

# Electr Heat ECO-V



**Inverter pool heat pumps**  
extend the season or swim year round



[www.waterco.com](http://www.waterco.com)

**WATERCO**  
water, the liquid of life

# Extend the swimming season

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



\* Heating pools in winter months May – August should be achieved using maximum day time operation of eight hours. A pool cover is necessary to achieve desired temperature in winter.

## COST EFFECTIVE 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.

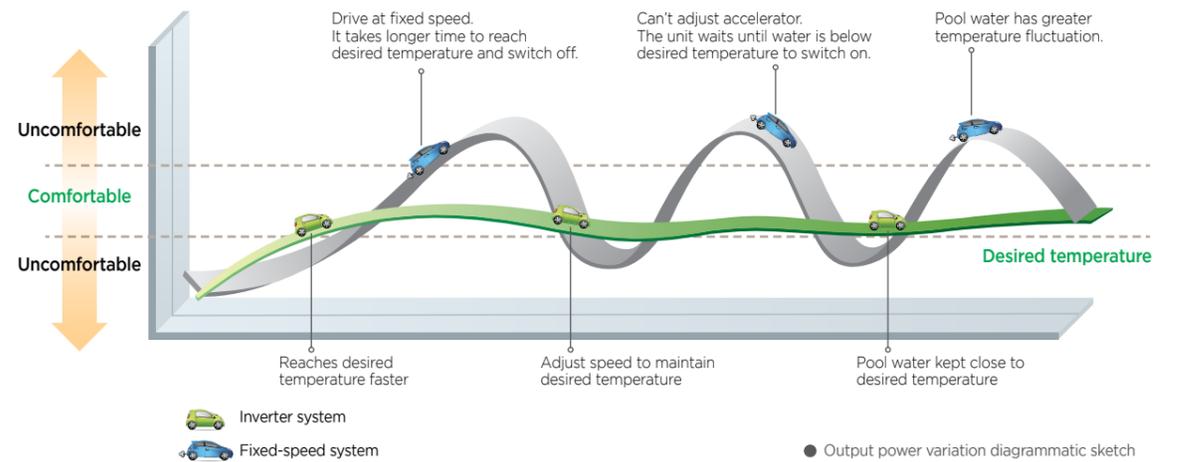
A pool heat pump will economically keep your pool warm 24 hours a day.

Compared to gas and electric heaters, the Electroheat ECO V pool heat pump range 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.

For every 1kW of electricity consumed, Electroheat can produce up to 8kW of heat.

Electroheat ECO-V Inverter technology heat pumps can heat your pool in colder climates even when the ambient air temperature is close to 0°C.

## ENERGY EFFICIENT INVERTER TECHNOLOGY



Electroheat ECO-V inverter pool heat pumps utilise a variable speed compressor to regulate the pool water temperature automatically and independently.

- inverter technology uses a variable speed compressor motor similar to a cars engine
- it slows down and speeds up as needed to hold a selected desired temperature or speed
- the desired temperature will be reached more quickly and maintained more efficiently
- inverter technology provides a more precise water temperature without the fluctuations and power wastage of fixed speed systems
- inverter technology is significantly more energy efficient with energy savings of between 15 - 30% over fixed speed systems
- the speed control of the compressor and fan motor also means quieter operation

## AUTOMATIC EVAPORATOR DE-ICING

Electroheat ECO-V inverter pool heat pumps feature automatic de-icing for situations where frost or ice may develop on the evaporator as part of normal operation. Common in cooler climates or winter months, when a build-up of ice is detected the heat pump shifts temporarily into cooling mode to reverse the flow of refrigerant through the evaporator coils. Hot refrigerant moves through the outside coils, melting ice and defrosting the system. When the defrost cycle is complete, the unit shifts back to heating mode.



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



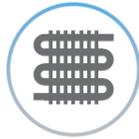
**INBUILT SAFETY DEVICES** for water flow, refrigerant level and compressor startup delay



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



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



**LARGE BLUE FIN EVAPORATOR AREA** to extract more ambient heat. Blue Fin coating provides additional protection against corrosion, especially for coastal installations.



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



**WEATHERPROOF CABINET** for outdoor installation



**R32 or R410A REFRIGERANT**, ozone friendly and maximises performance



**AUTOMATIC HOT GAS DE-ICING**  
Heats your pool even when the ambient air temperature is close to 0°



**Warranty** - Residential  
25 years - titanium heat exchanger tube against corrosion (effective 1 Aug 22)  
3 years - compressor  
2 years - all other components

**Warranty**- Commercial - 1 year

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

## 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 0° if fitted with hot gas deicing but with minimal heat output. Therefore, we recommend heat pumps be operated in the warmest part of a 24 hour period to increase operating efficiency.

### 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 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. Longer distances from the pool increase piping heat loss.

### 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 daytime the pool filtering cycle time of 8 - 12 hours daily (Winter - 8hrs, Summer 8-12hrs), 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.

If your heat pump is sized and installed correctly, between 10°C to 18°C, it should increase your water temperature up to 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 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.

Performance Specifications							
Nominal Power Output (kW)*	12	17	21	25	31	35	45
Power Output: Air 27 C / Water 26 C / RH 80%	11.2 - 6.5	21.0 - 5.46	24.0 - 6.24	26.6 - 6.9	39.0 - 15.2	37.6 - 14.3	47.6 - 18.5
Electrical Input (kW)	2.4 - 0.84	4.05 - 0.62	5.0 - 0.69	5.95 - 0.85	7.5 - 1.8	7.2 - 1.75	8.7 - 2.2
COP	4.6 - 7.7	5.2 - 8.2	5.2 - 8.2	5.2 - 8.2	5.2 - 8.4	5.2 - 8.2	5.4 - 8.4
Power Output: Air 15 C / Water 26 C / RH 70%	6.0 - 3.0	17.2 - 4.6	21.0 - 5.1	24.1 - 6.1	32.1 - 12.0	31.5 - 12.0	41.5 - 16.1
Electrical Input (kW)	2.4 - 0.84	4.05 - 0.62	5.0 - 0.69	5.95 - 0.85	7.21 - 1.79	7.33 - 1.79	9.88 - 2.48
COP	2.5 - 3.6	4.25 - 7.45	4.20 - 7.4	4.05 - 7.2	4.45 - 6.7	4.30 - 6.7	4.2 - 6.5
Normal Current (Amp)	10.0 - 3.6	17.6 - 2.7	21.7 - 3.0	27.2 - 3.95	32.3 - 8.02	12.1 - 2.96	16.3 - 4.10
Supply Voltage (VAC)	230 - 240V/50Hz				380 - 415V/50Hz		
Supply Voltage Phase	Single Phase				Three Phase		
Breaker or Fuse (AMP)	16	20	25	32	40	20	20
Electrical Connection	15A plug	terminal box					
Min. / Max. Ambient Air Temperature (C)	> 0 / 40	-5 / 43			-10 / 43		
Min. / Max. water inlet temp (C)	10 / 40	1 / 40			1 / 40		
Water Connections (mm)	40 Slip			50 Slip	50 Slip		
Water Bypass Type	External Field Install 3 X 2 way						
Heat Exchanger Max. pressure	3.5 bar / 350kPa						
Min. / Max. Water Flow Rate LPM	115 - 160	110 - 160	135 - 185	145 - 195	200 - 230	200 - 230	250 - 270
Sound Pressure Level @ 1 meter	46 - 57	49 - 59			50 - 59	50 - 59	
Sound Pressure Level @ 10 meters	27 - 37	31 - 41			32 - 42		
Weight (kg)	43	118	120	122	180	200	236
Dimensions W x L x H (mm)	636 x 714 x 973	860 x 850 x 1106			1450 x 702 x 950	1450 x 702 x 1260	
Cabinet Material	Polymer				Powder Coat Steel		
Refrigerant	R410A				R32		
Fast Evaporator De-icing	Yes						
Evaporator area m <sup>2</sup>	0.74	2.89	3.24	3.24	3.75	3.75	5.00
Mode	Heat / Cool						

Related products:  
Electroheat MKV range - Pool heat pumps  
Electroheat Pro range - Pool heat pumps for commercial applications.

Sizing Chart to Heat Your Pool to 28C SEPTEMBER to APRIL					
Pool Size (m)	Litres	Temperate Location *		Warm Location **	
		with Pool Cover	No Pool Cover	with Pool Cover	No Pool Cover
3 x 6	Up to 23000	12kW	17kW	12kW	12kW
3 x 7	Up to 27000	12kW	17kW	12kW	12kW
4 x 7	Up to 35000	12kW	21kW	12kW	17kW
4.5 x 8.5	Up to 50000	17kW	25kW	12kW	21kW
5 x 10	Up to 65000	21kW	45kW	12kW	25kW
5.5 x 11	Up to 80000	25kW	45kW	17kW	35kW
6 x 12	Up to 100000	35kW	35kW x 2	21kW	45kW

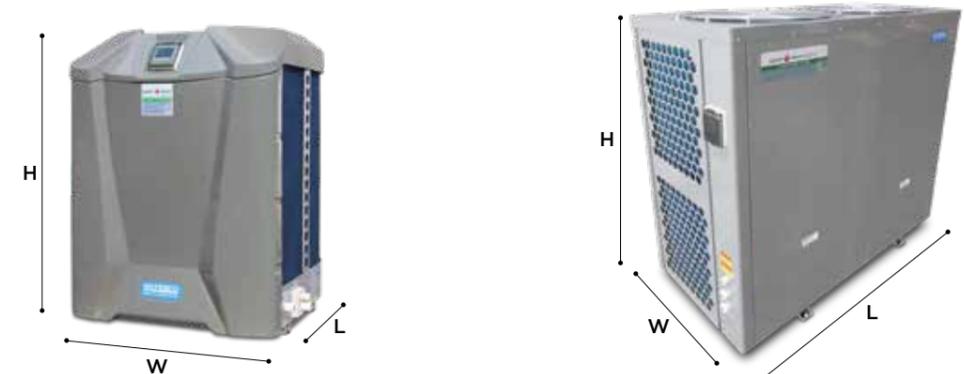
Note: Size and performance are influenced by ambient temperature, humidity, use of a pool cover, night time temperature, pool location, wind factor, water features and if the unit is switched off over night. The recommended sizing in the table above is based on operating the unit up to 10 daytime hours 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  
\*\*\* Pool heating between May and August (winter) will require a larger heat pump and maximum run time of 8 daytime hours.  
Consult [www.watercocalculator.com](http://www.watercocalculator.com) or contact your local Waterco office.



### Clearance distances



### Dimensions



# **WATERCO**

**water, the liquid of life**

Waterco pioneers reliable solutions for healthy, safe water environments, which are used in residential, commercial and industrial applications in over 40 countries.

Established in 1981, it has since become a global brand recognised for designing and manufacturing filtration and sanitisation innovations for the swimming pool, spa, aquaculture, and water purification sectors.



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