

# aquarius



High Efficiency Pool Water Heating System



**Titanium Technology**

**Life-time Heat  
Exchanger Guarantee**

**Heat Boost Option**

**Heatstar**   
Environmental Control Systems

**The Aquarius has the ability to utilise free heat contained within outside fresh air - providing the most economical method of heating a swimming pool.**

**How The Aquarius Works**

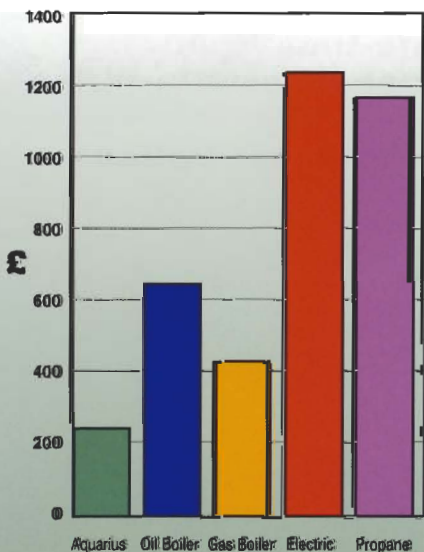
The Aquarius is a comparatively simple machine based around proven and reliable refrigeration technology. The Aquarius incorporates an air fan and a large refrigeration circuit driven by a highly efficient electric compressor motor. Such a system is often referred to as a heat pump or reverse refrigerator.

Fresh air is drawn through the Aquarius by the electric fan and chilled by the refrigeration system. The heat chilled from the fresh air, together with all the electrical energy consumed in operating the refrigeration circuit, is then transferred via a heat exchanger directly into the pool water as it is passed through the Aquarius.

As you only pay for the cost of running the electric fan and compressor motors, all the additional heat absorbed from the fresh air is effectively completely free. Within a typical installation, for every kW of electrical heat which is paid for, the unit can absorb up to a further four kW of free heat from the air, therefore easily outperforming any other alternative method of heating.

A correctly applied Aquarius will easily heat the pool water up to any normal operating temperature without assistance from any other heat source. Heat pumps have been the heating method of choice for swimming pools for over 25 years and are used extensively in all world markets.

**Example Heating Costs**



**Simple Installation**

The Aquarius is a fully self-contained unit, therefore installation could not be simpler. The Aquarius can be sited either outdoors or within a plant room, in direct sunlight, or in shade - all it needs is a free flow of fresh air, an electricity supply and connection into the pool water filter pipe work.

**Clean & Environmentally Friendly**

Unlike alternative heating methods, the Aquarius produces no smells, fumes or greenhouse gases at all and requires neither an unsightly fuel storage tank nor high capacity electricity supply. As the amount of energy consumed to operate the Aquarius is very small in relation to the overall heating requirement of the pool, or that consumed by alternative heating methods, the environment also benefits from your decision to heat your pool using an Aquarius heat pump.

**Operating Seasons**

Depending upon the requirements of the application, the Aquarius is available with three different types of automatic de-frost control :

**SDF Version:** Normal summer season

**ADF Version:** Extended season use

**RDF Version:** All year use

**Temperature Boost Option**

With the 'Plus' option, an electric resistance heater is also incorporated in the Aquarius to boost the initial warm-up time of the pool water from cold.

A special 'optimiser' control circuit limits the electrical supply requirement and ensures that the high efficiency of the heat pump principle continues to be fully utilised.

**Technical Specification**

Aquarius Model		1	2	3	4	6	8	16
<b>10°C ambient air temperature:</b>								
Heat output to pool water:	kW	7.4	8.5	11.0	14.0	22.1	28.0	55.9
Electrical input:	kW	2.0	2.3	3.0	3.8	6.0	7.6	15.2
<b>20°C ambient air temperature:</b>								
Heat output to pool water:	kW	10.8	12.2	15.3	18.9	30.7	37.9	75.8
Electrical input:	kW	2.4	2.7	3.4	4.2	6.8	8.4	16.8
<b>'Plus' booster option:</b>								
Heat output to pool water:	kW	6	6	9	9	-	-	-
<b>Electrical:</b>								
<b>1 ph / 220-240v / 50Hz:</b>								
Nominal current - full load:	A	11.8	11.9	17.2	19.6	34.4	39.2	78.4
Rec. supply rating:	A	20	25	30	35	60	70	140
Rec. supply rating 'Plus' option:	A	40	40	60	65	-	-	-
<b>3 ph / 380-415v / 50Hz:</b>								
Nominal current - full load:	A	4.2	4.6	5.2	6.7	10.4	13.4	26.8
Rec. supply rating:	A	10	15	15	20	30	40	80
Rec. supply rating 'Plus' option:	A	15	15	20	25	-	-	-
<b>General:</b>								
Noise level (3m):	dBA	54	56	57	57	59	59	61
Height:	mm	985	985	985	985	985	985	985
Width:	mm	1050	1050	1050	1050	1540	1540	2980
Width - 'Plus' option:	mm	1350	1350	1350	1350	-	-	-
Depth:	mm	700	700	700	700	900	900	900
Weight:	kG	119	127	148	160	296	320	640

Rated conditions: Pool water: 26°C

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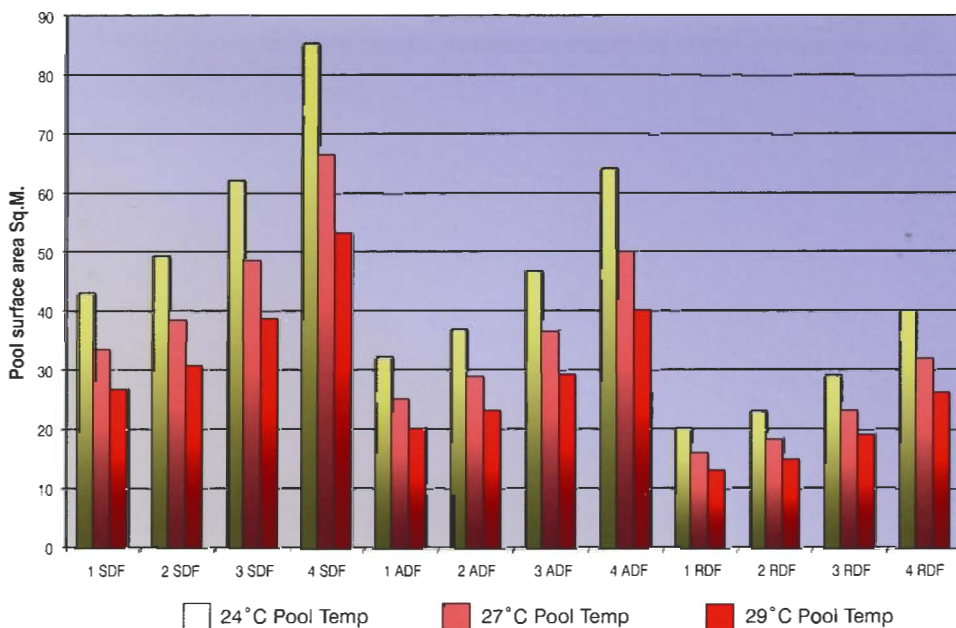
(Due to continuous development, we reserve the right to alter specifications without notice.)

## Aquarius key feature check list

- Titanium Pool Water Heat Exchanger - maximum anti-corrosion protection.
- Life-time Pool Water Heat exchanger corrosion damage warranty.
- Anodised aluminium unit chassis frame - to guard against deterioration.
- Strong steel access panels with PVC protective coating.
- Vinyl coated air heat exchange coil to protect against air corrosion.
- Low noise centrifugal fan - suitable for ducting if unit installed inside.
- Digital electronic pool water temperature display with automatic control.
- Digital electronic **variable de-frost** regulation device.
- Full flow pool water **connection** - no by-pass or flow meter necessary.
- Re-settable overheat cut-out protection.
- Washable fresh air intake filter.
- R407C environmentally friendly refrigerant.
- Natural colour scheme - to blend into the garden environment.
- Extendable manufacturer's warranty.
- On-site service support by Heatstar Technicians in the UK.

## Aquarius Application Guide

For inground domestic outdoor pools using surface covers with normal exposure and no ground water.



## Why Titanium?

The typical chemicals within swimming pool water can potentially be extremely corrosive.

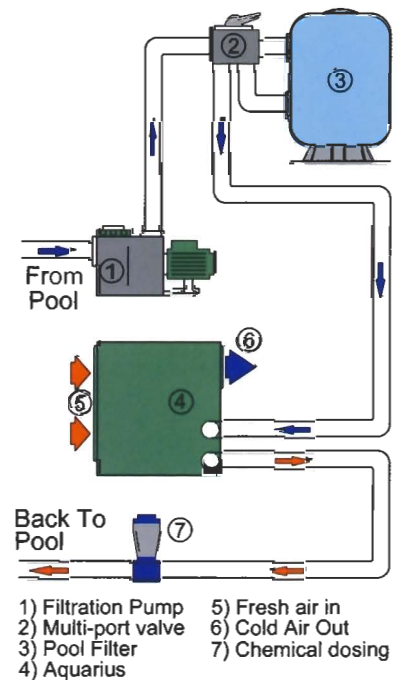
In the case of heat pumps, if the pool water heat exchanger is perforated by corrosion, allowing pool water to enter the sealed refrigeration circuit, then the heat pump is usually damaged beyond economic repair.

Invariably, this is the most common reason why a heat pump would require replacement.

Titanium, with corrosion rates literally **the thousands of times** slower than alternative **heat exchanger metals**, offers the best possible assurance against heat exchanger failure and, therefore, offers the potential for a much extended product service life.

The use of titanium enables Heatstar to offer a life-time guarantee against heat exchanger corrosion damage.

## Installation Schematic



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## Testing Procedures

Prior to a new Aquarius unit leaving the Heatstar factory, it is first subjected to a thorough procedure of testing and appraisal within Heatstar's own climatic chamber to ensure that all aspects meet the required quality standards.

## Factory Supported Warranty & Maintenance

Like all Heatstar products, the Aquarius comes with the peace of mind of a comprehensive, full factory warranty.

Also available are extended warranty options and the benefit and assurance of future routine servicing by Heatstar's own engineers to ensure minimal maintenance costs, a very long operating life and that the Aquarius is always able to obtain optimum efficiency.

## Aquarius Selection Service

Heatstar offer a free, computer-aided application assessment and Aquarius selection service. Heatstar's highly experienced team of experts are available for consultation on all related aspects, without charge or obligation.

## Why Heatstar?

Heatstar have produced heat recovery systems for swimming pools since 1978 and were amongst the first to become involved in this specialist field.

Through the years, over 6,000 systems have been manufactured and supplied, not only to the UK, but also extensively abroad.

Needless to say, the performance, quality and, very importantly, the long-term reliability of Heatstar systems have been demonstrated beyond question.

**Contact Heatstar for detailed specifications and a full analysis of your heating requirements.**

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**Heatstar**   
Environmental Control Systems

Designed and manufactured by Heatstar in the UK