

# Electr Heat **MKIII**



The latest advancement in swimming pool heating, Electroheat heat pump extracts latent heat from the surrounding air, intensifies it and transfers it to your swimming pool.

Electroheat heat pumps are an energy efficient way to heat your pool and extend your swimming season.

- Energy efficient heating
- Temperature management & self-diagnosis
- Weather proof cabinet
- Titanium Heat Exchanger
- Efficient R410 Refrigerant



## Energy efficient heating

A swimming pool is a major financial investment. Getting the most out of your pool, means keeping the pool at a swimmable temperature for the maximum number of hours in each day and the maximum number of days in each year.

A heat pump will economically keep your pool warm 24 hours a day.

Compared to gas and electric heaters, Electroheat uses just a fraction of the energy to generate the same amount of heat and unlike solar heating; there is no reliance on the sun as the latent heat in the air is used.

## How the Electroheat works

Electroheat uses refrigeration technology to extract heat from the surrounding air and transfers it to the swimming pool.

### Heat extraction

The fan circulates air through the evaporator air coil that acts as a heat collector. The liquid refrigerant in the evaporator air coil absorbs the available heat from the ambient air.

### Heat Intensification

The compressor then receives the warmed refrigerant and intensifies the heat. The intensely hot refrigerant is then pumped into the heat exchanger.

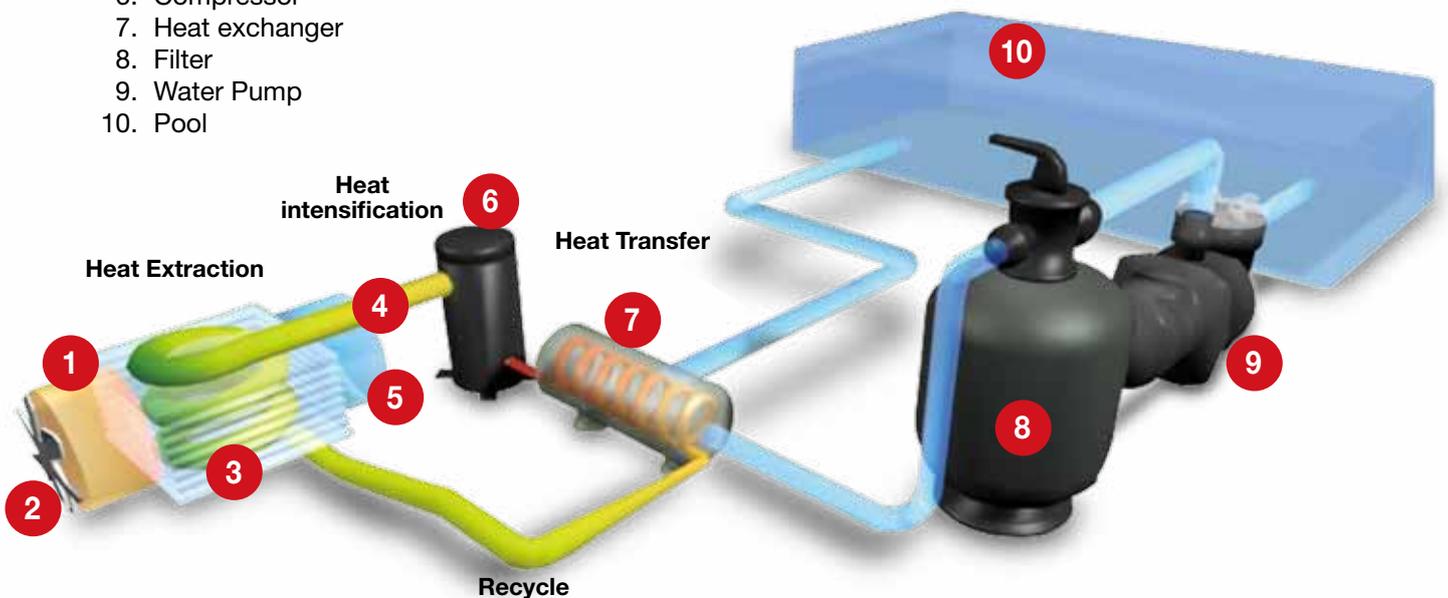
### Heat Transfer

The heat from the hot refrigerant flowing inside the heat exchanger is then transferred to the pool water.

### Recycle

The refrigerant restarts the process and flows through the evaporator air coil to collect heat once again.

1. Warm air in
2. Fan
3. Evaporator
4. Warm gas
5. Cool air out
6. Compressor
7. Heat exchanger
8. Filter
9. Water Pump
10. Pool



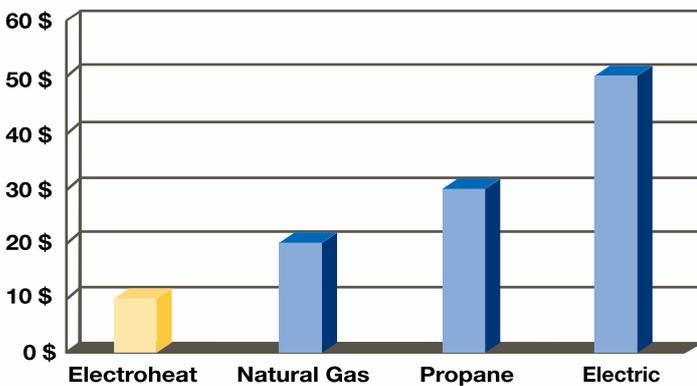
## Cost effective heating

Heat pumps only require energy to operate a compressor and a fan motor, using low amperage in the process.

The Electroheat can produce up to 5 times more heat energy than the electrical power it consumes.

For every 1kW of electricity consumed, Electroheat can produce up to 5 kW of heat.

Save up to 80% over propane gas, 50% over natural gas and 500% over electric heaters.



## Electroheat MKIII

Incorporating the latest smart technology and long lasting components, Electroheat is designed and built for trouble free operation.

Simply program your desired pool water temperature and let the Electroheat do the rest.

## Temperature management & self-diagnosis

Electroheat's LED control panel provides a continuous digital pool temperature display and incorporates a self diagnosis system. In the event of a problem, the control panel will display diagnostic error codes.



## Inbuilt protection devices

The integrity and performance of your pool heater and its components are protected by built-in safety devices

- **Auto defrost control** to eliminate frost on the evaporator.
- **Auto flow switch** to shutdown the system in the event of no water flow.
- **High / Low pressure refrigerant auto reset** to shutdown the system in the event of low or high refrigerant pressure
- **Compressor protection** via a time delay to allow the refrigerant to equalise before the compressor starts/restarts.



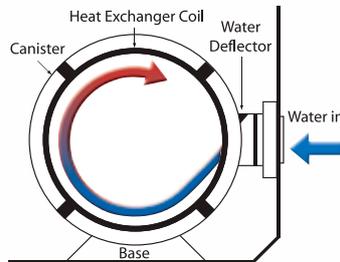
## Titanium heat exchanger

Titanium heat exchangers have a longer life expectancy than standard copper heat exchangers. Titanium offers total protection against erosion and corrosion, it is resistant to: chlorinated water, ozone, iodine, Baquacil, bromine and salt water.



## Powerful heat transfer

The exclusive design of the Electroheat's heat exchanger creates an unmatched and powerful heat transfer source. Surface area contact with the heat exchanger is maximised by circulating water through its condenser tubes.



## Efficient scroll compressor

Electroheat's are powered by a Scroll compressor, the most powerful, energy efficient compressors on the market and most importantly they are also the quietest.



## Environmentally friendly R410 refrigerant

Electroheat MkIII uses ozone friendly R410 refrigerant which is not only kinder to the environment but also improves the heat pumps performance.



## Extra large evaporator area

Electroheat has an extra large evaporator allowing it to extract more heat from the outside air maximising the heat pump's performance and efficiency.



*Note: Applicable to Electroheat Plus models only*

## Weather proof cabinet

The Electroheat's cabinet is constructed of heavy-duty UV-resistant proof ABS body panels that are impervious to rust, corrosion and deterioration.



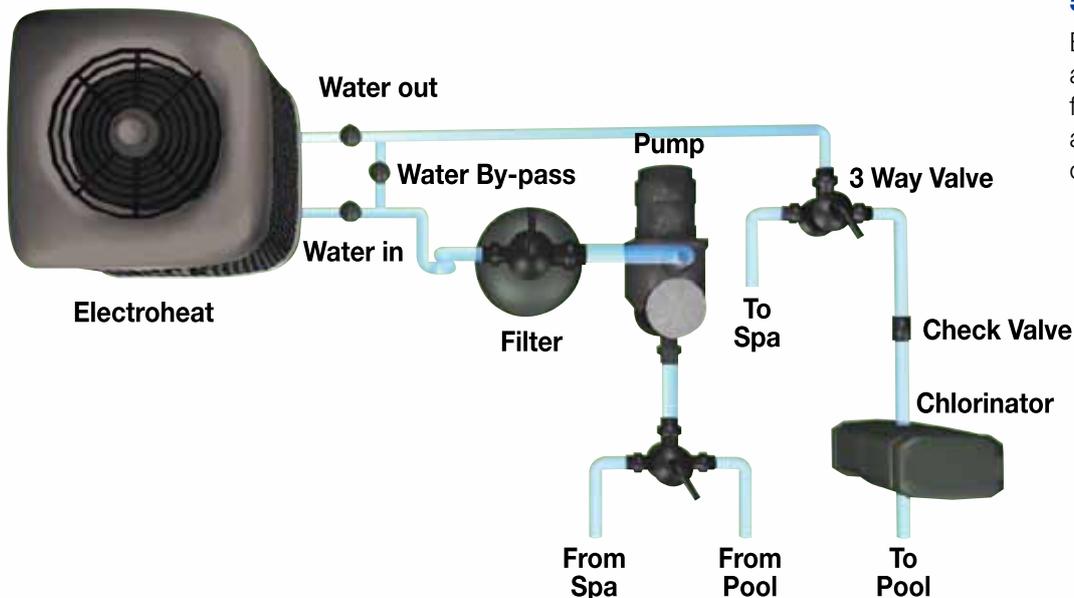
## Quick and easy installation

Simply connect the pool return line to and from the heat pump and connect the power source.

Please note: Electroheat is designed for outdoor installation and should not be installed in enclosed areas such as a shed or garage, unless mechanical ventilation is provided to ensure adequate air exchange for proper operation.

## 5 year warranty

Electroheat is covered by a 5 (2+3) year warranty for residential installations and a 1 year warranty for commercial installations.



## Frequently asked questions

### Should I use a pool cover?

The most effective way to prevent heat loss is to install a pool cover. An un-blanketed pool loses 2-3 times more heat than a blanketed pool. Pool covers virtually eliminate evaporation and reduce heat loss by insulating the surface of the pool, greatly reducing pool heating costs. As with all pool heaters, it would be advisable to use a pool cover at night, and when the pool is not in use.

### What is the minimum ambient operating temperature?

The heat pump will actually operate down to an ambient air temperature of 10°C, but with minimal heat output. Therefore we recommend that the minimum operating temperature should be 10°C.

### What is the best location for the Electroheat?

The location of the Electroheat is very important in keeping installation costs to a minimum, while providing for maximum efficiency of operation as well as allowing adequate service and maintenance access.

The unit should be located as close as practically possible to the existing pool pump and filter to minimise water piping. The use of 90 degree bends and short radius elbows in the water piping should be kept to a minimum. The longer the distance from the pool, the higher the heat loss from the piping.

### Can the Electroheat be enclosed?

The Electroheat is designed for outdoor installation and should not be installed in totally enclosed areas such as a shed, garage, etc., unless mechanical ventilation is provided to ensure adequate air exchange for proper operation. Re-circulation of cold discharged air back into the evaporator coil will greatly reduce unit's heating capacity and efficiency.

### What is the Electroheat's performance dependent on?

Performance will fluctuate depending on water and weather temperatures. 5 important factors determine the performance of Electroheat:

1. Size of the pool.
2. The desired temperature of the pool
3. Ambient air temperature - the warmer the air, the better the performance
4. The presence of a pool cover
5. The size of the heater

### What is the Electroheat's heater running time?

Most units should be sized to operate during the pool filtering cycle time of 8 - 12 hours daily, providing a steady flow of heated water. On warmer days the heater will run less because the heat loss will be less.

Electroheat heat pumps have a lower heating capacity on a BTU/hr basis compared to fossil fuel based pool heaters such as gas heaters. Therefore, Electroheat heat pumps require longer operation to accomplish the desired temperature.

Between 10°C to 18°C, it will increase your water temperature by 3°C to 5.5°C a day. Over 21°C you should obtain an increase up to 0.8°C an hour and over 26°C up to 1.1°C an hour depending on the size of the pool, the size of the heat pump, the water temperature, and the ambient air temperature at the moment of operation.

Even though the Electroheat may require longer operation, it will still heat the pool far more economically.

### How does Electroheat compare with solar heating and gas heating?

#### Solar

- Fuelled by the power of the sun, solar heating systems are a low-cost, method of heating up your pool water.
- As solar heating is reliant on the sun, they are best used to extend the swimming season.
- Virtually no operating costs, just the cost of electricity to pump the pool water through the solar absorber on the roof.

#### Gas heaters

- Gas heaters are fastest method for heating your pool, providing a comfortable temperature for swimming on demand. Gas is best for heating pools or spas for short periods of time.
- Gas heaters can easily maintain any desired temperature regardless of the weather.
- Gas heaters are effective, but expensive to operate.

#### Heat pumps

- Heat pumps may not heat up the swimming pool as fast as gas heaters, but they are a more energy efficient.
- Heat pumps require a small amount of electricity; its heat energy source is extracted from the ambient air.





Sizing chart to heat your pool to 28° C									
Pool Size (M) Litres		Temperate Location *				Warm Location **			
		Min 12hrs / Day Runtime		Min 14hrs / Day Runtime		Min 12hrs / Day Runtime		Min 14hrs / Day Runtime	
		with Pool Cover	No Pool Cover	with Pool Cover	No Pool Cover	with Pool Cover	No Pool Cover	with Pool Cover	No Pool Cover
3 x 7	Up to 35000	MkII 55 Btu <sup>^</sup>	MkIII 23 kW	MkII 55 Btu <sup>^</sup>	MkIII 23 kW				
3.5 x 7	Up to 38000	MkII 55 Btu <sup>^</sup>	MkIII 31 kW	MkII 55 Btu <sup>^</sup>	MkIII 23	MkII 55 Btu <sup>^</sup>	MkIII 23	MkII 55 Btu <sup>^</sup>	MkIII 25 kW
4 x 8.5	Up to 57000	MkIII 23 kW	MkIII 37 kW	MkII 55 Btu <sup>^</sup>	MkIII 37	MkII 55 Btu <sup>^</sup>	MkIII 31	MkII 55 Btu <sup>^</sup>	MkIII 25 kW
5 x 10	Up to 76000	MkIII 31 kW	see dealer	MkIII 25 kW	MkIII 44	MkIII 23 kW	MkIII 44	MkII 55 Btu <sup>^</sup>	MkIII 37 kW
5.5 x 11	Up to 95000	MkIII 37 kW	see dealer	MkIII 31 kW	see dealer	MkIII 25 kW	see dealer	MkIII 23 kW	MkIII 44 kW
6 x 12	Up to 114000	MkIII 44 kW	see dealer	MkIII 37 kW	see dealer	MkIII 31 kW	see dealer	MkIII 25 kW	MkIII 44 kW
6 x 15	Up to 133000	see dealer	see dealer	MkIII 44 kW	see dealer	MkIII 44 kW	see dealer	MkIII 37 kW	see dealer

Please note : Heat pump sizing is influenced by ambient temperature , humidity , presence of a pool cover , nightly temperatures , pool location , wind factor, water features, and if the unit is switched off overnight .

<sup>^</sup>This model is only available in the MkII range

\*Temperate location: Where minimum average daytime temperatures between September to May are not less than 18°C

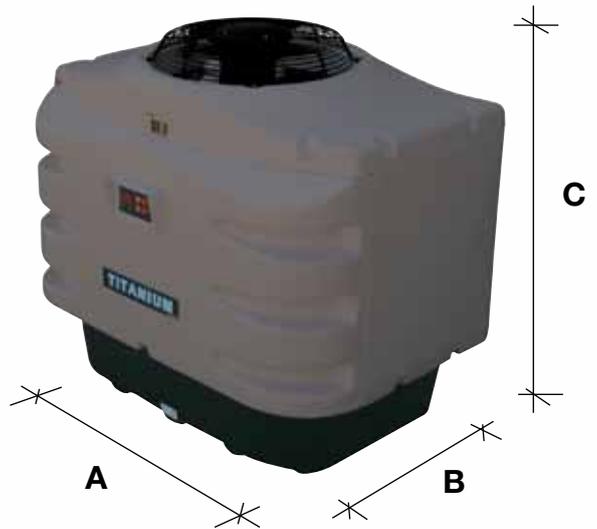
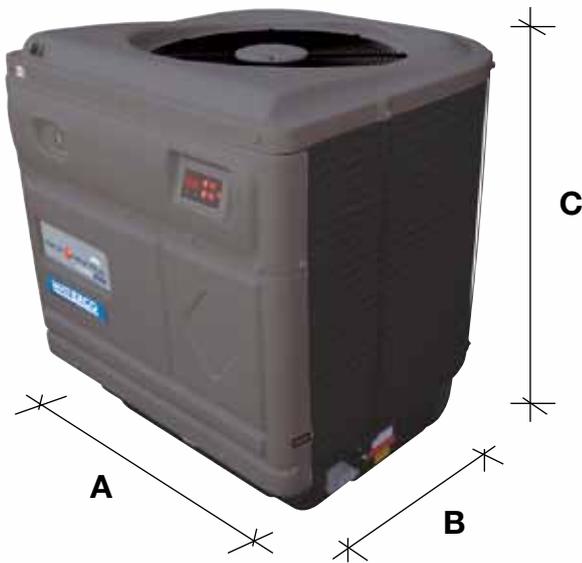
\*\* Warm location: Where minimum average daytime temperatures between September to May are not less than 24°C

Technical Specifications						
Specifications	Electroheat 23 MkIII	Electroheat 25 MkIII		Electroheat 31 MkIII	Electroheatt 37 MkIII	Electroheat 44 MkIII
Nominal Heating Capacity btu*	80,000	85,000		105,000	125,000	150,000
Power Output (kw)	23	25		31	37	44
Supply Voltage (VAC)	240	240	415	415	415	415
Supply Voltage Phase	Single Phase	Single Phase	Three Phase	Three Phase	Three Phase	Three Phase
Power Consumption (kW/h)	5.4	5.4	5.5	5.8	6.9	7.7
Unit Running Amperage (AMP)	25	25	9.3	9.9	11.8	13.1
Fan Full Load Amps (FLA)	0.65	0.65	0.65	1.45	1.45	1.45
Breaker or Fuse (AMP)	40	40	25	25	25	25
Min. / Max . Ambient Air Temperature ( C )	11 - 40	11 - 40	11 - 40	11 - 40	11 - 40	11 - 40
Min. / Max water inlet temp ( C )	18/40	18/40	18/40	18/40	18/40	18/40
Water Connections (mm)	40	40		40	40	40
Min / Max Water Flow Rate LPM	130 - 250	130 - 250	130 - 250	130 - 250	145 - 300	150 - 300
Weight (kg)	80	84		87	89	93
Refrigerant	R410	R410		R410	R410	R410

## Clearance



## Dimensions



Model	A (mm)	B (mm)	C (mm)
Electorheat 25 Mk III	750	850	1000
Electorheat 31 Mk III	890	880	1130
Electorheat 37 Mk III	890	880	1130
Electorheat 44 Mk III	890	880	1130

Model	A (mm)	B (mm)	C (mm)
Electorheat 23 MkIII	915	610	865





Established since 1981, Waterco is an Australian public listed company involved in the manufacture and distribution of:

- Swimming pool/spa equipment and chemicals
- Domestic water filters, softeners and purifiers
- Commercial and Industrial water treatment equipment.

The company's advanced fibreglass winding and pioneering plastic moulding techniques have delivered premium quality products to over 40 countries via its branches operating in Australia, New Zealand, Malaysia, Singapore, China, the United Kingdom, United States of America, Canada and Indonesia.



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