



# Electr Heat

Heat Pumps for Swimming Pools  
extend the season or swim year round



## 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, the Electroheat and Electroheat Plus ranges use 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.

The Electroheat heat pump range are an ideal solution for heating:

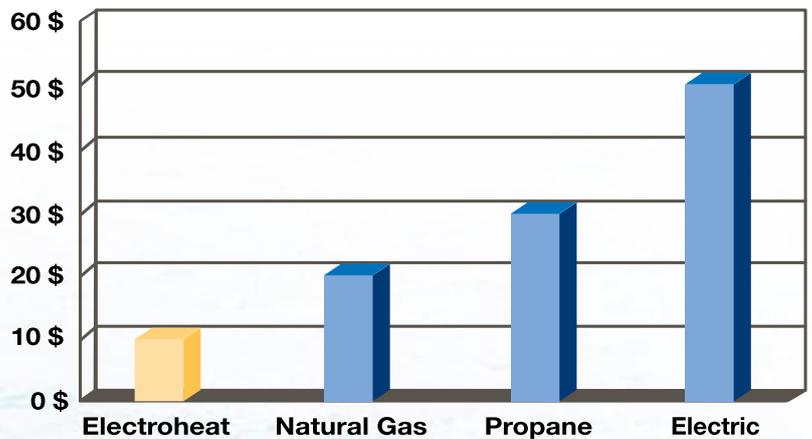
- Swimming pools to extend the season
- Swimming pools for year round enjoyment
- Plunge pools
- Swim spas and spas

## Cost effective heating

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

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.



## 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 Transfer

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

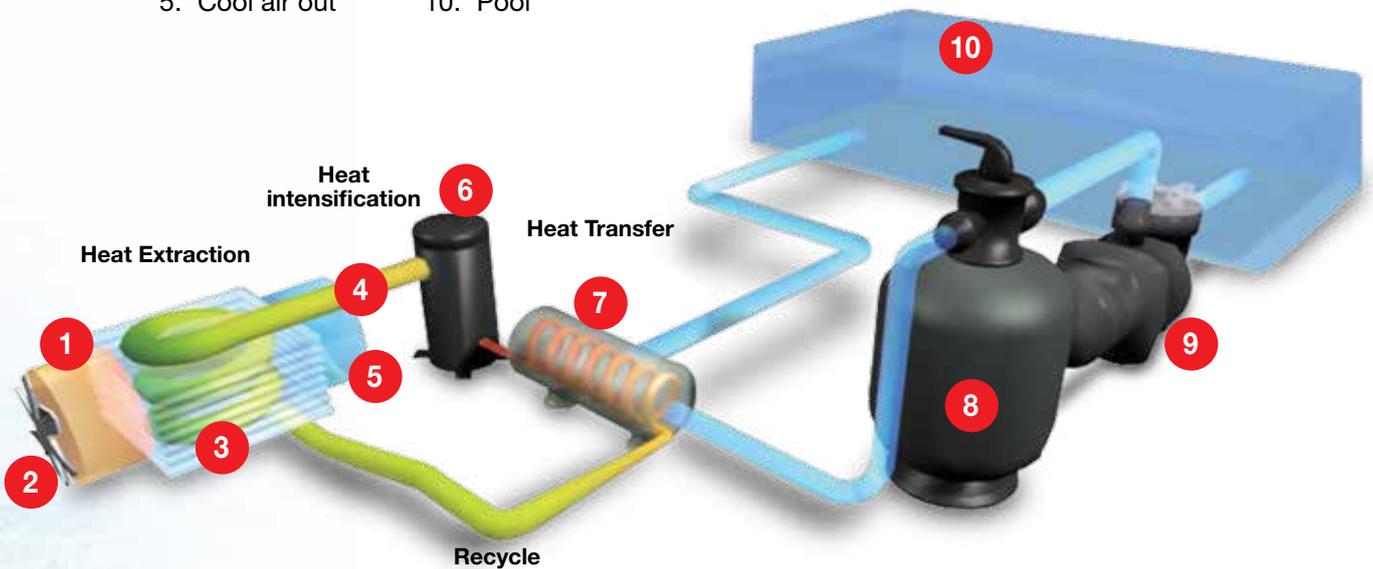
### Heat Intensification

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

### Recycle

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

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



# Electr Heat



**Electroheat MKIV pool heat pumps feature compact design and horizontal venting and are ideal for heating:**

- ✓ Swimming pools to extend the season
- ✓ Plunge pools
- ✓ Swim spas
- ✓ Spas
- ✓ Available in 9,12, 15, 19 & 23kW heating capacities

# Electr Heat Plus



**Electroheat Plus MKIII pool heat pumps feature vertical venting and a large evaporator area for maximum performance and are ideal for heating:**

- ✓ Swimming pools for year round enjoyment
- ✓ Swimming pools to extend the season
- ✓ Swimming pools where roof space for solar is limited
- ✓ Available in 25, 31, 37 & 44kW heating capacities



**SMART CONTROLS** for temperature management and self diagnosis



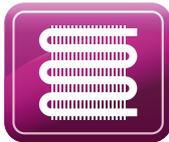
**INBUILT SAFETY DEVICES** for water flow, refrigerant level and compressor startup delay



**POWERFUL HEAT TRANSFER** through the coiled heat exchanger maximising water contact



**TITANIUM** heat exchanger coil is highly resistant to ozone, iodine, baquacil, salt and chlorinated water



**LARGE EVAPORATOR AREA** to extract more ambient heat



**SCROLL COMPRESSOR** for improved efficiency and high performance



**WEATHERPROOF CABINET** for outdoor installation



**R410A REFRIGERANT**, ozone friendly and maximises performance



**5 YEAR WARRANTY** – Residential 2 + 3 years and Commercial 1 year

Conditions apply, see the Waterco Limited warranty set out in the Waterco Warranty Booklet or view it at [www.waterco.com.au](http://www.waterco.com.au)



## 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 a 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 the 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 are more energy efficient.
- Heat pumps require a small amount of electricity; its heat energy source is extracted from the ambient air.

## Clearance



## Dimensions



## Electroheat MKIV & Electroheat Plus MK3 Range

| Performance Specifications                     |                   |                   |               |               |               |                  |                  |                |                |
|--|-------------------|-------------------|---------------|---------------|---------------|------------------|------------------|----------------|----------------|
|  | Electroheat MKIV  |                   |               |               |               | Electroheat Plus |                  |                |                |
|  | 9                 | 12                | 15            | 19            | 23            | 25               | 31               | 37             | 44             |
| Nominal Power Output (kW)*                     | 9                 | 12                | 15            | 19            | 23            | 25               | 31               | 37             | 44             |
| Nominal Heating Capacity BTU*                  | 30700             | 41000             | 51000         | 64000         | 78,500        | 85,000           | 105,000          | 125,000        | 150,000        |
| Product Code                                   | <b>278094</b>     | <b>278122</b>     | <b>278151</b> | <b>278191</b> | <b>278231</b> | <b>2782533</b>   | <b>2783133</b>   | <b>2783733</b> | <b>2784433</b> |
| Power Output (kW): Air 26C / Water 26C / RH63% | 8.9               | 11.7              | 13.5          | 18.5          | 21.8          | 24.5             | 30.6             | 36.2           | 43.7           |
| COP  | 5.7               | 6.1               | 6.1           | 6.3           | 6.2           | 4.9              | 5.5              | 5.4            | 5.7            |
| Power Output (kW): Air 15C / Water 24C / RH70% | 6.8               | 9.2               | 9.4           | 17            | 20.0          | 22.5             | 28.5             | 35.0           | 42.0           |
| COP  | 4.8               | 4.8               | 4.3           | 5.8           | 5.7           | 4.5              | 5.2              | 5.2            | 5.4            |
| Supply Voltage (VAC)                           | 230 - 240         |                   |               |               |               | 380 - 415        |                  |                |                |
| Supply Voltage Phase                           | Single Phase      |                   |               |               |               | Three Phase      |                  |                |                |
| Power Consumption (kW/h)                       | 1.5               | 1.9               | 2.2           | 2.9           | 3.5           | 5.0              | 5.6              | 6.7            | 7.7            |
| Full Load Amps (AMP)                           | 9                 | 12                | 12            | 22            | 30            | 12               | 14               | 15             | 17             |
| Minimum Breaker or Fuse (AMP)                  | 16                | 20                | 20            | 32            | 40            | 20               | 25               | 25             | 32             |
| Electrical Connection                          | 10A<br>3 Pin Plug | 15A<br>3 Pin Plug | Terminals     |               |               |                  |                  |                |                |
| Min. / Max. Ambient Air Temperature (C)        |                   |                   |               |               |               | 10 / 40          |                  |                |                |
| Min. / Max. water inlet temp (C)               |                   |                   |               |               |               | 18 / 40          |                  |                |                |
| Water Connections (mm)                         |                   |                   |               |               |               | 40mm             |                  |                |                |
| Min. / Max Water Flow Rate LPM                 | 120 - 230         |                   |               |               |               | 120 - 230        | 132 - 303        |                |                |
| Weight (kg)                                    | 50                | 54                | 78            |               |               | 84               | 87               | 89             | 93             |
| Dimensions W x L x H (mm)                      | 1170 x 320 x 685  |                   |               |               |               | 750 x 850 x 1000 | 890 x 880 x 1130 |                |                |
| Refrigerant                                    |                   |                   |               |               |               | R410A            |                  |                |                |

**Related products:**

Electroheat Ultra range - Pool heat pumps with hot gas de-icing for cold climates.

Electroheat Pro range - Pool heat pumps for commercial applications.

### Sizing Chart to Heat Your Pool to 28°C

| Pool Size (m) | Litres       | Temperate Location *        |               | Warm Location **            |               |
|---------------|--------------|-----------------------------|---------------|-----------------------------|---------------|
|               |              | Up to 10 hrs / Day Run time |               | Up to 10 hrs / Day Run time |               |
|               |              | with Pool Cover             | No Pool Cover | with Pool Cover             | No Pool Cover |
| 3 x 6         | Up to 23000  | 9kW                         | 15kW          | 9kW                         | 9kW           |
| 3 x 7         | Up to 27000  | 9kW                         | 15kW          | 9kW                         | 9kW           |
| 4 x 7         | Up to 35000  | 12kW                        | 23kW          | 9kW                         | 15kW          |
| 4.5 x 8.5     | Up to 50000  | 15kW                        | 31kW          | 9kW                         | 19kW          |
| 5 x 10        | Up to 65000  | 19kW                        | 44kW          | 12kW                        | 23kW          |
| 5.5 x 11      | Up to 80000  | 23kW                        | 25kW x 2      | 15kW                        | 31kW          |
| 6 x 12        | Up to 100000 | 31kW                        | 31kW x 2      | 19kW                        | 37kW          |
| 6 x 15        | Up to 120000 | 37kW                        | 37kW x 2      | 23kW                        | 44kW          |

Note: Size and performance are influenced by ambient temperature, humidity, use of a pool cover, night time temperature, pool location, wind factor, water features and if the unit is switched off over night. The recommended sizing in the table above is based on operating the unit up to 10 daytime hours with the pool subjected to normal suburban wind. No allowance has been made for the cooling effects of water features, negative edges or high wind areas. Therefore, any under sizing of the heater for your pool heating requirements is not the responsibility of Waterco.

\* Temperate Location (Sydney) :- Where minimum average daytime temperatures between September to April are not less than 18°C.

\*\* Warm Location (Brisbane) :- Where minimum average daytime temperatures between September to April are not less than 24°C

**OFFICES - AUSTRALIA**

NSW - Sydney (Head Office)  
Tel: +61 2 9898 8600

QLD - Brisbane  
Tel: +61 7 3299 9900

VIC/TAS - Melbourne  
Tel: +61 3 9764 1211

WA - Perth  
Tel: +61 8 9273 1900

SA/NT - Adelaide  
Tel: +61 8 8244 6000

ACT Distribution  
Tel: +61 2 6280 6476

**OFFICES - OVERSEAS**

Waterco (Europe) Limited  
Sittingbourne, Kent, UK  
Tel: +44 (0) 1795 521 733

Waterco (USA) Inc  
Augusta, Georgia, USA  
Tel: +1 706 793 7291

Waterco Canada  
Longueuil, Quebec, Canada  
Tel: +1 450 748 1421

Waterco (NZ) Limited  
Auckland, New Zealand  
Tel: +64 9 525 7570

Waterco (C) Limited  
Guangzhou, China  
Tel: +86 20 3222 2180

Waterco (Far East) Sdn Bhd  
Selangor, Malaysia  
Tel: +60 3 6145 6000

PT Waterco Indonesia  
Jakarta, Indonesia  
Tel: +62 21 4585 1481

Waterco Singapore Int'l Pte Ltd  
Nehsons Building, Singapore  
Tel: +65 6344 2378

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