ambient Temperature

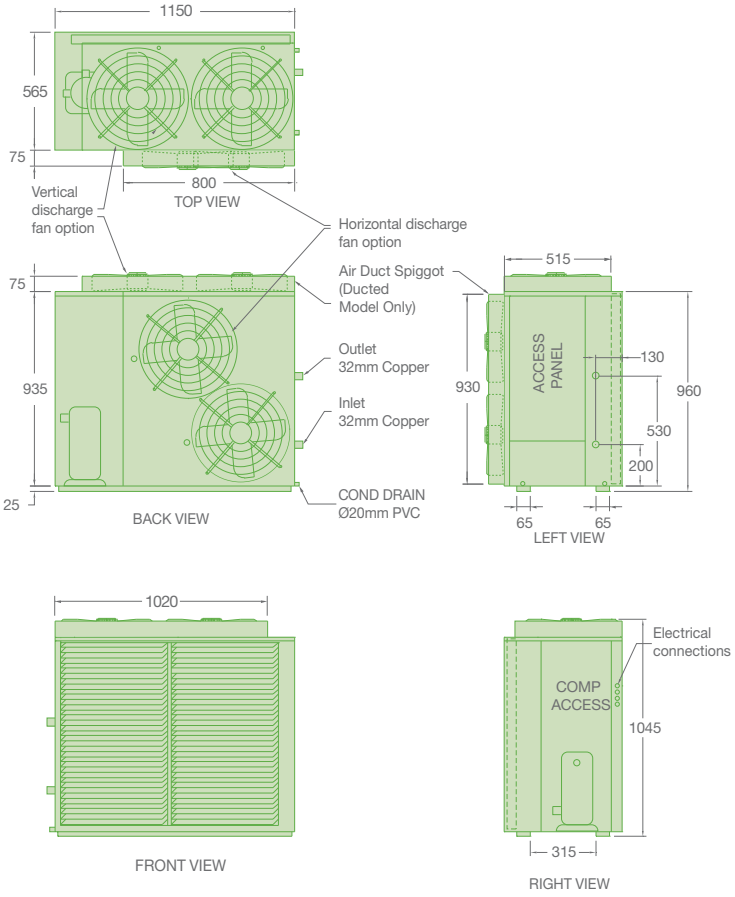


COMMERCIAL HEAT PUMP

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

TYPICAL INSTALLATION





PRODUCT DATA

		Ducted Exhaust	Non Ducted Exhaust
Vertical Discharge		**952 022**	**953 022**
Heating Capacity[3]	kW	16	16
Power Input[3]	kW	4.2	4.2
Coefficient of Performance[3]		3.8	3.8
Recovery @ 45°C Rise[3]	L/hr	300	300
Operating Range	°C	0 – 40	0 – 40
Outlet Temperature	°C	60	60
Refrigerant		R407C	R407C
Pressure Relief Valve Setting	kPa	1,000	1,000
Expansion Control Valve Setting[5]	kPa	850	850
Maximum Water Supply Pressure			
Without ECV[5]	kPa	800	800
With ECV[5]	kPa	650	650
Electrical Connection		3 Phase / 415V / 50Hz	
Current per Phase (running)	Amps	11.7	11.7
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^2	1	1
Sound Pressure Level @ 1m	dBA	70	61
Approx Weight Empty	kg	120	120
Approx Weight Full	kg	125	125
Plumbing Connections		32mm Copper	
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

HEAT PUMP PIPE SIZING CHART

Number of Heat Pumps in Parallel	1	2	3	4	5	6
Primary Pump	Grundfos UPS 32-80N					
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 10 bends, excluding equa-flow manifolds on storage tanks and heat pumps.

ACCESSORIES

Storage Tank 410L	610430	Primary Circulator	UPS32-80N
Storage Tank 1,000L	1000SS	Controller	052140

RECOVERY

	Ambient Temperature °C (60% RH)								
	0	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Output (kW)	9.75	11.25	12.75	14.25	15.75	17.25	18.75	20.25	21.75
Recovery – Litres per hour @									
20°C rise	419	484	548	613	677	742	806	871	935
30°C rise	280	323	366	409	452	495	538	581	624
35°C rise	240	276	313	350	387	424	461	498	534
40°C rise	210	242	274	306	339	371	403	435	468
45°C rise	186	215	244	272	301	330	358	387	416
50°C rise	168	194	219	245	271	297	323	348	374
55°C rise	152	176	199	223	246	270	293	317	340

[3] 20°C / 60%RH.

[4] 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_2 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 April 2009.

[5] ECV not supplied with the water heater.

Worldwide experience

Biggest range of options

Total package solutions

48 Commercial Solar NPT200 collectors provide hot water to St. Mary's Villa – Concord.

COMMERCIAL SOLAR SOLUTIONS

THE RANGE

Rheem has been at the forefront of solar water heating design and manufacture for decades. This experience provides peace of mind when selecting large scale solar thermal systems.

Rheem has the largest range available to suit all design requirements and most correctly designed Rheem Commercial Solar systems are eligible to generate Small-scale Technology Certificates (STCs).

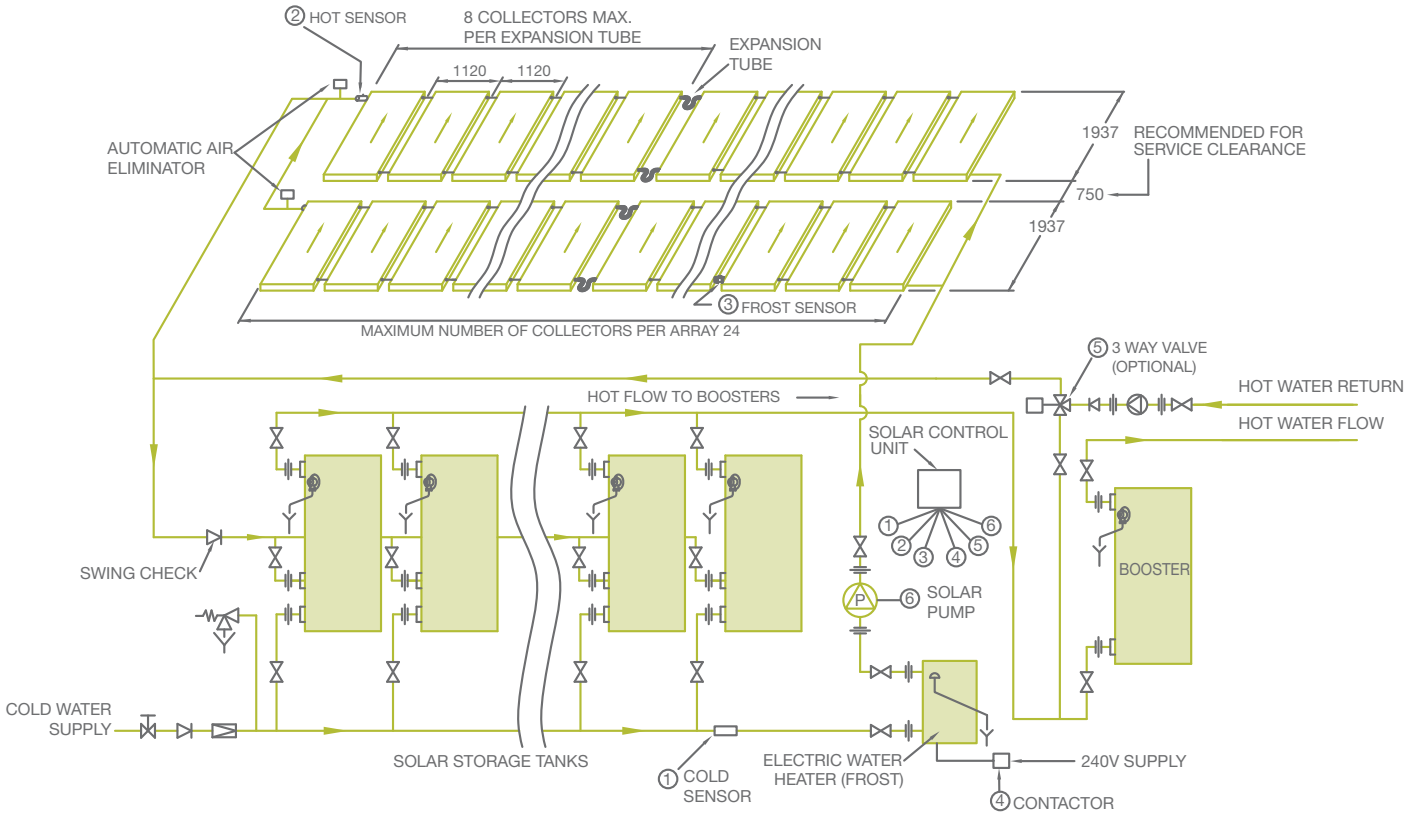
Rheem 610430 410L Storage tanks

Loline Direct Solar

- Modular design provides flexibility
- NPT200 collector provides good performance in all locations
- 325, 410 or 1000 litre storage modules
- Provides partial protection against freeze

Premier Hiline®

- Close coupled collectors and stainless steel 300 litre tank
- S200 collector provides good performance in all locations
- Fully frost protected
- Better suited to poor water quality areas



LOLINE

Flexibility

Rheem Loline provides flexibility in design. Storage tanks can be mounted at the same level or below the collectors to suit site requirements and tank/collector ratios can be closely matched to maximise system efficiency. Use Equa-Flow® manifolding to connect as many tanks as required in a variety of configurations.

Storage Modules

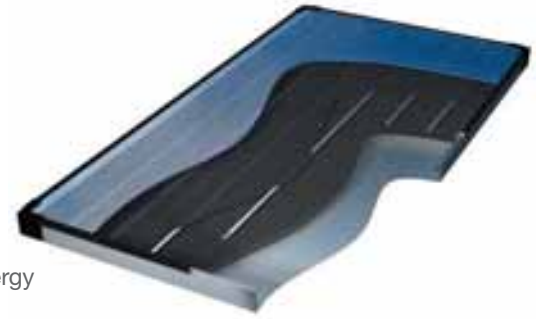
Select from 325 litre and 410 litre vitreous enamel storage tanks or 1000 litre stainless steel storage tanks where less footprint is required. Rheem commercial storage tanks are designed for heavy duty applications and are supplied with high temperature enamel and 50mm fittings as standard.

Solar Secondary Return

The available energy in the storage tanks can be monitored and divert secondary return hot water through the solar storage when sufficient energy is available. This ensures maximum solar energy is used every single day to supplement the energy used by non-renewable sources in maintaining building ring main heat losses. The need for this feature must be nominated at time of system specification.

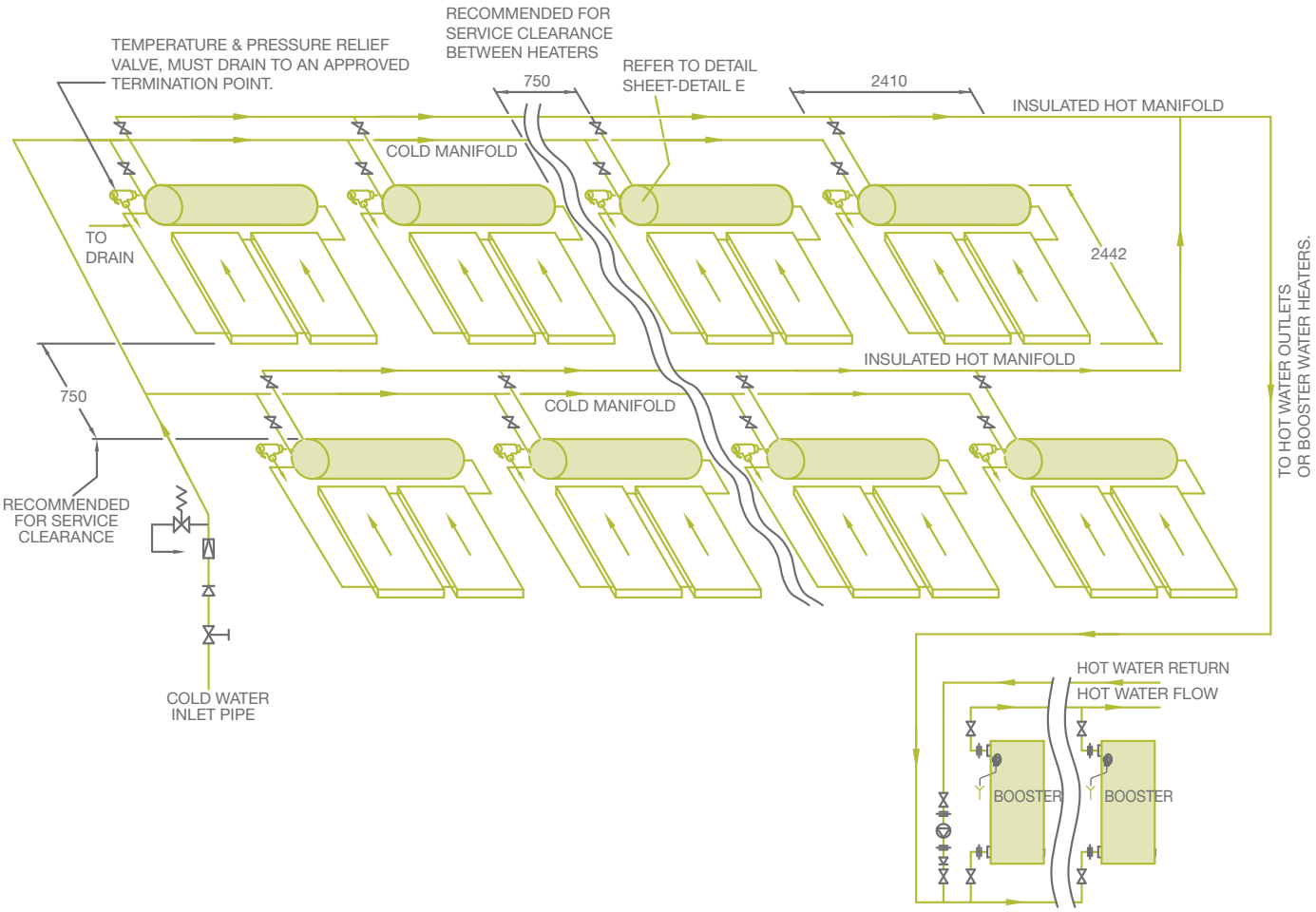
Freeze Protection

Freeze protection is provided by sensors which activate the solar circulator before freezing occurs in the collectors. Rheem Loline is warranted against freeze damage in areas below 400m altitude.



NPT200 COLLECTOR TECHNICAL DATA		
Overall Dimensions H x W x D	mm	1937 x 1022 x 65
Aperture Area	m^2	1.86
Weight (empty /full)	kg	40/42
Fluid Capacity	Litres	2
Number of Risers		6
Absorber Material		Black Polyester Aluminium
Insulation		Polyester
Glazing		Tempered
Tray Material		Zincalume®

Typical Installation Commercial Solar Premier Hiline Double Array



PREMIER HILINE®

Simplicity In Design

Rheem Premier Hiline® uses natural thermosiphon principles to efficiently transfer the energy from the collectors into the stainless steel storage tank. There is no need for circulators and primary flow and return lines. And the close coupled tank and collector saves plant room foot print. A closed circuit fluid transfers the energy via an internal heat exchanger into potable water stored in the tank.

Storage Tank

Premier Hiline® is supplied with a 300 litre stainless steel storage tank. This reduces the tank weight which reduces the structural load on the roof members. Choose to boost in tank with an electric heating unit or in series with specified Rheem commercial water heaters.

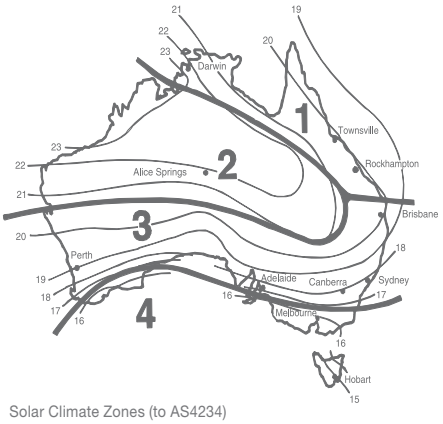
Freeze Protection

The system utilises propylene glycol as the heat transfer fluid which provides freeze protection to as low as -28°C. The closed circuit also protects the solar collectors from the effects of harsh water conditions.

S200 COLLECTOR TECHNICAL DATA		
Overall Dimensions H x W x D	mm	1937 x 1022 x 65
Aperture Area	m^2	1.86
Weight (empty /full)	kg	35/37
Fluid Capacity	Litres	2
Number of Risers		33
Absorber Material		Black Polyester Steel
Insulation		Polyester
Glazing		Tempered
Tray Material		Zincalume®

SOLAR RADIATION DATA

Location	Latitude	Solar Radiation (MJ/m²/day)	Best Solar Month	Zone	Collector to Tank Ratio – NPT200					
					610 340		610 430		1000SS	
					Min	Max	Min	Max	Min	Max
Darwin	12°	24.7	August	1	2.0	3.0	2.5	4.0	2.5	4.0
Cairns/ Townsville	17° 19°	24.0	September	1	2.3	3.5	2.8	4.0	2.8	4.0
Brisbane	27°	23.2	January	3	2.0	3.0	2.5	4.0	2.5	4.0
Perth	32°	28.9	January	3	2.0	3.0	2.3	3.5	2.3	3.5
Sydney	34°	23.5	December	3	2.2	3.5	2.7	4.0	2.7	4.0
Adelaide	35°	28.2	January	3	2.0	3.0	2.4	3.5	2.4	3.5
Canberra	35°	27.0	January	3	2.0	3.0	2.5	4.0	2.5	4.0
Melbourne	38°	24.4	January	4	2.0	3.1	2.5	4.0	2.5	4.0
Hobart	42°	23.6	January	4	2.4	3.5	3.0	4.5	3.0	4.5



Solar Climate Zones (to AS4234)
Note: Contours shown are annual mean solar radiation on a horizontal surface (MJ/m²/day).

SOLAR COLLECTOR INSTALLATION

NPT200 – Maximum of 24 collectors per array

Arrays	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
3	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72
4	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96
5	-	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120
6	-	-	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	-	-	-	-
7	-	-	-	49	56	63	70	77	84	91	98	105	112	119	126	-	-	-	-	-	-
8	-	-	-	-	64	72	80	88	96	104	112	120	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	81	90	99	108	117	126	-	-	-	-	-	-	-	-	-	-

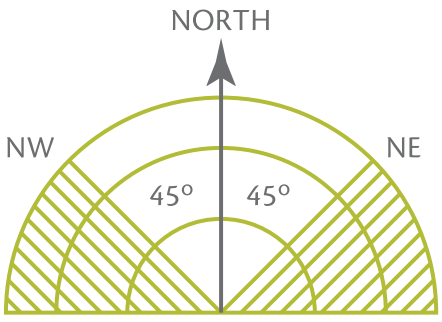
SOLAR STORAGE TANK INSTALLATION

Storage Tanks Per Bank – (Maximum of 10 Tanks Per Bank)

Banks	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	-	9	12	15	18	21	24	27	30
4	-	-	16	20	24	28	32	36	40
5	-	-	-	25	30	35	40	45	50

Collector Positioning

Recommended Aspect N.E. to N.W.

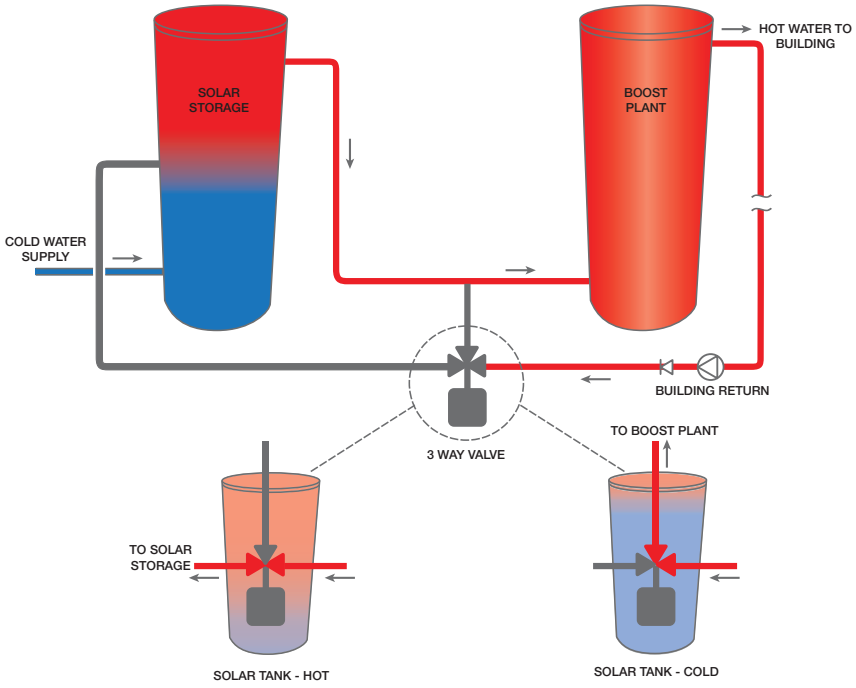


COMMERCIAL SOLAR SOLUTIONS

Rheem Commercial Loline Baruna Resort, Bali

Solar Secondary Return

- When there is sufficient energy in the solar storage tank (solar tank – hot) the 3 way valve diverts building return water to the solar storage and this passes through the in-line boost plant without further heating required to maintain ring main temperature
- When insufficient energy is detected in the solar storage tanks (solar tank – cold), the building return water is diverted through the in-line boost plant to maintain ring main temperature
- It is recommended to set the boost plant thermostat to no greater than 62°C to maximise energy savings



COMMERCIAL SOLAR INSTALLATION TIPS

Correct design and installation is critical to achieving maximum performance from your commercial solar system. The following is a guide to aid in good design:

- Collectors should ideally face due north (in the southern hemisphere), however a system installed with the collectors facing as far as north-east and north-west will experience approximately 5% drop in operating efficiency
- Collectors should be inclined at approximately the latitude angle, however 15° either way is acceptable, but not less than 10° from the horizontal. For flat roof installations, Rheem can supply variable pitch frames suitable for either 1 or 2 collectors with pre-set pitch angles of 15, 20 and 25°
- Copper flow and return lines only MUST be used between the solar storage tanks and the collectors
- The copper pipe must be well insulated and sheathed if externally mounted. AS3500.4 has guidelines specific to the zone
- See the relevant Pipe Size and Pump Selection Table for the correct specification of pipe size, pump selection and speed setting

Warranty*

- 5 year on the collector
- Loline 5 year on cylinder
- Premier Hiline 3 year on cylinder
- 1 year parts and labour on remainder

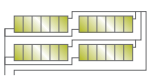
* **Conditions apply**: For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at www.rheem.com.au

COMMERCIAL SOLAR PIPE SIZE / PUMP SELECTION / SPEED SETTING – RHEEM LOLINE

Total Number Collectors	Combined Tank & Array Piping Length (m)[6]	Total Length (flow and return) Between Storage Tanks and Collector Array (m)[7]											
		10	20	30	40	50	60	70	80	90	100	150	200
15	30	DN20/20-60/1		DN20/20-60/2						DN20/20-60/3		DN20/32-80/2	DN20/32-80/3
		DN25/20-60/1											DN25/20-60/2
30	53+	DN25/20-45							-	-	-	-	-
		DN25/20-60/2		DN25/20-60/3								DN25/32-80/2	DN32/20-60/2
	53++	DN25/20-45							-	-	-	-	-
		DN25/20-60/2		DN25/20-60/3								DN25/32-80/2	DN32/20-60/2
45	63+	-	DN25/32-80/3				-	-	-	-	-	-	-
			DN32/20-45									DN32/20-60/3	
	90++	-	DN32/20-45						DN32/20-60/3				DN32/32-80/3
60	79+	-	DN32/32-80/3									-	-
			DN40/20-45									DN40/20-60/3	DN40/32-80/3
	120++	-	DN32/32-80/3					-	-	-	-	-	-
			DN40/20-45									DN40/20-60/3	DN40/32-80/3
75	92+	-	-	DN40/20-60/3	DN40/32-80/3								
				DN50/20-45									
	111++	-	-	DN40/32-80/3									
				DN50/20-45									
90	105+	-	-	DN40/32-80/3								-	-
				DN50/20-60/3								DN50/32-80/2	DN50/32-80/2
	159++	-	-	DN40/32-80/3		-	-	-	-	-	-	-	-
				DN50/20-60/3								DN50/32-80/2	DN50/32-80/3
105	118+	-	-	-	DN50/32-80/3								
	160++	-	-	-	DN50/32-80/3								
120	131+	-	-	-	DN50/32-80/3								
	215++	-	-	-	DN50/32-80/3								

[6] Total length of pipe inter-connecting tanks and collector arrays.
[7] Lineal length.

Notes:
- Pump selections are Grundfos. 20-60 = UPS20-60N, 20-45 = UP20-45N, 32-80 = UPS32-80N
- UPS20-60N set to speed 3 can be substituted for a UP20-45N, but not the reverse
- If actual number of panels falls between an array size, use the next biggest array
- If actual pipe length between tanks and collectors falls between the lengths shown, use the next longest length



++Side by Side Array

+Parallel Array

Reduced capital and maintenance costs

Warm water and hot water

Solar pre-heat capability

GUARDIAN WARM WATER

Rheem Guardian® Warm Water – Maximum Safety, Maximum Flow, Maximum Protection

Rheem Guardian is one of the simplest and most flexible solutions available for providing controlled warm water for special needs applications.

Special Features

- Primary heating plant can also be used to supply hot water for use in kitchens and laundries
- Suitable for indoor and outdoor installations
- Reduce capital and maintenance costs

Flexibility and Capital Savings

Rheem can provide impressive capital savings with the installation of a Rheem Guardian Warm Water System. With the ability to supplement existing plant, Rheem can supply all the benefits of warm water without the expense of installing a new plant.

And as the system can be coupled with Rheem commercial solar heating plant, Rheem can ensure you take advantage of the generous Government rebates and incentives reducing capital outlay whilst enhancing running cost savings.

Rheem also provide you with flexibility with the Guardian System. Suitable for installation indoors or outdoors, the system can be coupled with any Rheem or Raypak water heating plant, be it gas, electric, solar or heat pump. The primary heating plant can also be used to supply hot water for use in kitchens and laundries, negating the need for a separate hot water plant.

Simplicity in Design, Installation and Maintenance

The hallmark of Rheem design is simplicity and flexibility. This has been achieved with Rheem Guardian providing accurate thermostatic control in a small and compact unit.

Rheem Guardian employs Rada 320 thermostatic mixing valve technology and is supplied pre-assembled in a neat tamperproof enclosure. This provides quick and easy installation and requires no electrical connection, which improves reliability.

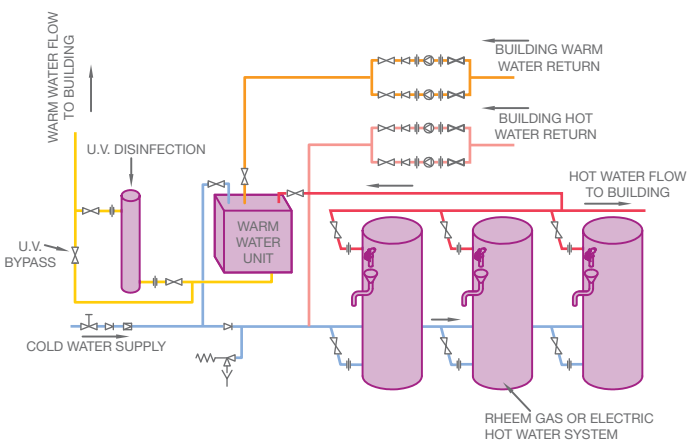
The Rheem system is supplied with UV disinfection as standard. We recommend compliance with the most stringent commissioning and maintenance regime in accordance with AS3666 and local regulations to safeguard against Legionella.

Rheem Guardian ensures continuing operation during periods of maintenance (160L and 240L models), and because of an ingenious thermostatic cartridge design, maintenance is made easy.

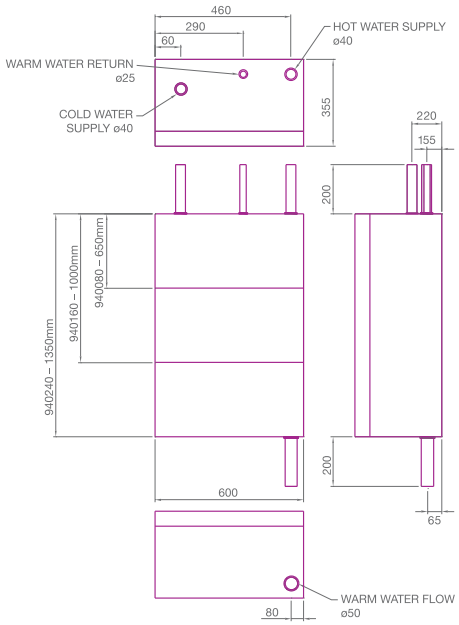
Not to forget the Rheem Guardian is backed by a 2 Year Cartridge Warranty*, Rheem's expert Technical Advisory Service and nation-wide After Sales Network.

940 160 model illustrated

Typical installation – Rheem Warm & Hot Water



Warm Water Roughing in Dimensions



TECHNICAL DATA TABLE

WARM WATER

Model		940 080	940 160	940 240
Nominated Flow Rate[8]	L/min	80	160	240
Max. Water Supply Pressure – Static/Dynamic	kPa	1000/800	1000/800	1000/800
Thermostatic Control Range	°C	25 – 60	25 – 60	25 – 60
Max. Hot Water Supply Temp (Temporary)	°C	85	85	85
Max. Outlet Temperature (Sanitising)[9]	°C	85	85	85
Min. Temp Differential Between				
Cold Supply and Outlet (Flow Conditions)	°C	15	15	15
Hot Supply and Outlet (Flow Conditions)	°C	15	15	15
Recommended Minimum Recirculation Flow Rate[8]	L/min	8	16	24
Recommended Minimum Temperature Loss in Recirculation Circuit	°C	2	2	2
Weight – Empty	kg	38	56	73
Indoor/Outdoor		yes	yes	yes

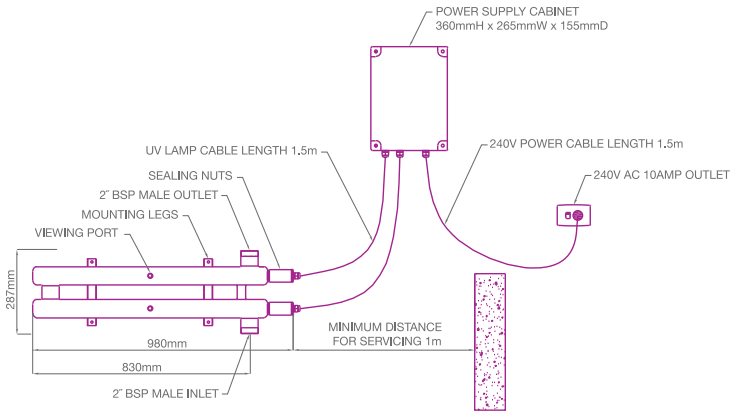
ULTRA VIOLET DISINFECTION

Model		940 001	940 002	940 002
Nominated Maximum Flow Rate	L/min	83	250	250
Weight – Empty	kg	15	15	15
Electrical rating 240v 50Hz	Watts	216	480	480
	Amps	0.9	2.0	2.0
Viewing Window		yes	yes	yes
Audible Lamp Fail Alarm		yes	yes	yes
Volt Free Contacts for Remote Alarm		yes	yes	yes
Hours Run Meter		yes	yes	yes
Indoor/Outdoor		yes	yes	yes

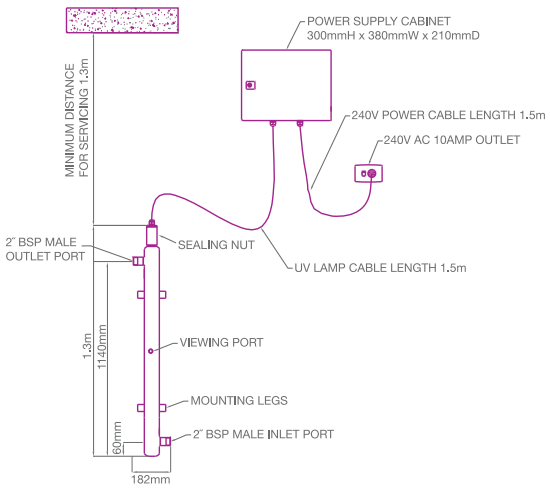
[8] At mid blend and equal dynamic supply pressures.
[9] It is recommended the ultra violet disinfection system lamps be de-energised if the outlet temperature exceeds 50°C.

Warranty* – 2 year commercial cartridge warranty.
***Conditions apply**: For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at www.rheem.com.au

Roughing in dimensions of 940 001 UV Disinfection



Roughing in dimensions of 940 002 UV Disinfection



Multi-Fin flue technology

Flue damper saves energy

Electronic controls

COMMERCIAL STORAGE GAS

Dependability

The Rheem heavy duty gas range is the work horse of the industry providing years of tried and trusted performance for all types of applications.

Our water heaters have a range of individual features, and they're available in indoor or outdoor models.

Rheem's Equa-Flow® system means there's enough flexibility to suit most water heating applications.

Controls are easy to set or adjust, and include several key performance and safety features.

Quality

High quality is one reason for Rheem's reputation with the experts.

Take the Rheem storage cylinder: it's made from a special grade of steel and lined with a double coat of vitreous enamel which is better suited to a wider variety of water conditions. And multiple anodes provide greater protection.

It's where reliability starts.

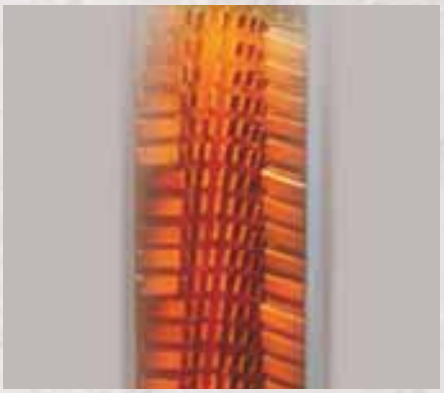
Special features

- Hot Surface Ignition (HSI) which removes the need for a pilot light, lowers operating costs and makes Rheem more reliable. There's also a 100% flame failure control built in
- Multi-Fin flue tube technology for ultra high performance, providing greater thermal input and better thermal efficiency in less space
- Flue damper (on the 621 275) to close off the primary flue when the burner is not operating, reducing maintenance rates by up to 60% when compared to AGA maximum allowance
- Electronic thermostat providing fine temperature control with digital setting display
- Room-sealed fluing option eliminates the need for fan assistance or mechanical ventilation and power flue terminal connections simplify wiring
- A bank of 8 x 621 275 or 631 275 Rheem commercial gas water heaters can deliver 7720 litres of hot water in the first hour
- A multiple manifold installation may be used when more than 8 water heaters or storage tanks are required
- It's worth noting Rheem commercial water heaters can be controlled by a remote device, such as a time clock or a remote isolating switch

Warranty*

- 5 year on the cylinder
- 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

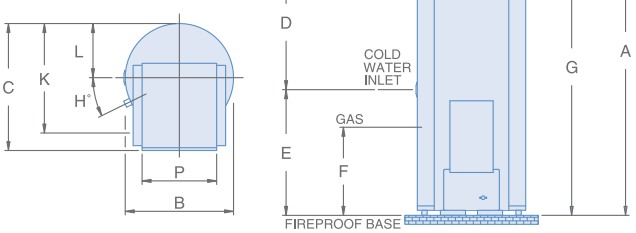


Rheem Multi-fin flue.

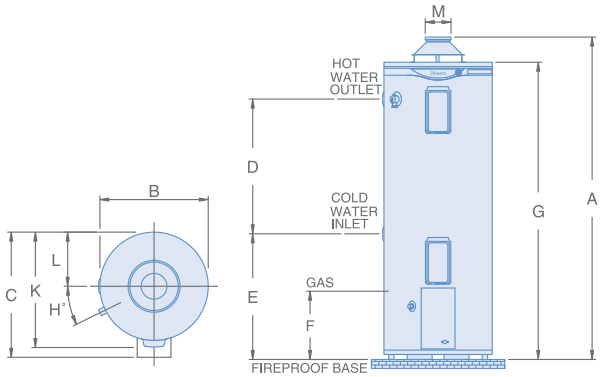
DIMENSIONS AND TECHNICAL DATA TABLE			OUTDOOR MODELS			INDOOR MODELS		
Model			**630 260**	**631 265**	**631 275**	**620 260**	**621 265**	**621 275**
Storage Capacity		litres	260	265	275	260	265	275
Dimensions								
	A	mm	1640	1835	1865	1640	1795	1895
	B	mm	595	610	640	595	610	640
	C	mm	680	710	780	670	750	780
	D	mm	990	750	760	990	750	760
	E	mm	330	700	700	330	700	700
	F	mm	295	380	340	297	380	340
	G	mm	1520	1655	1695	1520	1655	1695
	H	degrees	27	36	36	27	36	36
	K	mm	655	660	722	655	660	722
	L	mm	295	302	320	295	302	320
	M	mm	–	–	–	100	125	200
	P	mm	420	420	320	–	–	–
Weight – Empty		kg	106	132	197	98	129	187
Inlet/Outlet Connections (BSPF)			RP1¼/32	RP1¼/32	RP1¼/32	RP1¼/32	RP1¼/32	RP1¼/32
Gas Connection (BSPF)			RP½/15	RP¾/20	RP¾/20	RP½/15	RP¾/20	RP¾/20
T&PR Valve Connection (BSPF)			RP¾/20	RP¾/20	RP¾/20	RP¾/20	RP¾/20	RP¾/20
T&PR Valve Setting		kPa	1000	1000	1000	1000	1000	1000
Expansion Control Valve (ECV)[10] Setting		kPa	850	850	850	850	850	850
Max. Water Supply Pressure								
without ECV[10] fitted		kPa	800	800	800	800	800	800
with ECV[10] fitted		kPa	680	680	680	680	680	680
Max. Thermostat Setting		°C	65	82	82	65	82	82
Factory Thermostat Setting		°C	60	70	70	60	70	70
Min. Thermostat Setting		°C	off	60	60	off	60	60
Manifold – Min. Centre to Centre		mm	920	920	890	845	860	890
Electrical Connection			–	2m 10A Plug and Lead		–	2m 10A Plug and Lead	
Electrical Rating 240V 50Hz			–	150 Watts	250 Watts	–	150 Watts	150 Watts
				0.65 Amps	1.1 Amps		0.65 Amps	0.65 Amps

[10] Expansion control valve not supplied with water heater.

Outdoor Models



Indoor Models



COMMERCIAL STORAGE GAS

PERFORMANCE DATA

Model	No. of Units in Parallel	Initial Storage Capacity (Litres)	Thermal Input (MJ/h)	Litres hot water at 50°C rise over peak period (based on natural gas)					
				1 hour	2 hours	3 hours	4 hours	6 hours	8 hours
620 260 & 630 260	1	260	50	380	570	760	950	1330	1700
	2	520	100	770	1140	1520	1900	2650	3410
	3	780	150	1150	1720	2280	2850	3980	5110
621 265 & 631 265	1	265	110	620	1030	1440	1850	2670	3490
	2	530	220	1240	2060	2880	3700	5340	6980
	3	795	330	1870	3100	4330	5560	8010	10470
621 275 & 631 275	1	275	200	970	1710	2460	3200	4690	6180
	2	550	400	1930	3420	4910	6400	9380	12370
	3	825	600	2900	5130	7370	9600	14080	18550
	4	1100	800	3860	6840	9820	12810	18770	24730
	5	1375	1000	4830	8550	12280	16010	23460	30910
	6	1650	1200	5790	10260	14740	19210	28150	37100

Model	No. of Units in Parallel	Initial Storage Capacity (Litres)	Thermal Input (MJ/h)	Litres hot water at 65°C rise over peak period (based on natural gas)					
				1 hour	2 hours	3 hours	4 hours	6 hours	8 hours
621 265 & 631 265	1	265	110	530	840	1160	1470	2100	2730
	2	530	220	1050	1690	2320	2950	4210	5470
	3	795	330	1580	2530	3470	4420	6310	8200
621 275 & 631 275	1	275	200	790	1370	1940	2510	3660	4810
	2	550	400	1590	2730	3880	5030	7320	9610
	3	825	600	2380	4100	5820	7540	10980	14420
	4	1100	800	3170	5470	7760	10050	14640	19230
	5	1375	1000	3970	6830	9700	12570	18300	24030
	6	1650	1200	4760	8200	11640	15080	21960	28840

Note: Hot water figures rounded to the nearest 10 litres.

Operations at temperatures above 80°C

Rheem commercial gas models 621 265, 631 265, 621 275, 631 275 are designed to operate at temperatures up to 82°C for sanitising and other applications.

Where the water supplied by the water heater is required consistently at any temperature above 80°C, we strongly recommend you use a pumped recirculation system. (Please refer to the Equa-Flow® section.)

Gas pipe supply

The gas supply piping should be sized in accordance with AS5601.

The gas supply pipe must be sized so that the minimum gas pressure is available at the inlet to each water heater when all appliances are operating at maximum gas consumption.

The minimum gas pressures are 1.13 kPa for natural and SNG, 2.75 kPa for propane and butane and 0.75 kPa for town gas and TLP.

TECHNICAL GAS PERFORMANCE DETAILS

Model		620 260 & 630 260			621 265 & 631 265			621 275 & 631 275		
Gas Type		Nat/SNG	Propane	Butane	Nat/SNG	Propane	Butane	Nat/SNG	Propane	Butane
Thermal Input	MJ/h	50	47	39	110	100	95	200	190	160
Output	kW	11.0	10.3	8.6	23.8	21.7	20.6	43.3	41.2	34.7
Min. Gas Supply Pressure	kPa	1.13	2.75	2.75	1.13	2.75	2.75	1.13	2.75	2.75
Test Point Pressure	kPa	1.00	2.70	2.70	0.85	2.50	2.50	0.90	2.65	2.65
Max. Gas Supply Pressure	kPa	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Litres Recovery Per Hour at Rise of	20°C	480	450	370	1030	940	890	1870	1780	1500
	30°C	320	300	250	690	630	600	1250	1190	1000
	40°C	240	230	190	520	470	450	940	890	750
	50°C	190	180	150	410	380	360	750	710	600
	60°C	160	150	130	350	320	300	630	600	500
	65°C	150	140	120	320	290	280	580	550	460
	70°C	140	130	110	300	270	260	540	510	430
	75°C	130	120	100	280	250	240	500	480	400

Note: Recovery figures rounded to the nearest 10 litres.

Approximate daily energy consumption

These daily gas consumption figures are approximate. They're based on:

- A daily usage of hot water per water heater in litres, at 50°C rise
- Using natural gas, but they can be used with reasonable accuracy for other gas types
- Mains pressure supply systems only

The figures do not allow for pipe heat losses. An additional allowance must be made for large manifold systems and installations designed with a circulated flow and return system.

Use the table to calculate

- The approximate energy cost for a particular installation
- The average daily hot water consumption when the energy consumption is known

APPROXIMATE DAILY ENERGY CONSUMPTION

Daily Hot Water Usage @ 50°C Temp Rise	Energy Content of Hot Water	RHEEM COMMERCIAL GAS WATER HEATERS Approximate Energy Used Per Day Natural Gas (MJ)					
(Litres)	(MJ)	620 260	621 265	621 275	630 260	631 265	631 275
0	0.0	33.9	53.3	26.1	30.7	42.7	50.7
50	10.5	47.1	66.9	39.6	43.8	56.1	64.0
100	20.9	60.3	80.4	53.1	57.0	69.5	77.3
150	31.4	73.5	94.0	66.5	70.2	82.9	90.7
200	41.9	86.7	107.6	80.0	83.3	96.3	104.0
250	52.3	99.9	121.1	93.5	96.5	109.8	117.3
300	62.8	113.0	134.7	106.9	109.6	123.2	130.7
350	73.3	126.2	148.2	120.4	122.8	136.6	144.0
400	83.7	139.4	161.8	133.9	136.0	150.0	157.3
450	94.2	152.6	175.3	147.3	149.1	163.4	170.6
500	104.7	165.8	188.9	160.8	162.3	176.8	184.0
600	125.6	192.2	216.0	187.8	188.6	203.7	210.6
700	146.5	218.6	243.1	214.7	215.0	230.5	237.3
800	167.4	245.0	270.2	241.6	241.3	257.3	264.0
900	188.4	271.4	297.3	268.6	267.6	284.2	290.6
1000	209.3	297.8	324.4	295.5	293.9	311.0	317.3
1250	261.6	363.8	392.2	362.8	359.8	378.1	383.9
1500	314.0	429.8	460.0	430.2	425.6	445.2	450.6
1750	366.3	495.8	527.8	497.5	491.4	512.3	517.3
2000	418.6	-	595.6	564.9	-	579.3	583.9
2500	523.3	-	731.1	699.6	-	713.5	717.2
3000	627.9	-	866.7	834.2	-	847.7	850.5
3500	732.6	-	1002.2	968.9	-	981.8	983.9
4000	837.2	-	-	1103.6	-	-	1117.2
5000	1046.5	-	-	1373.0	-	-	1383.8

To convert to kg of Propane, divide MJ by 49.5. To convert to litres of Propane, divide MJ by 25.3.

Solve several problems with room sealed fluing

The Rheem model 631 275 can be installed inside a plant room as part of a room sealed installation, using the Rheem Room Sealed Balanced Flue kit, P/No 299135.

This is the ideal solution for a difficult installation, because it solves several problems.

You don't need to worry about ventilation into the plant room, or the need for fan assistance when discharging flue products horizontally.

Nor do you need to run a flue to a satisfactory vertical discharge point (usually at the top of the building).

The Room Sealed Kit is designed to enable flue products to be discharged up to 3 metres total flue discharge length from the water heater. It can incorporate up to 3 x 90° bends.

Interconnecting nominal 150mm inlet air and flue ducting should be supplied by the installing plumber.

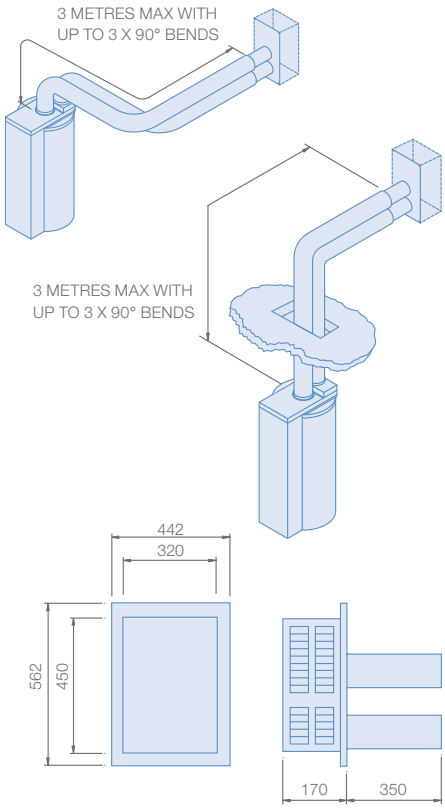
The kit includes transition pieces, which are designed to accept twin skin flue tubes.

The Room Sealed Balanced Flue kit can be fully installed from within the plant room.

It's suitable for walls up to a maximum thickness of 300mm, and it reuses the balanced flue from the water heater by relocating it on the external wall of the plant room.

A minimum plant room height of 2400mm is required, and the minimum clearances required for balanced flue terminals (as stated in AS5601) must be observed.

This includes a minimum of 300mm between balanced flue terminals for this model.



Ventilation for indoor gas water heaters

It's a requirement of AS5601 that indoor gas water heaters (non room sealed) are installed in a location with adequate ventilation.

Two permanent openings are required into the room housing the water heaters.

The distance from the top of the upper opening to the ceiling and from the bottom of the lower opening to the floor, cannot each exceed 5% of the room height.

The two openings can be combined, as long as the top and bottom of the opening are within the 5% distance requirement.

The minimum vertical dimension of any free ventilation opening is 6mm.

The minimum free ventilation area of each opening required for each Rheem commercial gas water heater installed is shown in the table.

Please refer to AS5601 for full details of the requirements.

Notes

1. Although a room sealed water heater installation draws the air required for combustion from outside, ventilation may be necessary to prevent a rise in the ambient temperature in the room.
2. In plant rooms, wherever possible more than one wall should be used to provide ventilation. This allows a flow of air across the room and helps prevent excessive temperatures in the room.
3. In rooms other than plant rooms, ventilation is required if the total thermal input of the water heaters exceeds 3 MJ/h per cubic metre of room volume.
4. AS5601 should be consulted for further requirements when ventilating through adjacent rooms to the water heater installation.

VENTILATION REQUIREMENTS

		Natural Ventilation (Area of Each Opening Per Water Heater)				Mechanical Ventilation (Per Water Heater)		
		Location of Water Heater						
		Plant Room		Non Plant Room		Low Level	High Level	
Model	Thermal Input	Direct to Outside	via Adjacent Room	Direct to Outside	via Adjacent Room	Mechanical Air Supply	Mechanical Exhaust[11]	Natural Exhaust
	MJ/h	(cm^2)	(cm^2)	(cm^2)	(cm^2)	(L/s)	(L/s)	(cm^2)
620 260	50	75	150	150	300	25	8	75
621 265	110	165	330	330	660	55	16	165
621 275	200	300	600	600	1200	100	29	300

[11] Natural air supply with a mechanical exhaust is not permitted.

Power fluing

You can either install an individual Rheem gas model or a bank of multiple 621 265, 621 275 models with a power flue.

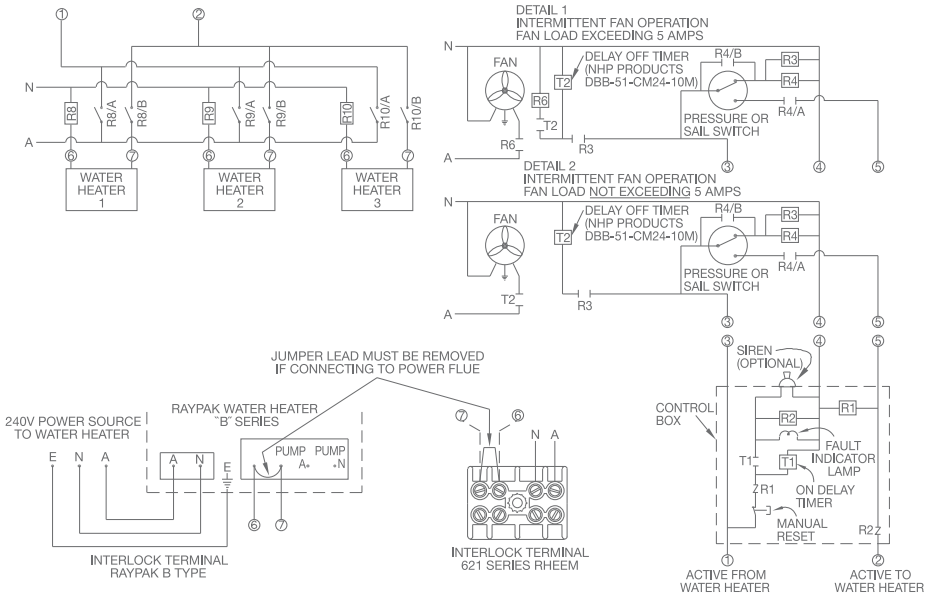
It's essential to prove the flue system operates correctly before the main burner is allowed to operate.

How do you achieve this? A self proving relay interconnected with either a vane switch or pressure differential switch will prove both air flow and functionality of the control circuit before ignition of the main burner.

Please refer to AS5601 for full details of what's required.

For multiple installations, the operating principle is the same as for a single water heater.

Any water heater can switch on the fan, and the burners can only come on when the sail switch is closed.



Intermittent PowerFlue Fan Control – Multiple Water Heater Rheem 621 Series & Raypak Type B Series.

Power Flue and Remote control

Rheem commercial models 621 265, 631 265, 621 275, 631 275 may be controlled by a remote device such as a time clock, remote isolating switch, pressure switch or sail switch. Additionally, Rheem can assist with Power Flue design solutions for Rheem and Raypak® commercial gas water heaters. For further details please contact your local Rheem technical advisory service.

Fluing: minimum distances for outdoor gas water heaters

Rheem outdoor gas water heaters have a balanced flue and do not require the addition of secondary fluing. Minimum clearance requirements, as stated in AS5601, apply to the location of outdoor balanced flue, room sealed or power flue terminals.

The Standard also states that where a balanced flue or room sealed terminal is installed under a covered area, then the covered area is to be open on at least two sides and the terminal is to be located to ensure a free flow of air across the terminal.

Additionally Rheem requires the water heater be installed with the back of the unit against a wall or alternatively against a solid fireproof screen extending at least 500mm above, below and either side of the flue terminal.

Fluing: indoor gas water heaters

Rheem indoor gas water heaters are designed for connection to a flue system in accordance with the requirements of AS5601.

Manifolded water heaters can either be flued individually or connected to a common flue. The design of the flue must comply with Appendix H of the Standard.

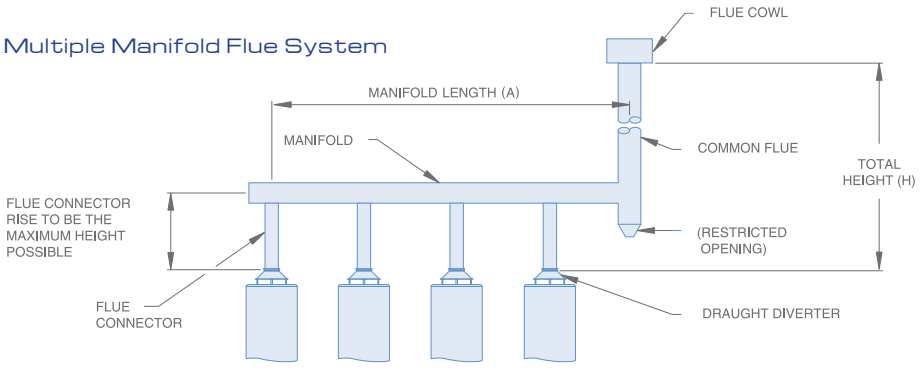
AS5601 states the vertical rise directly out of the water heater must be the maximum possible height before any change in direction.

Also, the total length of the lateral (horizontal) section must be as short as possible, not exceeding 50% of the total flue height of the system.

The table and diagram below are extracted from the Flue Tables in AS5601 and are meant as a quick guide only. Any variations should be referenced from AS5601.

Appropriate authorities should be consulted before any work is commenced on flues other than single appliance flues.

Multiple Manifold Flue System



NOTE: THE LENGTH OF MANIFOLD ``A'' SHOULD NOT EXCEED 50% OF TOTAL FLUE HEIGHT ``H.''

FLUE SIZING FOR GAS WATER HEATERS

		1		2		4		6		8	
Model	Total Flue Height (H) (m)	Max. Lateral (m)	Flue Dia (mm)	Max. Manifold Length (A) (m)	Flue Dia (mm)	Max. Manifold Length (A) (m)	Flue Dia (mm)	Max. Manifold Length (A) (m)	Flue Dia (mm)	Max. Manifold Length (A) (m)	Flue Dia (mm)
620 260	2	1.0	100	1.0	125	-	-	-	-	-	-
50 MJ/h	3	1.5	100	1.5	125	-	-	-	-	-	-
	6	3.0	100	3.0	125	3.0	150	-	-	-	-
	12	6.0	100	6.0	100	6.0	150	6.0	175	-	-
	24	7.6	150	12.0	150	12.0	150	12.0	150	12.0	175
621 265	2	1.0	150	1.0	200	-	-	-	-	-	-
110 MJ/h	3	1.5	125	1.5	175	-	-	-	-	-	-
	6	3.0	125	3.0	150	3.0	200	-	-	-	-
	12	6.0	125	6.0	150	6.0	200	6.0	250	-	-
	24	7.6	150	12.0	150	12.0	175	12.0	250	12.0	250
621 275	2	1.0	175	1.0	250	-	-	-	-	-	-
200 MJ/h	3	1.5	175	1.5	250	-	-	-	-	-	-
	6	3.0	150	3.0	200	3.0	300	-	-	-	-
	12	6.0	150	6.0	200	6.0	250	6.0	300	-	-
	24	7.6	150	12.0	175	12.0	250	12.0	300	12.0	300

Notes:
- The table is based on a natural draft system with an insulated type flue or a flue installed indoors
- The table is extracted from the Flue Tables in AS5601 and is meant as a quick guide only. Any variations should be referenced from AS5601

All copper & bronze construction

On/Off & modulating models

High temperature applications

RAYPAK® HOT WATER & HEATING

Raypak® is a compact, efficient heating design which is the ideal way to heat large quantities of water for both hot water and hydronic applications.

The use of direct fired pure copper finned heat exchangers has been well proven over time.

And in the past fifty years, the Raypak® range has developed the high input water heater even further.

Efficiency

- Efficient all copper heat exchanger provides an outstanding 82% thermal efficiency
- Hot Surface Ignition (HSI) or spark ignition reduces operating costs
- Economaster pump control saves energy

Robust Design

- Raypak® copper tube gas water heaters are high quality, versatile and robust
- Lightweight ceramic fibre refractory panels have an ingenious design which reduces heat loss
- All copper and bronze construction resists combined effects of corrosion and high temperature

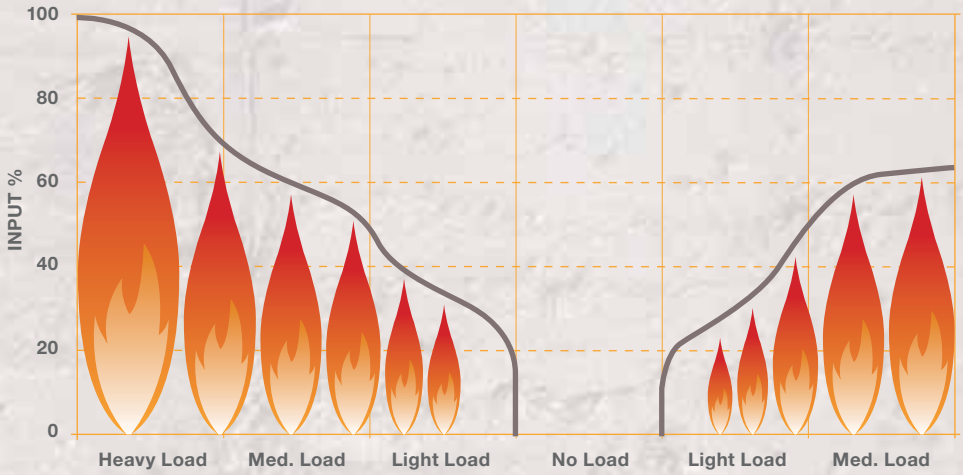
Simplicity and Reliability

- High recovery with low storage, supplies large amounts of hot water with low running costs
- Slide out burner tray for easy servicing
- Covered by unequalled service network and technical advisors

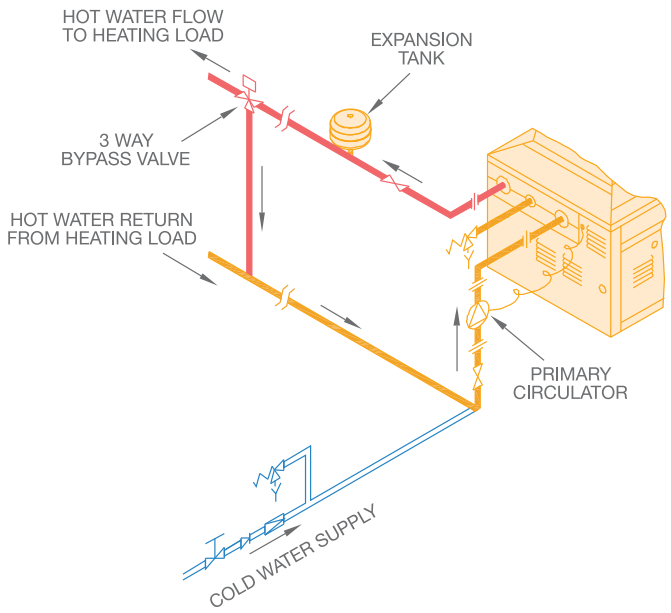
Versatile Applications

- Compact design suitable for low ceiling heights
- On/Off models provide heating for commercial hot water systems
- Modulating models are suitable for mechanical heating
- High (up to 90°C) and low temperature heating capable

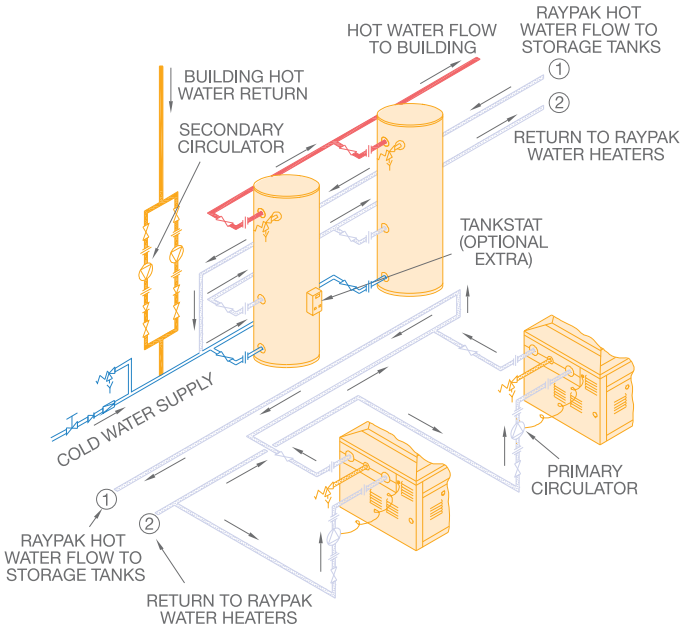
Raypak Modulation



Single Mechanical Heating System



Double Domestic Hot Water System



Options

- Left hand (normal) or right hand configurations
- Temperature and pressure gauges
- For difficult to reach locations, Raypak® can be supplied in knock down form for on site assembly (POA)
- Relay run and fault status for connection to BMS (standard on Type B models)
- Water flow switch (standard on Type B models)

Special features

- Slide out heat exchanger for easy servicing
- All Raypak® models are available with On/Off burners and all, except the 147 and 507 models, are available with modulating burners
- Additional storage tanks offer mains pressure performance
- Fast automatic response to temperature changes is provided by the optional outdoor Ambient Air Sensor controller
- Models from 538 up to 4224 can be connected to a building management system for monitoring
- Raypak models are an ideal heat source where system water temperatures of below 35°C are required
- The On/Off type water heaters can operate as low as 41°C without any condensation or sooting

Warranty*

- 5 years heat exchanger
- 1 year parts and labour

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

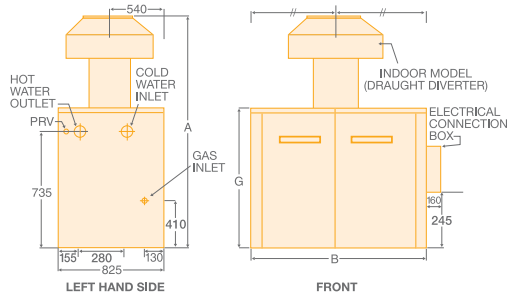
RAYPAK PIPE SIZE AND PUMP SELECTION CHART

Model	Pump			Branch Size	Minimum Manifold Header Size Required (mm)			
	UPS/UP Series	Speed	TP Series		1 Unit	2 Units	3 Units	4 Units
147	20-60N 20-45N	3 -		25mm	20	32	32	40
200	20-60N 20-45N	3 -		25mm	25	32	40	50
280	20-60N 20-45N	3 -		32mm	32	32	50	50
350	32-80N	2		32mm	32	40	50	50
430	32-80N	3		32mm	32	40	50	65
507	32-80N	3		32mm	32	50	65	65
538	32-80N	3		32mm	32	50	65	80
658	32-80N	3		40mm	40	50	65	80
768	32-80N 40-60/2B	3 2	50-30/4B -	50mm 40mm	50 40	80 50	100 80	100 80
868	32-80N 40-60/2B	3 1	- 50-30/4B	65mm 50mm	65 50	100 65	125 80	150 100
972 / 992	40-60/2B	3	50-60/FB	50mm	50	65	80	100
1142 / 1182	40-60/2B	3	50-60/FB	65mm	65	80	100	100
1242 / 1292	40-60/2B	3	50-60/FB	65mm	65	80	100	100
1362 / 1412	50-120B	1	50-60/FB	65mm	65	80	100	100
1662 / 1722	50-120B	3	80-120FB	65mm	65	80	100	125
1852 / 1922	50-120B	3	80-120FB	65mm	65	80	100	125
2004 / 2214	50-120B	3	80-120FB	80mm	80	100	125	125
2404 / 2634	80-120B	2	80-120FB	80mm	80	100	125	150
2804 / 3164	80-120B	3	80-120FB	80mm	80	100	150	150
3304 / 3694	80-120B	3	80-120FB	100mm	100	125	150	150
3804 / 4224	80-120B	3	80-120FB	100mm	100	125	150	150

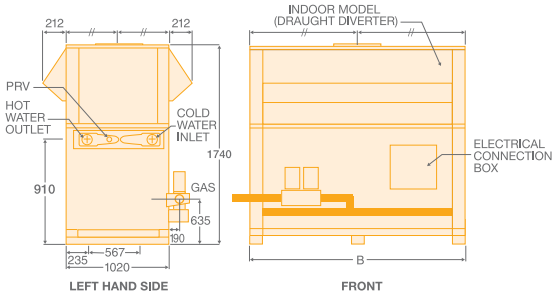
Note: TP series circulator is recommended for hard water areas in lieu of UPS series circulator

Manifold header sizes are minimum requirements for water heater performance

Models 992, 1182, 1292, 1412, 1722, 1922 (Indoor)



Models 2214, 2634, 3164, 3694, 4224 (Indoor)

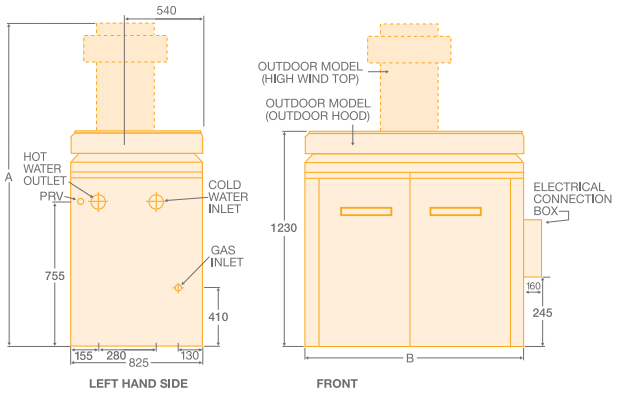


DIMENSIONS AND TECHNICAL DATA TABLE – INDOOR MODELS

Model		992	1182	1292	1412	1722	1922	2214	2634	3164	3694	4224
Natural – Input	MJ/h	999	1,186	1,289	1,412	1,719	1,926	2,215	2,636	3,165	3,692	4,224
– Output	kW	225	265	285	315	380	430	505	600	720	840	960
Propane – Input	MJ/h	933	1,090	1,186	1,296	1,581	1,772	2,150	2,530	3,035	3,540	4,045
– Output	kW	205	240	265	290	350	395	480	560	675	790	900
Dimensions												
A	mm	1,810	1,915	1,915	1,990	2,060	2,130	-	-	-	-	-
B	mm	1,330	1,510	1,615	1,740	2,070	2,270	1,550	1,780	2,060	2,350	2,640
G	mm	860	860	860	860	930	930	-	-	-	-	-
Flue Connection	mm	355	405	405	455	455	505	610	660	710	760	815
Weight	kg	310	330	360	390	440	460	625	700	780	860	940
Inlet/Outlet Connections		RC2½/65	RC2½/65	RC2½/65	RC2½/65	RC2½/65	RC2½/65	R3/80	R3/80	R3/80	R3/80	R3/80
Gas Connection												
Natural – On / Off Models		R1½/40	R1½/40	R1½/40	R1½/40	R2/50	R2/50	R2/50	R2½/65	R2½/65	R3/80	R3/80
Natural – Modulating Models		R1½/40	R1½/40	R1½/40	R1½/40	R2/50	R2/50	R2/50	R2½/65	R2½/65	R3/80	R3/80
Propane – On / Off Models		R1¼/32	R1¼/32	R1¼/32	R1¼/32	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Propane – Modulating Models		R¾/20	R¾/20	R¾/20	R1/25	R1/25	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Relief Valve Connection												
On/Off Models		RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	R1¾/20	RC1/25	RC1/25	RC1/25
Modulating Models		RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC1/25	RC1/25	RC1¼/32	RC1¼/32	RC1½/40	RC1½/40	RC1½/40
Electrical Rating 240V 50Hz	Watts	100	100	100	100	100	100	100	100	100	100	100
	Amps	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Min. Buffer Tank Capacity	Litres	410	650	650	650	650	820	975	975	975	1,230	1,300
Max. Storage Capacity	Litres	11,000	13,000	14,500	16,000	19,500	22,000	27,000	31,000	37,000	43,500	49,500
Natural Gas												
Litres Recovery Per Hour @	30°C rise	6,450	7,597	8,170	9,030	10,893	12,327	14,477	17,200	20,640	24,080	27,520
	40°C rise	4,838	5,698	6,128	6,773	8,170	9,245	10,858	12,900	15,480	18,060	20,640
	50°C rise	3,870	4,558	4,902	5,418	6,536	7,396	8,686	10,320	12,384	14,448	16,512
	60°C rise	3,225	3,798	4,085	4,515	5,447	6,163	7,238	8,600	10,320	12,040	13,760
	65°C rise	2,977	3,506	3,771	4,168	5,028	5,689	6,682	7,939	9,526	11,114	12,702
	70°C rise	2,764	3,256	3,501	3,870	4,669	5,283	6,204	7,372	8,846	10,320	11,794
	75°C rise	2,580	3,039	3,268	3,612	4,357	4,931	5,791	6,880	8,256	9,632	11,008
	80°C rise	2,419	2,849	3,064	3,386	4,085	4,623	5,429	6,450	7,740	9,030	10,320
	85°C rise	2,276	2,681	2,884	3,187	3,845	4,351	5,109	6,071	7,285	8,499	9,713
Flow Rate and Pressure Drop												
Max. Flow Rate												
Modulating (10°C rise)*	L/s	5.38	6.31	6.31	6.31	6.31	6.31	12.06	12.62	12.62	12.62	12.62
Pressure Drop	kPa	29	44	46	49	55	58	48	49	50	54	57
Max. Flow Rate												
On/Off (15°C rise)*	L/s	3.58	4.22	4.54	5.02	5.68	5.68	8.04	9.56	11.47	12.62	12.62
Pressure Drop	kPa	12	18	24	30	50	58	20	28	38	54	57
Min. Flow Rate												
(20°C rise)*	L/s	2.69	3.17	3.40	3.76	4.54	5.14	6.03	7.17	8.60	10.03	11.47
Pressure Drop	kPa	7	11	14	18	30	39	12	17	23	30	42

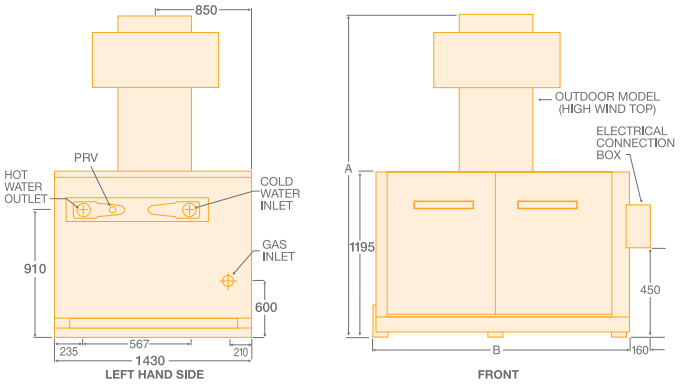
* Guide only.

Models 972, 1142, 1242, 1362, 1662, 1852 (Outdoor)



Models 2004, 2404, 2804*, 3304*, 3804* (Outdoor)

* Two high wind tops per model

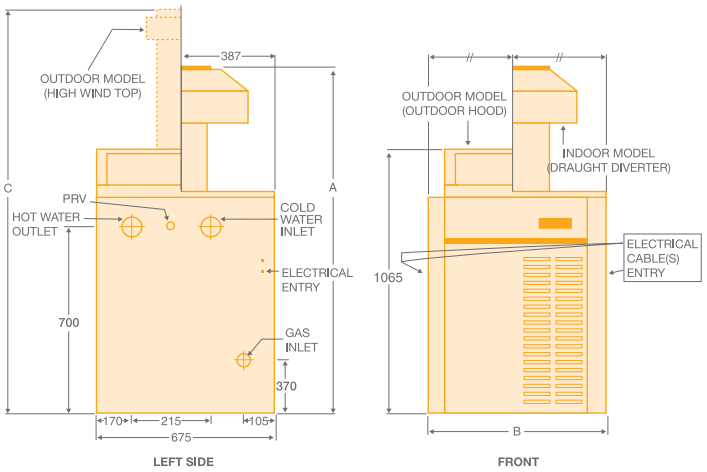


DIMENSIONS AND TECHNICAL DATA TABLE – OUTDOOR MODELS

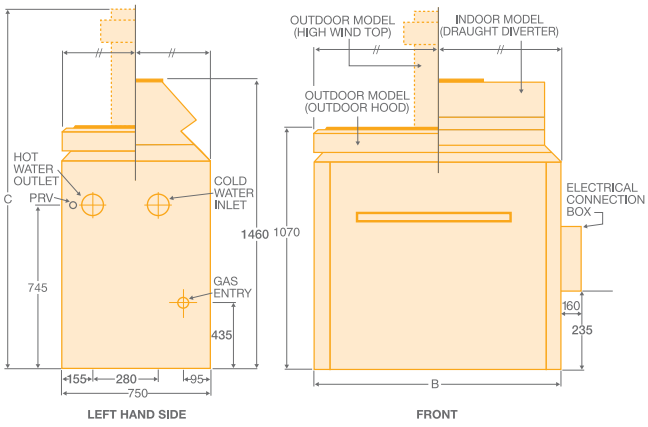
Model		972	1142	1242	1362	1662	1852	2004	2404	2804	3304	3804
Natural – Input	MJ/h	976	1,142	1,242	1,357	1,657	1,854	2,004	2,404	2,804	3,304	3,804
– Output	kW	220	255	275	300	370	410	445	530	625	740	845
Propane – Input	MJ/h	933	1,090	1,186	1,296	1,581	1,772	2,150	2,530	3,035	3,540	4,045
– Output	kW	205	240	265	290	350	395	480	560	675	790	900
Dimensions												
A	mm	2,500	2,395	2,395	2,570	2,640	2,920	3,165	3,210	3,185	2,965	3,165
B	mm	1,330	1,510	1,615	1,740	2,070	2,270	1,550	1,780	2,060	2,350	2,635
Weight	kg	360	385	410	440	510	520	650	730	810	890	970
Inlet/Outlet Connections		RC2½/65	RC2½/65	RC2½/65	RC2½/65	RC2½/65	RC2½/65	R3/80	R3/80	R3/80	R3/80	R3/80
Gas Connection												
Natural – On / Off Models		R1½/40	R1½/40	R1½/40	R1½/40	R2/50	R2/50	R2/50	RC2½/65	RC2½/65	RC2½/65	R3/80
Natural – Modulating Models		R1½/40	R1½/40	R1½/40	R1½/40	R2/50	R2/50	R2/50	RC2½/65	RC2½/65	R3/80	R3/80
Propane – On / Off Models		R1¼/32	R1¼/32	R1¼/32	R1¼/32	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Propane – Modulating Models		R¾/20	R¾/20	R¾/20	R1/25	R1/25	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Relief Valve Connection												
On/Off models		RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC1/25	RC1/25	RC1/25
Modulating models		RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC1/25	RC1/25	RC1¼/32	RC1¼/32	RC1½/40	RC1½/40	RC1½/40
Electrical Rating 240V 50Hz	Watts	100	100	100	100	100	100	100	100	100	100	100
	Amps	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Min. Buffer Tank Capacity	Litres	410	650	650	650	650	820	975	975	975	1,230	1,230
Max. Storage Capacity	Litres	11,000	13,000	14,000	15,500	19,000	21,000	23,000	27,000	32,000	39,000	43,000
Natural Gas												
Litres Recovery Per Hour @	30°C rise	6,307	7,310	7,883	8,600	10,607	11,753	12,757	15,194	17,917	21,214	24,224
	40°C rise	4,730	5,483	5,913	6,450	7,955	8,815	9,568	11,395	13,438	15,910	18,168
	50°C rise	3,784	4,386	4,730	5,160	6,364	7,052	7,654	9,116	10,750	12,728	14,534
	60°C rise	3,153	3,655	3,942	4,300	5,303	5,877	6,378	7,597	8,958	10,607	12,112
	65°C rise	2,911	3,374	3,639	3,969	4,895	5,425	5,888	7,012	8,269	9,791	11,180
	70°C rise	2,703	3,133	3,379	3,686	4,546	5,037	5,467	6,512	7,679	9,092	10,382
	75°C rise	2,523	2,924	3,153	3,440	4,243	4,701	5,103	6,077	7,167	8,485	9,689
	80°C rise	2,365	2,741	2,956	3,225	3,978	4,408	4,784	5,698	6,719	7,955	9,084
	85°C rise	2,226	2,580	2,782	3,035	3,744	4,148	4,502	5,362	6,324	7,487	8,550
Flow Rate and Pressure Drop												
Max. Flow Rate												
Modulating (10°C Rise)*	L/s	5.26	6.09	6.31	6.31	6.31	6.31	10.63	12.62	12.62	12.62	12.62
Pressure Drop	kPa	27	43	46	49	55	58	45	49	53	57	60
Max. Flow Rate												
On/Off (15°C Rise)*	L/s	3.50	4.06	4.38	4.78	5.68	5.68	7.09	8.44	9.95	11.79	12.62
Pressure Drop	kPa	12	18	23	30	50	58	18	28	35	53	57
Min. Flow Rate												
(20°C rise)*	L/s	2.63	3.05	3.28	3.58	4.42	4.90	5.32	6.33	7.47	8.84	10.09
Pressure Drop	kPa	7	10	12	16	27	21	12	17	21	30	42

* Guide only.

Models 200, 280, 350, 430, 507 (Indoor/Outdoor)



Models 538, 658, 768 & 868 (Indoor/Outdoor)

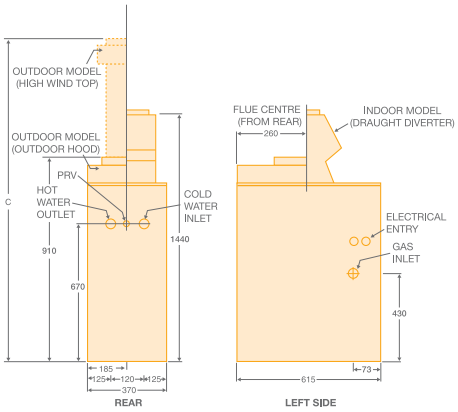


DIMENSIONS AND TECHNICAL DATA TABLE – INDOOR/OUTDOOR MODELS

Model		147	200	280	350	430	507	538	658	768	868
Natural – Input	MJ/h	144	196	278	343	420	515	539	661	765	870
– Output	kW	32	44	62	76	94	115	120	150	170	195
Propane – Input	MJ/h	135	185	261	323	396	550	505	620	720	820
– Output	kW	30	41	58	72	88	120	115	140	160	180
Dimensions											
A	mm	-	1,625	1,715	1,715	1,805	1,805	-	-	-	-
B	mm	-	465	570	655	745	835	830	955	1,055	1,160
C	mm	-	1,955	2,240	2,035	2,145	2,145	2,130	2,255	2,255	2,355
Flue Connection	mm	150	175	205	225	255	255	255	305	305	355
Weight	kg	71	91	93	103	107	115	195	200	250	260
Inlet/Outlet Connections		RC1¼/32	RC1½/40	RC1½/40	RC1½/40	RC1½/40	RC1½/40	RC2½/65	RC2½/65	RC2½/65	RC2½/65
Gas Connection											
Natural – On / Off Models		RP¾/20	RP¾/20	RP¾/20	RP¾/20	RP¾/20	R1/25	R1/25	R1½/40	R1½/40	R1½/40
Natural – Modulating Models		N/A	RP1/25	RP1/25	RP1/25	RP1/25	N/A	R1/25	R1/25	R1½/40	R1½/40
Propane – On / Off Models		RP¾/20	RP¾/20	RP¾/20	RP¾/20	RP¾/20	R1/25	R1/25	R1/25	R1¼/32	R1¼/32
Propane – Modulating Models		N/A	RP¾/20	RP¾/20	RP¾/20	RP¾/20	N/A	R¾/20	R¾/20	R¾/20	R¾/20
Relief Valve Connection											
On/Off models		RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20	RC¾/20
Modulating models		N/A	RC¾/20	RC¾/20	RC¾/20	RC¾/20	N/A	RC¾/20	RC¾/20	RC¾/20	RC¾/20
Electrical Rating 240V 50Hz	Watts	50	50	50	50	50	50	50	50	50	50
	Amps	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Min. Buffer Tank Capacity	Litres	325	325	325	325	325	325	325	325	325	325
Max. Storage Capacity	Litres	1,650	2,000	3,000	4,000	4,800	5,700	6,000	7,500	8,500	10,000
Natural Gas											
Litres Recovery Per Hour @	30°C rise	917	1,250	1,769	2,187	2,683	3,297	3,440	4,300	4,873	5,590
	40°C rise	688	937	1,327	1,640	2,012	2,473	2,580	3,225	3,655	4,193
	50°C rise	550	750	1,061	1,312	1,610	1,978	2,064	2,580	2,924	3,354
	60°C rise	459	625	884	1,094	1,342	1,648	1,720	2,150	2,437	2,795
	65°C rise	423	577	816	1,010	1,238	1,522	1,588	1,985	2,249	2,580
	70°C rise	393	536	758	937	1,150	1,413	1,474	1,843	2,089	2,396
	75°C rise	-	500	708	875	1,073	-	1,376	1,720	1,949	2,236
	80°C rise	-	469	663	820	1,006	-	1,290	1,613	1,828	2,096
	85°C rise	-	441	624	772	947	-	1,214	1,518	1,720	1,973
Flow Rate and Pressure Drop											
Max. Flow Rate											
Modulating (10°C Rise)*	L/s	0.76	1.04	1.47	1.82	2.24	2.75	2.87	3.58	4.06	4.66
Pressure Drop	kPa	5	3	8	13	17	18	6	10	14	22
Max. Flow Rate											
On/Off (15°C Rise)*	L/s	0.51	0.69	0.98	1.22	1.49	1.83	1.91	2.39	2.71	3.11
Pressure Drop	kPa	3	3	4	6	8	9	3	4	6	8
Min. Flow Rate											
(20°C rise)*	L/s	0.38	0.52	0.74	0.91	1.12	1.37	1.43	1.79	2.03	2.33
Pressure Drop	kPa	3	3	3	3	4	5	3	3	4	5

* Guide only.

Model 147 (Indoor/Outdoor)



GAS PRESSURE			147-430	507-4224
Natural	Minimum	kPa	0.95	1.10
	Test Point	kPa	0.77	0.92
	Maximum	kPa	3.50	4.00
Propane	Minimum	kPa	2.75	2.75
	Test Point	kPa	2.75	2.75
	Maximum	kPa	3.50	4.00

THERMOSTAT SETTINGS			
Modulating	Maximum	°C	95
	Factory set	°C	78
	Minimum	°C	44
On/Off	Maximum	°C	80
	Factory set	°C	50
	Minimum	°C	44

[12]CLEARANCES COMBUSTIBLES (mm)					
Model	Back	Front	Left	Right	Ceiling
147	500	750	500	500	1,200
200 to 430	500	750	600	500	1,200
507 to 1922	600	750	600	600	1,200
2004 to 4224	600	1,200	600	600	1,200

[12] Excludes flue terminal clearances. Refer to AS5601.

[12]CLEARANCES NON COMBUSTIBLES (mm)					
Model	Back	Front	Left	Right	Ceiling
147	300	750	300	300	1,200
200 to 430	150	750	600	150	1,200
507 to 1922	150	750	300	300	1,200
2004 to 4224	300	1,200	600	600	1,200

Raypak® indoor gas water heaters are designed for connection to a flue system in accordance with the requirements of AS5601.

[13] Expansion Control Valve is not supplied with the water heater.
[14] Figures in brackets are to be used if a Raypak stainless steel storage tank is utilised in the system.
[15] An 850kPa relief valve can be fitted to modulating water heaters used in potable hot water applications.

ACCESSORIES FOR RAYPAK COMMERCIAL GAS WATER HEATERS		
Accessories	Standard	Optional
Pump Run on Timer	All modulating	All On/Off
Tankstat	-	147 to 4224
Hot Surface Ignition (HSI)	147 to 430	-
Electronic Ignition	507 to 4224	-
Water Flow Switch	538 to 4224	-
Relay Run and Fault Status	507 to 4224	-
Temperature and/or Pressure Gauge (modulating burner models only)	-	197 to 4224
Temperature Gauge (on/off models only)	-	147 to 4224
High Wind Top (outdoor installations only)	1852 to 4224	147 to 1662
Rear Water Connections	147	-
Left Hand Water and Gas Connections	200 to 4224	-
Right Hand Water Connections	-	200 to 507
Right Hand Water and Gas Connections	-	538 to 4224
Audible Alarm	-	538 to 4224
Ambient Air Sensor (modulating burner models only)	-	538 to 4224

MINIMUM SUPPLY PRESSURE

System design and pump selection is critical when water heaters are connected to a low pressure water supply. Refer to the table below for minimum pressure requirements for Grundfos UPS series pumps. Minimum pressure requirements for TP series pumps depend on system characteristics and need to be calculated. Contact your pump supplier for details.

Pump	Model	Minimum Inlet Pressure Required (m) at Operating Temperature				
		75°C	80°C	85°C	90°C	95°C
UPS20-60N UP20-45N	147, 200, 280	0.5	0.5	0.5	3.0	5.0
UPS32-80N	350, 430, 507, 538, 658, 768, 868	0.5	0.5	0.5	3.0	5.0
UPS40-60/2B	768, 868, 972, 992, 1142, 1182, 1242, 1292	1.5	2.5	3.5	4.5	7.0
UPS50-120B	1362, 1412, 1492, 1552, 1662, 1722, 1852, 1922, 2004, 2214	4.0	5.0	6.0	7.0	9.0
UPS80-120B	2404, 2634, 2804, 3164, 3304, 3694, 3804, 4224	16.0	17.0	18.0	19.0	20.5

WATER SUPPLY AND RELIEF VALVE SETTINGS

Burner Type		On/Off	Modulating	
Models		All	200-430	538-4224
Relief Valve Setting				
Potable Hot Water	kPa	850 (700)[14]	850 (700)[14,15]	850 (700)[14,15]
Mechanical Heating	kPa	-	310	415
Expansion Control Valve (ECV[13]) Setting				
Potable Hot Water	kPa	700 (550)[14]	700 (550)[14,15]	700 (550)[14,15]
Mechanical Heating	kPa	-	-	-
Maximum Supply Pressure without ECV[13] fitted				
Potable Hot Water	kPa	680 (550)[14]	680 (550)[14,15]	680 (550)[14,15]
Mechanical Heating	kPa	-	240	330
with ECV[13] fitted				
Potable Hot Water	kPa	550 (450)[14]	550 (450)[14,15]	550 (450)[14,15]
Mechanical Heating	kPa	-	-	-

RAYPAK MODEL NUMBERS

The following information should be supplied when ordering Raypak water heaters

B	0868	N	C	O	/	ID
Water	Approx	N = Natural Gas	Copper Heat	O = On/Off		ID = Indoor
Heater	Thermal Input*	P = Propane	Exchanger	M = Modulating		OD = Outdoor
						HWT = High Wind Top

Note: *last digit designates series type.

Indoor & outdoor models available

Horizontal or vertical flue discharge

Pre-engineered solutions

COMMERCIAL CONTINUOUS FLOW
incl. COMMPAK® & MULTIPAK®

THE RANGE

Rheem is the biggest name in commercial and industrial water heating. Our Commercial Continuous Flow Water Heater (CFWH) range meets all the demands expected of Rheem products – from luxury homes to the largest commercial hot water application imaginable.

Commpak®

- Pre-engineered and assembled for ease of installation
- Compact wall or floor mount design
- Mains pressure performance without the use of tanks
- Suitable for small to medium sized applications

Commpak Plus®

- Engineered to meet customer requirements
- Dual pumps provide back up and redundancy
- Staged system operation
- Suitable for large applications

Multipak®

- Plug and Play – simply connects to the plumbing services
- Staged delivery on demand
- 50°C and up to 82°C models
- Left or right hand plumbing

Individual Continuous Flow

- Indoor and outdoor models
- 50°C limited models
- Commercial models up to 82°C
- Full range of accessories including Rheem flue components

OUTDOOR MODEL

INDOOR MODEL

Commpak Plus®

COMMERCIAL CONTINUOUS FLOW WATER HEATING

Rheem Commercial CFWH have unique features that provide added safety and functionality.

- Up to 5.8 Star energy rating water heater[16]
- Q-factor® provides constant temperature at the outlet rapidly
- Unique Flame Safe® technology detects heat exchanger faults and shuts the system down
- Frost protection is supplied standard
- Backed by Rheem's nationwide service network and a 5 year commercial warranty[17]
- Suitable from the smallest to the largest hot water demand applications using the Multipak® and Commpak® platforms
- 50°C models certified to AS3498 negate the need for further tempering[18]. 82°C models are suitable for sanitising applications
- EZ Link® two units together with a Deluxe Kitchen Temperature Controller for greater capacity. Max 60°C
- The range includes outdoor models and indoor models with Rheem supplied flue kits. Models are available for use on either natural or propane gas

CFWH TECHNICAL DATA

RHEEM COMMERCIAL CONTINUOUS FLOW		OUTDOOR MODELS		INDOOR MODELS	
Model		**872027**	**876027**	**862027**	**866027**
Delivery Temperature		up to 82°C	50°C per AS3498	up to 82°C	50°C per AS3498
Input	MJ/h	205	205	205	205
Output	kW	46	46	46	46
Gas Energy Rating	Stars	5.8	5.8	5.6	5.6
Flow Rate @ 25°C Rise	L/min	27	27	27	27
Minimum Flow Rate	L/min	2	2	2	2
Dimensions					
Height	mm	600	600	650	650
Width	mm	350	350	350	350
Depth	mm	225	225	250	250
Frost Protection		yes	yes	yes	yes
Approximate Weight	kg	23	23	23	23
Inlet/Outlet Connections	BSPM	R¾/20	R¾/20	R¾/20	R¾/20
Gas Connection	BSPM	R¾/20	R¾/20	R¾/20	R¾/20
Water Supply Pressure					
Maximum	kPa	1000	1000	1000	1000
Minimum	kPa	140	140	140	140
Gas Supply Pressure Range					
Natural Gas	kPa	1.13 – 3.5	1.13 – 3.5	1.13 – 3.5	1.13 – 3.5
Propane	kPa	2.75 – 3.5	2.75 – 3.5	2.75 – 3.5	2.75 – 3.5
Temperature Settings	°C	38, 40, 42, 43, 45, 50, 55, 60, 65, 70, 75, 82	38, 40, 42, 43, 45, 50	38, 40, 42, 43, 45, 50, 55, 60, 65, 70, 75, 82	38, 40, 42, 43, 45, 50
Factory Set Temperature	°C	60	50	60	50
Co-Axial Flue Specification					
Inner – Material/Diameter	mm	NA	NA	316SS/75	316SS/75
Outer – Material/Diameter	mm	NA	NA	Aluminised Steel/125	Aluminised Steel/125
Maximum Flue Run		NA	NA	9m & 3 x 90° Bends	9m & 3 x 90° Bends
Accessories					
Pipe Cover		299830	299830	NA	NA
Recess Box		299831	299831	NA	NA
Security Bracket		299868	299868	299868	299868
Security Cage		299867	299867	NA	NA
EZ Link® Kit Max 60°C (Deluxe Kitchen Controller not included)		290141	290141	290141	290141
Deluxe Temperature Controllers (Max 60°C)					
Kitchen		299858	299858	299858	299858
Bathroom 1		299859	299859	299859	299859
Bathroom 2		299860	299860	299860	299860

[16] Outdoor Model.

[17] Warranty*: 5 years heat exchanger with a thermostat setting not exceeding 75°C, 12 months parts and labour. 12 months heat exchanger warranty when used with a thermostat setting exceeding 75°C.
*Conditions apply: For full terms and conditions please contact Rheem or see Owner's Guide and Installation Instructions, available at www.rheem.com.au

[18] 50°C limited systems are suitable for dead leg applications only. Further tempering may be required. Consult AS3500.4 for details.

COMMERCIAL CONTINUOUS FLOW
incl. COMMPAK® & MULTIPAK®

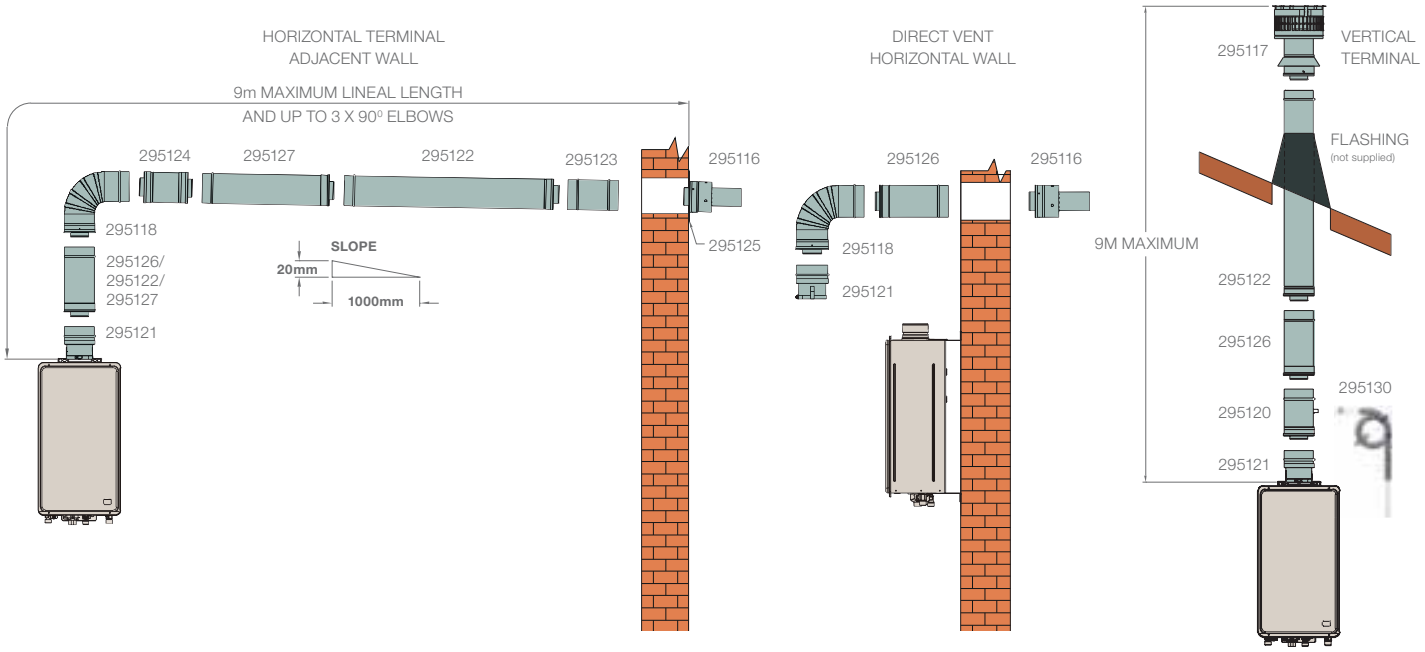
INDOOR INSTALLATION

The Rheem 27 CFWH is available in models suitable for indoor installation. The flue system is room sealed coaxial design manufactured from high grade stainless steel inner and aluminised steel outer.

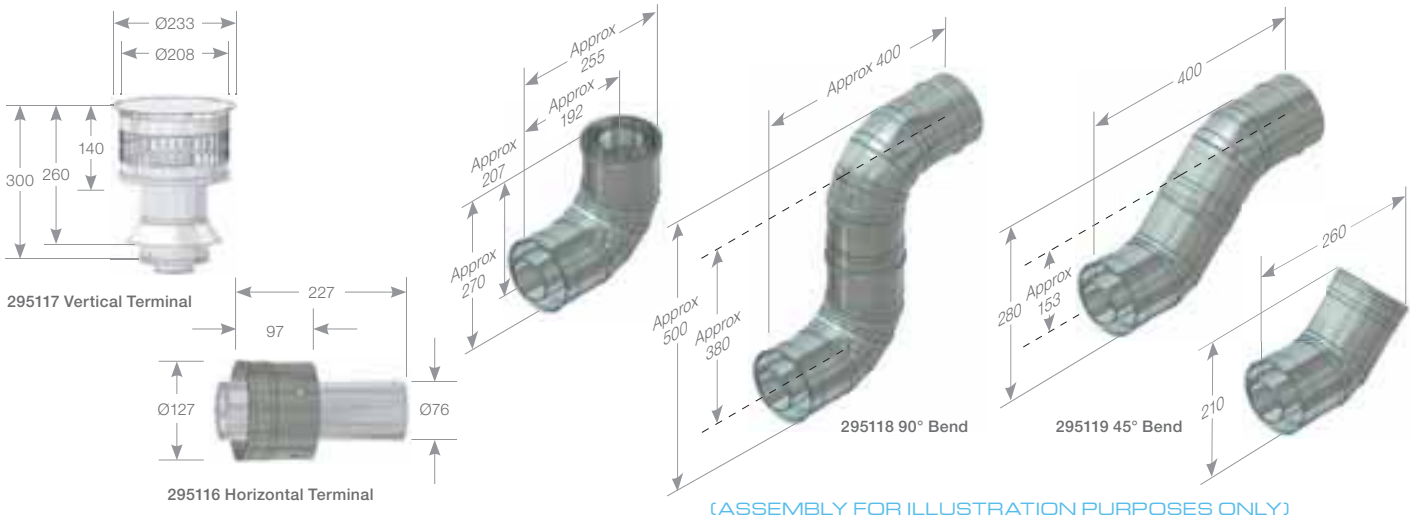
The flue system is certified for up to 9m lineal run and 3 x 90° bends and is suitable for vertical or horizontal termination when used with the appropriate terminal.

Separate ventilation for combustion is not required as the air for combustion is supplied in the flue outer. The flue system can be installed with zero clearances from combustible materials. Flue termination must comply with the requirements of AS5601.

RHEEM CONTINUOUS FLOW FLUE SYSTEM



RHEEM CONTINUOUS FLOW FLUE COMPONENTS



(ASSEMBLY FOR ILLUSTRATION PURPOSES ONLY)

How to Size

Use the following as a guide to selecting the flue components required. The overall dimension of each flue piece is shown in the drawings. Allow approximately 35mm for insertion of each flue piece.

Determine the lineal distance and number of 45° and/or 90° bends between the top of the water heater and flue terminal. Note, the bottom edge of a vertical flue terminal must be 500mm away from the nearest structure in accordance with AS5601.

Flashing is required to be installed where a vertical flue section penetrates the roof line (not supplied).

Where a condensate drain section is installed, the hose must be connected and drained to the sewer waste or outside. A condensate trap must be installed and filled with water to prevent spillage of products of combustion.

- Flue penetrations through walls and ceilings must be sealed in accordance with local fire regulations
- Rheem CFWH are certified for installation with the terminals closer than that specified in AS5601.

  Adjacent water heaters may be installed with zero clearance between the water heaters.

Rheem indoor CFWH must only be installed using certified Rheem coaxial flue components. Do not use any other type of flue system. Carefully follow the installation instructions.

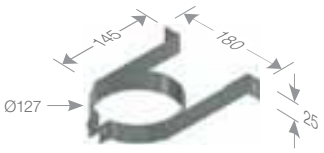
Use the following table as a guide to selecting Rheem Continuous Flow flue components:

P/NO	DESCRIPTION	WHERE USED
295116	Horizontal Terminal	Required where flue terminates horizontally
295117	Vertical Terminal	Required where flue terminates vertically
295118	90° Bend	Maximum of 3 per installation
295119	45° Bend	Maximum of 6 per installation (with no 90° bends)
295120	Condensate Drain	Can be located in vertical or horizontal section. Required for: – Vertically terminating flue systems – Horizontally terminating flue systems with vertical flue sections
295121	Water Heater / Flue Adapter	Required for each water heater to connect to flue system
295122	Straight Length 900mm	Long straight sections
295123	Female Female Adapter	Required to reverse flue pipe direction to allow condensate to drain away correctly from water heater in long horizontal sections of horizontally terminating flues
295124	Male Male Adapter	Required to reverse flue pipe direction to allow condensate to drain away correctly from water heater in long horizontal sections of horizontally terminating flues
295125	Trim Ring (optional)	Conceal internal and/or external hole in wall for horizontally terminating flues
295126	Straight Length 300mm	Short straight sections
295127	Adjustable Length 560 – 890mm	Allows to trim flue to exact length required
295129	Bracket	Support flue at intervals not exceeding 2m and after any bend
295130	Condensate Trap	Required with every condensate drain. Can be connected to a common waste

295130
Condensate Trap

295120 Condensate Drain

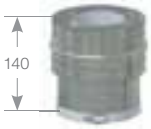
295123 FF Adapter



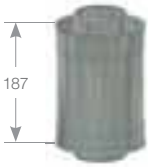
295129 – Bracket

295127 – Adjustable Straight
560 – 890mm

295122 – Straight
Length 900mm

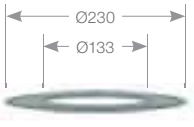


295121 Flue Adapter/
Water heater



295124 MM Adapter

295126 Straight Length 300mm



295125 Trim Ring

COMMERCIAL CONTINUOUS FLOW
incl. COMMPAK® & MULTIPAK®

MULTIPAK®, COMMPAK® AND COMMPAK PLUS®

The Rheem Commpak range has been developed to provide a pre-engineered solution for commercial hot water applications. Starting with systems as small as two Commercial Continuous Flow through to systems as large as you can imagine.

All systems are pre-assembled on a sturdy aluminium frame, which can be wall or floor mounted depending on system size. A range of options are available with all systems.

Multipak®

The range starts with Multipak, which is a staged ignition system available in models comprising two to six Commercial Continuous Flow units. Typically used where large demands are required intermittently, such as in sports clubs. In 60°C temperature mode, Multipak is suitable for use in dead leg and recirculation systems. 50°C limited models are suitable for dead leg applications only.

Commpak®

Featuring mass-flow technology Commpak combines sophisticated electronics and pump technology to equalise hot and cold water pressures. A differential set point combined with the thermal mass in the system piping replicates storage. The result is mains pressure performance without the need for storage tanks reducing overall plant footprint and increasing plant efficiency. Commpak is suitable for small to medium commercial applications utilising up to six Commercial Continuous Flow units.

Commpak Plus®

Where large demands are required, Commpak Plus is the ideal choice. Starting with systems greater than six Commercial Continuous Flow units, Commpak Plus is engineered to meet customer requirements. In-line or back to back arrangements are available to meet plant room space availability. Dual pump and/or control systems are available which allows staging of the system as well as providing redundancy. Commpak Plus has BMS/BAS connectivity and systems are available in temperature delivery from 60°C to 82°C.

Multipak®

Commpak®

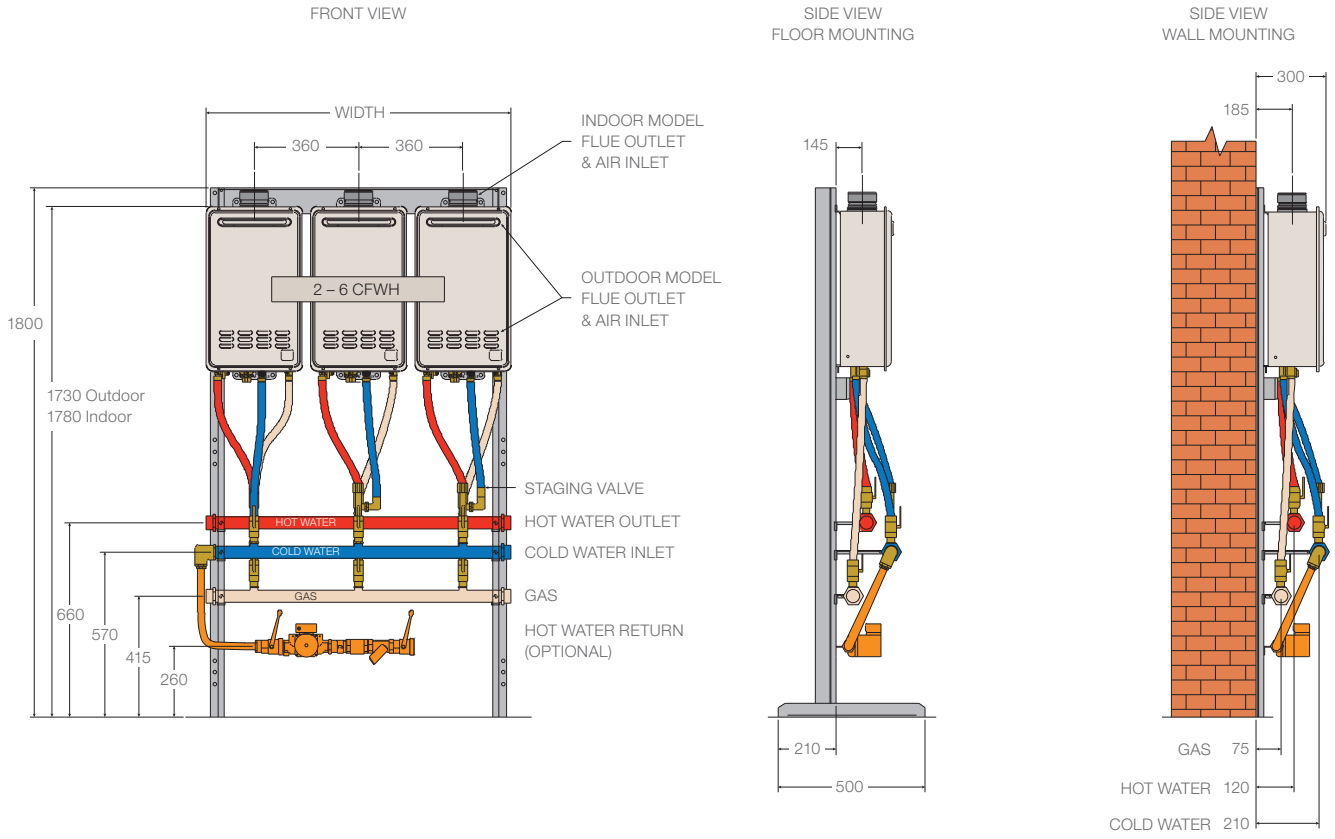
Commpak Plus®

Installation

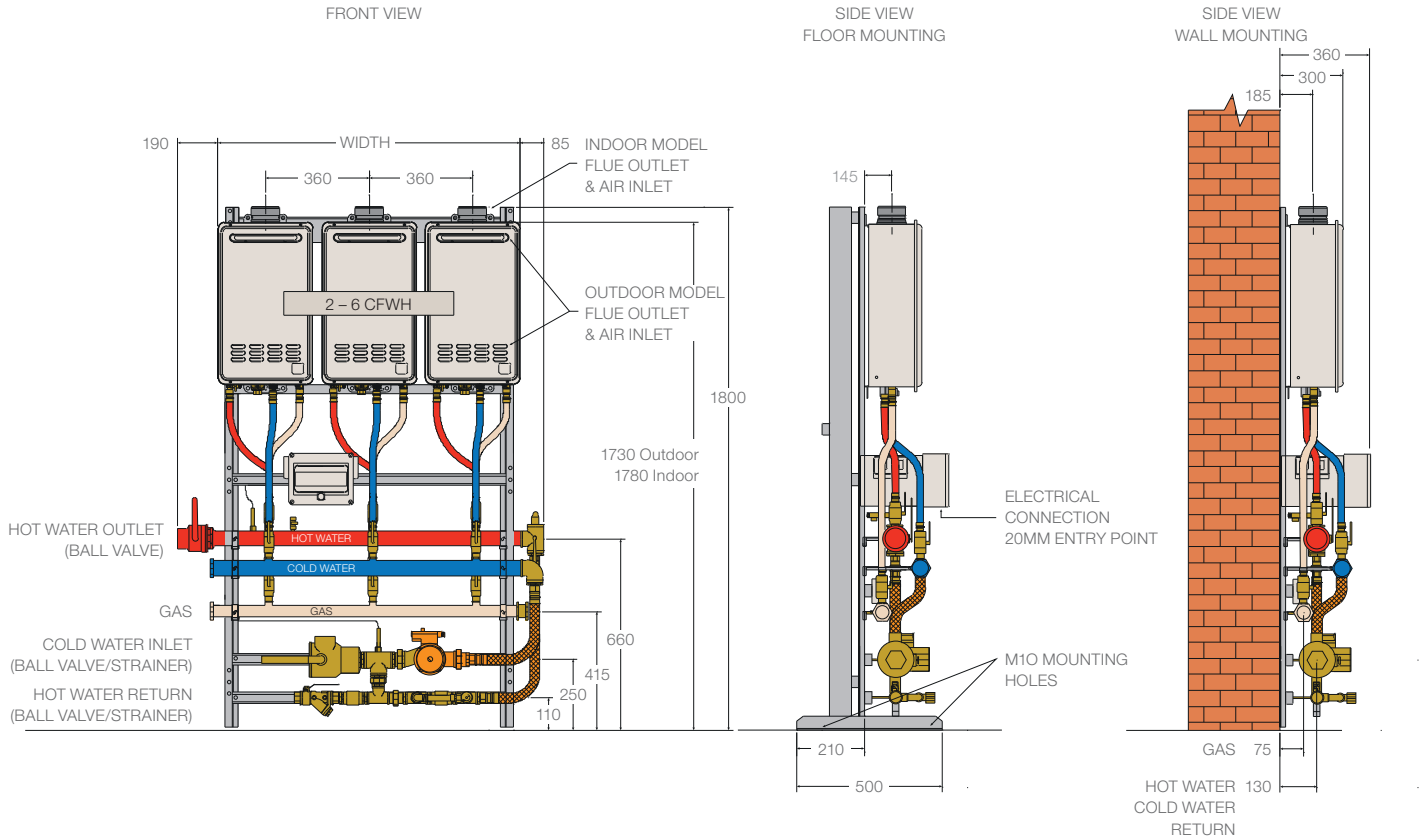
Models designed to deliver temperatures in excess of 60°C can be used as an in line booster to solar pre-heat plant and can be used in conjunction with Rheem Guardian® to provide tempered or warm water.

The entire Commpak range can be specified for installation outdoors or indoors with Rheem supplied coaxial flue kits. Both indoor and outdoor Commercial Continuous Flow units are certified for installation with zero clearance between water heaters.

Mulitpak® Models



Commpak® Models



COMMPAK AND MULTIPAK TECHNICAL DATA

MULTIPAK MODEL	INDOOR OUTDOOR	MPI 02 MPE 02	MPI 03 MPE 03	MPI 04 MPE 04	MPI 05 MPE 05	MPI 06 MPE 06
Input	MJ/h	410	615	820	1,025	1,230
Recovery Rate						
50°C rise	L/hr	1,584	2,376	3,168	3,960	4,752
25°C rise	L/hr	3,168	4,752	6,336	7,920	9,504
Maximum Flow Rate						
50°C rise	L/min	27	41	54	68	81
25°C rise	L/min	54	81	108	135	163
Minimum Flow Rate	L/min	2.0	2.0	2.0	2.0	2.0
Approx Weight	kg	95	120	185	210	235
Wall Mount		standard	standard	standard	standard	standard
Free Standing Frame (FSF)		optional	optional	optional	optional	optional
Cold Water	BSPF	RP1½/40	RP1½/40	RP1½/40	RP1½/40	RP1½/40
Hot Water	BSPF	RP1½/40	RP1½/40	RP1½/40	RP1½/40	RP1½/40
Gas	BSPM	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Electrical Supply (240V/50Hz)	Amps	1.50	2.25	3.0	3.75	4.5

COMMPAK MODEL	INDOOR OUTDOOR	CPI 02 CPE 02	CPI 03 CPE 03	CPI 04 CPE 04	CPI 05 CPE 05	CPI 06 CPE 06
Input	MJ/h	410	615	820	1,025	1,230
Recovery Rate						
50°C rise	L/hr	1,584	2,376	3,168	3,960	4,752
25°C rise	L/hr	3,168	4,752	6,336	7,920	9,504
Peak Flow Rate						
50°C rise	L/min	27	41	54	68	81
25°C rise	L/min	54	81	108	135	163
Approx Weight	kg	120	150	220	245	270
Wall Mount		standard	standard	–	–	–
Free Standing Frame (FSF)		optional	optional	standard	standard	standard
Cold Water	BSPF	RP2/50	RP2/50	RP2/50	RP2/50	RP2/50
Hot Water	BSPF	RP2/50	RP2/50	RP2/50	RP2/50	RP2/50
Gas	BSPM	R1½/40	R1½/40	R1½/40	R1½/40	R1½/40
Return	BSPF	RP1/25	RP1/25	RP1/25	RP1/25	RP1/25
Electrical Supply (240V/50Hz)[19]	Amps	3.62	4.62	5.62	6.62	7.92

COMMON SPECIFICATIONS		MPI 02, MPE 02, CPI 02, CPE 02	MPI 03, MPE 03, CPI 03, CPE 03	MPI 04, MPE 04, CPI 04, CPE 04	MPI 05, MPE 05, CPI 05, CPE 05	MPI 06, MPE 06, CPI 06, CPE 06
Dimensions						
Height (outdoor / indoor)	mm	1,730/1,780	1,730/1,780	1,730/1,780	1,730/1,780	1,730/1,780
Width (Multipak / Commpak)	mm	820/970	1,180/1,330	1,540/1,690	1,900/2,050	2,260/2,410
Depth (Wall Mount / Free Standing Frame)	mm	360/500	360/500	360/500	360/500	360/500
Clearance in Front (outdoor / indoor)	mm	800/600	800/600	800/600	800/600	800/600
Centre to Centre	mm	360	360	360	360	360
Frost Protection		Yes	Yes	Yes	Yes	Yes
Water Supply Pressure						
Maximum	kPa	1,000	1,000	1,000	1,000	1,000
Minimum	kPa	140	140	140	140	140
Gas Supply Pressure Range						
Natural	kPa	1.13 – 3.5	1.13 – 3.5	1.13 – 3.5	1.13 – 3.5	1.13 – 3.5
Propane	kPa	2.75 – 3.5	2.75 – 3.5	2.75 – 3.5	2.75 – 3.5	2.75 – 3.5

[19] Single pump add 1.62 Amps for dual pump option.

Full flow 32mm fittings

Up to 36kW input

Heavy duty design

HEAVY DUTY ELECTRIC

Dependability

The Rheem heavy duty electric range is the work horse of the industry providing years of tried and trusted performance for all types of applications.

Rheem's range of commercial electric water heaters starts at just 50 litre capacity and increases to a generous 315 litre capacity.

The Rheem Equa-Flow® system means there's enough flexibility to suit most water heating applications.

Controls are easy to set or adjust, and include several key performance and safety features.

Quality

High quality is one reason for Rheem's reputation with the experts.

Take the Rheem storage cylinder: it's made from a special grade of steel and lined with a double coat of vitreous enamel which is better suited to a wider variety of water conditions and larger anodes provide greater protection.

Its where reliability starts.

Special features

- True multipoint operation through large 32mm connections with no exchange coils to restrict pressure or flow
- Use with low pressure systems is possible if required
- Up to six heating elements in cylinder
- Trade adjustable thermostats (60°C to 82°C). Suitable for sanitising applications
- Over temperature energy cut-off device cuts off supply if thermostat ceases to function
- A bank of 8 x 616 315 Rheem commercial electric water heaters can deliver up to 7,480 litres of hot water in the first hour
- Suitable for either indoor or outdoor installation

TECHNICAL ELECTRIC PERFORMANCE DETAILS

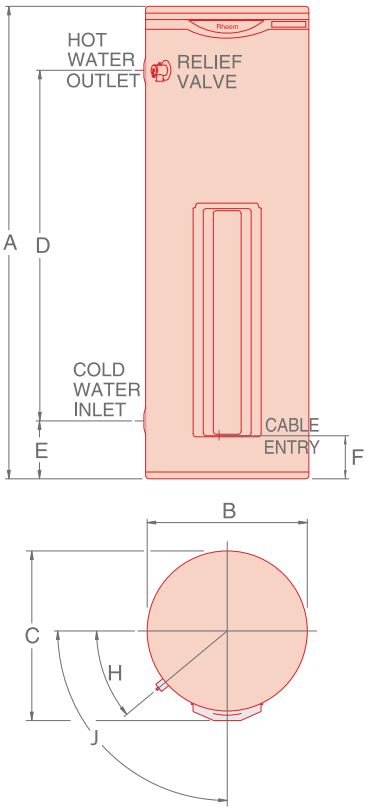
Heating Elements		3 x 3.6 kW	3 x 4.8 kW	3 x 6.0 kW	6 x 3.6 kW	6 x 4.8 kW	6 x 6.0 kW
Total Input	kW	10.8	14.4	18.0	21.6	28.8	36.0
Current (per phase)	Amps	15	20	25	30	40	50
Litres Recovery Per Hour at Rise of	20°C	460	620	770	930	1240	1550
	30°C	310	410	520	620	830	1030
	40°C	230	310	390	460	620	770
	50°C	190	250	310	370	500	620
	60°C	150	210	260	310	410	520
	65°C	140	190	240	290	380	480
	70°C	130	180	220	270	350	440
	75°C	120	170	210	250	330	410

Note: Figures rounded to the nearest 10 litres.

HEAVY DUTY ELECTRIC

DIMENSIONS AND TECHNICAL DATA TABLE INDOOR/OUTDOOR MODELS					
Model			**613 050**	**613 315**	**616 315**
Storage Capacity		Litres	60	325	325
Delivery Rating		Litres	50	315	315
Dimensions	A	mm	675	1640	1640
	B	mm	435	640	640
	C	mm	475	680	680
	D	mm	405	1294	1294
	E	mm	93	128	128
	F	mm	83	130	130
	H	Degrees	30°	32°	32°
	J	Degrees	90°	90°	90°
Weight – Empty		kg	34	93	95
Inlet/Outlet Connections (BSPF)			RP1¼/32	RP1¼/32	RP1¼/32
T&PR Valve Connection (BSPF)			RP¾/20	RP¾/20	RP¾/20
T&PR Valve Setting		kPa	1000	1000	1000
Expansion Control Valve (ECV)[20] Setting		kPa	850	850	850
Max. Water Supply Pressure					
without ECV[20] fitted		kPa	800	800	800
with ECV[20] fitted		kPa	680	680	680
Max. Thermostat Setting		°C	80	80	80
Factory Thermostat Setting		°C	70	70	70
Min. Thermostat Setting		°C	60	60	60
Manifold – Min. Centre to Centre		mm	685	890	890
Electrical Connection			240V single phase or 415V 3 phase		
Heating Elements		kW	3 x 3.6	3 x 3.6	6 x 3.6
		or	3 x 4.8	3 x 4.8	6 x 4.8
		or	-	3 x 6.0	6 x 6.0

[20] Expansion control valve not supplied with the water heater.



APPROXIMATE DAILY ENERGY CONSUMPTION				
Daily Hot Water Usage @ 50°C Temp Rise (Litres)	**Energy Content of Hot Water (kWh)**	**RHEEM COMMERCIAL ELECTRIC WATER HEATERS Approximate Energy Used Per Day (kWh)**		
		613 050	**613 315**	**616 315**
0	0.0	2.1	3.1	3.3
50	2.9	5.0	6.0	6.2
100	5.8	7.9	8.9	9.1
150	8.7	10.8	11.8	12.0
200	11.6	13.7	14.7	14.9
250	14.5	16.6	17.6	17.8
300	17.4	19.5	20.5	20.7
350	20.3	22.4	23.4	23.6
400	23.3	25.4	26.4	26.6
450	26.2	28.3	29.3	29.5
500	29.1	31.2	32.2	32.4
600	34.9	37.0	38.0	38.2
700	40.7	42.8	43.8	44.0
800	46.5	48.6	49.6	49.8
900	52.3	54.4	55.4	55.6
1000	58.1	60.2	61.2	61.4
1250	72.7	74.8	75.8	76.0
1500	87.2	89.3	90.3	90.5
1750	101.7	103.8	104.8	105.0
2000	116.3	118.4	119.4	119.6
2500	145.3	-	148.4	148.6
3000	174.4	-	-	177.7
3500	203.5	-	-	206.8
4000	232.6	-	-	235.9
5000	290.7	-	-	294.0

Electrical connection

Rheem commercial electric water heaters can be wired using a single phase 240 Volts AC or 3 phase 415 Volts AC “star connected” supply, one phase per element for 3 element models or one phase per two elements for the 6 element models.

Warranty*

- 5 year on the cylinder
- 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

PERFORMANCE DATA

Model	No. of Units in Parallel	Initial Delivery (Litres)	Heating Elements (kW)	Total Kilowatts	Available Litres of Hot Water at 50°C Temperature Rise Over Peak Period					
					1 Hour	2 Hours	3 Hours	4 Hours	6 Hours	8 Hours
613 050	1	50	3 x 3.6	10.8	240	420	610	790	1160	1540
			3 x 4.8	14.4	300	550	790	1040	1540	2030
613 315	1	315	3 x 3.6	10.8	500	690	870	1060	1430	1800
			3 x 4.8	14.4	560	810	1060	1310	1800	2300
			3 x 6.0	18.0	620	930	1240	1550	2170	2790
	2	630	3 x 3.6	21.6	1000	1370	1740	2120	2860	3600
			3 x 4.8	28.8	1130	1620	2120	2610	3600	4590
			3 x 6.0	36.0	1250	1870	2490	3110	4350	5580
	3	945	3 x 3.6	32.4	1500	2060	2620	3170	4290	5400
			3 x 4.8	43.2	1690	2430	3170	3920	5400	6890
			3 x 6.0	54.0	1870	2800	3730	4660	6520	8380
616 315	1	315	6 x 3.6	21.6	690	1060	1430	1800	2540	3290
			6 x 4.8	28.8	810	1310	1800	2300	3290	4280
			6 x 6.0	36.0	930	1550	2170	2790	4030	5270
	2	630	6 x 3.6	43.2	1370	2120	2860	3600	5090	6570
			6 x 4.8	57.6	1620	2610	3600	4590	6570	8560
			6 x 6.0	72.0	1870	3110	4350	5580	8060	10540
	3	945	6 x 3.6	64.8	2060	3170	4290	5400	7630	9860
			6 x 4.8	86.4	2430	3920	5400	6890	9860	12830
			6 x 6.0	108.0	2800	4660	6520	8380	12090	15810
	4	1260	6 x 3.6	86.4	2750	4230	5720	7200	10180	13150
			6 x 4.8	115.2	3240	5220	7200	9190	13150	17110
			6 x 6.0	144.0	3740	6210	8690	11170	16120	21070
	5	1575	6 x 3.6	108.0	3430	5290	7150	9010	12720	16440
			6 x 4.8	144.0	4050	6530	9010	11480	16440	21390
			6 x 6.0	180.0	4670	7770	10860	13960	20150	26340
	6	1890	6 x 3.6	129.6	4120	6350	8580	10810	15260	19720
			6 x 4.8	172.8	4860	7830	10810	13780	19720	25670
			6 x 6.0	216.0	5610	9320	13040	16750	24180	31610

Model	No. of Units in Parallel	Initial Delivery (Litres)	Heating Elements (kW)	Total Kilowatts	Available Litres of Hot Water at 65°C Temperature Rise Over Peak Period					
					1 Hour	2 Hours	3 Hours	4 Hours	6 Hours	8 Hours
613 050	1	50	3 x 3.6	10.8	190	340	480	620	910	1190
			3 x 4.8	14.4	240	430	620	810	1190	1570
613 315	1	315	3 x 3.6	10.8	460	600	740	890	1170	1460
			3 x 4.8	14.4	510	700	890	1080	1460	1840
			3 x 6.0	18.0	550	790	1030	1270	1740	2220
	2	630	3 x 3.6	21.6	920	1200	1490	1770	2340	2920
			3 x 4.8	28.8	1010	1390	1770	2150	2920	3680
			3 x 6.0	36.0	1110	1580	2060	2540	3490	4440
	3	945	3 x 3.6	32.4	1370	1800	2230	2660	3520	4370
			3 x 4.8	43.2	1520	2090	2660	3230	4370	5520
			3 x 6.0	54.0	1660	2370	3090	3800	5230	6660
616 315	1	315	6 x 3.6	21.6	600	890	1170	1460	2030	2600
			6 x 4.8	28.8	700	1080	1460	1840	2600	3360
			6 x 6.0	36.0	790	1270	1740	2220	3170	4130
	2	630	6 x 3.6	43.2	1200	1770	2340	2920	4060	5200
			6 x 4.8	57.6	1390	2150	2920	3680	5200	6730
			6 x 6.0	72.0	1580	2540	3490	4440	6350	8250
	3	945	6 x 3.6	64.8	1800	2660	3520	4370	6090	7800
			6 x 4.8	86.4	2090	3230	4370	5520	7800	10090
			6 x 6.0	108.0	2370	3800	5230	6660	9520	12380

Note: Figures rounded to the nearest 10 litres.

RHEEM EQUA-FLOW® MANIFOLDING

Equa-Flow® manifolding: big on water, big on efficiency

If you need large volumes of hot water handled as efficiently as possible, you need to learn about Rheem Equa-Flow®.

With Rheem Equa-Flow® system, multiple water heaters or storage tanks of the same model can be manifolded to operate as one system.

This means both increased storage and increased output, with each water heater contributing an equal share of the work.

And it's very simple to add more water heaters to the bank, provided the plumbing is altered to keep the cold water inlet to the bank on the end opposite to the hot water outlet.

Notes

1. In all installations, sufficient space must be left to enable servicing or removal of any water heater. Refer to the product tables for minimum centre to centre distances.
2. The maximum number of water heaters in any bank should be 8 for gas and electric models and 10 for storage tanks. However, several banks can be installed.
3. The hot water line from the manifold must leave from the opposite end to which the cold water line enters the manifold.
4. The hot water header, cold water header and cold water inlet pipe should be a minimum of DN32 pipe and be at least the next nominal diameter above the size of pipe required for the hot water outlet pipe to the system.
5. The hot water outlet pipe should be sized according to the requirements of the particular installation.
6. A non-return valve, isolation valve and if required a pressure limiting valve and expansion control valve must be installed on the main cold water supply only, as shown in the diagram.
7. A full flow gate valve or ball valve must be installed on the branches to each water heater.
8. Cold water supply branches to each water heater must be identical. Hot water outlet branches from each water heater must be identical.
9. Non-return valves, pressure limiting valves or loose jumper valves must not be installed in the branch assemblies to each water heater, since preferential flow through one water heater will result.
10. Prefabricated Rheem Equa-Flow® hot and cold water manifolds are available in the following sizes:
    Small – DN32 copper header pipes
    – DN20 branch assemblies
    Large – DN40 copper header pipes
    – DN25 branch assemblies.

The header pipes supplied in the Rheem Equa-Flow® manifold kits are sized to provide the required 500mm clearance between adjacent balanced flue terminals on outdoor gas models.

For electric or indoor gas water heaters, the header pipes may be shortened.

Circulated flow and return systems

The return line from the recirculation system should be connected to the common cold supply to the water heaters, after the main non-return valve and pressure limiting valve and before the first cold branch.

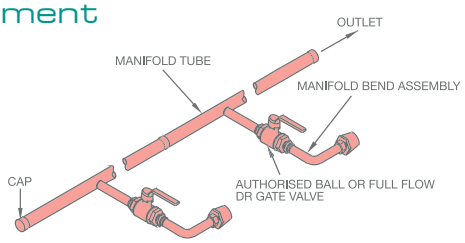
The circulator should be isolated by a gate valve on either side and a non-return valve installed after the circulator.

Minimum distance requirements

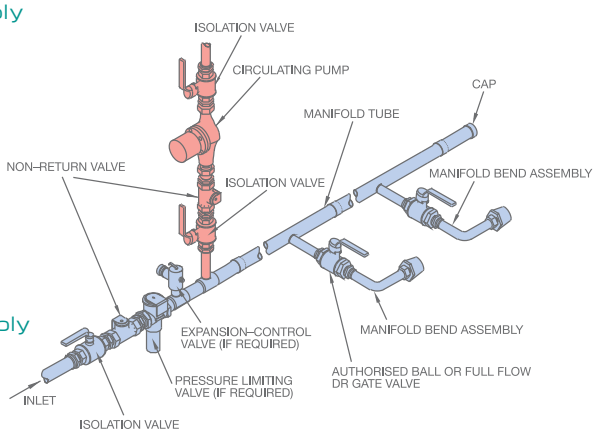
When you design and install a water heater system using the Rheem Equa-Flow® manifold system, it's important to observe the minimum distance requirements between water heaters and from obstructions.

This allows for correct operation of the water heaters and access for servicing and maintenance.

Manifold arrangement



hot header assembly

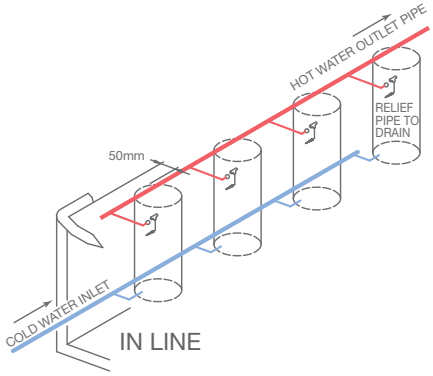


cold header assembly

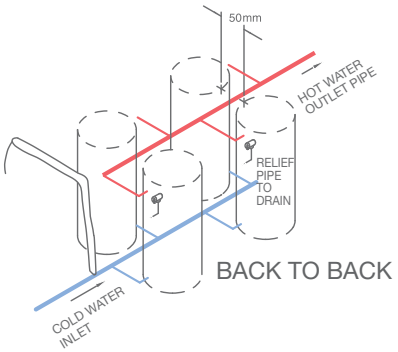
INSTALLATION LAYOUT MINIMUM DIMENSIONS

Model	A	B	C	D	E[21]	F[21]
Electric						
613 050	685	435	300	100	1465	900
613 315	890	640	300	100	1680	900
616 315	890	640	300	100	1680	900
Storage						
610 340	890	640	300	100	1640	900
610 430	935	685	300	100	1685	900
Gas Indoor						
620 260	845	595	300	100	1670	900
621 265	860	610	300	100	1750	900
621 275	890	640	300	100	1780	900
Gas Outdoor						
630 260	920	595	420	420	1670	900
631 265	920	610	410	410	1710	900
631 275	890	640	350	350	1780	900

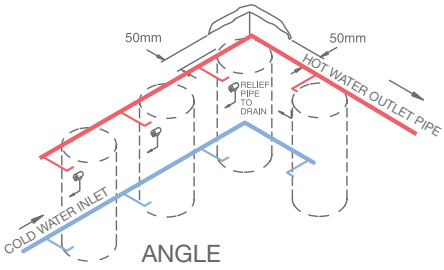
[21] A distance of 900mm is required for access, servicing and removal of the water heater.



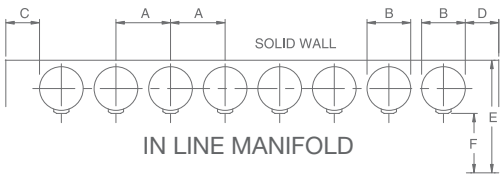
IN LINE



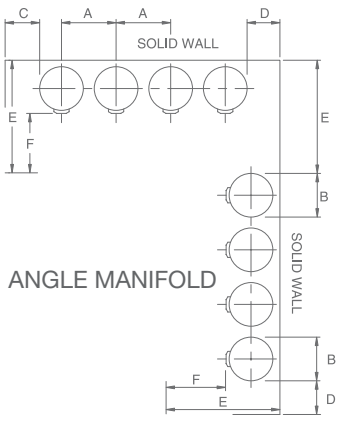
BACK TO BACK



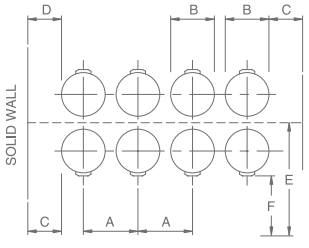
ANGLE



IN LINE MANIFOLD



ANGLE MANIFOLD



BACK TO BACK MANIFOLD

Full flow 50mm fittings

Heavy duty vitreous enamel

325 and 410L capacity

STORAGE TANKS

Rheem commercial storage tank

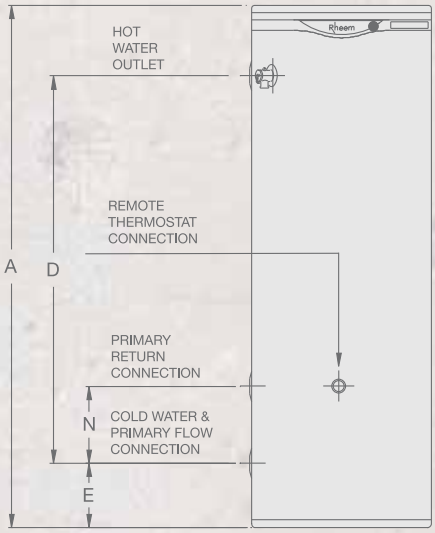
The Rheem commercial storage tanks offer the perfect combination of performance and long life flexibility.

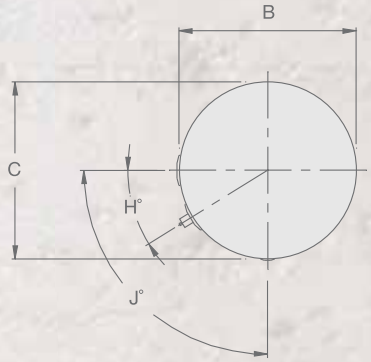
Maintenance redundancy and ease of fitment and replacement are key features of Rheem storage tanks.

They connect to the mains pressure water supply with 50mm water connections for maximum flow and are suitable for use in combination with a Raypak water heater or CFWH as a buffer tank, for solar preheat and heat pump storage or as additional storage for a Rheem gas or electric hot water system.

The storage tanks can be installed utilising the Rheem Equa-Flow® principle, in a bank of up to ten units to provide up to 4,100 litres of storage or in multiple banks if more storage is required.

DIMENSIONS AND TECHNICAL DATA TABLE				
Model number			**610 340**	**610 430**
Storage capacity		Litres	325	410
Dimensions	A	mm	1640	1840
	B	mm	640	685
	C	mm	640	685
	D	mm	1298	1210
	E	mm	115	108
	H	degrees	32°	30°
	J	degrees	90°	84°
	N	mm	290	273
Weight Empty		kg	96	111
Inlet/Outlet Connections (BSPF)			RP2/50	RP2/50
T&PR Valve Connection (BSPF)			RP¾/20	RP¾/20
Remote Thermostat Connection			RP½/15	RP½/15
T&PR Valve Setting		kPa	1000	1000
Expansion Control Valve (ECV)[22] Setting		kPa	850	850
Maximum Water Supply Pressure				
without ECV[22] fitted		kPa	800	800
with ECV[22] fitted		kPa	680	680
Maximum Stored Water Temperature		°C	82	82
Manifold – Min. Centre to Centre		mm	890	935





[22] Expansion control valve is not supplied with the water heater.

PUMP ACCESSORIES

Redi-Set Dual Pump sets provide redundancy back up to St. Mary's Villa - Concord, NSW

Redi-Set Dual Pump Sets

Redi-set dual pump sets provide redundancy back up and are an ideal means of reducing energy consumption by timing the operation of the pumps when required.

The systems incorporate Grundfos UPS 20-60N or UPS 32-80N stainless steel pump and brass manifolds. The complete system is mounted on a galvanized base frame with two holes on each side for easy mounting. The system includes non return valves and shut off valves integrated into a manifold arrangement to allow removal of one pump whilst the other is in operation.

An isolation valve should be installed in the suction and discharge lines for easy maintenance and removal (not supplied). Control panels are grey powder coated metal and are supplied with an electrical test certificate and wiring diagram inserted on the inside of the control panel door.

Standard Model

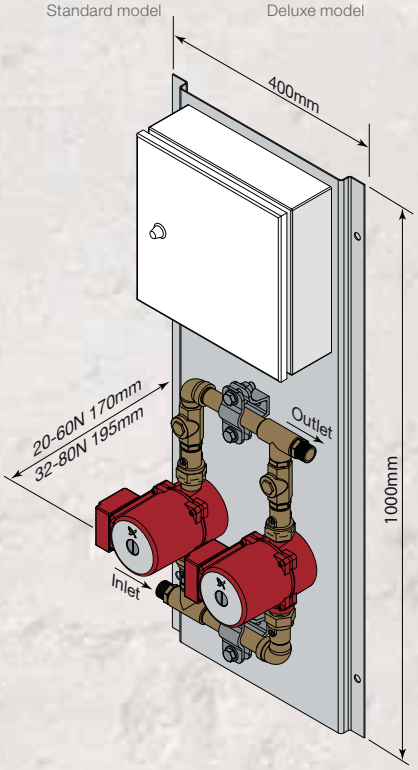
The Standard model has one switch-Pump 1/Auto/Pump 2 – mounted on the front panel with auto pump change over every twelve hours. The panel is key lockable.

Deluxe Model

The deluxe model incorporates separate Pump 1 and Pump 2 Auto / Off /Manual switches and red fault / green run indicator lights on the front panel.

This model incorporates auto pump duty change over on a time clock basis every twelve hours and run/alarm outputs for BMS connection.

Standard model Deluxe model



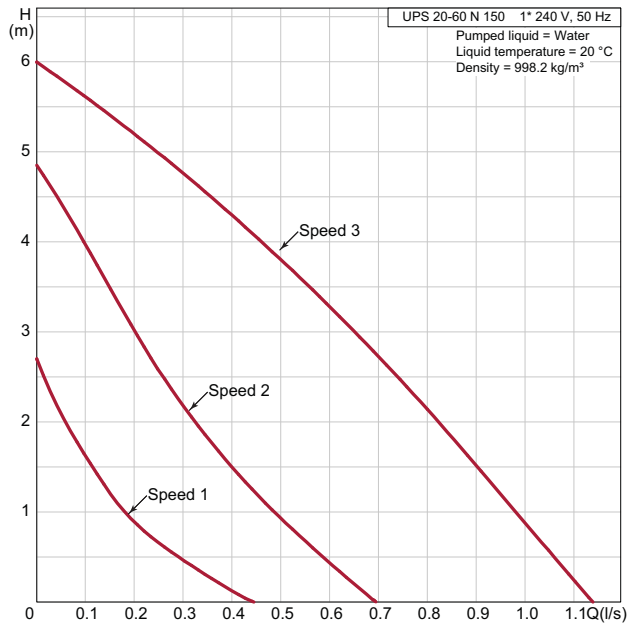
DIMENSIONS AND TECHNICAL DATA TABLE			
Circulator Type		**UPS 20-60N**	**UPS 32-80N**
Model number: Standard		**890665**	**890667**
Deluxe		**890666**	**890668**
Liquid Temperature range	°C	2 – 110	2 – 110
Max. ambient temperature	°C	40	40
Max. operating pressure	kPa	1000	1000
Pipe connection	BSPM	R¾/20	R1¼/32
Net weight	kg	24	25
Materials			
Pump housing		stainless steel	stainless steel
Impeller		composite, PES/PP	composite, PES/PP
Electrical rating 240V/50Hz			
Power/current speed 1	Watts Amps	35 0.15	135 0.6
Power/current speed 2	Watts Amps	60 0.25	200 0.9
Power/current speed 3	Watts Amps	90 0.37	220 0.98

Warranty: 12 months parts and labour.

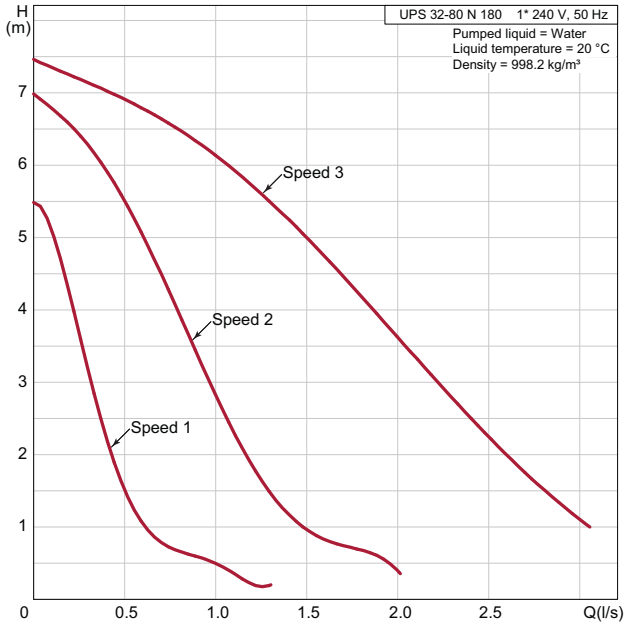
PUMP ACCESSORIES

PUMP CURVE DATA

UPS 20-60N



UPS 32-80N



SOLAR FRAMES

Variable Pitch Stand

Rheem solar collectors can be mounted on flat or near flat roofs using Variable Pitch Stands. The frames are galvanized inside and out and extruded aluminium collector rails and clamps offer corrosion protection. The angle of inclination can be set to 15, 20 or 25° to best suit latitude and site requirements.

With Pitch Stand

Rheem solar collectors are suitable for mounting on pitched roofs using Rheem roofing kits. Standard kits are used in most applications.

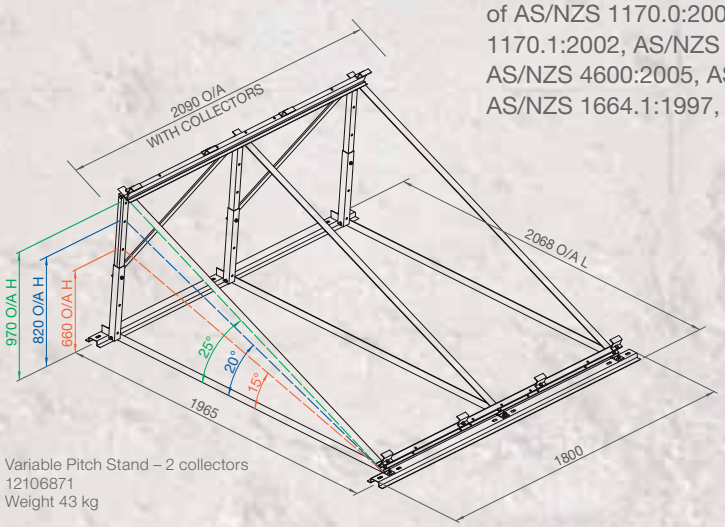
For cyclone regions C&D “With Pitch” kits are available if required. These are certified for use in terrain category 2 up to a height of 10 metres.

Rheem collector frames are designed in accordance with the relevant sections of AS/NZS 1170.0:2002, AS/NZS 1170.1:2002, AS/NZS 1170.2:2002, AS/NZS 4600:2005, AS4100-1998, AS/NZS 1664.1:1997, AS 1720.1-1997.

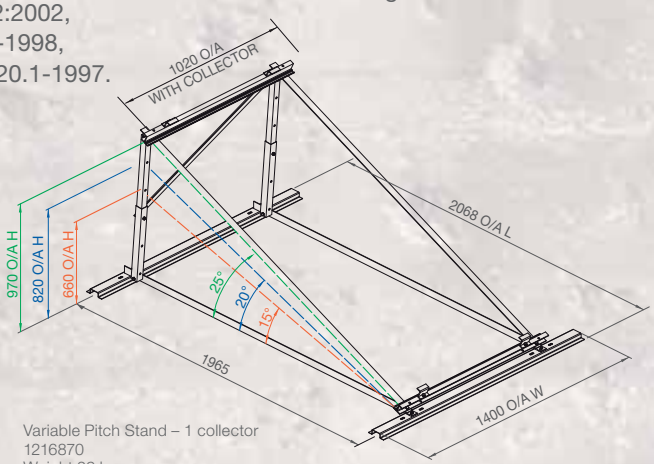
Design standards and requirements

It is the responsibility of the designer to determine the actual wind load acting on the solar frame and collector assembly for the installation site and satisfy themselves as to the suitability of the frame and collector assembly.

Fixing of frames to building members must be designed by a structural engineer to satisfy the design wind loads for the building.



Variable Pitch Stand – 2 collectors
12106871
Weight 43 kg



Variable Pitch Stand – 1 collector
1216870
Weight 29 kg

SIZING GUIDE

Selection guide

To decide what size of water heater to install, follow the simple steps below:

1. First determine the peak demand period. (This may be spread over one or more hours. Refer to sizing guide.)
2. Next calculate the hot water requirements over the peak period. (Refer to sizing guide.)
3. Then select the water heaters that will satisfy the peak demand requirements. (One, two, three or more water heaters can be connected in parallel. Refer to performance chart.) N.B: cold water temperature is needed to determine the appropriate temperature rise.
4. Ensure adequate space is available in the building for the installation. This is of extreme importance, particularly where a number of water heaters are connected in parallel. In allocating space for the installation, consideration should be given to the possible expansion of the system should the hot water demand increase. (See nominal dimensions table.)
5. Consider the advantages of using water heaters designed for outdoor installation ie. no secondary flue required; saving of internal space etc.
6. For an efficient mains pressure commercial or industrial installation, it is essential that the correct pipe sizes be installed.

Note: This sizing guide should be taken as an average only and individual assessment may be necessary.

Caution: In applications where it is known the peak hot water demand will be over a very short period (some showering periods in industry may be no longer than 30 minutes) then the storage and recovery rate of the water heater/s should be calculated for that time period only.

Note: Where hot water is being provided for dishwashing and glasswashing machines etc., it is advisable to check the hot water consumption of a unit with the manufacturer before specifying the water heater.

Rheem technical advisory service

This free Rheem service is available throughout Australia. A call to one of our water heating specialists will help you save your valuable time and effort. We also have a sizing tool available on our web site. For your next installation, commercial, industrial or home units, or for the unusual application where water must be supplied at a specific temperature, Rheem can show you several ways of maximising available space with the benefits of high performance and economical running costs.

Let Rheem solve your next hot water problem. Phone your local Rheem technical advisory service on **132 552**

*Warranty Australia only. (Commercial Applications) 5 year warranty models – 5 year cylinder or heat exchanger warranty – 1 year parts and labour warranty.
CFWH heat exchanger warranty is 1 year when set to a temperature above 75°C. For full details please contact your nearest Rheem office. Materials and specifications are subject to change without notice due to ongoing product improvement.

Date of printing May 2011.

SIZING GUIDE

Application	Suggested peak period	Hot water requirements, at 60˚C supply temperature (unless indicated)
Snack bars take-away food	1 to 2 hours 12 to 1pm or 12 to 2pm	Allow 3.1 litres for each meal. This covers cooking and washing, e.g. 200 meals over 2 hours = 620 litres. Note: water required at 82°C to meet regulations
Canteens, cafes, restaurants, hotel kitchens	1 to 2 hours 12 to 1pm or 12 to 2pm	Allow 5.5 litres for each 3 course meal. This covers cooking and washing. e.g. 200 meals over 2 hours = 1100 litres. Note: water required at 82°C to meet regulations
Holiday flats, hotels, motels, guest houses	1 hour 7.30am to 8.30am	Allow 20 to 25 litres per head over the peak hour, e.g. 40 guests = 1000 litres over 1 hour, for 4 and 5 star accommodation allow 35 litres per head
Apartments	1 hour 7:00am to 8:00am	Allow for each type of apartment in the building, e.g. studio = 25 litres, 1 bedroom apartment = 40 litres, two bedroom = 75 litres; three bedroom = 90 litres, four bedroom = 110 litres and a penthouse = 150 litres
Caravan parks camping areas	spread over 2 hours	Allow 20 litres per person. Average 4 persons per van, e.g. 30 vans = 120 people = 2400 litres, over 2 hours. Consider also no. of shower units available, allow maximum of 6 showers per hour per shower rose. In parks used mainly for long term holiday or residential purposes, the peak period may extend over a much longer time. The actual usage pattern should be ascertained
Hairdressing salons	3 to 4 hours	Each installation to be individually evaluated but as a guide allow 10 litres per customer. Fashion salons may use much more
Squash courts	spread over 4 hours	Allow 20 litres per player. Average 16 players per court over 4 hours e.g. 4 courts = 20 x 4 x 16 = 1280 litres over 4 hours
Office amenities	spread over 8 hours	Allow 3 to 4 litres per person per day. Shower seldom used. Peak usage allow 1.5 litres per person over 1 hour
Factory change rooms (light industry)	1 hour 4pm to 5pm	Average of 30% use showers. Allow 20 litres per head. Average of 70% use hand basins. Allow 3 litres per head. (This is equivalent to 8 to 9 litres per person)
Factory change rooms (heavy or dirty industry)	1 hour 4pm to 5pm	Allow 30 litres per head. Note: in some industries such as mining 50 litres per head may be necessary
Glass washing machines	usually over 2 hours	Determine quantity of glasses to be washed over peak period. Allow 3 glasses per litre of beer sold. Most machines require 7 litres of hot water per wash of 25 glasses and can handle one wash per minute. e.g.1000 litres of beer over 2 hours 1000 x 3 x 7 litres ÷ 25 = 840 litres of hot water. Note: 1. Water required at 82°C to meet regulations. 2. Where beer consumption known in gallons multiply by 4.55 to convert to litres
Coin operated laundries	spread over 8 hours	Allow 70 litres per machine per hour, e.g. 6 machines 70 x 6 x 8 = 3360 litres over 8 hours. Large commercial laundries allow 10 litres per kg dry washing

THE RHEEM ADVANTAGE

Rheem has it all. The biggest choice, the best service, the most highly-trained staff.

No problem too big or small

If you need a hot water system, give us a call. One of Rheem's technical consultants will be quick to respond.

We'll come and discuss every aspect of your project, we'll find solutions to problems big or small.

And once a Rheem system's in place, you have the reassurance of our after-sales network.

Yet another advantage

Our technical consultants are quite simply the best in the business.

They are the most highly trained, the most knowledgeable and the most professional in their field.

All our storage water heaters have the Rheem Mains Pressure Advantage built in.

This means they provide a steady, hot and strong flow of water – and to more than one tap at the same time.

Why install anything else?

Rheem offers the complete package.

It's what you've come to expect from Rheem.

You've known our slogan for years. Yet it's never made more sense than it has today.

Comes on steady, hot and strong. Install a Rheem.

Rheem Australia Pty Ltd | sales 132 552 | service 131 031 | rheem.com.au
1 Alan Street, Rydalmere, NSW 2116 Australia | ABN 21 098 823 511

Rheem New Zealand Ltd | sales 0 800 657 336 | service 0 800 657 335 | rheemnz.co.nz
475 Rosebank Road, Avondale, Auckland 1026 | GST 80-960-239

BFD3157-05/11 MKT_BR_RC_COM05/11