

Heat Pumps for Swimming Pools

extend the season or
swim year round

WATERCO
water, the liquid of life

Electr  Heat
ULTRA

www.waterco.com

Extend the swimming season



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 each day and maximum number of days each year. A heat pump can economically keep your pool warm.

Compared to gas and electric heaters, Waterco Heat Pumps use 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.

Waterco Heat Pumps are an ideal solution for heating:

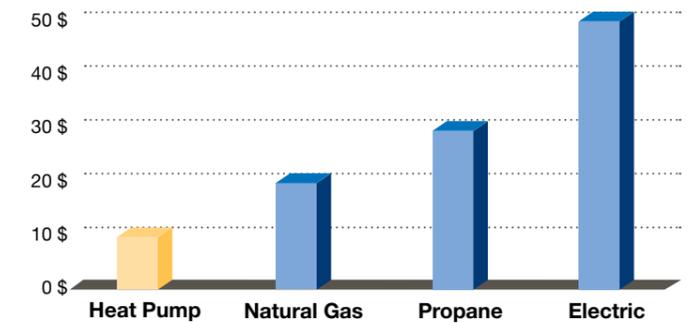
- Swimming pools to extend the season
- Swimming pools for year round enjoyment
- Plunge pools
- Swim spas and spas

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, Waterco Heat Pumps can produce up to 5 kW of heat.

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



Use ambient air to heat your pool

HOW WATERCO HEAT PUMPS WORK

Waterco Heat Pumps use 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.

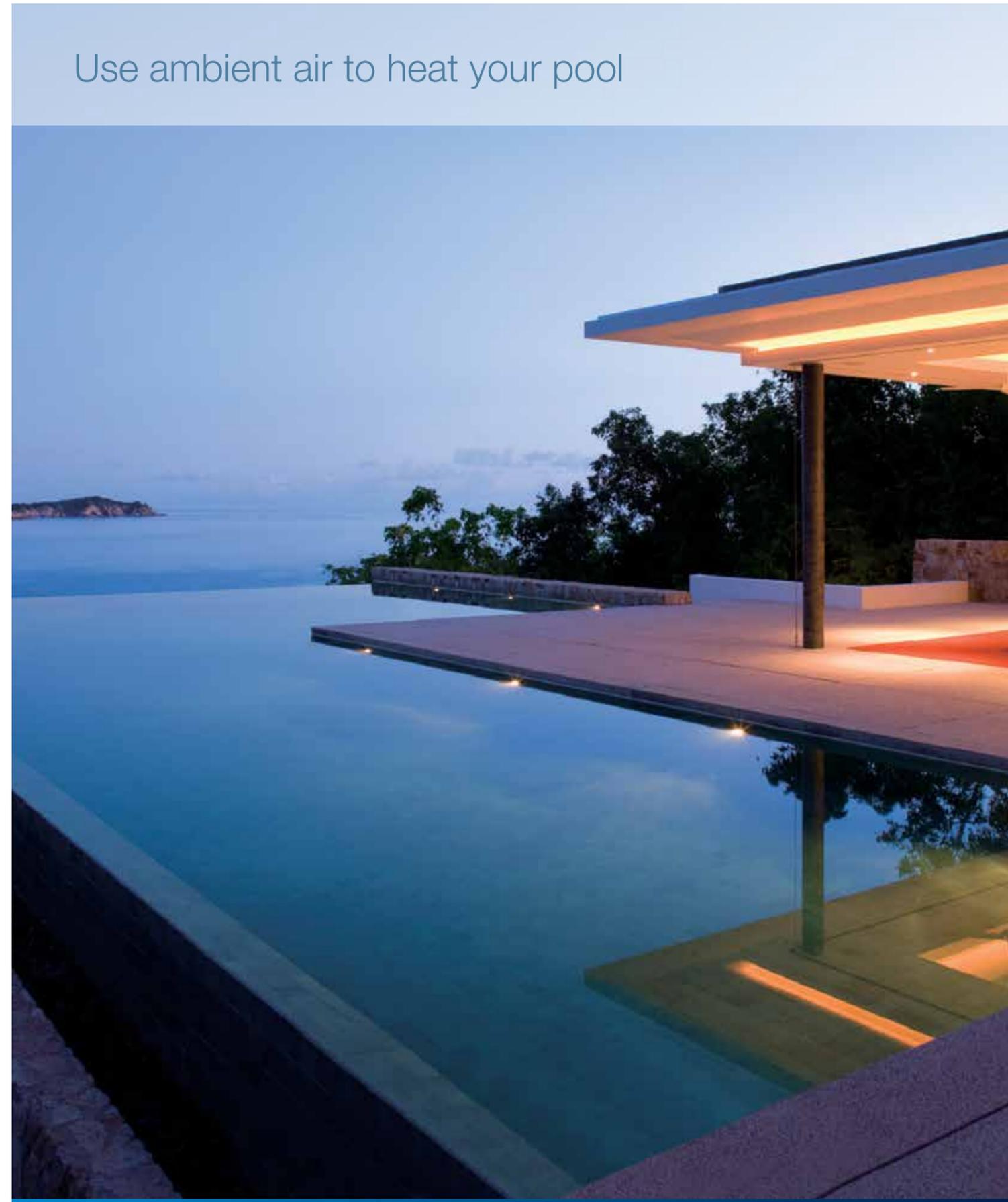
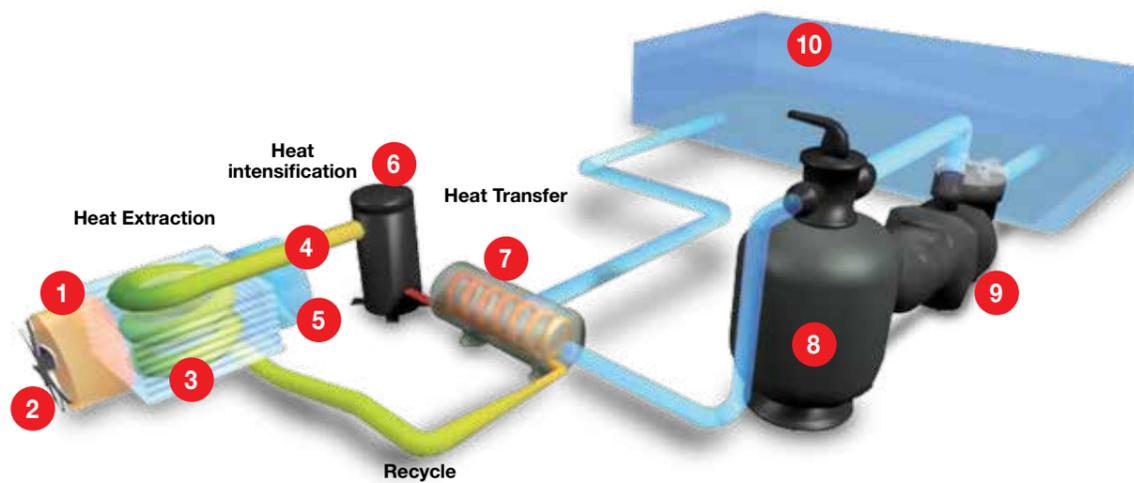
HEAT INTENSIFICATION

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



Electr Heat ULTRA

Electroheat Ultra heat pumps can heat your pool in colder climates even when the ambient air temperature is close to 0C° featuring hot gas de-icing and are ideal for heating:

- Swimming pools for year round enjoyment
- Swimming pools to extend the season
- Plunge pools
- Swim spas
- Spas
- Available in 19, 23 and 29kW heating capacities



19 and 23kW models



29kW model

FEATURES & BENEFITS



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 dual coil heat exchanger maximising water contact



TITANIUM DUAL COIL heat exchanger 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



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

Energy efficient way to heat your pool



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, or 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 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 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.

Electroheat Ultra Range

Performance Specifications			
Nominal Power Output (kW)*	19	23	29
Nominal Heating Capacity BTU*	64,000	78,500	100,000
Product Code	2781911	2782311	278100313
Power Output (kW): Air 26C / Water 26C / RH63%	18.5	21.7	28.4
COP	6.2	7.2	5.1
Power Output (kW): Air 15C / Water 24C / RH70%	17	19.6	26.5
COP	5.6	6.5	4.7
Supply Voltage (VAC)	240		415
Supply Voltage Phase	1		3
Power Consumption (kW/h)	2.99	3.0	5.6
Unit Running Amperage (AMP)	15.28	21.2	9.9
Minimum Breaker or Fuse (AMP)	30	40	25
Min. / Max. Ambient Air Temperature (C)	1 / 40		
Min. / Max. water inlet temp (C)	18 / 40		
Water Connections (mm)	40mm slip		
Min. / Max. Water Flow Rate LPM	114 - 227		132 - 303
Weight (kg)	78		87
Dimensions W x L x H (mm)	1170 x 320 x 685		890 x 880 x 1130
Refrigerant	R410A		
Fast Evaporator De-icing	Yes		

Related products:

Electroheat MKIV and Plus ranges - Pool heat pumps standard range.

Electroheat Pro range - Pool heat pumps for commercial applications.

Sizing chart to heat your pool to 28 °C

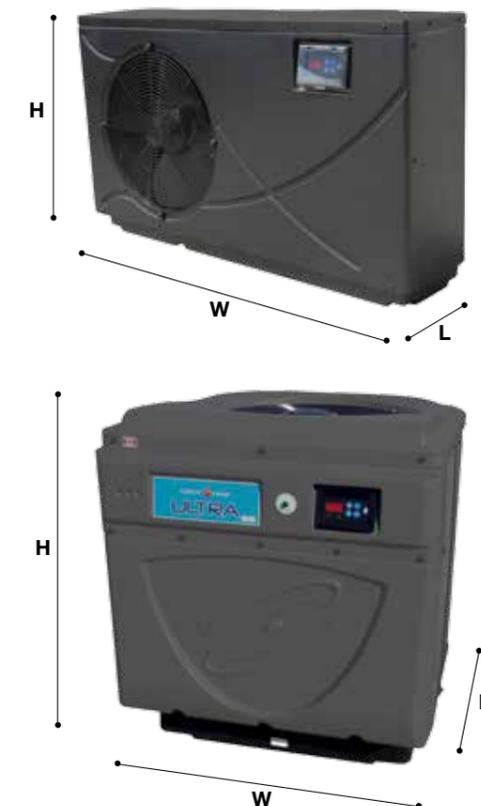
Pool Size (m)	Surface Area (m2)	Litres	Model		
			Regional average daytime temperatures Between September to April		
			Over 23°C	17°C to 21°C	10°C to 15°C
3x7	21	Up to 29400	19 kW	19 kW	19 kW
4x7	28	Up to 39200	19 kW	19 kW	23 kW
4x8	32	Up to 44800	19 kW	23 kW	23 kW
4x9	36	Up to 50400	19 kW	29 kW	29 kW
5x9	45	Up to 63000	19 kW	2 x 19 kW	2 x 19 kW
5x10	50	Up to 70000	19 kW	2 x 23 kW	2 x 23 kW
5x11	55	Up to 75000	23 kW	2 x 23 kW	2 x 23 kW

Note: Heat pump sizing is influenced by ambient temperature, humidity, night time temperature, pool location, wind factor, water features and if the unit is switched off over night. The recommended sizing accounts for use of a pool cover. Therefore, any under sizing of the heater for your pool heating requirements is not the responsibility of Waterco.

Clearance



Dimensions



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