

Multi-Fin flue technology

Flue damper saves energy

Electronic controls



HEAVY DUTY STORAGE GAS

Dependability

The Rheem heavy duty gas range is the work horse of the industry having proved itself over many years of performance in 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



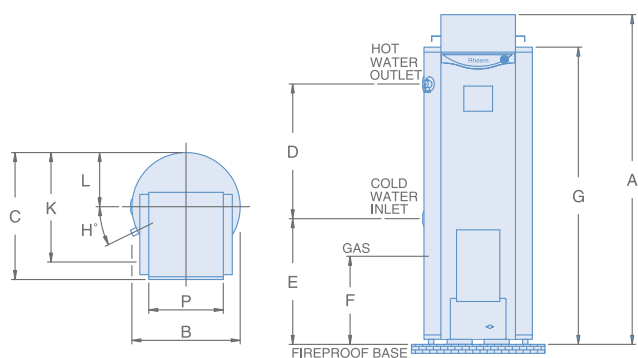
Rheem Multi-fin flue.

DIMENSIONS AND TECHNICAL DATA TABLE			OUTDOOR MODELS				INDOOR MODELS	
Model			630 260 ¹⁴	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	1660	1795	1895
	B	mm	590	610	640	590	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) ¹³ Setting	kPa		850	850	850	850	850	850
Max. Water Supply Pressure								
without ECV ¹³ fitted	kPa		800	800	800	800	800	800
with ECV ¹³ 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 0.65 Amps	250 Watts 1.1 Amps	–	150 Watts 0.65 Amps	150 Watts 0.65 Amps

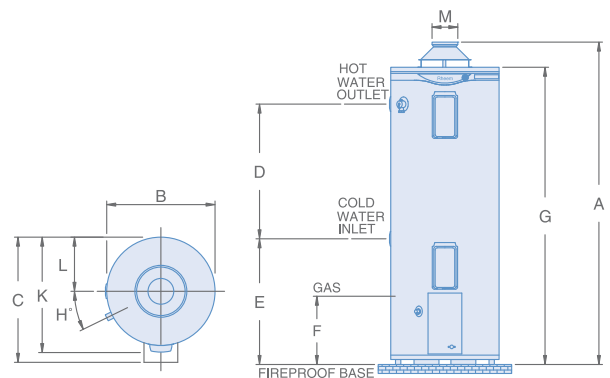
¹³ Expansion control valve not supplied with water heater.

¹⁴ 630260 litre propane and butane models not available for sale in NSW & QLD

Outdoor Models



Indoor Models



HEAVY DUTY 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 ¹⁴	1	260	51	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 AS/NZS 5601.1.

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 ¹⁴			621 265 & 631 265			621 275 & 631 275		
		Nat/SNG	Propane	Butane	Nat/SNG	Propane	Butane	Nat/SNG	Propane	Butane
Gas Type										
Thermal Input	MJ/h	51	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 (Litres)	Energy Content of Hot Water (MJ)	RHEEM COMMERCIAL GAS WATER HEATERS					
		Approximate Energy Used Per Day Natural Gas (MJ)					
		620 260	621 265	621 275	630 260 ¹⁴	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.

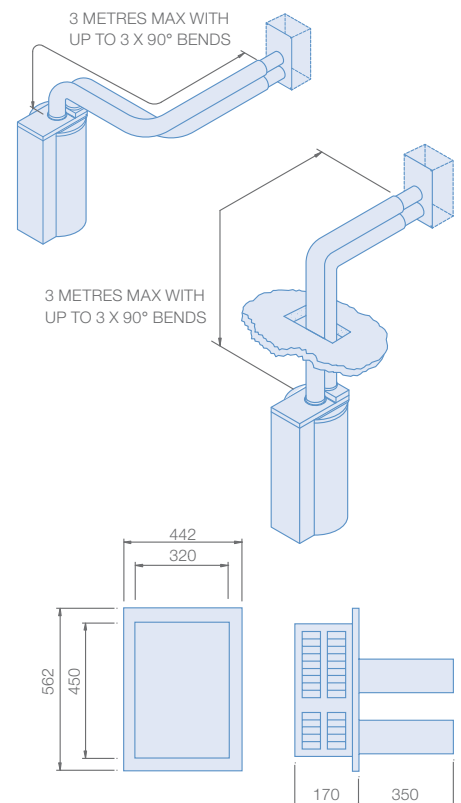
The kit includes transition pieces, which are designed to accept twin skin flue tubes.

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 AS/NZS 5601.1) must be observed.

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



HEAVY DUTY STORAGE GAS

Ventilation for indoor gas water heaters

It's a requirement of AS/NZS 5601.1 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 AS/NZS 5601.1 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. AS/NZS 5601.1 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 MJ/h	Direct to Outside	via Adjacent Room	Direct to Outside	via Adjacent Room	Mechanical Air Supply (L/s)	Mechanical Exhaust ¹⁵ (L/s)	Natural Exhaust (cm ²)
		(cm ²)	(cm ²)	(cm ²)	(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

¹⁵ Natural air supply with a mechanical exhaust is not permitted.

Power fluing / Mechanical ventilation

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

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

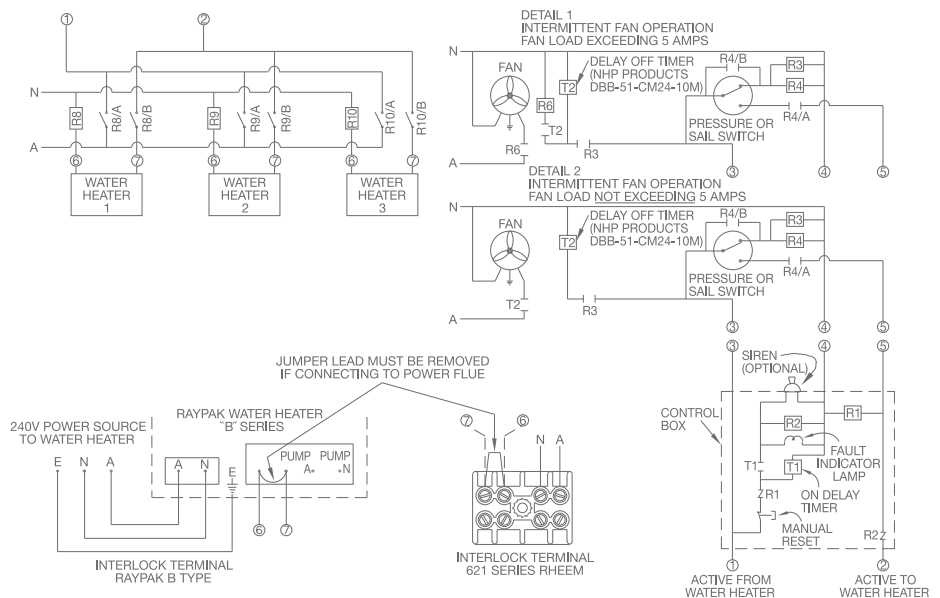
How do you achieve this? A self proving relay interconnected with either a vane switch or pressure differential switch will prove both air flow and functionality of

the control circuit before ignition of the main burner.

Please refer to AS/NZS 5601.1 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 AS/NZS 5601.1, 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 AS/NZS 5601.1.

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.

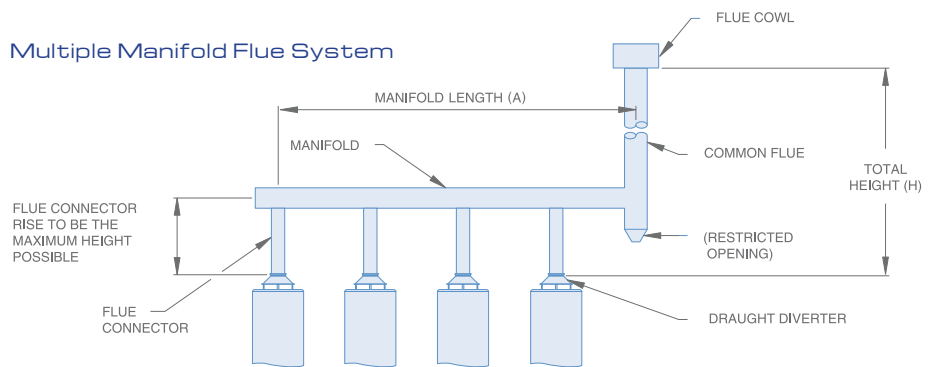
AS/NZS 5601.1 states the vertical rise directly out of the water heater must be the maximum possible height before any change in direction.

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 AS/NZS 5601.1.

⚠ 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

Model	Total Flue Height (H) (m)	1		2		4		6		8	
		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 AS/NZS 5601.1 and is meant as a quick guide only. Any variations should be referenced from AS/NZS 5601.1