ALTO

a new ALTO-native
for low cost heating!

- Suitable for Above and Inground swimming pools
- Operates down to 5.C
- Famous brand compressor - energy efficient and quiet
- Triple thermostats offer precise temperature control
- 17-step finishing process on all cabinets
- A choice of Titanium or S.Steel/Copper Heat Exchangers
- No plumbing by-pass required
- Self-diagnostic control panel monitors heat pump operations
- Isolated internal electrical compartments preventing corrosion
- Reverse cycle defrost operation
- 5-3 Years warranty
- Available for immediate shipment
- National support & helpline available

ALTO WATER HEAT PUMPS

Why choose a Heat Pump?

Simply because it's inexpensive - to buy - to run - to install.

Realistically, in this country, all swimming pools whether above or inground, need heating to obtain the maximum use from the summer season. Having a pool in your garden may be aesthetically pleasing to the eye but unless the pool feels warm and inviting, the pool will not be used to its full potential. By investing in a Alto Heat Pump, this can change!

Generally, the main heating systems available for swimming pools are Gas (LPG or Propane), Electric or Oil heaters. Some of these heaters can be beneficial from a cost point of view but tend to loose their appeal when it comes to installation costs. **What the other heating systems cannot offer you is both the heat effiency and low running cost!**

The chart below shows exactly what percentage of your £1 will be used to produce heat in your pool.

What Pool? What Size?

Selecting the right heat pump size is important. Please see the chart below for a guide. To heat your pool adequately, you will have to run your filtration for a minimum of 12 hours per day throughout the season. The chart (below) assumes there is no high water table and the use of a solar heat retention cover.

ABOVE GROUND POOLS

Pool Size	Gallons	Model
15' dia	4400	12 kw
18' dia	6350	12 kw
19' x 12'	4900	12 kw
23' x 12'	6122	12 kw
30' x 15'	10,410	15 kw
33' x 18'	13,100	18 kw

INGROUND POOLS

Pool Size	Gallons	Model
24' x 12'	8000	12 kw
28' x 14'	11,000	12 kw
30' x 15'	13,000	15 kw
32' x 16'	15,000	15 kw
36' x 18'	19,000	18 kw
40' x 20'	24,000	24 kw

Titanium Exchanger?

Many heat pump suppliers are promoting the benefit of Titanium Heat Exchangers (coil in which the pool water passes).

All standard Alto heat pumps have a S.Steel/copper exchanger coated with magnesium. Also available as an option, is a Titanium heat exchanger. The Titanium heat exchanger has a life expectancy which is much longer (up to three times) than the standard copper exchanger (15 years). The Titanium exchanger is specifically designed for the customers who want additional protection from Chlorine, Bromine and all other common pool chemicals.

The chemicals in pool water, including chlorine, bromine and muriatic acid, can be extremely corrosive. Especially when pools are shocked and very high levels of chlorine exist, if the owner lets the pool chemistry get out of balance or if chlorine tablets are put in the skimmer. In the case of heat pumps, if a water heat exchanger gets a hole in it (usually due to corrosion) and pool water enters the sealed refrigeration system, the entire heat pump is ruined.

The Titanium Alto Water Heat Pump virtually eliminates all the chemical corrosion. The Titanium exchanger is bulletproof to chlorine, bromine and all other common pool chemicals. It will guarantee the heat pump to operate well for many years and avoid creating expensive repairs and lengthy shutdown of the heater.

Without question, having a Titanium heat exchanger is beneficial due to the life expectancy but please bear in mind that a the standard exchanger still has a life expectancy of 15 years!

How efficient is an Alto Water Heat Pump?

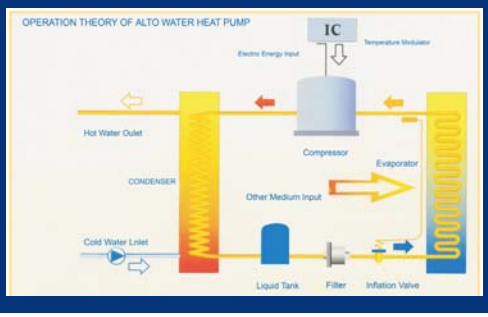
Heat pumps don't have a simple efficiency number to work with. Their efficiency is measured by Coefficient of Performance (COP). Alto Water Heat Pump's COP ranges from 4.2-4.4, which means that for every unit of electricity that you put in to run the compressor, you get 4.2-4.4 units of heat out of the heat pump. Alto Water Heat Pumps can radically improve the energy efficiency and environmental value of any heating system that is driven by primary energy resources such as fuel or power.

How does it Work?

The Alto Water Heat Pump is a super efficient way to heat the swimming pool. It makes full use of the advanced refrigeration technology to capture the heat in the outside air and transfer it to the pool water.

Environmental refrigerant gas absorbs and transfers the great heat energy through the refrigeration circulation system. The fan circulates air through the outer Evaporator Air Coil that acts as a heat collector. The liquid refrigerant in the air coil absorbs the available heat in the air transforming it to a gas. The refrigerant gas is then pumped by the Compressor. When this warmed gas is compressed, it intensifies or concentrates the heat. This intensely hot gas is then pumped into the Heat Exchanger Condenser where the actual heat exchange takes place. As the pool water passes through the Heat Exchanger, the hot gas gives up its heat to the cooler pool water. The refrigerant returns to a liquid state and is pumped through the Expansion Valve and then into the Evaporator Air Coil to start the process over again.

An Alto Water heat pump does not generate heat, it simply captures it and moves it from air to water thus, providing ant efficient and environmentally friendly system for heating your swimming pool!



Extended Warranty & Service!

All Alto heat pumps have the following warranty on all models:-

Standard Heat Pump	
S.Steel/Copper Exchanger	3 years
Titaniam Exchanger	5 years
Compressor	3 years
Electrical Components	1 year

Longevity of the standard heat pumps should be approximately 15-20 years with very little maintenance (a gas heater has a life expectancy of approximately 8-10 years!). However, like any electrical appliance faults can arise for whatever reason, be it component failure or lack of service etc. Up to now, your pool dealer has been reliant on either their own engineer or to outsource a refrigerant a expert to service the heat pump (not easy to book in the middle of summer!).

Paramount pool products have secured an agreement with Regal Enviromental Systems Ltd (UK) who will be able to service your heat pump (directly with you) in the future or in an event of a warranty failure. Regal, an established refrigeration company since 1995, and with clients such as Shell UK, B&Q and Barclays plc have a taskforce of 15 qualified engineers servicing the country nationally. A helpline is available in the event that you have a technical query or would like to book a service call. All service calls will be attended within 7 working days (summer or winter!).

ALTO Heat Pumps - SPECIFICATION

Model No.	**AS-H40Y 12kW**	**AS-H50Y 15kW**	**AS-H60Y 18kW**
Heating Capacity (Btu/h)	40000	50000	60000
Cooling Capacity (Btu/h)	35000	42000	55000
Rated Input (w)			
Heating	2540	3185	3790
Cooling	2465	3020	3900
PTC Power (w)	--------	--------	--------
COP for Heating (w/w) *(at 20 °C ambient air temperature)*	4.42	4.40	4.44
Refrigerant	R407C	R407C	R407C
Power Supply			
Volt/Phase/Hz	230/1/50	230/1/50	230/1/50
Rated Current (A) -Heating	11.3	14.1	16.8
Cooling	10.9	13.4	17.3
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LRA (A) - (Max. Start-up AMPS)	32	36	40
Minimum Flow Rate m3/h (imp.gls)	2.5 (550 gls)	2.5 (550 gls)	2.5 (550 gls)
Maximum Flow Rate m3/h (imp.gls)	10.0 (2200 gls)	13.0 (2850 gls)	18.0 (3975 gls)
Noise Level (whole unit) at 3m	<52	<54	<58
System			
Compressor type	ROTARY	ROTARY	SCROLL
Electric expansion valve	Y	Y	Y
Features			
Electronic Control Panel	Y	Y	Y
Soft Touch Key Pads	Y	Y	Y
Backlight LCD Display	Y	Y	Y
Temperature Indicator(°C)	5~45	5~45	5~45
24 Hours Timer	Y	Y	Y
Drain Hose connection	Y	Y	Y
Dimensions WxHxD (mm)	480×755×515	580×715×610	580×715×610
Net Weight (Kg)	65	74	98
Packing Dim. WxHxD (mm)	540×835×540	630×770×710	630×770×710
Gross Weight (Kg)	70	84	110

FAQ

When I use a heat pump, should I use a pool cover or solar blanket as well?

Any reduction in pool heat loss directly translates into savings. 82% of all losses are due to evaporation. Using a pool cover just at night will save about 40% of the annual heating cost. A pool cover or solar blanket can cut total pool heat loss by 50% to 95%. The use of a solar blanket will also help extend your pool season.

What is the minimum ambient operating temperature?

The Alto Water Heat Pump will actually operate down to an ambient air temperature of 0°C. but with minimal heat output. Therefore we recommend that the minimum operating temperature should be 5°C. Other conditions such as wind, shade and physical location will affect the shut-off temperature of the unit.

Will the Heat Siphon ever need more Freon (refrigerant gas)?

Unless the Alto Water Heat Pump has a leak in the sealed refrigeration system, the factory charge of Freon should last for the life of the unit. Freon is very stable and should not degrade or breakdown even under severe operating conditions. If your unit needs Freon, then it has a leak, and adding Freon will not solve the problem. The leak must be located and repaired. Fortunately, Freon leaks are very uncommon and usually are due to shipping damage.

How Close To Your Pool?

Normally, the pool pump and Heat Pump are installed close together and within 25 feet of the pool. The longer the distance from the pool, the more heat loss from the piping. Since normally most of the piping is buried, the heat loss is minimal for runs of up to 50 feet (50 feet to and from the pump = 100 feet total) unless the ground is wet or the water table is high. A very rough estimate of heat loss per 100 foot is 2500 BTU/hr for every 10° F difference in temperature between the pool water and ground surrounding the pipe, which translates to about 3% to 5% increase in run time.

Dealer

Importer: Paramount Pool Products UK