

# ElectroHeat

The energy efficient way to heat your swimming pool



The latest advancement in swimming pool heating, Electroheat Heat Pumps is an energy efficient way to heat your swimming pool or spa. ElectroHeat produces up to 5 times\* more heat energy than the electrical energy it consumes.

- Automated controls
- Titanium heat exchanger
- Powerful heat transfer
- Scroll compressor
- Weather proof cabinet
- Environmentally friendly refrigerant

\*dependant on ambient air and water temperature

A swimming pool is a major financial investment. To get the most for one's money, a pool should be used as much as possible and this 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.



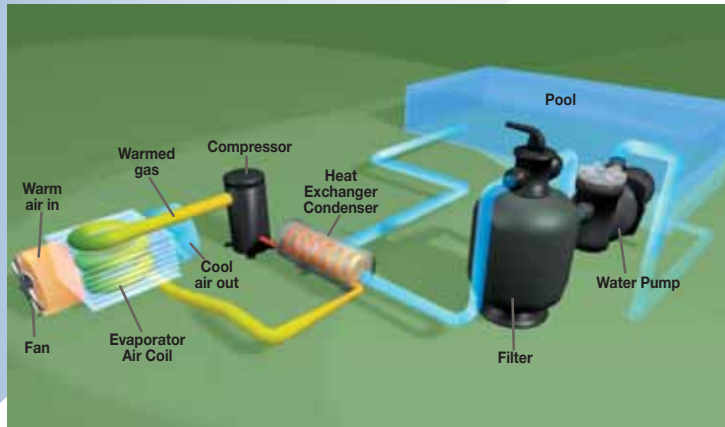
A heat pump is built to heat your pool economically 24 hours a day, maintaining your desired pool water temperature virtually all year round\*.

**\*NOTE:**

To prevent heat loss and to achieve year round swimming temperatures and efficient running costs it is recommended that a thermal pool blanket is installed.

**How a Heat Pump works**

Electroheat extracts heat energy from the surrounding air and transfers the heat energy to the water of the swimming pool. Electroheat works like a reversed air conditioner, using an evaporator, a compressor, and condenser to heat water instead of cooling air.



**Step 1 Capture**

The fan circulates air through the outer evaporator air coil that acts as a heat collector and absorbs heat from the ambient air. The liquid refrigerant in the air coil absorbs the available heat in the air transforming it to a gas.

**Step 2 Transfer**

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

**Step 3 Heat Exchange**

The heat from the hot refrigerant flowing inside the heat exchanger is then transferred to the pool water, via the surface of the heat exchanger's coils.

**Step 4 The cycle begins again**

The refrigerant is then ready to restart the process and flows into the evaporator air coil to collect heat again.

**Low running costs**

Electroheat will keep your pool water warm 24 hours a day without the need to worry about your energy bills.

Due to their high efficiency, heat pumps have low running costs. Heat pumps only require energy to operate a compressor and a fan motor, using low amperage in the process.

The ElectroHeat produces up to five times more heat energy than the electrical power it consumes.

This means that for every 1kW of electricity consumed, ElectroHeat can produce up to 5 kW of heat.

An Electroheat will offer you significant operating cost savings versus fossil fuel heaters. They can save you up to 50% over natural gas heaters and over 500% against electrical heaters

**Latest in Technology and Design**

Electroheat heat pumps incorporate the latest technology in design and construction. At the heart of the Electroheat are Scroll compressors and Titanium heat exchangers.

**Automated Controls**

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



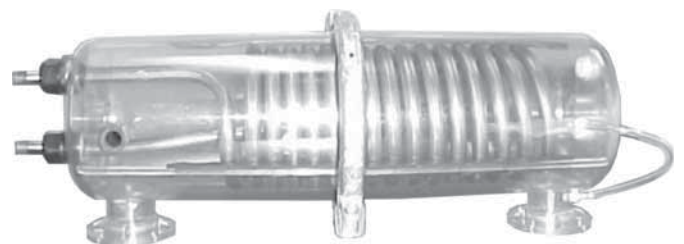
Protection devices have been built into the heater for ease of operation and to increase the durability of the product.

- **Auto defrost control** to eliminate frost on the evaporator in cold temperature conditions.
- **Auto Flow switch** to shut the system when there is no water flow.
- **High /low pressure auto reset** to shut the system and compressor in the event of low or high pressure.
- **Compressor protection via time delay** – A time delay is incorporated into the system, allowing the refrigerant pressures to equalise before the compressor starts/restarts.

**Titanium Heat Exchanger**

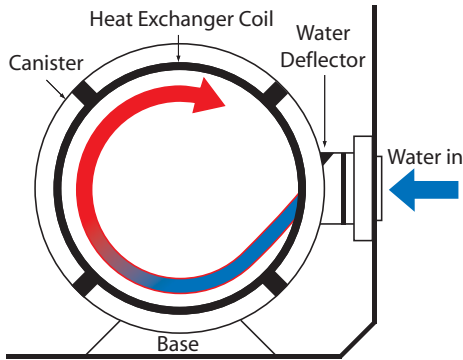
A Titanium Heat Exchanger offers total protection against erosion and corrosion. Titanium metal's corrosion resistance is due to a stable, protective, strongly adherent oxide film. This film forms instantly when a fresh surface is exposed to air or moisture.

Titanium 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. This is the result of the increased surface area contact the exchanger has with the water that circulates around the condenser tubes. Because of the improved design, the heat exchanger generates a higher temperature differential between the water entering and the water exiting the heat exchanger.



**Greater Temperature Differential = Greater Heat Power = Faster Results!**

**Scroll compressor**

Scroll compressors are the most powerful, energy efficient compressors on the market and most importantly they are also the quietest.



Below is a comparison chart of the three types of heat pump compressors.

Rotary Compressors	Piston Compressors	Scroll Compressors
<ul style="list-style-type: none"> <li>Cheapest, noisiest, and lowest performance</li> <li>Largest power available is 8kW</li> </ul>	<ul style="list-style-type: none"> <li>Next in line</li> <li>Still quite noisy</li> <li>Susceptible to refrigerant 'flow-back' into the compressor at start up</li> <li>Largest power available is 15kW</li> </ul>	<ul style="list-style-type: none"> <li>Top of the line – most expensive</li> <li>Quietest</li> <li>Take most refrigerants</li> <li>Highest power output</li> <li>Minimum Energy Performance Standards (MEPS) approved</li> <li>Largest power available is 92kW</li> </ul>

**Environmentally friendly refrigerant**

Electroheat uses the R407 refrigerant, a high thermodynamic performance coolant that is environmentally friendly and totally harmless to the ozone layer. This coolant is in accordance with the Montreal protocol and will not harm the ozone layer.

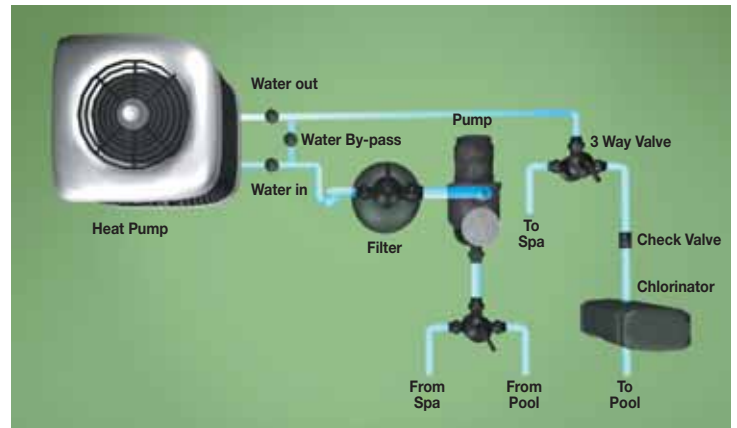
**Extra Large Evaporator Area (ElectroHeat Plus)**

Electroheat Plus has an extra large evaporator allowing it to collect more heat from the outside air.



**Quick and easy installation.**

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



**Weather proof ABS Cabinet**

The Electroheat's cabinet is constructed from UV treated, corrosion proof ABS, enabling the Electroheat to withstand most weather conditions.



The plumbing connections are 40mm / 1.2" UPVC half unions for easy plumbing.

## General Considerations

The ElectroHeat is designed to economically heat a pool maintaining the desired water temperature at all times. The ElectroHeat will effectively heat your pool when the ambient air temperature reaches 7 to 10° C or more. ElectroHeat's performance will fluctuate depending on water and weather temperatures.

The ElectroHeat, at the start, will heat slowly but at 21°C and more, it will perform well maintaining the desired water temperature at a very low cost and could run as little as 2 hours per day in the process.

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.

ElectroHeat is capable of heating water up to a temperature of 40°C and more if required, depending on water and ambient air temperature at the time of operation.

## Overview of benefits between Solar Heating, Gas Heaters and Heat Pumps



- Fuelled by the power of the sun, solar Heating systems are a low-cost, method of heating up your pool water.
- As Solar Heaters are 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 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 do not heat up the swimming pool as fast as gas heaters, but they are the most cost effective method of heating your pool all year round.
- Heat pumps operate uses a small amount of electricity. The heat comes from the ambient air.
- Heat pumps can only operate efficiently in climates with ambient temperatures above 7°C

Specifications	Unit of measurement	Electroheat 55	Electroheat 80	Electroheat Plus 85		Electroheat Plus 105	Electroheat Plus 125	Electroheat Plus 150
Heating Capacity	BTU	55,000	80,000	85,000		105,000	120,000	150,000
Power Output	kW	16	23	25		31	36.5	44
Power Source		Single Phase	Single Phase	Single Phase	Three Phase	Three Phase	Three Phase	Three Phase
Power Consumption	kW	5.4	6.5	6.7	2.8	5.1	5.3	6.3
Amperage	Amp	26	30	31	6.6	12.7	13.3	16
Circuit Breaker	Amp	40	40	40	16	16	20	25
Noise Level @ 1m	dB	62dB	65dB	65dB	72dB	72dB	72dB	72dB

Unit Dimensional Data							
Width	mm	720	920	850	920	920	920
Length	mm	700	610	770	890	890	890
Height	mm	570	760	850	950	950	950
Water Connections	inches / mm	1 ½" / 40mm	1 ½" / 40mm	1 ½" / 40mm	1 ½" / 40mm	1 ½" / 40mm	1 ½" / 40mm
Weight	kg	59	78	96	106	115	116

Attributes							
Digital Thermostat		Yes	Yes	Yes	Yes	Yes	Yes
Capillary Tubes		Yes	Yes	No	No	No	No
Thermostatic Expansion Valve		No	No	Yes	Yes	Yes	Yes
Hi / Low Pressure Protection		Auto	Auto	Auto	Auto	Auto	Auto
Hi / Low Temperature protection		Auto	Auto	Auto	Auto	Auto	Auto
Water flow protection		Auto	Auto	Auto	Auto	Auto	Auto
Compressor restart protection		Auto	Auto	Auto	Auto	Auto	Auto
Frost Protection		Auto	Auto	Auto	Auto	Auto	Auto
Cabinet UV Protection		Yes	Yes	Yes	Yes	Yes	Yes
Operation Mode		Auto	Auto	Auto	Auto	Auto	Auto

\* The heating capacity depends on water and ambient temperature, as well as humidity level.

\*\* Voltage is measured from phase to neutral.

## 5 Year Warranty

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

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