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POOL HEATING

Consolidated Pool Heating Evaluation

Swim longer,
swim warmer
with
Madimack's efficient Pool Heating

Heating Performance Guaranteed

SPASA AUSTRALIA
SWIMMING POOL & SPA ASSOCIATION

AUSTRALIAN OWNED & OPERATED

sales@madimack.com.au www.madimack.com.au 1300 899 737

The following document evaluates; your pool, your environment and your heating requirements to ensure you select the best heating system for your pool and lifestyle requirements.

Section 1:	**Customised Pool Specifications**
Section 2:	**Heat Pump Recommendations**
Section 3:	**Advanced Technical Specifications**

This report is a generic evaluation. Estimates provided are based on the client supplied data via Madimack's Online Pool Heating Calculator. In conjunction with your installer/pool specialist the information within is intended to optimise the heating performance of your pool and have you "swimming longer, swimming warmer".

- Increase your pool time.
- Constant pool temperatures, year round.
- Minimise running costs/optimise cost-efficiency.
- Support renewable energy.

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01 Customised Pool Specification

Your Pool Heating Evaluation

Customer	
Name	Customer
Postcode	-
Weather Data	Sydney
Pool	
Pool Surface m2	27
Volume Approx. (L)	40,000
Shading Level	25%
Wind Level	low
Indoor Pool	no
Infinity Edge m2	0
Swim Conditions	
Pool Temperature	28
Pool Type	Residential
Other	
Solar PV	5
Electricity cost	24

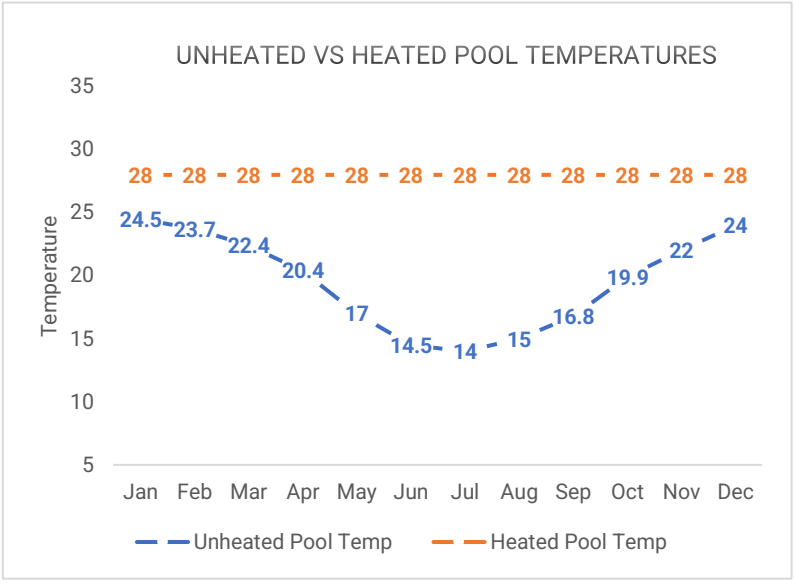
Heat Pump Technology for your pool

Madimack is Australia's authority in Heat Pump technology, the fastest growing energy source across the globe. Heat Pump technologies are out performing gas and grid electrics in all key metrics; cost performance, efficiencies, longevity, maintenance and , importantly, renewability. Simply put, a heat pump is a device that uses a small amount of energy to extract heat from the air and recycle that heat through your pool water. Madimack manufacture Pool Heat Pumps above industry standards; recognized for superior engineering, aesthetics, market leading warranties and end-to-end customer support…. And of course, our heating performance guarantee

Benefits Of A Heated Pool

Your pool is one of your home's biggest assets. A pool heating system will maximise its use and Heat Pump Technology is a cost efficiency way of achieving that.

- Extend the swim season from 2 months a year to 7,9 or 12 months a year for you and your family
- Even in the warmer months, a heated pool, set to an efficient temperature can improve your swimming enjoyment
- Heated pools are often used in therapy; great for muscles and joints and considered beneficial for stress reduction
- Ask any property specialist, a heated pool increased your property's value



Heat Pump Recommendation

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Your Personalised Heat Pump Recommendations

Based on the data entered into the online Madimack Pool Heating Calculator, the following Pool Heat Pump units have been recommended to suit your requirements. The grid below outlines the recommended size and usage requirements, based on key factors:

Pool Size
Geographic location
Use of a pool cover or not
Months of swimming required

Along with the science and mechanics of choosing a pool heating system, personal choice and usage plays a big role;
Are you:

- A sometimes swimmer, looking for "comfort over summer", or
- Wanting to make the most of your home's greatest asset and "extended summer swimming" to 7 months a year, or
- Are you "totally devoted" to using your pool and looking for a 9-12 month swimming season?

The chart on the right outlines the best heater choice for your swimming needs.

The following pages further discuss the benefits of individual units

ECO

ELITE

ECLIPSE

	Comfort Over Summer 5 months (NOV-MAR)	Extended Summer 7 months (OCT-APR)	Devoted Swimmer 9 months (SEP-MAY)	All Year Round Pool 12 months
COVER IS USED	9 kW ECO	13 kW ECO	16 kW ECO	24 kW ECO
COVER ISN'T USED	13 kW ECO	24 kW ECO	40 kW ECO (multiple units)	40 kW ECO (multiple units)
COVER IS USED	11 kW ELITE V3	11 kW ELITE V3	14 kW ELITE V3	22 kW ELITE V3
COVER ISN'T USED	14 kW ELITE V3	22 kW ELITE V3	27 kW ELITE V3	32 kW ELITE V3
COVER IS USED	16 kW ECLIPSE	16 kW ECLIPSE	16 kW ECLIPSE	21 kW ECLIPSE
COVER ISN'T USED	16 kW ECLIPSE	21 kW ECLIPSE	26 kW ECLIPSE	32 kW ECLIPSE (multiple units)

02 Heat Pump Recommendation

Madimack Heat Pump Units and Specifications

ECO

Efficient, stable and powerful pool heater. With a 30% slimmer profile and black casing, this unit disappears into the garden. Eco arrives with all the latest technology, including WiFi and automation inputs, making it a great all rounder for all seasons.

- Up to 40 degrees set point
- Wifi as standard inclusion
- Pure performance and power
- Five models up to 24kW
- Inverter compressor and fan
- Built in flow and safety system
- Pump output and automation ready
- Auto defrost function
- Independently TuV tested
- Operation down to 10 degrees
- Anti-corrosion ABS casing
- Extra large heat sink
- Black heat absorbing colour
- Stainless steel screws

ELITE V3

The Elite Series offers market leading technology and a sleek design. With its signature diamond 'touch screen' controller and revolutionary airflow engineered to reduce install spatial requirements, the Elite Heat Pump is the quietest prettiest unit on the market. Delivering the highest COP, WIFI, backwash alert feature, wrapped up in marine grade aluminium alloy casing, the Elite Heat Pump is truly hard to beat.

- Up to 40 degrees set point
- Premium side airflow
- Pure performance and power
- Seven models up to 40kW
- Inverter compressor and fan
- Built in flow and safety system
- Pump output and automation input
- Auto defrost function
- Independently TuV tested
- Operation down to 15 degrees
- Marine grade aluminium alloy
- Black heat absorbing colour
- Sleek, slim design
- Extra large heat sink

ECLIPSE

Designed and engineered to meet the highest requirements for cooling and heating options, with full inverter compressor and top discharge fans for steamlined efficient air flow. This compact unit with high power to low space ratio allows easier and more discreet installations.

- Up to 40 degrees set point
- Wifi as standard inclusion
- Pure performance and power
- Single phase up to 26kW
- Inverter compressor and fan
- Built in flow and safety system
- Pump output and automation input
- Auto defrost function
- Independently TuV tested
- Operation down to -10 degrees
- Marine grade aluminium alloy
- Black heat absorbing colour
- High power to low space ratio
- Extra large heat sink

	WARRANTY			
	HEAT EXCHANGER	COMPRESSOR	PARTS	ON-SITE LABOUR
ECO	25	3	2	1
ELITE V3	25	10	5	1
ECLIPSE	25	5	4	1

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Advanced Technical Specifications

Heat Pump Run Times

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Heat Pump Run Times

The charts below outline the optimal “Heater Sizes” based on run times needed by month. A larger heat pump can always be chosen as an upgrade, to increase “heat-up” times or to match with solar generation, however typically, the red-zones are inefficient for most users:

*Madimack Control Box sold separately

ECO

With a cover

ECO	UNIT KW ---	9	13	16	20	24	40
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	3	3	2	2	2	1	1
February	4	4	3	2	2	1	1
March	6	7	5	4	3	2	1
April	12	14	10	8	6	5	3
May	21	23	16	13	10	9	5
June	26	29	20	16	13	11	7
July	29	32	22	18	15	12	7
August	26	29	20	16	13	11	7
September	16	18	12	10	8	7	4
October	11	12	8	7	6	5	3
November	6	7	5	4	3	3	2
December	4	5	3	3	2	2	1

Without a cover

ECO	UNIT KW -- -	9	13	16	20	24	40
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	8	9	6	5	4	3	2
February	8	9	6	5	4	4	2
March	12	13	9	8	6	5	3
April	22	25	17	14	11	9	6
May	35	39	27	22	18	15	9
June	44	49	34	28	22	18	11
July	50	55	38	31	25	21	12
August	45	50	34	28	22	19	11
September	29	32	22	18	14	12	7
October	21	24	16	13	11	9	5
November	14	15	11	9	7	6	3
December	10	11	7	6	5	4	2

ELITE V3

With a cover

Elite	UNIT KW ---	11	14	17	22	27	32
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	3	2	2	2	1	1	1
February	3	3	2	2	1	1	1
March	5	5	4	3	2	2	2
April	11	10	8	7	5	4	3
May	18	16	13	11	8	7	6
June	23	21	16	13	10	8	7
July	25	23	18	15	11	9	8
August	23	20	16	13	10	8	7
September	14	13	10	8	6	5	4
October	10	9	7	6	4	4	3
November	6	5	4	3	3	2	2
December	4	3	3	2	2	1	1

Without a cover

ELITE	UNIT KW -- -	11	14	17	22	27	32
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	8	6	5	4	3	3	2
February	8	7	5	4	3	3	2
March	12	10	8	6	5	4	3
April	22	18	14	12	9	7	6
May	35	28	22	18	14	11	10
June	44	35	27	23	17	14	12
July	50	39	30	25	19	16	13
August	45	35	28	23	18	14	12
September	29	23	18	15	11	9	8
October	21	17	13	11	9	7	6
November	14	11	9	7	6	5	4
December	10	8	6	5	4	3	3

ECLIPSE AND MAX

With a cover

Eclipse	UNIT KW ---	16	21	26	40	60	120
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	3	2	1	1	0	0	0
February	3	2	2	1	1	0	0
March	5	3	3	2	1	0	0
April	11	7	5	4	2	1	0
May	18	11	9	7	3	2	1
June	23	14	11	9	4	2	1
July	25	16	12	10	4	2	1
August	23	14	11	9	4	2	1
September	14	9	7	5	2	1	0
October	10	6	5	4	2	1	0
November	6	4	3	2	1	0	0
December	4	2	2	1	1	0	0

Without a cover

ECLIPSE	UNIT KW -- -	16	21	26	40	60	120
		Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	8	4	3	3	1	1	0
February	8	5	4	3	1	1	0
March	12	7	5	4	2	1	0
April	22	12	9	8	3	2	1
May	35	19	15	12	5	3	1
June	44	24	18	15	6	3	1
July	50	27	20	16	7	4	1
August	45	24	18	15	6	3	1
September	29	16	12	10	4	2	1
October	21	12	9	7	3	2	1
November	14	8	6	5	2	1	0
December	10	5	4	3	1	1	0

Indicated units are average run times required per day to maintain 28 degrees. Initial heat up times can vary and can take up to several days depending on the time of year first switching on. Please see FAQ for more information
Average temperature data has been used with estimated day time running with higher ambient air temperature, running at night time will change these tu
It is not recommended to exceed 16 hours run times
The first grey column is the absolute kW based on 10 hour run times

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03 Advanced Technical Specifications

Solar Matching

Heat Your Pool For Free

When combined with a correctly sized solar energy system your pool heating running costs can be neutralised. The big advantage of a heat pump over solar pool heating when looking toward renewable energy, is the available roof space that 'would' have had the solar heating system on it can now be generating and redirecting electricity to other areas of your home. For example, heat your house from your air conditioner in winter or use the clothes dryer guilt free.

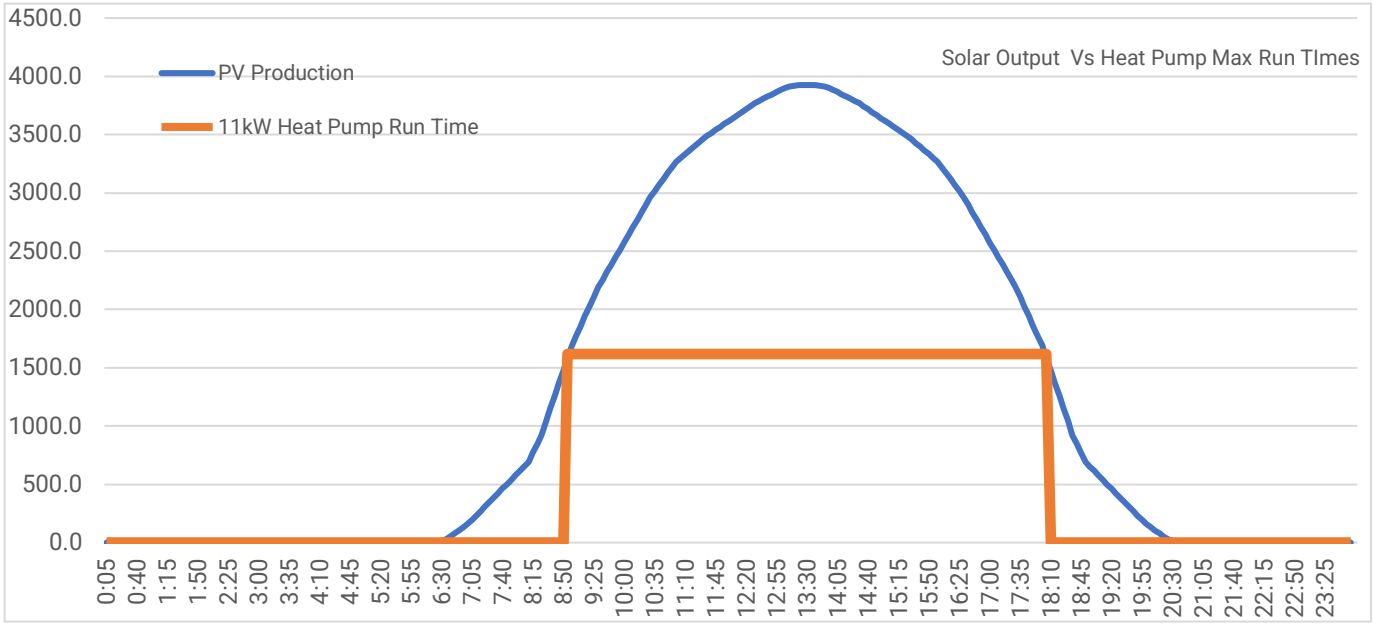
With an ever growing industry of PV solar installations throughout Australia we are proud to provide detailed information on heating times to really optimise your energy costs.

Optimum on/off timers means that your heat pump can be tailored to your circumstances and production. If you're thinking about solar, we have a nationwide network of installers who can design the most efficient and consistent heating for your household or business.

DATA DISPLAYED ON GRAPH

HEAT PUMP KW	11
WITH A COVER	yes
SOLAR KW SIZE	5
MONTH	April
RUN TIME (HR)	10.07
TIME ON	8:27
TIME OFF	18:32

	MADIMACK ELITE V3						
		11	14	17	22	27	32	40
	kWH INPUT PER DAY	Run-time	Run-time	Run-time	Run-time	Run-time	Run-time	Run-time
January	5	2	2	2	1	1	1	1
February	6	3	2	2	1	1	1	1
March	10	5	4	3	2	2	2	1
April	20	10	8	7	5	4	3	3
May	34	16	13	11	8	7	6	4
June	42	21	16	13	10	8	7	5
July	47	23	18	15	11	9	8	6
August	42	20	16	13	10	8	7	5
September	26	13	10	8	6	5	4	3
October	18	9	7	6	4	4	3	2
November	10	5	4	3	3	2	2	1
December	7	3	3	2	2	1	1	1

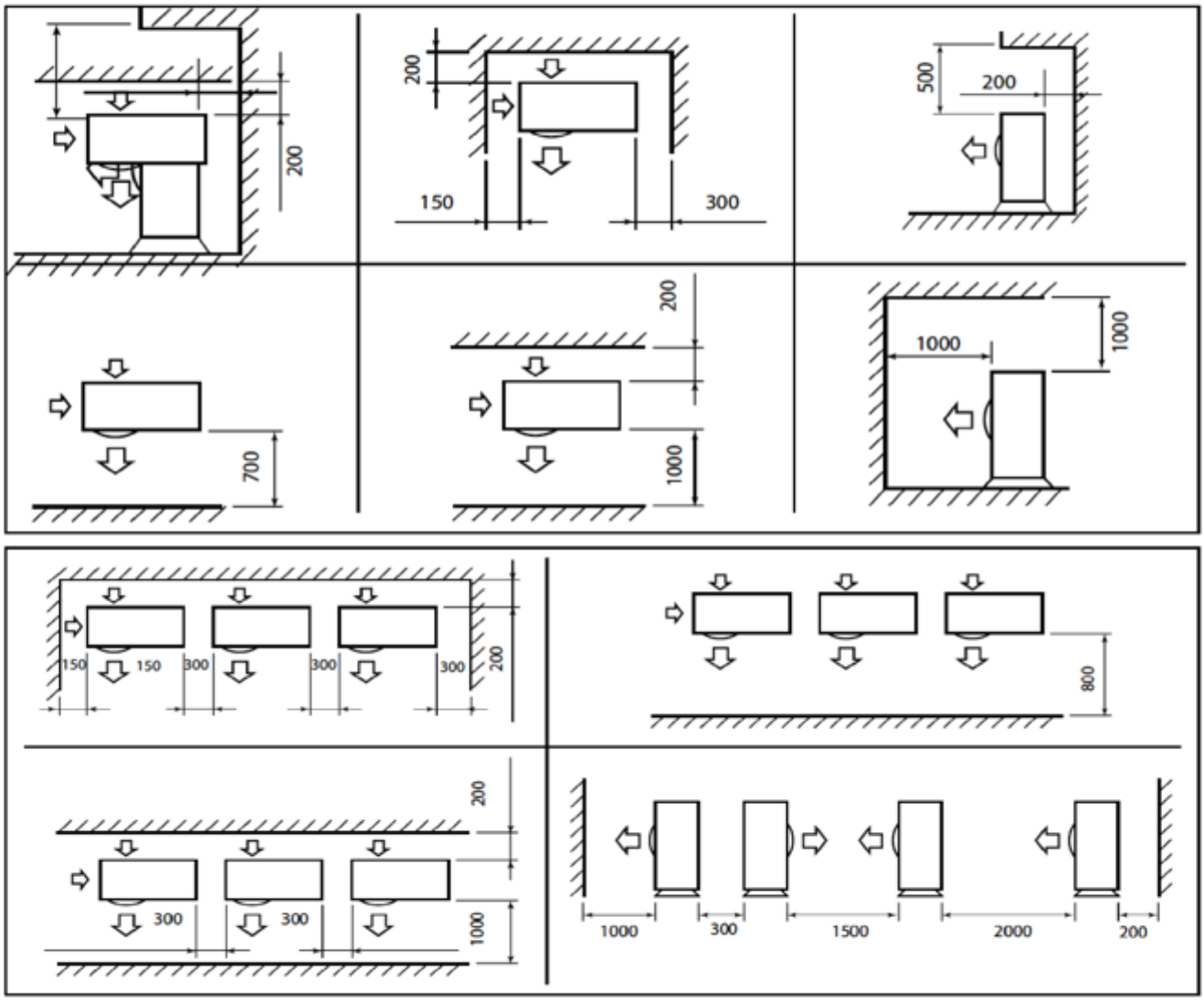


Ventilation Requirements for Heat Pumps

Ventilation Requirements For Heat Pump Position

A heat pump should be placed in a well ventilated, preferably outdoor location. The below images are recommended distances from walls or other objects for the Eco heat pump. All installation information can be found on our website in the downloads section.

If you have any specific questions regarding the positioning of your heater please speak to your installler or contact Madimack technical direct on 1300 899 737 and we can advise you on the suitability.



Advanced Technical Specifications

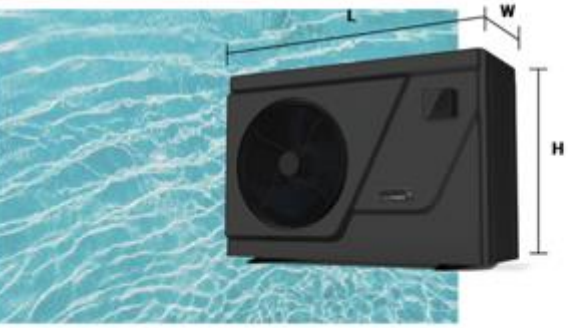
Heat Pump Dimensions

03

Heat Pump Dimensions

Below are the dimensions for our range of heat pumps. The units are designed to be outside and are fully weather proof. For recommendations for locations and how they look next to your pool, down the side of a house or mounted at high level please see our website for recent projects and photos of installations provided by our national installer network.

ECO



	ECO90	ECO130	ECO160	ECO200	ECO240
L	872	872	962	962	961
W	349	349	349	349	420
H	654	654	654	754	758

*All dimensions are in mm

ELITE

	110	130	170	210	280	350
L	890	890	1,060	1,060	1,060	1,314
W	440	440	440	440	440	512
H	658	658	658	958	958	958

*All dimensions are in mm

ECLIPSE

	ETD160	ETD210	ETD260
L	776	776	776
W	687	687	687
H	656	656	755

*All dimensions are in mm

To view the full list latest specifications and dimensions please click the link below
www.madimack.com.au/brochures

03 Advanced Technical Specifications

Cost Comparisons

Estimated Running Costs:

Heat Pumps are renowned for the efficiencies they provide, namely energy efficiencies which translate into dollar efficiencies. Additionally, due to superior construction and technology advancements, they typically have extra-long lifespans and low maintenance requirements, hence their extensive warranties.
Running costs vary by location, duration of heating and pool size, the charts below provides estimated costs based on the data you entered online.

Comparison Heating Sources:

Heat Pump technologies are out performing gas and grid electrics in all key metrics; cost, performance, efficiencies, longevity, maintenance and, importantly, renewability. There are significant cost benefits to choosing heat pump technology to power your pool heating, specifically;

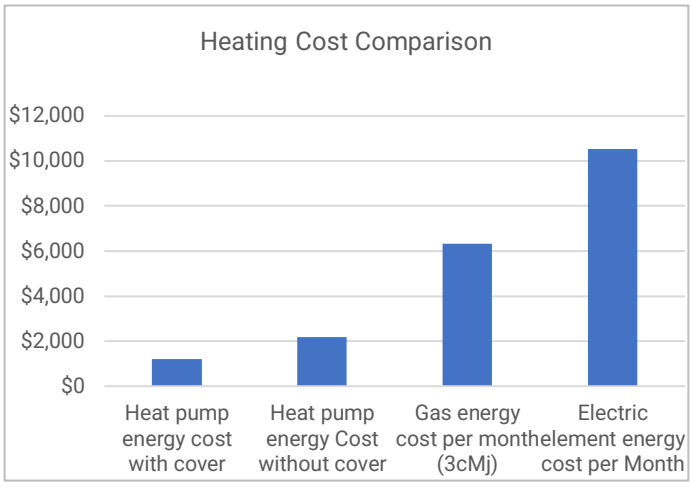
- When coupled with a pool cover Heat Pumps are 4 times less expensive that Gas to operate
- Heat Pumps are 10 times less expensive that Electric elements to operate
- Refer to the charts on the right for further comparisons

Pool Covers:

Pool covers have many benefits. Along with reducing evaporation and maintaining debris, a good pool cover can cut ambient heat loss (particularly overnight) by 50% which in turn increases efficiencies. In some instances having a pool cover allows your installer to recommend a smaller sized heat pump.
Madimack highly recommend discussing pool cover options with your pool heater installer.

PERSONALISED ENERGY COST ESTIMATION

	Sydney40000 L			
	Running cost comparison			
	Heat pump energy cost with cover	Heat pump energy Cost without cover	Gas energy cost per month (3cMj)	Electric element energy cost per Month
January	$28	$72	$226	$377
February	$32	$76	$240	$400
March	$54	$108	$332	$553
April	$112	$200	$561	$935
May	$187	$319	$787	$1,311
June	$235	$399	$916	$1,527
July	$263	$447	$988	$1,646
August	$235	$402	$923	$1,539
September	$145	$258	$681	$1,135
October	$99	$191	$522	$869
November	$58	$125	$374	$623
December	$37	$87	$275	$458



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Thank you for choosing Madimack as your preferred pool heating provider. We support our products with end-to-end customer service and a Heating Performance Guarantee. Please visit www.madimack.com.au or call us on 1300 899 737 should you have any questions.

To view the full list latest specifications and dimensions please click the link below

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