Raypak®

A RHEEM COMPANY

"Perfect Temperature Everyday"

Commercial Pool Heaters

Commercial Pool Heaters

Raypak Commercial Pool & Spa Heaters are designed for the toughest of commercial pool and spa heating applications. Features of the Raypak commercial range include:

- **Exceptional Range of Sizes**
  Heating capabilities from 120 kW to 960 kW from a single appliance.
- **Direct or Indirect Pool Water Heating**
  Alternative designs enable either direct contact pool water heating or indirect heating through a third party heat exchanger.
- **All Cupronickel Heat Exchanger**
  More durable than copper, particularly when exposed directly to pool water (direct heating appliances only).
- **Bronze Headers**
  Super tough bronze headers designed to withstand the harshest water conditions.
- **Unique condensation protection system.**
  Avoids premature corrosion and failure caused by condensation formation during start up.
- **Stainless Steel Burners.**
  All stainless steel burner design exclusive to Raypak commercial heaters.
- **Flow Sensing Standard.**
  Protects the heater from operating when there is no water flow.
- **Standard with High Wind Top**
  Aiding performance in variable wind conditions (outdoor appliances only).
- **Made in Australian**
  Enabling fast supply of parts and accessible product technical support.
- **Easy serviceability**
  Designed to enable easy and simple on-site maintenance.
- **12 month Parts and Labour Warranty**
  Extensive service network throughout Australia and New Zealand. (For a detailed warranty statement please contact Raypak Australia or refer to the owner's instruction manual)

POOL HEATER SELECTION

The required pool heater load is established by calculating the energy necessary to provide the desired pool heat setting in a chosen time.

For outdoor pools with large surface areas it is important to also consider **convective heat loss**, which will significantly affect the required energy demand. Where the average wind speed during heat is above 16 km/hr Raypak should assist with determining required energy input.

To calculate the required energy from the pool heater the following equations should be used:

Outdoor Installations

$$kW = \frac{(V \times \Delta T \times 1.16)}{t} + \frac{(A_s \times \Delta T \times W \times 0.06)}{2}$$

Indoor Installations

$$kW = \frac{(V \times \Delta T \times 1.16)}{t}$$

Where:

V	Volume of pool in m^3.
ΔT	Required temperature rise in degrees C.
A_s	Surface area of the body of water in m^2.
t	Required heat up time from cold in hours. Recommended is 24 hours.
W	Wind factor dependent on average wind speed.

W	Wind Speed – km/hr
1.00	<6
1.25	6 to 8
2.00	8 to 16

Once the required pool temperature is reached the pool heater energy demands will fall substantially and only maintenance heat will be required.

The ongoing energy requirements of your pool can be cut dramatically through the use of a pool cover. This is strongly recommended in areas where low overnight temperatures are experienced.

Commercial Pool Heaters

CHOOSING A LOCATION

Raypak commercial pool heaters can be located either indoor or outdoor but this must be specified at the time of ordering and should be identified prior to calculating the required heating energy. Outdoor heaters above 500MJ/hr input are supplied **standard** with a "High Wind Top" but are also able to be fitted with an "induced draft fan" to assist with special fluing requirements.

When determining a location for the heater consideration must be given to the following:

- Avoid areas of turbulent or high wind.
- Ensure clear and uninterrupted venting above the heater when installed outdoor.
- Ensure sufficient natural air for combustion and flueing is available.
- Ensure sufficient installation clearances to comply with both the Australian Standard AS5601 and general maintenance requirements. Minimum recommended clearances are:
  - ***1,200mm*** *to any ceiling when indoor.*
  - ***1,200mm*** *from the front of the appliance.*
  - ***600mm*** *from sides and rear.*
- Location of other equipment such as air conditioning that may affect heater air supply or venting.
- Impact of heater or flue visibility by client or pool users and affect on landscaping appearance.

GAS SUPPLY

Low, variable, or high gas supply pressures are often a cause of poor heater operation or failure. The gas supply must be properly regulated to the heater at the following levels for correct operation when using Natural Gas or Propane. Required supply pressures for other gas types is available on request.

	Natural Gas		Propane Gas	
Input	Min.	Max.	Min.	Max.
< 500 MJ/hr	1.1 kPa	3.5 kPa	3.0 kPa	3.5 kPa
> 500 MJ/hr	1.1 kPa	4.0 kPa	2.75 kPa	4.0 kPa

Refer to AS5601 for pipe sizing information.

INSTALLATION

All Raypak commercial pool heaters must be installed by a properly authorised gas installer. In Australia pool heaters above 500 MJ/hr input must be installed by an authorised contractor and cannot be operated until the relevant Gas Regulator is notified.

RHEEM WARRANTY

Raypak commercial pool heater products are warranted for 12 months* from the date of installation by Rheem and are supported by Rheem's National Service network in all states of Australia. For service outside these areas please contact Rheem **131 031**

*Conditions apply. See the Rheem warranty set out in the Owner's Guide & Installation Instructions supplied with the pool heater.

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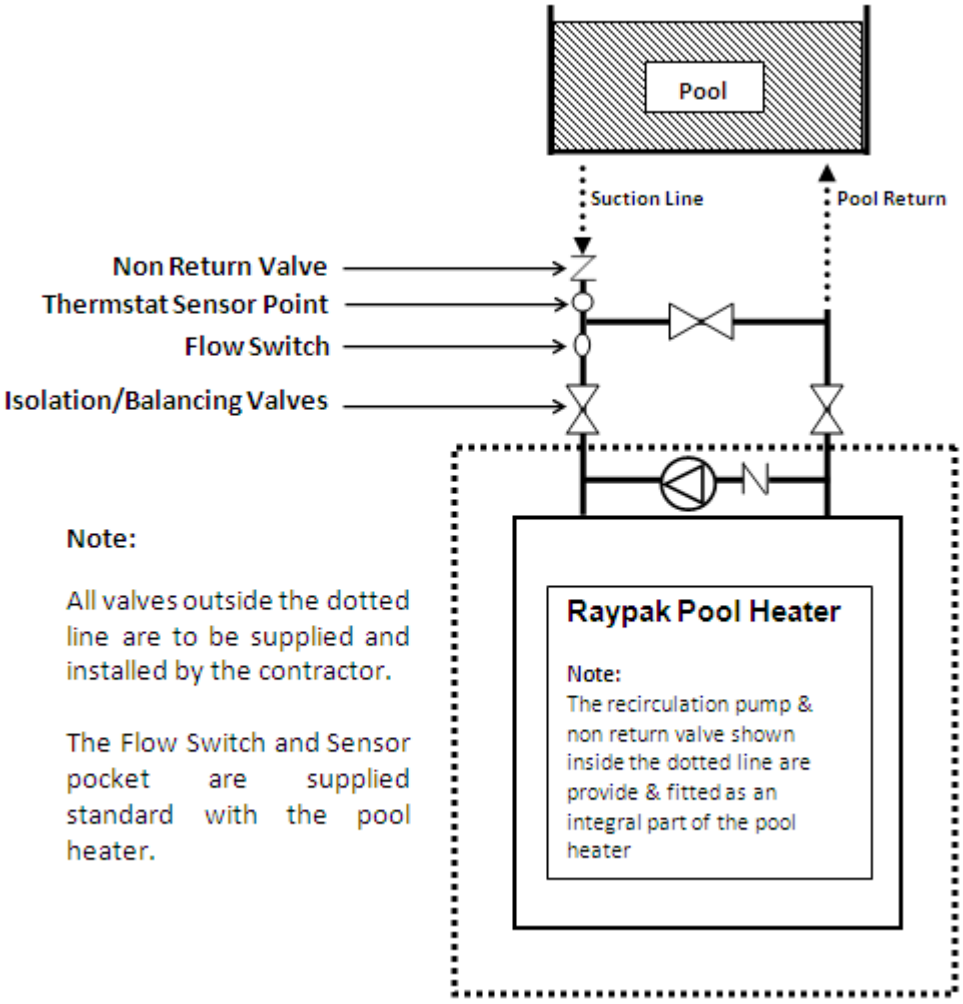
Commercial Pool Heater installation and system layout

Note: Prior to installing any water pipe work, non return valve or isolation / balancing valves consideration should be given to the standard of material (E.g. Copper, ABS plastic, Class 12 plastic) used for this piping. When water leaves the outlet of the pool heater, it could be above 45 C°, before mixing down with the remaining water at the bypass, and returning to the pool. Should the class of product chosen not be capable of supporting these elevated temperatures, it is possible that distortion and/or water leaks may occur.



Note:

All valves outside the dotted line are to be supplied and installed by the contractor.

The Flow Switch and Sensor pocket are supplied standard with the pool heater.

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DESCRIPTION	Nominal Rating				Location		Approximate Dimensions					Connections				Flow Rates	
	Natural Gas		Propane		(specify when placing order)		Height	Height	Front	Side	Weight	Gas		Water	Flue		
	Input	Output	Input	Output			Outdoor	Indoor	Width	Depth	Tare	Nat	LPG	Dia.	Dia.	Min.	Max.
	MJ/hr	**kW**	MJ/hr	**kW**	Outdoor	Indoor	mm	mm	mm	mm	kg	mm	mm	mm	mm	l/s	l/s
SERIES 8																	
538 Pool Heater	539	**120**	505	**115**	✓	✓	2,130	1,460	1,130	750	195	25	25	65	255	4.5	7.5
658 Pool Heater	661	**150**	620	**140**	✓	✓	2,255	1,460	1,250	750	200	32	25	65	305	4.5	7.5
768 Pool Heater	765	**170**	720	**160**	✓	✓	2,255	1,460	1,360	750	250	32	25	65	305	4.5	7.5
868 Pool Heater	870	**195**	820	**180**	✓	✓	2,355	1,460	1,460	750	260	40	25	65	355	4.5	7.5
SERIES 2																	
972 Pool Heater - Outdoor	976	**220**	933	**205**	✓		2,500	##	1,650	850	360	50	25	65		4.5	7.5
992 Pool Heater - Indoor	992	**225**	933	**205**		✓	##	1,810	1,650	850	310	50	25	65	355	4.5	7.5
1142 Pool Heater - Outdoor	1,142	**255**	1,090	**240**	✓		2,395	##	1,850	850	385	50	25	65		4.5	7.5
1182 Pool Heater - Indoor	1,182	**265**	1,090	**240**		✓	##	1,915	1,850	850	330	50	25	65	405	4.5	7.5
1242 Pool Heater - Outdoor	1,242	**275**	1,186	**265**	✓		2,395	##	1,950	850	410	50	25	65		4.5	7.5
1292 Pool Heater - Indoor	1,292	**285**	1,186	**265**		✓	##	1,915	1,950	850	360	50	25	65	405	4.5	7.5
1362 Pool Heater - Outdoor	1,357	**300**	1,296	**290**	✓		2,570	##	2,050	850	440	50	25	65		1.9	3.2
1412 Pool Heater - Indoor	1,412	**315**	1,296	**290**		✓	##	1,990	2,050	850	390	50	25	65	455	1.9	3.2
1492 Pool Heater - Outdoor	1,491	**330**	1,423	**315**	✓		2,570	##	2,200	850	485	50	32	65		2.3	3.5
1552 Pool Heater - Indoor	1,574	**345**	1,423	**315**		✓	##	1,990	2,200	850	420	50	32	65	455	2.3	3.5
1662 Pool Heater - Outdoor	1,657	**370**	1,581	**350**	✓		2,640	##	2,400	850	510	50	32	65		2.6	4.1
1722 Pool Heater - Indoor	1,719	**380**	1,581	**350**		✓	##	2,060	2,400	850	440	50	32	65	455	2.8	4.1
1852 Pool Heater - Outdoor	1,854	**410**	1,772	**395**	✓		2,920	##	2,600	850	520	50	32	65		2.9	4.4
1922 Pool Heater - Indoor	1,926	**430**	1,772	**395**		✓	##	2,130	2,600	850	460	50	32	65	510	2.9	4.4
SERIES 4																	
2004 Pool Heater - Outdoor	2,004	**445**	2,150	**480**	✓		3,165	##	1,850	1,450	650	50	32	80		3.2	5.0
2214 Pool Heater - Indoor	2,215	**505**	2,150	**480**		✓	##	1,550	1,850	1,450	625	50	32	80	610	3.2	5.0
2404 Pool Heater - Outdoor	2,404	**530**	2,530	**560**	✓		3,210	##	2,100	1,450	730	65	40	80		3.8	5.9
2634 Pool Heater - Indoor	22,636	**600**	2,530	**560**		✓	##	1,780	2,100	1,450	700	65	40	80	660	3.8	5.9
2804 Pool Heater - Outdoor	2,804	**625**	3,035	**675**	✓		3,185	##	2,400	1,450	810	65	40	80		4.7	7.2
3164 Pool Heater - Indoor	3,165	**720**	3,035	**675**		✓	##	2,060	2,400	1,450	780	65	40	80	710	4.7	7.2
3304 Pool Heater - Outdoor	3,304	**740**	3,540	**790**	✓		2,965	##	2,650	1,450	890	65	50	80		5.6	8.4
3694 Pool Heater - Indoor	3,692	**840**	3,540	**790**		✓	##	2,350	2,650	1,450	860	80	50	80	760	5.6	8.4
3804 Pool Heater - Outdoor	3,804	**845**	4,045	**900**	✓		3,165	##	2,950	1,450	970	80	50	80		6.3	9.4
4224 Pool Heater - Indoor	4,224	**960**	4,045	**900**		✓	##	2,640	2,950	1,450	940	80	50	80	815	6.3	9.4

Special Note

Raypak External Pool Heaters / Closed Loop Heaters from the 538 through to 3804 models are supplied with High Wind Top/s as **standard.** Consideration must be given to the location of the unit/s for the overall combined height of the unit and high wind top, and how this could affect your project.

***ALL RAYPAK MODELS LISTED ARE SUBJECT TO CHANGE OR DELETION AT ANY TIME**

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